PI: Arnold Gordon **Event#:** O-215-N	**Ph:** **E-mail:** agordon@ldeo.columbia.edu	**Cruise #:** NBP03-02	**MPC:** Newyear **Date:** 4/7/03

Yes	No	Planning	
☐	☒	SIP process adequate?	- The submission deadline for SIPs is too early, and ESP doesn't allow grantees to make changes later. This forces grantees to commit to things too early, or else to not take the SIP too seriously. - Perhaps there can be staggered deadlines for different portions of the SIP. For example, procurement requests first, personnel lists later. - ESP is not particularly easy to use. It doesn't allow grantee to cut and paste from other documents. It's very tedious and time consuming to retype all requested information.
☒	☐	RSP helpful and timely?	**RSP** - The RSP and the planning meeting notes were useful to make sure all issues had been addressed and fully understood by grantees and RPSC. They were also useful as a compendium of logistics and shipboard policies. - Distribution was timely, given that grantees submitted much of the SIP info fairly late and the logistics scenarios were ever-shifting.
☒	☐	POC responsive?	**POC** - POC was very responsive and knowledgeable. - However, the POC was stretched thin due to involvement in other projects including sailing another unrelated cruise during the planning process. This led to some issues not being addressed until very late in the game. - It was confusing to the grantees who were covering POC duties while the primary person was deployed. Involvement of substitute POCs who will not directly participate in the cruise can lead to omission of details, miscommunications, and loss of corporate memory. **Planning meeting at LDEO in June 2002** - This meeting was productive and essential to the success of the program. - Utility of a planning meeting for AnSlope II is questionable given the type of science to be conducted. - A planning meeting for AnSlope III, possibly in conjunction with an AnSlope science meeting planned for late October/early November is attractive. Such a meeting would be especially productive if RPSC staffing was sufficiently finalized to allow participation of MTs (i.e. for mooring recovery planning) - The science meeting will occur too late to have much of an impact on AnSlope II planning, but discussions could be useful for AnSlope III RSP.
		Medical	- Many medical kits were received too promptly. Grantees were instructed not to begin the PQ process until 6 months prior to deployment, but yet their kits were sent via overnight Fed-Ex 7 months before deployment. - Many grantees received improper information in their kits, such as incomplete paperwork or requested tests which apply only to RPSC personnel. This caused some grantees to have to see their doctor/dentist more than once, at their own expense. If RPSC had sent the proper paperwork the first time, this would not have been necessary.
☒	☐	Kits sent out on time?	
☒	☐	Questions answered?	- Grantees do not need full kits, with blood draw tubes, etc. that are only applicable for RPSC staff. Grantees' doctors used their own lab supplies. - In most cases, PQ questions were answered promptly and efficiently. Errors were addressed quickly. - Project contacts were kept informed of their group's PQ status on a regular basis, but it took several requests to be added to the distribution list despite identifying recipients in the SIP. - Patients' medical history doesn't change much from year to year. It would be easier to submit any changes to health status than filling out a complete self-history each year. Grantees who deploy multiple times end up having several copies of the same information in their medical files.

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Yes	No	Travel	
☒	☐	TRW available and understandable?	- The Denver DSG office was responsive to requests. However, it sometimes took several iterations to complete travel requests to the grantees' satisfaction. For example, the original itinerary proposed for one grantee involved a stopover in St. Louis for travel between New York and LAX. This was unnecessary and was able to be corrected when the grantee asked about it. Such illogical routing should be QC'ed prior to asking the grantee for approval.
☐	☒	Ticketing completed easily?	- Seat assignment requests were often not honored. When the traveler tried to make changes directly with the airline they were informed that only the agent issuing the ticket could make such a request.
☐	☐	Meet and assist service at airport adequate?	- It's disappointing that the Christchurch Travel office won't inform travelers of their proposed itinerary prior to arrival in Lyttelton. This makes it difficult to arrange personal travel, connecting flights not provided by RPSC (i.e. foreign participants), or a ride home from their end destination airport. - Rescheduling of SB CHC-MCM flight and hotel reservations worked well. Grantees felt well informed of the situation. In one case, a grantee received preferential treatment when scheduling an unplanned visit to the dentist's office because of their pending flight status. - At least two grantees had difficulty receiving timely responses from BTI, the commercial travel agent under contract to the USAP, in arranging personal travel. Unlike at McMurdo, shipboard personnel cannot easily make a phone call or email and it's impossible to get web access.

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Yes	No	Equipment Availability
☒	☐	**Requested** equipment available?
☐	☒	Damaged?
☐	☒	Late?
☐	☒	**ECW Gear Adequate?**

SALINOMETER

- Salinometers were in top shape.
- The SIO software is "far superior" to the OSIL product: it speeds up sample processing considerably, results in better quality data, and certainly reduces operator fatigue.
- A spare SIO interface box should be obtained (the SIO software will not work without it).
- A better computer should be provided for the SIO autosal logging software. The Toshiba laptop currently used needs to be replaced. The screen is hard to read and the cursor controls are difficult to use.
- The salinometer computer should be connected to the network to ease data backup.
- Temperature control in the autosal room is good, but requires a circulating fan to minimize floor-to-ceiling temperature gradients. Without a fan there is a >4 deg C difference between the floor and the autosal. This results in water samples and standard bottles which are at floor level never properly equilibrating to the autosal room temperature. A temporary fan was installed (duct-taped to the outboard salinometer that wasn't used), which helped but a permanent installation should be made.

OXYGEN TITRATION SYSTEM

- The oxygen titrator needs servicing or a firmware upgrade. It runs at about half the normal speed (6 min/sample vs. <3 min/sample). This may be due to firmware settings for smaller sample flasks or higher concentration of titrants. In any event, it must be attended to because in its present state it's very frustrating to use and one would not be able to keep up with a typical sampling protocol of 25 samples every 3 hours plus standards using this equipment. Grantees swapped the RPSC titrator with one they provided to speed sample processing.
- The RPSC sample flasks are not calibrated. This must be done before they can be used on any future cruises. The grantees provided their own flasks.
- All other oxygen titration supplies were as requested in the SIP.

CTD SYSTEM

- In general, the grantees received excellent support.
- We had some problems with the CTD computer/network printer. Printing the screen plots to the Forward Dry Lab color printer hung the CTD computer requiring frequent reboots. The issue was addressed by connecting a b/w printer directly to the CTD computer.
- Spiking of the CTD data was observed toward the end of the cruise which, inexplicably, could be solved by rebooting the computer. It's not clear whether this is due to SBE software (which we note is outdated) or computer/network problems.
- The latest version of SBE software should be installed.
- The collection of CTD hardware manuals should be updated. It takes quite a bit of digging on the shelves to come up with the manual appropriate to the hardware models in use. Many of the shelved manuals are for outdated hardware.
- It would be good to reduce background hum in the Baltic Room intercom.

See Page 8 for additional Equipment and ECW gear comments….

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Yes	No	Lab Space	LABORATORY EQUIPMENT & FACILITIES
☒	☐	Adequate? (electrical, space, water, etc.)	- Lab equipment and supplies were generally very good. - Everyone had more than enough space. However, it would be good to provide more space for grantees who bring their own laptops. The lab benches in the Aft Dry Lab are not well suited for computer work and there are only a few spots in the Forward Dry Lab where one can comfortably set up and use a computer during the cruise. - Too much space is given over to multibeam operations.
☐	☐	Remote Sensing support Quality? (QFax, Terascan, etc.)	
		Hotel Services	**GALLEY**
☐	☒	Cabin assignment problems?	- There was always more than enough food. - The variety was good, especially considering the time between normal port calls. - The effort to provide vegetarian entrees is much appreciated even by non-vegetarians. It's especially noteworthy that the galley staff took the initiative to provide dishes prepared without eggs for a grantee without being specifically asked to do so. - Birthday/anniversary cakes provide a good morale boost - There were too many good dessert offerings. It was difficult to choose. - It would be better if usage of paper cups could be reduced. RPSC had run out of the stainless steel coffee cups by the beginning of this cruise and plastic mugs were provided by McMurdo.
☒	☐	Linens adequate?	
☐	☒	Food problems?	- The galley coffee leaves much to be desired. Perhaps a smaller volume machine which crew and grantees could use to make more frequent smaller batches (like on the LMG) would be better. - Thank you to the galley staff for providing a good selection of teas. - The galley staff deserves accolades for putting up with noisy conditions (caused by icebreaking) in the galley for long shifts day after day. **BED LINENS & TOWELS** - Many thanks for ECO for providing new, improved linens and towels. It makes a huge difference in personal comfort. **WATER/PLUMBING** - Drain problems were always handled promptly by the engineering staff - The NBP offers luxurious accommodations; it's the "Queen Mary of the fleet." - There is "no better ship" in the US research fleet and few internationally in terms of hotel services and living accommodations. - TVs in some rooms don't operate properly and need to be replaced. - Some TVs have degaussing problems that don't seem easily fixed.

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Yes	**No**	**Personnel Issues**	**ECO**
☐	☒	ECO?	- Crew was uniformly professional and were the highest caliber mariners. - Crew was always courteous and responsive to requests for info and assistance. - Crew is highly competent, and individuals remain with the ship for a long time, leading to good corporate memory - It was pleasant to have crew members remember grantees names from previous cruises. **RPSC**
☐	☒	RSPC?	- RPSC staffing levels were appropriate for the science operations on this cruise. - Grantees appreciate the willingness of all RPSC staff including MST, ET, and MPC to assist with mooring deck work. This was essential to the success of these operations. - Expertise was very good on all levels. - MST expressed a desire to receive more training, indicating she was sent out with very little familiarity with on-board instrumentation. This was not a problem for this cruise since grantees were experienced in use of the salinometer and oxygen titration system. - MTs all had excellent general seamanship skills, but listened to suggestions from the grantees and did not try to dictate deck policies. This is much appreciated by the grantees who have many years of experience in seagoing oceanography. - It will be imperative to have 4 experienced MTs on board for AnSlope III when moorings will be recovered. During AnSlope I we needed 2 MTs on deck for each operation; with the 12:00 watch change this required drawing on all 4 during the course of the day. The number of consecutive days required for mooring operations means that a smaller MT compliment is unlikely to conduct safe operations due to fatigue.
		Research Objectives	
☒	☐	All accomplished? If not, explain (weather, ice, equipment, personnel).	- Given the ice conditions, all cruise objectives were met. - Ending the cruise early due to low fuel reserves was disappointing but not disastrous as scientific goals were achieved.

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Yes	No	Surveys Completed?	
☒	☐	USAP Metrics Survey	
☐	☐	GPRA Facilities Survey	
		Future Cruises	
☒	☐	If returning for another cruise, are there any additional equipment or support needs your group anticipates?	**MOORING OPERATIONS** - We recommend that a senior member of the mooring team, similar to the watch leaders, be on the bridge during the decision process for mooring deployments and recoveries. Similar to back deck mooring operations, a centralized communication structure should be used, so that only that senior mooring team member is giving directions to the ship's officers. Such a system facilitates the decision making process and focuses the use of resources, including time, available to the responsible PI.
☒	☐	Anything you would like to see changed?	- It's suggested that the Chief Scientist receive a larger email allotment than other cruise participants due to increased communications that the position entails. For this cruise the Chief Scientist was also Chairman of his University department and had much work-related email. Some was cruise related and some wasn't.

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Yes	No	Other	
☒	☐	Diving, Zodiac, E-mail support, interactions with Palmer Station, etc.	

LOGISTICS
- Activities during the McMurdo port call (before and after IVARS mini-cruise, i.e. housing, transport to ship, communication of plans) were touch-and-go, but considering the ever-changing circumstances it was well done.

CRUISE DATA
- Please see separate comments from Laurie Padman regarding ADCP data issues.
- RPSC staff kept in good communication with PIs regarding what data to include in the end-of-cruise data report, data format, etc.

- Several grantee equipment issues (using grantee-provided acoustic release deck boxes through NBP's hull mounted transducers for mooring operations, plumbing and testing of hydraulics) were deferred until very late in the preparation for this cruise despite being identified as potential issues early on. This can partly be attributed to POC having other responsibilities, and other RPSC personnel not considering the issues seriously enough. Although everything worked out in the end, these issues could have been significant impediments to productivity during AnSlope I.

MOORING OPERATIONS
- Successful deployment and recovery of moorings, including proper placement, requires patience, especially in heavy ice conditions.
- Use of two acoustic transponders, one at the bow and one at the stern, worked well. This led to better triangulation and sped the process of determining under which floe the mooring was located. Once the mooring location was determined, this system allowed the ship to methodically break up the floe until the mooring surfaced.

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Additional Comments/Overflow:

Continued from Equipment Availability section on Page 3

- The petcocks on the Bullister bottles had sticking problems. The water samplers, especially the CFC group, often had a difficult time with stiff sample valves. The MTs did what they could to swap out spares in an attempt to resolve the issue, but after a few stations even the replacements became sticky. There is some problem with either the design or execution of these valves.
- It is noted that the O-rings were replaced by the CFC group with a specially-treated set they provided and we did not experiment to see if the problem rested with the treated O-rings.

However, the grantees drawing CFC samples report that they have not had similar problems with Bullister bottles on other ships, even with treated O-rings. Perhaps it's a temperature-related issue.

- The stop rings on the petcocks can easily be reversed by mistake, putting the flat side toward the bottle and making them difficult to open. Care should be taken in assembling the valves.
- Petcock valves should be screwed into the body of the Bullister bottles so that the alignment pin is at the top. This allows the sampler to see that the pin and hole in the stop ring are aligned when drawing samples.
- The winch slip ring had to be replaced, so at least one spare unit is necessary. Two would be better.
- The slip ring seems to be sensitive to winch speeds greater than 50 m/min, introducing noise to the data stream. The CTD package with CMiPS and LADCP could be lowered at 60 m/min, thereby saving significant station time over 200+ casts. No specs were available on board to see if we were exceeding the designed rotation rate.
- Spare parts for the carousel sampler should be ready. We had a few problems which might have been solved more quickly and easily if some spare latch assemblies and a spare electronics pylon been standing by for replacement. As it was, these parts had to be removed from the spare frame in the helo hangar. This operation took unnecessary time and slowed down diagnostics and repair.

ECW

- Much of the CDC-issued ECW is not appropriate for shipboard use. ECW issue from Punta Arenas is better. It would have been good to get some peninsula-issue gear sent to Christchurch for NBP participants. Specifically, the flannel shirt, insulated vest, and lighter weight thermal underwear were missed.
- The CDC-issued parka for shipboard participants is too lightweight to be useful if stuck at McMurdo for any length of time. Parkas are rarely worn on the ship – float coats and mustang suits are provided by the NBP and are required wear during deck operations.