

MARINE FACILITIES ADVISORY BOARD

Friday 22 March 2024: Microsoft Teams

Round four: Capital expenditure proposals

In attendance from NOC:

Helen Oldridge (HO), Dan Roper (DR), Jackie Pearson (JP)

Participants

Professor Carol Robinson, Chair, UEA (CR)
Dr Gaye Bayrakci, NOC (GB)
Dr Jörg Bialas, GEOMAR (JB)
Dr Veronique Creach, Cefas (VC)
Dr Stephen Jones, University of Birmingham (SJ)
Professor Tim Smyth, PML (TS)
Dr Gabriele Stowasser, BAS (GS)
Dr Michelle Taylor, University of Essex (MT)

Welcome

CR started the meeting, clarifying the position around conflicts of interest, advising that Professor Tim Smyth would co-chair when needed.

AoB items

GB has a question about the Future of Marine Research Infrastructure programme.

Item One Capital NMEP cost forecast – Helen Oldridge

- 1.1 With inflation and increasing costs, the £1.5M assigned as NMEP capital funding, in 2018 is no longer sufficient to meet needs. Consequently, NMF has decided it will not be possible to support refurbishment of the ROV Launch and Recovery System (LARS), the ships' IT infrastructure replacement (which will resume in 2028) or the shallow and deep multibeam replacements. For the multibeam replacements specifically it is anticipated that availability of spares will necessitate either the upgrade to the Original Equipment Manufacturer (OEM) supported systems or place the systems out of action until funding is available to do so. Also on hold is replacement of the HP compressors associated with the seismic suite. All quotes are now out of date. NMF has also decided not to pursue commissioning of the plasma deep water coring winch system which will limit piston core sampling to 5,000m depth maximum, however, this isn't anticipated to be a large issue for the community as piston coring at greater than 5000m is a rare request. Anything not in the table below is not currently in NMF's plan.

Planned NMEP Capital Expenditure

	NERC FY24/25	NERC FY25/26	NERC FY26/27	NERC FY27/28
GP/core warp cables x2	£150,000			
Deep Tow cables	£350,000	£350,000		
RN container		£25,000		
Seismic umbilicals		£100,000		
Surmet upgrade both vessels		£100,000		
SRDs for MCSS	£32,500			
Avalon SIUs	£33,500			
Cherry pickers		£200,000		
Seasoar refurb and trials			£300,000	
CTD sensors	£72,000			
PAR sensors	£30,000			
MVP refurb/replacement and trials			£300,000	
ALR Band Clamps	£25,000			
New ALR Motor PCB Integration	£50,000			
ALR Mission Management System Upgrades		£100,000		
ALR pressure vessels			£150,000	
ALR Actuator Upgrade			£120,000	
ALR1500 5 year refit			£150,000	
AS5 Spare PCBs	£10,000			
AS5 Thruster renewals & skins	£30,000			
New AESA Cameras Housings & Cables	£50,000			
AUV Arctic Containers		£75,000		
5 years LARS service		£30,000		
AS5 Workshop Container		£50,000		
AS5 Skins & Actuators			£35,000	
AS5 mid-life refit				£100,000
Iridium repeaters in workshops	£20,000			
Glider/ ALR Container				£65,000
Glider (attrition)	£160,000	£180,000	£190,000	£200,000
Various pool sensors		£80,000	£90,000	£120,000
ALR or Glider Rockland Microrider	£80,000	£80,000		
Laser Cutter/ Rapid Prototyping	£40,000			
MPUS	£75,000			
Misc ROV equipment	£50,000			
ROV kraits manipulator upgrade		£50,000		
ROV Shilling Manipulator Upgrade			£50,000	
Shore Trials	£100,000	£100,000	£120,000	£130,000
NMEP trials	£150,000	£157,500	£165,375	£173,644
Emergent spend	-£8,000	-£177,500	-£170,375	£711,356
Total Spend	£1,500,000	£1,500,000	£1,500,000	£1,500,000

TABLE: ESTIMATED CAPITAL EXPENDITURE REQUIREMENTS THROUGH TO NERC FY27/28. NOTE THERE IS NO CAPACITY FOR EMERGENT SPENDING THROUGH MOST OF THIS PERIOD.

- 1.2 TS: there is ~ £1.5m in capital requests today so, to fund anything, existing requests will need to be cut. It would be that just one item will go forward today and may not be the most expensive. HO agreed but added that if an item is deemed important, this should still be discussed.
- 1.3 SJ: regarding the expected one-off capital costs - if MFAB decides that an item is needed, would it be added to the one-off capital costs list? Does NMF then go to NERC to explain that one-off funding is needed? HO confirmed yes, explaining that this would be notified to CPEB.
- 1.4 CR thanked HO for the report. Although the report asks that the £1.5m is increased to £2.0m, NMF needs £2m for 'business as usual' items and an extra £1.5m for each of five one-off capital costs. Thus, if MFAB wants to fund additional items, these will need extra funding. The 'business as usual' costs will use £1.5m. The request to increase this to £2m will leave £0.5m for community bids. CR asked about the time line for discussion of this request as it is not on the agenda for the March 25 CPEB. HO agreed to check. **Action 57: HO**
- 1.5 CR: If proposals reviewed today are graded above eight, then previous applications, graded eight, won't get funded. MFAB should invite previous applicants, who have received a grade eight, to update and re-submit. There also needs to be a check that items are still needed; this may need community input. There may also be cases where items have been requested multiple times. HO recommended completing an annual review. **Action 58: HO, JP**
- 1.7 GB: In the list of previous applications - the Passive Acoustic Monitoring (PAM) system, the flexible-geometry, deep sea hydrophone array and hydrophone array - these appear to be the same. HO: they are similar but not the same. GB asked if they could be combined? HO: possibly, but NMF would need to do some research. The PAM system was set up as a seismic facility. Whether it could be used for other activities is a different issue. GB: PAM is a hydrophone (or a hydrophone array) so maybe these could be combined. HO: yes.
- 1.8 TS referred to time scales. For example, the time line for Dan Mayor's proposal relates to DY180, mobilizing in 2024. This won't be possible because, for example, length of procurement process so are some requests now 'time-expired'? HO: applicants need to understand that it may not be possible to provide equipment in time for a specific cruise. Such proposals should still be assessed, however, as NMEP kit is intended for the benefit of all.
- 1.9 The Board supported HO's request to the Cruise Programme Executive Board (CPEB) for the upgrade in funding to enable business as usual which would provide £0.5m for community bids. The Board also agreed to supporting the additional funding request for NERC to support the five 'one off' opportunities. HO is to advise Dr Maaten Furlong that the Board strongly supports NMF's application for an uplift to £2.0m per year, partly because clearly the current

costs of 'business as usual' are more than £1.5m and a key role for MFAB is to enable the community to input, prioritize and ask for future scientific equipment that will keep the UK at its world leading standard. CR offered to provide a written note of support if needed. **Action 59: HO**

Item Two – Capital Expenditure Proposals

- 2.1 JP advised that Professor Kate Hendry was a reviewer although is no longer a member of MFAB. Carol Robinson, Gabrielle Stowasser and Gaye Bayrakci would be asked to step off at certain points, due to conflicts of interest.
- 2.2 Although the wording on the Microsoft Form asked for statements of support, the website text implied that these were 'optional' and one applicant had not sent any. JP asked that that proposal not be disadvantaged because of this and that if further community input was needed in that case, then this would be requested. JP apologised and agreed to rephrase the wording for the next round.
- 2.3 CR reminded members that marking would be based on scientific excellence and requirements of the community and that a single grade must be agreed.
- 2.4 Some text about proposals has been redacted for publishing on-line, however, applicants have received detailed feedback and grades.

Item Eight: Discussion

- 8.3 Summary: Two grade 11s (Anna & Dan), Jon Bull (10), Rob Hall (9) and Richard Bates (8). The Board agreed to look at previous applications to see what has been funded and what is still on the list. HO summarised the current status of the NMF 'wish-list':
 - (i) The 'Active heave' - completed.
 - (ii) Trace metal snow catcher – completed.
 - (iii) The underway CO₂ system - being installed.
 - (iv) The deep-sea hydrophone array – no further progress.
 - (v) Proposals from Karen Heywood and Anna Bird - not progressed but Anna Bird's is still in NMF's longer term capital plan.
 - (vi) Dan Jones – bathysnap system - completed.
 - (vii) Corinne Pebody – no proposals advanced.
 - (viii) Streamer sections not advanced but remain on NMF's capital plan.
 - (ix) Air guns have been replaced but costs were much more.
 - (x) Pinnacle 45 did not progress because NMF has comparable capability.
 - (xi) John Howe proposal - not progressed because NMF has capacity.
 - (xii) Bramley Merton proposal - not progressed.
 - (xiii) Jennifer Jackson proposal - not progressed
 - (xiv) Crawler - NMF has something comparable for AH1.
 - (xv) Anna Lichtschlag proposal, awarded six, is not on NMF's list.

- 8.4 The Board now needs an updated list showing where the current proposals, graded 11, will fit. The funding is so restricted that realistically, anything less than a ten will not be funded (unless there is an item specifically needed for a cruise. CR asked NMF to update the list, removing everything that has been funded and everything with a zero grade, add a column for comments and make the list available for the community. We need to decide whether to contact applicants and ask if they would like to withdraw the application or update it. HO: if an item has community validity, it should stay on the list. We need to clarify the situation for those who have had grades of eight or nine.
- 8.5 SJ referred to Professor Christine Pearce's seismics proposal which got a grade of 12. HO: the item is on the capital expenditure programme. The Spanish National Research Council (CSIC) has a seismics capability and NMF has been sharing facilities with them which is why this is further down the list. SJ asked if it should come off the list? HO: Agreed but asked if NMF should be seeking autonomy rather than dependency on another institute's capabilities? CR: autonomy is good, but NMF doesn't have sufficient funding. SJ: If the equipment was not available though, would that cruise be postponed? HO: we would either buy or hire the sections needed. CR: the table needs to include a summary of this. **Action 60: HO**
- 8.6 JB asked if it is possible that scientific equipment could pass a review process but not be available in the pool? HO: from the National Marine Equipment Pool (NMEP)'s perspective, this would be unlikely although could happen though with something that has been mothballed or on extended readiness. e.g. towed undulating suite. To programme this now would be harder and require longer time scales.
- 8.7 GB: There are still opportunities for the hydrophone array to be used so could we link similar applications together? CR agreed: when other applicants see that there are already three applications for something similar, it will be the opportune moment to consider whether a new proposal, which covers all the earlier requirements of the existing applications, could bring a bigger community together. GB was concerned this would take a long time, however, CR explained there hadn't been an expenditure round for the last two years because of a lack of funding.

Any Other Business

GB: Comments on the FMRI – there are five different challenges and there is one subject that is not represented - ocean and earth interactions. Should we create a community letter to say that there is something missing. JP offered to link GB up to the FMRI team to take this forward. **Action 61: JP**

CR had mentioned to Prof Ed Hill that she felt that the disciplinary coverage for the FMRI programme is not as broad as it could be but hadn't heard more. CR agreed that

a community letter is a good idea. HO acknowledged that there has been a focus on autonomy, however, this isn't intentional.

CR thanked members for their time and input, JP for the minutes and TS for chairing as needed and then closed the meeting.

Actions

#	Action	Who
57	Check the timeline for the discussion around the request to increase funding which was detailed in HO's report.	HO
58	Complete annual review of the status of the capital expenditure requests, including checking, for example, whether requests need to be updated and resubmitted.	HO, JP
59	Let Carol Robinson know if a note of support is needed to underpin the request to CPEB for the upgrade in funding and support for the additional funding request for the five 'one off' opportunities.	HO
60	In providing an update for the community about the status of the capital expenditure proposals, include an update about Professor Christine Pearce's seismics proposal.	HO, JP
61	Link up GB to the FRMI team to answer the question raised about the challenges and the concern that the topic of ocean and earth interactions is not represented.	JP