

McMURDO AREA USERS' COMMITTEE
ANNUAL MEETING, 14 JULY 2004
McMURDO AUDITORIUM

Raytheon Polar Services Company, Centennial, Colorado

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Executive Summary

Science staging space and the SSC Phase II completion are the most critical issues facing RPSC and the community in the coming year. **ACTION:** *In a letter, the committee will restate their earlier request that the design of the Science Support Center (SSC) Phase II be revisited. Phase II was designed in 1997/98 and does not address the current situation or future needs. The letter will reinforce the science community's position that Phase II is important. RELATED ACTION: Melissa Rider will provide the committee with copies of the BFC expansion plans.*

Although POLAR ICE version 2 had some problems, RPSC is receiving the most accurate data thus far. **ACTION:** *The committee recommends that a user group be formed to make recommendations for improvements to POLAR ICE.*

Note as of 22-Feb-05: Resolution of the two action items above are pending the major and systemic reorganization of the MAUC mandated by NSF. That reorganization will likely include a provision for specialized subcommittees who will be in a better position to address these items. (Source: Phone conversation with Ted Scambos, Chair)

NSF has charged RPSC with developing a proposal for reorganizing all the station user committees, MAUC (McMurdo Area Users' Committee), SPUC (South Pole Users' Committee), PAUC (Palmer Area Users' Committee). NSF values recommendations from the user communities and would like to see the committees become more efficient and effective.

ACTION: *Steve Dunbar will redraft the user committee reorganization proposal based on suggestions made during this meeting and send to committee members for review.*

NSF and RPSC need feedback on what equipment infrastructure the grantee community foresees needing to facilitate future science. **ACTION:** *Steve Dunbar and Steve Alexander will prepare a list of recommendations for lab equipment and criteria for making decisions on what equipment to purchase. The list will indicate whether the item will increase capacity and/or capability, enhance testing, or is a critical replacement of existing equipment. The list will be sent to the MAUC members for comment.*

Preliminary discussions

Brian Stone discussed the NSF budget in general terms. He noted that the NSF and RPSC are devoting a lot of time with the budget preparation. Specifically, the budget is being changed to more clearly address core functionality of the program, operations and maintenance, life-cycle replacement, and project-specific costs.

The FY05 budget is not overly optimistic. The NSF presently has a flat budget and expenditures are looked at very carefully. Major areas of focus are:

- 1) SOAR, a geophysical project in West Antarctica in conjunction with BAS.
- 2) Three and one-half million dollars was received for the Long Duration Balloon project from NASA.
Funding will be used to improve LDB.
- 3) WAIS Divide deep coring project. First testing will be in Greenland with actual deep core drilling scheduled to begin in FY07. Anticipated cost is \$5 million.
- 4) Ice Cube will kick off this year. After many years, this project will be a major activity at South Pole.
- 5) The South Pole Telescope project is a major facility that will connect the dark sector.
- 6) While the ANDRILL project has been postponed this year, plans are to continue working with our international partners to decide when this might move ahead.
- 7) IPY participation.

Al Sutherland noted that at the end of last year, the channel to McMurdo was ice cleared for the first time in three to four years. This was due to the USCG icebreakers working well together and weather that blew ice out. The channel is in good condition for first year ice. This is good news to report to MAUC. Not so good news, only the USCG Polar Star will be going south this next year. The Polar Sea will be out of commission for possibly two years and this is cause for significant concern. NSF is investigating foreign options in case the weather/circumstances dictate more than one icebreaker is needed.

Brian Stone noted other items of interest:

- 1) In February the NSF awarded a contract to Kenn Borek Air.
- 2) The ICDS ice coring contract will be re-bid this fall and awarded in March/April
- 3) The PHI contract is five years old and the NSF will rebid this in the upcoming year.

Meeting Topics

The discussion below includes Ted Scambos' remarks transmitted via email 20-July 2004

Crary Lab

Lab, office, and staging space

Steve Alexander presented findings from a recent survey of grantees. Appendix C shows the full text of the report and a copy of the survey. Survey results show that RPSC's perception of lab space is somewhat different from the grantee's perception. There was a good response to the survey with 40 of approximately 90 PIs or delegates responding, and representing a good cross section of programs.

- A majority (69%) did not consider the lab overcrowded and that space was not a constraint on their projects.
- 71% of respondents believe the lab space is used efficiently.
- 79% of respondents received the space requested on their SIPs, and 91% believed that additional space would not have improved the productivity or success of their projects.

- Office space was used primarily for data analysis and email, although many groups emphasized its importance for meetings and interaction. Similarly with lab space, 86% received the space requested on SIPs and 84% considered it suitable for their needs.
- Enhancing dorm room facilities with LAN access and desk space is unlikely to reduce the need for office space. Physical location within Crary, interaction with team members and ability to monitor experiments while analyzing data, were cited as critical functions.
- A majority (70%) oppose utilizing the 2nd floor library/coffee lounge as additional office space. Many comments cited the valuable interaction between grantees as being important, as well as the existence of a quiet area in which to read and work.
- Non-secure cubicles may be an option for increasing office space which would meet with less opposition.
- Staging space is a heavily debated issue, yet 56% felt it was adequate for their needs and 72% did not believe that more staging space would increase the productivity of their projects. However, comments were added to several surveys indicating that these numbers may not be representative, and that for certain groups, staging space may be a strong limiting factor.
- 100% of respondents indicated their staging space needs had increased.

General Discussion: Space in general is limited in the Crary Lab, and planned grantee activities in the near future will place increasing demands on the current use. Can the large lab room be used more efficiently? Can some of the work now being done on the ice actually be done back at home institutions? Can scientists doing "like work" get together and decide how best to use the space? Are cubicle offices an option? It may be an option to reconfigure space, especially that used by equipment. Perhaps some of the ideas presented today can be implemented as short-term solutions. Another survey might be beneficial. It could inform grantees of future plans (e.g. ANDRILL); ask if grantees are willing to give up lab space if it means more projects can be funded; include suggestions from this meeting; include recent and potential future grantees in addition to currently funded ones.

'Action-able' ideas:

- The upcoming availability of wireless connectivity within the Crary Building will facilitate 'portability' of the grantee work-site, and so will make more of the existing space in Crary usable as 'office space'. In particular, this may make it easier for current lab space to be used as a combination lab/office area.
- If a good, broad solution can be found to the related problem of 'field science staging space', this would free up areas such as Room 237 for reorganization into offices or small meeting areas.
- If space can be found for the UNAVCO support office in Phase 1 or Phase 2 of the SSC, the current UNAVCO space would become available for offices or other work.
- It is possible to move the current wall partitions within Crary, albeit with some effort. Rearranging certain areas in the three phases can maximize usefulness in a revised use plan. For example, the 237 area and the several offices nearby could become a larger multi-office/staging space area by creating a line of small carrel-type work-sites along the outer walls (securable by a gating system similar to shopping mall shop entrances) and a large flexible central work area.
- Some of the offices are perennially used by computer systems operating automated data collection systems. These systems could/should be moved to a single room, perhaps in a compact rack area.
- Here's a solution to many issues, but it brings many new ones at the same time: Extending the grantee season. A period similar to Winfly at the end of the season, e.g. 1-Apr to 15-Apr would extend the usefulness of all science facilities in McMurdo. It could also open up Dry Valley science, e.g. marine and vertebrate biology, aeronomy. science to an additional part of the annual cycle. This would be for a limited number of scientists (50?) due to the obvious logistical considerations. Field activity would be limited to areas near McMurdo.

Staging Space: The science community requires a place to test equipment, build and repack instruments and organize themselves prior to field deployment. Now would be the time to bring awareness of this issue up with the NSF and RPSC.

Areas like the loading docks in the Crary Lab, Room 237 (the area in front of UNAVCO), and the snowmobile storage space in the SSC are coming under increasing demand as 'field science staging space', where groups reassemble and test equipment prior to repacking for field deployment. Proximity to Crary Lab has been a requested criteria for staging space. The current SSC has no space for grantee offices and very limited capability to accommodate project staging needs. There are no plans to build SSC (Science Support Center) Phase II so requirements gathering would facilitate the construction of the next phase.

Possible solutions discussed include:

- A large temporary building on the site of the future Phase II of the SSC
- A later permanent solution might be a larger SSC with larger staging area or use the BFC building, stripped to the outer walls and reconfigured for staging.

ACTION: Ted Scambos, on behalf of the committee, will draft a letter restating their earlier request that the design of the Science Support Center (SSC) Phase II be revisited. Phase II was designed in 1997/98 and does not address the current situation or future needs. The letter will reinforce the science community's position that Phase II is important. ACTION: Melissa Rider will provide the committee with copies of the BFC expansion plans.

Analytical Chemist staffing change

Steve Dunbar and Brian Stone informed the committee members that the Crary Lab Analytical Chemist position has been eliminated for the upcoming season. Grantees will need to bring their own staff to fill this void if sample testing is required. Brian noted that groups that need samples tested on the ice will need to address these needs in their grants. RPSC will provide the instruments and supplies. Funding that remains in the budget for the position will be used for life-cycle replacement.

MAUC Reorganization

NSF considers the users' committee recommendations important in program discussions. However, there may be unrealistic ideas of what the committees can do. In the past the committees have done a good job polling the science community but it is unclear whether the committees can address complex issues, for example program-wide security. Charters for each area committee are subtly different and NSF has charged RPSC with standardizing them, ensuring the committee make-up represents all disciplines and includes USAP grantees whether or not they have a current award.

Steve Dunbar noted that he had recently drafted a proposal that would provide for a small standing committee with subcommittees formed as needed to address specific issues. The members present accepted the idea as a good one. Ted Scambos envisions four committees that also have some ability to address global issues.

Brian Stone added that he would like to see this develop as a Raytheon Six Sigma process. Further discussion included topics such as being pro-active, realizing real results, and initiating a formal feedback process from NSF/RPSC to the committee. The subcommittees need to be more focused and include RPSC staff, NSF representatives, the USAP grantee community, each selected for their expertise on specific issues.

ACTION: Steve Dunbar will redraft the user committee reorganization proposal based on suggestions made during this meeting and send to committee members for review.

New equipment purchases

NSF and RPSC need feedback on what equipment infrastructure the grantee community foresees needing to facilitate future science. Sam Bowser reported on the results of an email equipment survey he conducted in June (full survey in Appendix D). The top four items requested for purchase consideration are:

1. Kodak Gel Logic 200 System: \$9,000
2. Acoustic Doppler Current Profiler (ADCP): \$60,000
3. Spot Camera: \$10,000
4. Quantitative PCR Machine: \$25,000

Brian Stone asked if MAUC can better identify how the equipment will be used. Do we want to buy equipment that's to be used by everyone or wait until a specific project requests the equipment? Items should not be purchased just because they are nice to have; a definite need should be identified by the grantees. Another consideration is whether the work would be better handled at the home institution versus on station. For example, a beta counter would be more useful and cost effective used at the home institution. There is a paradigm shift away from doing everything in Antarctica.

ACTION: Steve Dunbar and Steve Alexander will prepare a list of recommendations for lab equipment and criteria for making decisions on what equipment to purchase. The list will indicate whether the item will increase capacity and/or capability, enhance testing, or is a critical replacement of existing equipment. The list will be sent to the MAUC members for comment.

Information Technology

McMurdo Bandwidth

Don Ravenscroft discussed the current WAN (wide area network) capability, plan for the 2004-2005 field season, and future plans. Input on usage/needs from the grantees was solicited so they can be identified and evaluated for implementation potential.

Current WAN Capability

- 1.544 Mbps (T1) from McM LAN to CONUS HQ
- 64 Kbps over TNZ
- All Traffic
 - WEB
 - Telephone
 - Data – FTP, E-mail, etc.
- Bandwidth Congested
 - Total IP allocation 920 Kbps: 60% HTTP
 - 40% All Others – Primarily Analog Phone

Austral 2004 Plan

- Increase TNZ from 64 Kbps to 1.024 Mbps
- Partition traffic to best utilize increase

- Move HTTP to New Link
- Re-Partition original T1 Link
- Target date – Mid-October 2004

Future Plans

Evaluate further increases up to 10 Mbps

POLAR ICE

Although POLAR ICE version 2 had some problems, RPSC is receiving the most accurate data thus far. This is a reflection of the grantees filling out SIPS, feedback forms, etc. John Dowd will continue as on-line help support.

The itinerary section, especially the calendar, proved very difficult for users. POLAR ICE staff is improving that section to make this smoother and simpler. Some inventory boxes will be modified to make item selection and quantity choices easier. There is a new “alternative energy” section. Training and assistance will be available to provide grantees a better understanding of how to use the system.

MAUC members indicated that the system was very time consuming for some grantees and was cumbersome. Steve Dunbar explained that RPSC needs more information than on previous SIPS to better plan and allocate the limited resources to the growing number of science projects.

ACTION: The committee recommends that a user group be formed to make recommendations for improvements to POLAR ICE.

Field Science Support

Andy Young and his staff were in attendance to respond to any questions. The MEC plans to replace the Alpine snow machines in incremental stages. An off-ice specialist may be hired to work on improving snow machines for use in cold weather. Replacement of vehicles used in the deep field is dependent on the budget.

Karla College reported that the BFC's Endurance tent inventory has been increased for the upcoming field season. Small item inventories (binoculars, stoves, handheld GPS units, mountain tents) have been improved.

Appendix A: Current MAUC Members

Note: The current members will remain in effect until the MAUC reorganization is completed.

		Term Ends	USAP Program
Name:	Sam Bowser	9/30/04	Biology & Medicine
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		Term Ends	USAP Program
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Name:	Ted Scambos	9/30/02	Glaciology
	(current Chair)		
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Appendix B: Attendees

Name	Affiliation	Email address
Alexander, Steve	RPSC Science Support	steve.alexander@usap.gov
Andrew, Nick	RPSC Science Support	n/a
Baldwin, Tracey	RPSC Science Support	tracey.baldwin@usap.gov
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Appendix C: Crary Lab space survey

The purpose of the survey was to determine the PI's perception of the working environment of the Crary Lab. The survey was composed of quantitative and qualitative questions, as well as requests for comments. The results are intended to provide information for future planning.

The attached email message and survey was sent to 90 PIs presently listed on RPSC's global email list who have used Crary Lab space in any capacity. Forty responses were received and analyzed for this summary. For this study, the term "respondents" refers to the number of PI's or representatives who responded to an individual question. With this type of survey the comments fields are equally important as the numerical data, perhaps even more important since they often represent very strong viewpoints.

General

Amongst the total questionnaire respondents, 38% were Biology/Medicine, 18% Geology/Geophysics and 18% Glaciology (40 respondents); only 8% were from Oceans/Climate, 5% Artist/writers and 5% unstated.

The type of space used by these groups was fairly evenly distributed between lab and office (70%). Staging space represented 20%, second floor use 6%. Only 4% was aquarium use, although no questions were specifically designed to evaluate aquarium utilization. Sixty five percent of the respondents used Crary space during the 03-04 season.

Since perception is important we requested opinions on the perceived level of general overcrowding in the lab. Surprisingly 69% felt the lab was not overcrowded, whereas only 31% thought it was (32 respondents). In line with this, 62% considered that space was not a constraint on their projects (21 respondents), but did indicate that time was much more of a constraint (71% of 14 respondents).

Efficiency of lab utilization is a key component, and often the grantee is in a better position to comment on efficiency than the lab staff. Out of 26 respondents 71% believe the space is used efficiently with 27% disagreeing.

Lab (Bench) Space:

Of the responding groups, 54% had used a ½ lab, 38% had used a full lab and 6% had used less than a 1/2 lab (24 respondents). Of these 79% had received the amount of space requested on their SIP (23 respondents) and nearly all regarded this amount of space as adequate (96% of 23 respondents) and the configuration suitable for their needs (91% of 21 respondents). Concomitant with this 91% indicated that more lab space would not have improved the productivity or success of their project, whereas 9% said it would have (22 respondents). When asked if they would like to see more lab space at the expense of office space, 76% of respondents said they would not, while 24% would prefer more lab space (25 respondents). Not surprisingly most indicated that the amount of experimentation or data analysis that would occur with increased lab space would not increase (95% and 84% respectively – 20 and 19 respondents).

Office Space

Of 40 respondents, 52% had used a dedicated office, 33% had shared an office and 15% had used an in-lab office. In terms of office use, 33% of respondents use the space to perform more than three-fourths of their data analysis for their project; 20% perform between one-half and here-fourths 17% perform between one-fourth and one-fifth, and 30% perform less than one-

half of their data analysis in the Crary offices This is confusing, as it doesn't flow in order from low to high, or vice-versa; it jumps around. Obviously the offices perform a very important function in Crary.

In terms of office allocations, 86% of respondents received all the space requested on their SIP (29 respondents) and 84% said that this was adequate for their needs (31 respondents) and the configuration was suitable (86% of 29 respondents). In order of priority, primary use of office space was 1) Data analysis, 2) Email, 3) Meetings/planning, 4) Word processing, and 5) Secure space . As with lab space, 81% indicated that more office space would not have improved the productivity or success of their project, and 19% said it would (27 respondents).

One suggestion that has been made often is the possibility of grantees using dorm rooms or other space as a substitute (or partial substitute) for lab office space. This survey suggests that this may not be the best solution, since 54% rated it important (39% extremely important) for office space to be physically located in the Crary Lab, whereas only 36% rated it low importance (33 respondents). Furthermore, 84% of respondents indicated that even if LAN access were available in their dorm rooms, they would still require office space in the Crary (25 respondents).

In terms of reducing lab space availability to supplement office space, an overwhelming 92% indicated they that this would not be preferable.

The second floor of the Crary has a considerable portion of space dedicated to a coffee lounge and library area. Superficially this is a logical target for re-allocation as office space, either through the use of temporary partitions or permanent walls. However, it is clear from the survey and comments that a strong majority (70%) opposes such a suggestion and only 30% believe it is worthy of consideration (27 respondents). Another possible alternative to enclosed offices is non-secure cubicles, which could be assembled and disassembled as demand dictates. Respondents seemed more open to this suggestion with 48% agreeing this was acceptable and 52% disagreeing (29 respondents).

Staging Space

During the 02-03 season the staging space in Phase II (specifically room 241) was heavily congested. This became a subject of much discussion and thus was included in detail in this survey.

Of the respondents, 45% have used field party staging areas in Phase I, 35% have used staging space in Phase II south, and 20% have used space in Phase II north. Of these 56% felt that the staging space was adequate for their needs and 14% felt it was not. However, it is clear that the trend in staging space is increasing rapidly since 100% of respondents felt that their staging space requirement has increased over the course of their time working in the Crary. However, as with lab and office space results, 72% of respondents do not believe more staging space will increase the productivity or success of their project, and only 28% believed their project was limited by staging space. Correspondingly, 84% of respondents said they would not prefer more staging space at the expense of office space (19 respondents).

The survey requested details on staging space requirements. These are summarized below:-

- 81% prefer their staging inside the Crary (21 respondents)
- Respondents were divided on space located adjacent to Crary
- 83% of respondents require heated staging space (18 respondents)
- 83% do not require a dust free staging area (17 respondents)
- 80% require a LAN connection in their staging space (20 respondents)
- 61% require a telephone connection (18 respondents)

- 70% require fork-lift access (20 respondents)
- 100% do not require a comfortable couch (this was originally a gag question, but 20 people responded!)

Cover letter

Dear Crary Lab User;

McMurdo-based science events have increased in number from 78 in 00-01, to 98 in the 03-04 season. As such, demand on Crary space has increased significantly and has resulted in serious overcrowding during the peak periods of the field season. Such overcrowding inevitably impacts the quality of support we can provide, and ultimately could compromise the quality and quantity of research that can be accomplished.

Since the long term projections show even heavier demand on space over the next 2 to 5 years, it is time to re-evaluate the current space usage in Crary, and to seriously consider changes and/or alternatives that could improve efficiency. Since any such changes could affect you directly in your future work within Crary, we are requesting that you as PI, or a designated team leader, fill out the attached survey on Crary space use. I understand that as grantees you are often bogged down with progress reports, grant proposals, feedback requests, surveys, etc ad infinitum, so it is with reluctance and apologies that I add more to your list. However I believe this issue is critical to the work that you do in McMurdo, and your response will have a direct influence on the direction in which we move to more efficiently manage space.

We will be discussing future Crary space usage with NSF in Mid May, and any feedback you can provide before that date will be included in that discussion.

The Survey

To check boxes, double click on a box and select "checked" under default value

5. Indicate type of Crary space you have previously used:

- Lab
- Office
- Phase I, 2nd floor
- Staging
- Aquarium

6. Please indicate your program area:

- Aeronomy & Astrophysics
- Biology & Medicine
- Geology & Geophysics
- Glaciology
- Oceans & Climate Systems
- Artists & Writers

7. When did you last use space in Crary?
03-04 02-03 01-02 00-01 earlier

8. In your general opinion was the Crary Lab overcrowded?
Yes No

Examples:

9. Would you say your project is more...
Space constrained Yes No
Time constrained Yes No
Both Yes No

10. Do you believe Crary space is used efficiently?
Yes No

Comments:

Lab Space:

11. If you have used lab space, please indicate quantity:
Full lab ½ Lab < ½ lab

12. Was this space adequate for your needs?
Yes No

13. Was your allocated lab space more / less or the same as your SIP request?
More Less Same

14. Would more lab space have improved the productivity or success of your project?
Yes No

Details:

15. Was the type of lab (configuration) suitable for your needs?
Yes No

Comments:

16. Would you prefer to see more lab space and less office space?
Yes No

17. Approximately what percentage of your experimentation is performed in the lab?

75% to 100% 50% to 74% 25% to 49% 0% to 24%

18. Approximately what percentage of your data analysis is performed in the lab?

75% to 100% 50% to 74% 25% to 49% 0% to 24%

19. With additional space would the percentage of your experimentation performed in the lab...

Increase dramatically Increase somewhat Remain the same

20. With additional space would the percentage of your data analysis performed in the lab...

Increase dramatically Increase somewhat Remain the same

Comments (feel free to add any input on lab space issues):

Office Space:

21. If you have used office space, please indicate type:

- Office dedicated to your project
- Shared Office
- Lab office
- Open shared area

22. Was this space adequate for your needs?

Yes No

23. Was your allocated office space more, less, or the same as your SIP request?

More Less Same

19. Was the office configuration/facilities suitable for your needs?

Yes No

24. Would more office space have improved the productivity or success of your project?

Yes No

Details:

25. What is the primary use of your office space?

- Data analysis
- Email
- Word Processing
- Meetings/planning
- Secure space

26. How important is it for your office space to be physically located in the Crary Lab on a scale of 1 to 5 with 5 being most important?

1 2 3 4 5

Comments:

27. Would you prefer to see more office space and less lab space?
Yes No
28. Would you recommend converting part or of the library/coffee lounge to add additional enclosed offices?
Yes No
29. If you and your team had LAN access and suitable desks in your dorm room, would you require an office in Crary?
Yes No
30. Would "non-secure" office space (such as a "cube" with panels) be useable in place of a lockable dedicated office, or lab office?
Yes No
31. Approximately what percentage of your data analysis is performed in the office?
75% to 100% 50% to 74% 25% to 49% 0% to 24%

Comments (feel free to add any input on office space issues):

Staging Space:

32. If you have used staging/equipment assembly space in Crary, please indicate location:
 Field party (phase I)
 Phase II south (237 & 241)
 Phase II north (201)
33. Was this space adequate for your needs?
Yes No
34. Over your time working in Crary, have your staging space needs ...
increased or decreased
35. Would more staging space have improved the productivity or success of your project?
Yes No

Details:

36. Please indicate the requirements of your staging/equipment assembly space:
- | | | |
|--------------------------------|------------------------------|-----------------------------|
| Located in Crary | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Located adjacent to Crary | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Heated | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Dust free | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| LAN connections | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Telephones | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Forklift ("pickle") access | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Comfortable couch | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Other (type in comments below) | | |

Comments:

37. Would you prefer to see more staging space and less office space?

Yes No

38. Approximately what percentage of your project performed in the lab is equipment assembly and testing?

75% to 100% 50% to 74% 25% to 49% 0% to 24%

Comments (feel free to add any input on staging/equipment assembly space issues – use additional pages if necessary):

Appendix D: Equipment Survey

Cover Letter

Dear McMurdo Station grantees,

Please find below a list of equipment that has been requested by the grantee community for purchase consideration. These equipment items represent enhancements or additions to existing Crary capabilities—they do not fall under a life-cycle replacement program, which replaces standard lab equipment such as centrifuges, LSCs, spectrophotometers, HPLC's etc. Note that some items (e.g., microscope, Spot camera, and gel imaging system) increase current capacity, rather than add new capabilities.

The McMurdo Area Users Committee is tasked to objectively decide on what equipment would most benefit the science community; we will then present a prioritized list to RPSC for purchase as funds become available. We therefore seek your input in prioritizing the list, as well as suggesting other equipment items that should be considered.

On a scale of 1 (lowest) to 10 (highest), please indicate how important each item is to your research program. We will be meeting to discuss this matter in mid-July, so your prompt attention to this matter will be greatly appreciated.

Thank you for your help in keeping McMurdo Station a cutting-edge science facility!

Results**Highest rated:**

Kodak Gel Logic 200 System. 65 points. \$9K. The present EDAS 290 Electrophoresis documentation system (now discontinued) is heavily used; 6 groups have requested use this year. With the rapid increase in molecular work in Crary, adding the capacity of an updated system will reduce conflicts and provide some contingency. This unit features real-time preview, high speed, and is designed for high sample throughput.

Acoustic Doppler Current Profiler (ADCP). 62 points. \$60K. An Acoustic Doppler Current Profiler uses the Doppler shift to measure currents in the water column. An ADCP can calculate speed of the water current, direction of the current, and the depth in the water column of the current. This instrument can be placed on the seafloor, or attached to a buoy and left unattended for a year or more. Unlike a moored standard current meter, this device is able to map the vertical distribution of currents in the water column rather than the current at a single depth.

Spot Camera. 56 points. \$10K. As indicated above, the current microscope usage is very high and one of our core microscopes (Axiovert) does not have a dedicated high-resolution imaging system. Consequently, the Spot cam has to be moved from the Axioskop, thus reducing its capability. With 04 to 06 projected use, the spot camera has become a limiting factor for microscopists.

Quantitative PCR Machine. 54 points. \$25K. Increase molecular capability for lab – has multiple benefits for many groups and, in addition, would provide a good alternative to using radioactive-assays for mRNA transcripts.

Other equipment proposed in the survey:

Axioskop phase/fluorescence microscope w/image processing 51 points \$50K Present
Axioskop is over-used and represents a bottleneck in Crary. Use of the Axioskop has increased steadily over the last 5 years; this season 6 groups have requested extensive use of this system.

Anoxic Hood. 49 points. \$12K This item allows investigators to work with samples/media in a completely anoxic environment. Can be disassembled and stored between uses. Many microbiologists and geologists/geochemists could benefit from this piece of equipment. For example, anoxic bottom waters likely contain novel anaerobi microflora and an anoxic chamber would facilitate the pursuit of these organisms.

Beta counter. 49 points. \$18K A beta radiation counter in the Crary Lab would greatly facilitate gathering of snow and sediment accumulation rate data form Antarctica quickly and efficiently, and would save on sample shipping costs and the issues associated with sample return from Antarctica. Having this equipment on-site would speed the progress of research, providing accumulation data much sooner in the data analysis process.

Illumatool. 42 points. \$4K. This system is a macro-illumination system for use in visualizing fluorescent molecules in situ. The scale of the illumination allows for applications that microscopic epi-illumination cannot attain. Visualizing interactions between the proteins on the ice surface requires the larger field of view that this system enables. Other whole-mount fluorescent hybridizations that are too large for the compound microscope could be illuminated and viewed with this system.

Other items suggested by respondents:

- Spot camera system for “standard” microscope setups (upright and stereoscope)
- The spot camera system is inadequate for use in imaging bacteria; get something else
- An ADCP dedicated for Dry Valley Lake work
- Vibration seismic source for sea ice/ice shelf/dry valley application
- Sonar system to assess fish populations
- Sequencing services

Respondents:

Sridhar Anandkrishnan, Arthur DeVries, Andrew Fountain, Robert Garrott, Michael Gooseff, Ralph Harvey, Stacy Kim, Karl Kreutz, Adam Marsh, Diane McKnight, David Petzel, John Priscu, Diana Wall

Surveyed - no response:

David Ainley, Linnea Avallone, Hal Borns, Michael Castellini, Terry Deshler, Timothy Dye, Fred Eisele, Steven Emslie, Bernard Hallet, John Holt, Bjorn Johns, Robert Kemerait, Philip Kyle, Berry Lyons, Douglas MacAyeal, Donal Manahan, David Marchant, Bruce Marsh, Lawrence Palinkas, Paul Ponganis, Jaakko Putkonen, Charles Stearns, John Stone, Slawek Tulaczyk, Maria Uhle, Ross Virginia, Bess Ward, Terry Wilson

Appendix E: Agenda

McMURDO AREA USERS' COMMITTEE
ANNUAL MEETING, 14 JULY 2004
McMURDO AUDITORIUM
Raytheon Polar Services Company, Centennial, Colorado

7:00 - 7:30	CONTINENTAL BREAKFAST
7:30 – 8:15	Welcome and opening remarks <ul style="list-style-type: none">○ Attendee introductions○ RPSC welcome○ NSF welcome○ Overview of agenda
8:15 – 9:30	Crary Lab space and science staging space (Steve Alexander)
9:30 – 9:45	BREAK
9:45 – 10:45	Open discussion of the future of the MAUC
10:45 – 12:00	New science and logistical support 'infrastructure' instruments: (Sam Bowser, Ted Scambos)
12:00 – 1:00	LUNCH
1:00 – 2:00	Bandwidth update and general IT discussion (Don Ravenscroft)
2:00 – 2:15	POLAR ICE Update (Scott Holbrook)
2:15 – 3:00	Field Science Support (Andy Young)
3:00 – 3:15	Break
3:15 – 5:00	Continued discussion of earlier topics that were set aside due to time constraints. Finalize action items.