

**MINUTES**  
**SARA Board of Directors Meeting**

(See Attachment 1 for Agenda)

Note: Board actions recorded in *italics*.

TIME: 9:38 AM (EDT), October 22, 2022

PLACE: Valparaiso University, Student Center Conference Room and Zoom

PRESENT: Board Chair T. Oswalt (ERAU); Board Members: J. Provencal (UDEL), M. Leake (VSU), R. Berrington (BSU), D. Buzasi (FGCU), L. Quiroga-Nunez (FIT) {for Perlman}, B. Murphy (Butler), K. Williams (TAMUC), W. Keel (UA), T. Hillwig (Valparaiso), R. Alonso (IAC), J. Webb (FIU), T. Otani (ERAU), M. Ajello (Clemson), A. Lovell (ASC);  
Guest: P. Mack (ACE), B. Brondel (ACE)

**AGENDA**

- I. Review/Approval of the April 30,2022 Board Meeting Minutes**
- II. SARA Observatory Directors' Reports**
- III. Operations**
- IV. ACE (PM)**
- V. SARA Business**
- VI. Other Business**
- VII. Next Meeting Date (TBD) and Location**

**I. Review/Approval of the April 30,2022 Board Meeting Minutes**

Oswalt welcomed those present in person and on Zoom. Henson had supplied the Board with the minutes earlier and asked for any comments or corrections. None were suggested and Murphy made a motion to approve with a second by Hillwig.

*The motion was approved unanimously.*

**II. SARA Observatory Directors' Reports**

**A. SARA-KP**

Henson summarized his report (Attachment 2) sent to the Board earlier. His summary focused on the June fire which closed Kitt Peak for months and on the status of recovery plans for the SARA Observatory which remains closed. Although power may be restored and available, data services are not so we need to check with ACE about scheduling the time needed to checkout and restart operations.

Oswalt asked Otani about her online list of observatory issues she has been maintaining and if there was anything relevant to Kitt Peak to share. There was nothing new versus what Henson reported. Keel mentioned a strip in the bias for the ARC ccd images that may be a new issue as he saw that prior to the fire. It was noted that we do have a full system backup on hand

(brought up from CT) at ACE that is available if needed. Henson noted the items of a dome UPS, primary mirror re-aluminization, all-sky camera, and local weather station that remained from the spring Board meeting discussion. Those items were tabled for discussion until P. Mack would be joining the meeting by Zoom later.

## B. SARA-CT

Hillwig shared his report (Attachment 3) with the Board. He noted the telescope had been working ok, but lost a month of time because of the need to replace a USB extender for the ccd. The time to ship and customs procedures caused the huge delay. He noted winter weather was worse this past season as well with a 2-week snow storm. Hillwig stated Mack is likely to go down after the first of the year for a long trip to do maintenance and installations. Two trips may be likely as the mirror could be taken out for re-aluminization on the first trip and then reinstalled and all systems checked out on a second trip. Another problem has been a reboot issue with the camera computer. It was noted the computers are out in the dome so not in a good climate-controlled environment. Computers might need to be replaced given the long time between ACE trips.

Hillwig also mentioned the chronic VPN connection issues. They “may” stem from our architecture being old, but he struggles to get answers and information from CTIO. Hillwig stated CTIO is working to upgrade all of their network but we are likely very low priority and isolated from the major facilities.

Otani shared her spreadsheet list for CT but Todd had already mentioned all the relevant items. There was brief discussion about older issues but the Board would get an update from Mack about that later. Data transfer is sometimes slow, but using Dropbox or Google Docs is much faster! Oswalt noted an increase in the internet fee for CT, going from 10K to 12K in the next cycle.

## C. SARA-RM

Murphy described the status of RM (Attachment 4) with two major issues being the chronic mirror cover petals operation and the dome shutter cable problem. ACE did make a brief visit in July and the dome is working mostly reliable now. The mirror cover needs another visit. Murphy noted the dome is showing its age, lots of rust, lots of wear and tear. He also reminded everyone that most issues with dome tracking, autofocus, etc. can be solved with a control cabinet reboot, maybe software restart as well. He noted the auto-guider is working much better now, too. Keel noted the software upgrades by Brondel have made a huge improvement. The dome does need more maintenance and Mack does intend to make another trip soon to fix the mirror petals, bring out spares, and work on the dome shutter.

There was general discussion about operational issues, software issues, occasional tracking and the dome issues. ACE does have new control system software, but it is still being tested. The software is better and more stable, but Murphy thinks Brondel is still tweaking it.

Otani shared her spreadsheet and Murphy quickly went through the more recent and known issues. It was noted that ACE needs to have access to these issues as they are more detailed than the information supplied in the night reports and at least all in one place. Otani noted she tries to keep the list up-to-date as to whether issues have been resolved or not.

### **III. Operations**

Keel had nothing to address for scheduling at this point. He just reminded the Board that he will email when time approaches to submit requests for the next calendar.

Leake asked about the best approach for finding passwords to the various observatories and internal passwords for each. Provencal noted they were available on the “internal” password secured webpages for the SARA website. There was discussion if it was time to change passwords as they have been static for several years now. ACE would be asked about this when P. Mack joins the meeting later.

Henson brought up a question about outside user access policy, from users who would not be affiliated with any SARA institution. The question was also in relation to broader concerns about security and access to the observatories by an increasing number of observers. There was further discussion on what this would involve, liability issues, training issues, scheduling issues, etc. The consensus was to just suggest that any such “outside” observers be directed to inquire among SARA observers about any possible collaboration. If SARA approved observers had any interest, then they could work with the outside person if they desired under our current policies. It was decided not to “advertise” this approach as the Board did not desire to implement additional tasks related to the management, oversight, control, etc. of such potential users.

Oswalt brought up a question from Wood at TAMUC asking if the nightly observatory reports could be emailed to everyone on a server. Provencal stated the current system doesn’t support that, but that the form does have a button at the bottom of the report to email observatory directors directly with any issues that need immediate attention. Directors can then broadcast such issues to the sara-tech listserver.

Oswalt ask Luis Quiroga-Nunez (FIT) about the server status. He stated FIT is still willing to host the servers for now. They have a commitment for the current fiscal year so will continue to host and maintain the status quo.

### **IV. ACE**

P. Mack and B. Brondel joined the meeting via Zoom to discuss the status and needs of each observatory.

Mack does not think power is back to the SARA KP dome yet. He thinks they can get the observatory back in operation in just a couple of days, similar to summer shutdown procedure, so they really just need stable power back. Mack says he does have a new UPS at the dome for power outage, it’s just not plugged in yet. He does have a concern that equipment was still plugged in at the dome during the fire and during the lightning of monsoons. Even if power is restored soon, data services are still currently down at KP for another 2-3 weeks. He stated an all-sky camera is at his shop in Tucson and the weather station will be fixed when they can go up to restart. Henson asked about getting a steerable camera (as at RM) for KP. Mack has one

spare at Tucson and will make a note to take it up to KP and install as soon as practical.

Mack stated he will need to make 2 trips to CT. He is planning one in November to take lots of spares down, get the spectrograph installed, due general maintenance, work on the telescope pointing and tracking. The second trip would be to do the mirror aluminization. For communication with equipment on the telescope, he plans to install a “NUC” computer with usb ports on the telescope. He can then hardwire connections in to the ccd and network that small computer to the other dome computers for more stable and reliable control. Both Mack and Hillwig will check with CT staff about resolving the VPN issues. There is still a lot of uncertainty about what CT is doing with their VPN.

Henson reminded Mack of the plans to re-aluminize the mirror at KP, most likely next summer. Mack stated he may check on an immediate possibility for the mirror while operations are still down. If not, then look at scheduling for next summer.

For RM, Murphy asked about the dome shutter and mirror petals as our priority. Mack stated the design for the petals is just poor. Chain can jump off sprocket and requires physical fix onsite. It uses only 1 motor so mechanical connections with that are the problem. Ultimate fix might require a new design as he can't guarantee operation as it is now. Oswalt asked about “dome” replacement, but the cost is on the order of 1 million (dome is huge, expensive structure and we don't “own” it, but Oswalt noted some concern with IAC MOU as to control / maintenance of dome structure). There is the question of maintenance cost versus repair cost and are we responsible for “major” repairs? Alonso was asked if he might have new information related to this. He thinks IAC staff may think the dome is in worse shape than it really is and that that was their cause for concern in renewing IAC MOU. He also commented about the IAC payment/invoice process with outside vendors and questions about insurance. Oswalt thinks the origin of their concerns is some type of full-cost-recovery policy through the Spanish government, but he will also try to get verbiage in the MOU to be clear for the future.

Mack noted cable control for the shutter is just a friction drum and is old, but replacing whole dome is not necessary, not really an option. He did do maintenance (lubrication) so it is working better, vendor has looked at it and helped with equipment so it works Ok, but observers may have to do a couple of open/close cycles to insure dome fully closes. Sensors are Ok and reliable in reporting status. He thinks it should work reasonably well for now, but if it acts up again, might want to re-engineer the cable system design. Most importantly, it should be safe to use, but don't want the drum spinning without cable movement. Thus, if dome is frozen definitely don't try to open.

## **V. SARA Business**

### **A. Budget report**

Oswalt had emailed the ERAU report summary to the Board (Attachment 5); the status shows \$805,240 as of 10/12/2022, but he was not certain that all SARA dues had been posted yet. He also commented on delays, backdated invoices, bills coming in late from all sites, pandemic created confusion as to what, when, if etc. was being done for lots of items being paid

or invoiced. He thinks all the bills received by ERAU are now paid and up-to-date, so the spreadsheet status should be current. There is still a question about fixed expenses for the current year versus pandemic years. He had also provided the Board with his spreadsheet of the budget (Attachment 6) and noted he does have a “minimum” versus “maximum” and then average values for comparison in the spreadsheet.

#### B. Proposed budget for remainder of FY22-23

Oswalt pointed to the discretionary cost items with discussion on all of those for the 3 observatories. Comments on overestimating some costs along with perhaps unplanned costs (2 trips to CT versus 1 for example). Bottom of spreadsheet shows end line for the likely ending balance for this fiscal year. It was noted that the current average annual expenses are comparable to the total annual dues so there is not a lot of discretionary room. However, we could still look at future additions like instruments, improvements to infrastructure, etc. and not just keep to doing repairs and replacements. There was some discussion on adding a spectrograph at JKT, those interested were directed to look at possible off-the-shelf options and possible grant sources as well.

#### C. FY 23 dues

Oswalt thinks all members are currently up-to-date now. He asked Board to look at the projected revenue curves in the spreadsheet. Curves are much flatter now than from the spring Board meeting, numbers are more pessimistic. These curves are likely more realistic but still have us in good shape for several years out. Thus, a new member is not critical in any sense for that, but there is a major question of possible institutions leaving SARA (UA, FIT, others??).

#### D. UA status

Oswalt asked Keel about UA membership. Keel said current new hire is a planetary theorist, but they still have another new hire planned and his feeling is the department may want to keep membership “in case” it could be a carrot for a new hire. He stated department is trying to hire this academic year, but may not be until fall 23 for the new hire process. He expects UA will keep dues for the 23-24 year but no guarantee for that or after. He will keep the Board updated as to the status.

FIT status is also not certain. Luis stated he is too new to know any details but they also are not likely to withdraw in the immediate future. Leake implied VSU may also not have need for SARA when she retires (3 +/- years?) so VSU could very well plan to leave then.

#### E. New institutional member prospects

Oswalt opened a discussion to new members connected with the potential member loss. The consensus was we may not need a new member financially now, but a buffer is nice. There was also discussion about the affect on user time and if members are happy with their time allocations. There was a general discussion about pros and cons and the increasingly likely possibility of turnover in institution(s) in the near future. Oswalt stated there had been an inquiry from the University of Tampa (a private school) about joining SARA. He did not have a lot of

information about the school or department, but it was young, growing, and had numerous astronomers. After a brief discussion,

*Williams moved with a second by Murphy to ask for a full proposal from Tampa by the next Board meeting. The Motion passed unanimously.*

#### F. SOFIA

Oswalt briefly mentioned the availability of SOFIA. It was clearly not practical and the Board had no interest at all in pursuing it.

### **VI. Other Business**

Oswalt introduced southern hemisphere possibilities to extend SARA in longitude and additional southern hemisphere as well. Possibilities in New Zealand, western Australia (Perth), maybe at Siding Springs? These are sites that are very under-utilized or perhaps decommissioned. Oswalt sent links to sites for Board to investigate. Board agreed Oswalt can inquire (or any interested Board member for that sake) to find out more info about what would be involved for a takeover by SARA. However, this would require several new members as refurbishment and new instrumentation would likely be on order of half a million. Would pursue grants to help as well.

Henson mentioned REU proposal as Perlman brought that up last meeting. Some discussion on that possibility. Perlman not present but Buzasi still willing to help with that. Board ok with pursuing the possibility so Buzasi directed to go ahead and check with Perlman (Luis can let him know, too) about putting proposal together for submission next summer. We are bigger with more resources now and even though distributed sites more acceptable, may still be some questions about “social” and group aspects of the planned program. Most institutions are already hiring own students as interns for summer now so they are open to REU possibilities if organizational structure and logistics can be worked into good proposal. Broader discussion on what would support such a proposal but overall Board is very willing to participate in program.

### **VII. Next meeting Date and Location**

Henson showed the future on-site meeting list just for reference. There was a brief discussion about the need or approach for face-to-face versus virtual meetings but no consensus was reached. Henson noted the next meeting would be virtual. Details for date and time would be established later.

*The meeting adjourned by acclimation at 1:50 pm EDT.*

Gary Henson  
Secretary, SARA Board of Directors

Attachments (to original only):

1. Meeting Agenda
2. SARA-KP Observatory Director's Report
3. SARA-CT Observatory Director's Report
4. SARA-RM Observatory Director's Report
5. ERAU Budget Status Report
6. SARA FY 21-22 Budget Details Spreadsheet