

Marine Facilities Advisory Board
28th April 2016

Attendees

Dr Graham Allen, British Oceanographic Data Centre (GA)
Dr Sophie Fielding, British Antarctic Survey (teleconference) (SF)
Dr Maaten Furlong, National Oceanography Centre (teleconference) (MF)
Robert Gatliff, British Geological Survey (RG)
Andy Henson, National Oceanography Centre (AH)
Professor Mark Inall, Scottish Association for Marine Science (Chair) (MI)
Dr Erica Koning, Royal Netherlands Institute for Sea Research (EK)
Dr Ray Leakey, Science User Lead NPRV (RL)
Professor Matt Mowlem, National Oceanography Centre (teleconference) (MM)
Professor Phil Nightingale, Plymouth Marine Laboratory (PN)
Jackie Pearson, National Oceanography Centre (JP)
Professor Christine Peirce, University of Durham (CP)
Dr Andy Rees, Plymouth Marine Laboratory (AR)
Julie Pringle-Stewart, National Oceanography Centre (JPS)
Randolph Sliester, British Antarctic Survey (RS)
Leigh Storey, National Oceanography Centre (LS)
Dr Mike Webb, Natural Environment Research Council (teleconference) (MW)
Professor Ian Wright, National Oceanography Centre (IW)
Professor Russ Wynn, National Oceanography Centre (teleconference) (RW)

Welcome

MI opened the meeting by welcoming members of the Board, thanking those who had dialled in and thanking the host, RG. After a 'round table' of introductions, apologies were noted from Captain Tim Stockings, Professor Stuart Cunningham, Professor Karen Heywood and Richard Burt.

I. Actions from the April 2015 meeting

- 1.1 **NOC to consider acquiring a mid-sized ROV to be added to the NMEP.**
MF advised that NOC has looked at options for a shallow variant of the ROV *Isis* that would not need a Launch and Recovery System (LARS) and which could be used for work on the continental shelf. A shallower-water vehicle would be more economical to deploy than the *Isis* ROV; NOC has also considered hiring a ROV that could be flown to the ship and linked into the Hybis platform. This could then use existing ship-fitted systems. This idea is still at the concept stage and NOC needs to canvass views from the community to see if this is still a high priority. This could be done as part of the MAS capital investment programme, which is a later agenda item. On this basis, this action is closed and carried forward to the MAS Project Board.
- 1.2 **To develop seismic and acoustic policies.** To be covered at item 9.

- 1.3 **Discussion needed about the NOC gravity meter.** This has been covered off-line by AH and CP.
- 1.4 **For the NOC Association to assist with enhancing visibility of MFAB.** NOC has a regular staff bulletin. Those bulletins containing items relating to the ships and the MEP can be circulated to NOC Association contacts. More needs done to regarding MFAB's role and consideration will be given to a presentation to be given to the NOC Association (see also 1.8 below).
Action: Secretariat/JPS and MI
- 1.5 **Suggestion to investigate the development of a questionnaire for PIs to indicate future requirements for equipment on cruises.** This could be based on the BAS capital investment prioritisation form. This links to how we determine the future strategic direction of marine science and could help assess potential future investments. This will be picked up later in the agenda so this action is closed/outstanding. **Action: Secretariat to follow-up obtaining the form with SF.**
- 1.6 **To have a listing of equipment in the NMEP, statistics about ship-time and a red list of equipment to be retired.** To be covered at item 6.
- 1.7 **Minutes of previous meetings to be posted on the MFAB web pages.** Completed.
- 1.8 **To consider having an MFAB presence at the September *Challenger Conference*.** Options considered included an MFAB hand-out, a short presentation and poster session. MI decided on a poster with NOC branding and MFAB messaging, plus a hand out. JFP agreed to draft some documentation and liaise with MI on the final production in time for poster deadlines. **Action: Secretariat and MI**
- 1.9 **Information needed on NMEP investment and the benefits realization plan.** This will be covered at item 4.
- 1.10 **Action to enhance visibility about MFAB.** This will be covered at item 7.
- 2. Draft terms of reference (ToR)**
 - 2.1 MI asked for comments on the draft ToR and reminded members that the role of MFAB is to provide advice to the NOC Executive Director. MFAB is a conduit for the marine community to be consulted, provide information on current and future need and understand how decisions are then made on prioritisation of which equipment to purchase, retire and support within the National Marine Equipment Pool (NMEP). The Cruise Programme Review Group (CPRG) is the means by which NERC receives assurance that NOC is discharging its responsibilities in terms of delivery of a service through the deployment of equipment from NMEP on cruises. This uses post cruise assessment to gain user feedback; which should also recommend further investment if needed and should be fed back to MFAB. Review and recommendations from the MFAB and CPRG go to NERC via their Chairs

being members of CPEB (Cruise Planning Executive Board) which is the Group where the NERC Director or Science and Innovation receives assurance on NOC's equipment investment, service delivery, and approves the cruise plan for the coming year.

- 2.2 RG asked whether equipment belonging to other centres could receive better profile in the list of available equipment. JPS commented that, following work with BIS and the Treasury, RCUK is enacting an action plan across the next year or so, to have virtual pools of equipment across the whole PSRE (public sector research establishments) sector to include universities. The NMEP model is considered a good example but one which needs to be extended to catalogue all available resources. JPS needs sight of the action plan to see what is being suggested and can then align this as to how NOC/NERC take the next steps to catalogue all the resources for the marine community.
- 2.3 MI asked whether it would be possible for inventories of other equipment pools to be made visible via the mechanisms used for the NMEP. Perhaps the MFAB ToR need to be tweaked to allow this? JFP advised the Board that currently, the NOC Association's Secretariat is preparing an on-line 'compendium of capability'. This is a resource for anyone to access that will feature all items of equipment (and their capabilities) across the NERC family.
- 2.4 MI noted we need a definition of what the NMEP covers, as an annex to the ToR. JPS agreed to cover this and draw up a suggestion which would be circulated for agreement ex committee and passed to NERC for sign off.
Action: JPS
- 2.5 MM noted there will always be equipment available that is outside the NMEP. In terms of access, it is a matter of approaching the owner and starting a dialogue. JPS said there will be a fully coordinated resource list that will clarify what is available and its location. The Compendium of Capability is a starting point for this. **Action: JPS and NOC Association Secretariat**
- 2.6 AH asked whether the ToR should reference how equipment is supported from resource budgets. Lower priority equipment could be 'de-supported' if necessary because of flat cash funding. MI asked whether there should be a bullet point about the amount of resource needed to maintain certain items of equipment. The community needs to be aware of when NOC stops maintaining equipment in a 'ready to go' state. When de-investing, we need to know how those resources will be re-employed. We should prioritise managing obsolescence and need to reference resource in the document as well as capital investment in equipment. AH agreed to discuss this with LS.
Action: AH, LS to suggest amendment to JPS
- 2.7 LS said that NOC is limited within its budget. He can give a two year forward look at any one time but not a five year. IW said that if MFAB is required to give advice on the next £10m of MAS capital investment, the Board needs to know that there is the resource to support it. Hence the Board needs to consider what the science goals are over the next 5 -10 years and give advice on the strategic direction. GA added that where there has been investment in hardware and resources, we should consider data management capabilities.

GA offered to provide input on this to the ToR. **Action: GA to suggest amendment to JPS.**

- 2.8 MI asked about the frequency of MFAB meetings, noting that the draft annex suggests every six months. The CPRG meets annually. MW said that there had been an action to align the CPRG and the NERC Cruise Programme Executive Board. MI and Professor Paul Tyler could provide verbal input to the CPEB in late July or provide a report. Thus MFAB should meet in April each year with the caveat to hold an exceptional meeting if needed. IW added that this would not preclude the right to hold special topic working group meetings 'off-line'. **Action: JPS to amend the ToR to reflect this.**
- 2.9.1 The ToR refers to the Chair as being neither NERC nor NOC. This needs to be re-phrased to state that that the Chair should not be a NOC employee. **Action: JPS to amend the ToR to reflect this.**
- 2.9.2 SF commented that the ToR doesn't mention succession and that it should identify a means to appoint new members. MI agreed this is a good idea and a three-year tenure is about right, with the option to renew from the Chair. It might be wise to include, diplomatically, that if appointed members are unable to attend more than two meetings, the Chair reserves the right to appoint an alternative member. The need for non-attendees to send a delegate should also be considered. **Action: JPS to amend the ToR to reflect this.**
- 2.9.3 CP was unhappy about the late circulation of meeting papers and asked that these be circulated well in advance. **Action: Secretariat**

3 Marine Autonomous Systems (MAS) investment

- 3.1 IW advised that the paper concerns £15m investment over five years which has now been announced on the NERC web site (<http://www.nerc.ac.uk/press/releases/2016/14-mas-sensors/>). In order to advance knowledge, we need more ocean observing than that provided by research ships and hence this investment in autonomous platforms to acquire data in different ways, including from challenging and currently inaccessible environments. Some of the most interesting areas of science are on the largest scales, in the deep ocean and under ice. We need to provide the capability to access new environments and take long term observations. The paper has gone to the Joint Capital Advisory Group (JCAG) and NOC has been directed by the NERC Executive Board to engage with a sub-set of the community that uses autonomy in developing some stretch targets and solutions. There have been discussions with SAMS, PML, UEA, BAS, and UoS around development of the type of platform capability needed. Over and above the £10m targeted for platform development there is provision for £5M over five years for sensor development. NERC will run a competitive call process seeking ideas from the community on sensors. The £15m will be co-ordinated through NOC with a full Project Board overseeing the investment and realisation of the benefits.
- 3.2 Noting that one of the underlying requirements of the MAS project board is a need to realize the benefits of the £15 M investment, the project board will set a framework for development to ensure that all elements of purchase and

development are integrated over the period. The current investment case is for a five year investment plan, but there is a ten year road map of desired capital investment.

- 3.3 MI invited comments and reminded the Board of the ToR. We need to ensure the views of the community are taken into account. A final version of the outline business case will go to the NERC Chief Executive next week for sign off so feedback would be welcome.
- 3.4 CP asked about the resourcing implication of this bid; she felt that the targets were ambitious given the funding available. IW advised it is possible to 'capitalize' staff time in some cases. Once capability is developed, the resources for deployment would come via the Grant applications and MAS deployments would be subject to an SME type process. IW talked about the operation of fleets of vehicles, noting that it would also be good for there to be capability in the community to do this. IW agreed that the Project could be a challenge to deliver in the budget. JPS added it was known that NOC cannot capitalize all the associated FEC of the work being undertaken and that were on-going discussions about this with NERC HO Finance. MW advised that he had not been aware of any shortfall. JPS also informed the Board that the NERC Chief Executive had asked that targets be stretched and that, on-going through the life of the Project, there would be processes and milestones in place to review project delivery.
- 3.5 LS added that NOC is not 'starting from zero'. CP said she felt that the programme will require a lot of staff resource so wanted to know what the community would lose as a consequence. IW explained that NOC has several Innovate UK projects that will also feed into this investment. Noting that we are operating in a flat cash environment, MI asked whether NC funding would underpin what couldn't be delivered within the £15M envelope. LS explained that NOC has decided to invest money in developing the Autosub LR and that this has to be accomplished from within existing funding envelope. This development is part of the role of the National Marine Facilities. In addition to the MARS operational team, there is now a MARS development team and a project board that is responsible for delivery of development and can pool resources from the operations team.
- 3.6 On behalf of MFAB, MI expressed concern about delivering this ambitious project but overall, welcomed the strategic direction of this investment. RG agreed, adding that he would like to see the programme of work go even further. When faced with a similar challenge, BGS has raised money through industry.
- 3.6 SF commented that within the roadmap there isn't the same focus on the sea bed or deep sea. Although it may not need to be included here, there is a noticeable, strong focus on technology in the pelagic. LS commented that the document is still only draft and NOC is happy to receive comments. Although to note, NERC is pushing NOC in this direction with strategic programmes.
- 3.7 IW added that, within the ten-year road map, in the second five years, there are developments around larger unmanned surface vehicles (USVs) for exploration of mid-ocean ridges and sea mounts, so there are ideas to use

autonomous vehicles to undertake science on the sea floor, not just within the water column. The MAS Project Board would welcome community input via a MFAB Autonomous Expert Working Group as the investment programme 'rolled out'.

- 3.8 RW added that NOC has identified that the Autosub6000 is old technology now. She has undertaken over 100 missions so the priority is to get Autosub6000 mark two, because if this vehicle is lost now, NOC has no contingency. The use of this vehicle by the community has been high.
- 3.9 MM said that he had received requests from the community about work on iron and carbonate sensors. NOC can do this, however, firstly, needs to identify priorities. RW added that NOC has been driven by the investment in NC in some of the more pelagic areas but there will be upcoming programmes that focus on the sea bed, however, RW noted the point made by SF.
- 3.9.1 MW thought that a prime driver on sensors development had been that they are at higher level of 'technology readiness'. Biogeochemical sensors are in that space but there are other sensors that aren't there yet so essentially, we have to go with what is available now. RW commented that NOC has had requests for vehicles with higher capabilities, which NOC can do. MF added that from a technical point of view, building an autonomous vehicle that will interact with the sea bed is experimental at the moment. IW explained that the Board will provide advice in expert autonomy and around platforms and sensors which would be fed back to the project board to guide the board to make decisions, for example, about the type of sensors that should be developed. MM asked whether MFAB has a view on sensor development funding? MI explained that there are views on how some of these elements of funding will be distributed by NOC. BAS are mentioned specifically, but no other centres.
- 3.9.2 JPS said that the project board needs to look at the best use of the resource that exists around the community. MI welcomed investment in this strategic area of marine science. There are questions about the delivery but this can be discussed between NOC and NERC. Overall MFAB welcomes this. We need to look ahead at expanding capability to include the sea-floor and sub-sea floor as we review future funding. CP mentioned sea-bed observatories which was noted.
- 3.9.3 LS said that the National Marine Facilities is impartial and its role is to deliver the science that NERC plans. It is the role of the CPRG to write a report to NERC on how NOC takes forward the development into operation and then delivers the results for the science. SF said there is a need for a commissioning evaluation procedure and referred to a recent sea glider acquisition. MW said that the NERC Chief Executive's position on pooling of NERC-funded equipment is clear. JPS talked about the reasons that NERC had given for NOC taking the co-ordinating role for this investment and about the need to have a critical mass at a hub that can provide an overall facility. LS is enabling multi-functioning with the whole team of technicians with tier one, two and three skills so we no longer get teams working in siloes. Thus technicians will work across teams on different projects both development and

operations. NOC is working to ensure that where, for example, resource within one team is not well used across a period of time, this team can be redeployed to support other areas, for example, autonomy projects. Teams will be adapted between ship-based operations and other areas so capacity will be managed across the whole area.

3.9.4 MI asked MW whether NERC feels this is a good way to operate. We need to consider how projects are commissioned - i.e. is it appropriate that NERC is commissioning ship operations and MAS operations within the same Large Infrastructure category, given their differing evolution time-scales. MW said that the large infrastructure commissioning process has now started. A key point is that this is a process that defines the budget. CP talked about the technical/technician delivery of what the community wants. NERC is commissioning that capability to get the best value for money. NOC has a staff base which can be used efficiently to manage many different areas. PN added that it is better to run autonomous vehicles and ships with the same people.

3.9.5 MI reiterated that MFAB welcomed the overall direction of travel and understood the approach taken. The involvement of the Chair of MFAB in the MAS Project Board seemed essential and all agreed that MFAB should be used to give community input and conduct community consultation. Whilst it might need a sub-group of MFAB set up as a “autonomous expert working group” to do this, there was no need for another Board to the link between community input and the NMEP, the ships and MAS as ways of consulting with the community were well established and understood. **Action: IW to ensure the Business Case is amended to cover the role of MFAB and the Chair in the MAS Project Board prior to final submission to NERC**

4. **Benefits Realization Plan (BRP) – Marine Large Research infrastructure (MLRI) [\(Presentation A\)](#)**

4.1 NMF reports annually to the CPRG providing data as required by the RRS *James Cook* BRP. The RRS *Discovery* BRP is still in draft and there is no BRP for the NMEP. The MLRI BRP will combine all elements of the MLRI into one BRP. LS explained that NMF is using the NC commissioning evaluation categories wherever possible to ensure data captured is relevant to both the CPRG and NERC NC commissioning / evaluation processes. The MLRI BRP will be circulated to NERC prior to CPRG and then presented to CPRG for review.

Update on the ships [\(Presentation B\)](#)

4.2 LS talked about the latest staff changes on the ships. NMF has sponsored a training package for all mariners. CP asked about the age demographic of crew. At April 2016 the age range 50 – 59 has the highest number of mariners [*data checked post meeting*]. LS noted that it is difficult to recruit directly into a chief scientific role. RS concurred that BAS was having similar problems in terms of the age demographic. EK commented it is good to bring staff ‘up through the ranks’.

- 4.3 LS spoke about the Scientific Verification Periods (SVP) on RRS *Discovery*. The SVPs should provide confidence that RRS *Discovery* can undertake ROV, seismic and deep core expeditions. RRS *Discovery* went into the United States. US Coast Guard compliance rules are stringent. This opportunity has expanded NOC options on where we may mobilize science.
- 4.4 During RRS *Discovery*'s 2016/17 refit, the lifeboat will be replaced providing additional capacity. This will allow the option for additional berths to be created on board, should additional funding be found (potential to increase to 54 berths). No issues have been reported with the RRS *James Cook*. A winch system upgrade is planned on RRS *James Cook* in 2017. AR mentioned a noise issue on *Discovery* and the need to sound proof cabins. LS accepted this and assured the MFAB that action had been taken to address this.
- 4.5 IW noted the change that all sea going technicians and scientists for all cruises (both UK and visiting international scientists) are now required to sign on as 'transitory seafarers'. NOC has taken advice from the UK Maritime and Coastguard Agency (MCA) on the best way to manage new IMO requirements, and 'transitory seafarers' is the agreed way forward, but does require a consistency of medicals and relevant health and safety training. SF suggested that this issue should be reported at the Principal Scientists workshop. Attached at annex one is an explanatory paper about the Maritime Labour Convention 2006.

5. The new polar research ship ([Presentation C](#))

- 5.1 RL gave a presentation on the new polar research ship. NERC is trying to save £100M by reducing from two ships to one. This will limit the available science time for polar science. The new ship will have a longer piston coring capability than the RRS *James Clark Ross*. There will be a need for logistics chartering to help with resupplying bases. If charter buy in is not possible, science days could reduce from a planned 154 to 116.
- 5.2 After 27th May 2016 the design cannot be changed, although some flexibility will remain. The new ship will be ready for trials in summer 2018 and will come into service in 2019. There is a lot of modelling that is intended to make the ship as quiet and efficient as possible. Deck 10 has an aerosol lab and an area for fitting up equipment; deck seven is a general accommodation deck. Decks five and six also have some accommodation. A heli-deck and heli-hangar are also proposed. The CTD has its own hangar door and deployment system. Up to six containers can be accommodated. There is a deck workshop, general purpose laboratory and a 4 m x 4 m moon pool which will have a bespoke ROV. The ship will also be able to accommodate the ROV *Isis*. There will be a lot of space on the new ship to accommodate autonomous vehicles.
- 5.3 MI asked if we could have the next MFAB meeting at the Cammell Laird ship yard. **Action: Secretariat**

Discussion session

- 5.4 AR referred to problems with winches. RL explained that on the new ship, winches will be above the science hangar so if anything goes wrong, it will be very accessible. The winch system has been kept as simple as possible. The winches will be built by Rolls Royce.
- 5.5 RS explained that lessons have been learnt and there will now be a one year dedicated trial period to allow all the issues to be sorted out.
- 5.6 IW asked whether the £12M allocated all needs to be spent on equipment. We need to consider how best to maintain and resource the equipment that goes on the ship. RL said that some items on the 'wish list' could really be categorised as 'nice to have'. There was an interaction process with the community and its science representatives about the equipment planned for the ship. IW highlighted the difference between what is required compared to what we need to buy new. RL added that each item of equipment will have to be justified. We need to be clear as to whether some of the equipment needed may already be provided by the NMEP or elsewhere in the UK marine community. This needs to be investigated. MI asked if there had already been discussion on this? RL agreed that there should be and that it will be essential to make a priority list of what we actually need to buy.
- 5.7 It won't be necessary to have all of this equipment from day one. The science programme will be developed and this may differ from year to year so some purchasing can be phased in. We must buy equipment within the terms of the business plan and purchasing must be done before the end of the programme.
- 5.8 Equipment bought will be available for the UK science. It is intended, mainly for polar marine science, so it will be used on the polar vessel, however, if it is not in demand for polar use, it can be used elsewhere. The converse is also true, that equipment currently used for marine science, with some appropriate planning, could be available to polar science. MW asked who will pay for the day to day running costs. RL explained that there are discussions going on about this at the project board. This ship and the assets that go with it will be looked at in detail. These assets can't be used world-wide. RS added that certain assets will be bespoke to the ship whereas others will be available to the wider community. MW asked for details of items needed that couldn't be supported by the NMEP. Care is needed here because if this isn't looked at now, we could end up with a pool of equipment in the next ten years that may not be used. **Action: Chair of MFAB to write to New Polar Vessel Project Board asking for a list of desired items that were not currently in the NMEP.**
- 5.9 MW added that he is aware that there has been a problem with getting the compressors on RRS *Discovery*. NMF's Colin Day needs to have strong input here. Many meetings about the vessel include Mr Day.
- 5.9.1 PN noted that there is a range of equipment in the NCAS equipment pool and that this should be included. MI added that we need to be considering clearly transportable equipment that can be used in multiple scenarios.

- 5.9.2 JPS noted the recommendation to talk to the Senior Responsible Officer for the NPRV about clarifying the role of NMF in advising on lessons learned and how equipment purchased by NERC will be incorporated into the NMEP.
Action: JPS
- 5.9.3 AH asked who accepts the ship at the end of the sea trials. RL said this is a good question and assumed it will be the project management team working with BAS, although this needs clarification. **Action: RL**
- 5.9.4 MI advised that there is value to the community on sharing equipment. We would advise more joined up activity in terms of buying and using equipment. SF reminded the group that the process of listing justification for equipment is happening now and happening quickly. If there are any other needs, these will need to be raised quickly.
- 5.9.5 MW advised the Board that the officer responsible for the ship is NERC Swindon Office. This is not a BAS project – it is a NERC project. MW agreed that it would be good to have NMF on the Board. RS said that NOC and NMF have already been contributing, however, LS said that this had only been on an *ad hoc* basis to date. RS agreed to discuss this with Andrew Jeffries at BAS to see if we can establish a more formalised process. This action could then feed into the discussion to be had at SRO level see 5.9.2 **Action: RS**

6. **The Marine Equipment Pool [\(Presentation D\)](#)**

- 6.1 AH gave a presentation on the NMEP.

7. **The MFAB Communications Plan**

- 7.1 MI referred to the summary points of the plan at 7.12 of his document and suggested that a working group should take these actions forward. SF asked if the Strategic Programme Advisory Group (SPAG) working group on future directions could compose a technology wish-list? This would be beneficial for the five-year guidance plan.
- 7.2 SF suggested that the list be drawn after SPAG and the Science Board had sifted the ideas; in other words, the list would relate to the strategic programmes already under development. IW advised there should be an opportunity to feed suggestions into SPAG, rather than wait for ideas as SPAG is driven by the science.
- 7.3 JPS asked whether it would be possible to hold some capability workshops earlier in the process. AH added that we need a capability plan rather than a shopping list. IW advised that Arctic science is a leading topic at the moment. NERC have taken the lead in developing the technology that will marry up with the science element of the programme.
- 7.4 RW said that there is a precedence for technology-lead ideas to come in through a call. For example, environmental DNA research is being ‘tested’ in three different environments. There are mechanisms for technology ideas to come through the system.

- 7.5 MI said it is worth creating a method for MFAB to have a dialogue with SPAG because of the quality and quantity of ideas. Ideas are not all technology driven. RW said that SPAG can receive over 200 ideas in the first three rounds. RW also feeds in information and advice from the different groups he represents. RW leaves SPAG this autumn so the community needs oversight of what is available in the marine space, and consider nominating / proposing suitably experienced marine scientist(s) for future nomination. MW is the key colleague to talk to about this issue. MI agreed to speak with MW about how MFAB might have a dialogue with science input and future equipment planning. **Action: MI and MW**
- 7.6 We need to establish how to get improved community input so that MFAB can give advice to AH, LS and Professor Ed Hill, Executive Director of the NOC. If we are not getting sufficient user input, we should advertise for input via the NERC marine list server or possibly through the MFAB web site. AR suggested using the *Challenger* Society newsletter. IW commented that this is still reactive, however. Can we proactively seek information for the Board? MI said that he can advise the CPRG when proposals may not have been considered reasonably, however, the role of MFAB is to give advice: MFAB advice does not have to be taken.
- 7.7 Although the idea of user groups is good, they don't always work. MI would like to re-institute the successful elements of these groups with the user group community. For example, the issue about the smaller ROV - should MFAB champion a small working group to make a case for this? JPS said that it is part of her role to ensure that ideas go to the NOC Executive Director and then to NMF. SF said that if she approached the pelagic community for ideas, they will ask for fish nets, however, these are unlikely to be bought. MI said MFAB needs focused topic groups and we need representatives on MFAB who are experts in determining what is needed. The equipment lists are improving.
- 7.8 JPS said that we need to know who represents which part of our community. MFAB will be strengthened if it represents fairly, the entire breadth of UK marine science. We need to look at our membership and see where expertise lies. Then any gaps will become obvious. We could update the membership list on the terms of reference to include this **Action: Secretariat and MI (JPS to amend ToR when information available)**
- 7.9 SF asked if the community can see what is on the potential retirement and purchase lists? Then nominated experts can work to garner responses from the community. SF asked if MFAB should be advertised at the PIs workshop to help raise its profile.
- 7.9.1. LS was asked to bring any forward-looking equipment issues to the next MFAB meeting, which ideally, should be highlighted three weeks before. MI asked if anything is picked up from post cruise assessments and if so, whether this could also be fielded to MFAB. LS agreed it is important to see equipment usage data, and note purchases and expenditure. LS is asked to give bullet points in the NMF report to the Chair in advance of the meeting. **Action: LS**

7.9.2 CP expressed a concern that the technology road map is too focused on autonomy. She asked if the link to MFAB on the NOC pages be made more visible. **Action: Secretariat**

8. An update on BODC ([Presentation E](#))

GA is not sure about the role of the BODC strategic advisory group at the moment. BODC has done a survey to see how it can improve its user interface. He advised that users within multi-partner NERC programmes will be allocated disk space and given permissions on that space – it will be similar to Drop Box.

9. An update on the seismic operations policy ([Presentation F](#))

LS asked if MFAB can develop a working group for the geophysics policy. SF suggested Dr Rob Larter from BAS, for example, to be on the working group. CP agreed to work with LS in taking this forward. Ultimately, this will be reported back to the CPRG and then MFAB. **Action: LS/CP**

Any other business

MI invited EK to comment on marine issues from a European perspective. EK advised the Board that:-

1. There was interest in the recently proposed geophysics policy. Currently within the Ocean Facilities Exchange Group (OFEG), there is a group looking at the EIS for seismic cruises. It would be good if this group could be made aware of the policy.
2. EK referred to another group involved in developing data telemetry policy and this group may wish to join in on group procurements. For example, they have been testing a sea-going Internet which has a wider coverage. This might be of interest for OFEG.
3. Also raised was the matter of insurance for equipment used on cruises. This is especially important during barbers. EK advised that there is a German partner who is willing to insure cruise equipment.

EK and NMF's Colin Day are to work together on these issues.

4. IW advised that, after eight years at the National Oceanography Centre, he is leaving his role as Director of Science and Technology to take up a new post as Deputy Vice Chancellor for Research and Innovation at the University of Canterbury in Christchurch, New Zealand. MI thanked IW for his valued contribution to the work of the Marine Facilities Advisory Board and wished him well in his new role.

Annex 1

Maritime Labour Convention 2006

Status

- MLC was adopted by the International Labour Organisation (ILO) in 2006. It consolidated a significant number of maritime labour standards into one convention.
- Entered into force 20 August 2013.
- MCA as UK flag authority have only recently issued relevant enacting regulations and guidance.
- Compliance is mandatory and subject to inspection by flag and port state officials.

Application

- All 'crew' (officers and ratings) are defined as seafarers and are required to hold an individual seafarer employment agreement (SEA).
- Following extensive discussion with MCA, it has been agreed that NMF-Sea Systems should apply the same requirement to seagoing technicians employed by NMF-SS.
- The MCA has confirmed that the following groups: research scientists and undergraduates as well as specialist contractors or specialist technicians brought in to handle specific equipment will be defined as **transitional seafarers** and carry an appropriate agreement for the period spent onboard the ship.
- The Crew Agreement system is being withdrawn hence the need for individual agreements but there will still be a need to record a List of Crew as is presently done.

Criteria applied by MCA

- The duration of the stay on board of the individual,
- The frequency of the periods spent on board,
- The location of the individual's principal place of work,
- The purpose of the individual's work on board,
- The protection that would normally be available to the individuals concerned with respect to their working and living conditions.

Seagoing Technicians

- There is no change to terms and conditions. This is about formalising the way in which people who work on our vessels are employed. CEFAS have already started using a similar method for visiting technicians and scientists.
- The agreement will be between the shipowner (NMF-Sea Systems) and the individual and will be signed by both parties. The SEA document includes an annex outlines the key elements as applied to the MLC and refers out to your individual employment terms and conditions should be part of this also.
- All seagoing staff when on board the vessel must have a signed copy of the agreement for inspection by a flag or port state official.
- NMF-SS as the ship owner will need to hold a copy ashore.

Scientist's and Specialist Contractors

- Scientists and specialist contractors for the purpose of the MLC convention will be considered as transitional seafarers.
- The result of this is that MCA expect that this group should be able to demonstrate that the employment conditions of this group achieve the minimum standards of the MLC. To achieve this, a Transitional Seafarer Agreement was developed and agreed by MCA.
- The agreement will be between the shipowner (NMF-Sea Systems) and the individual and will be signed by both parties. There is a one page sheet for this. An Annex outlines the key elements as applied to the MLC. Unlike the agreement for seagoing technicians there is a declaration to be signed by your employer.
- Every individual who is on board the vessel must have a signed copy of the agreement for inspection by a flag or port state official.

Observers and other persons

- Observers and other persons who are not designated as seafarers or transitional seafarers shall be recorded as a 'passenger' and entered on the exempted list.

Complaints

- One significant element of MLC is the ability for seafarers, including transitional seafarers to be able to use a simple complaints procedure when they allege a breach of the Convention.
- This procedure allows for and encourages early resolution on board but also for escalation to the shipowner or MCA ashore.
- A copy of the complaint procedure will be placed in each cabin.

Commencement

- The requirement to apply this is already in place but we expect to start as follows:
- Seagoing Technicians – From JC095 and DY006
- Scientists – From JC097 and DY006
- The sign-off form will be issued by the Operations group at NMF-SS in good time prior to the relevant cruise for signing by relevant parties.