FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 31 DEC

0710 Up early for the first TV of the day. Several comm. passes scheduled today with Russian ground sites taking down video.

0720 Crew does TV downlink and talks to Vladimir Tsibleev, Semyanov, and several other folks from ÖÏÊ cosmonaut office. Happy New Year stuff.

More TV next pass with ÖÓÏ and lots of specialists passing on their greetings. Russian tradition of having many different people get on the line is a good one.

Yuri, then Sergei get in their family conferences. DV cam sending video down.

We all get to stow our PAO outfits and have some lunch.

Deleted the subfolder "movies" from oca-down folder on the Server. This was MPEG video waiting to go to the ground. All the tapes were sent down on 4A and ground should be able to process these with higher quality than what we had stored. Sergei moved photo files to the Wiener. Server "K" drive now has more than 1 Gb. free storage, plus PC card, but we would still like to know the overall plan as to how this is to be managed.

Everyone catching up on email and computer housekeeping.

We talk a bit about the troubleshooting we did Saturday on the veloergometer. We had trouble hooking up the Russian scopemeter to the charger, as we don't have 2 cables we need to do it. ÖÓÏ said later they thought cables were on the ground. We used the US scope, although this thing really eats battery power.
Troubleshooting velo is turning out to be more than just a few resistance checks. Diagram the ground sent up is a very high-level format which does not show any real electrical detail. We got instructions to cut 2 connections and isolate a large load resistor. The 2 connections are in fact 8 separate wires. We decided not to cut anything until we better understand how the control head is supposed to work. We set up to measure voltage across one of the resistors . Yuri pedaled for about a minute and we saw a momentary voltage spike of 13 volts, and then the output went flat. Ground said expected output should have been 12 volts steady. We may try to snag this signature on the scopemeter and send to the ground later, although we are not sure we have the Fluke software onboard for the SSC to talk to the scope.

Got the word through Moscow that we would not be clearing out PMA 3 and venting today. This is very good news.

Crew got in TVIS workouts and continued on emails and files. Lots more greetings on every comm. pass. Watched "The World Is Not Enough" and worked on tonight's log:

In longstanding naval tradition, the first entry in a ship's log for the New Year is always recorded in prose. We would like to share with all the entry being made in the log tonight as "Alpha" salutes the New Year—

SHIP'S LOG 0000 01 JAN 2001

We sail onboard space station "Alpha"
Orbiting high above Earth, still in night
Traveling our destined journey
Beyond realm of sea voyage or flight

A first New Year is upon us
Eight strikes on the bell now as one
The globe spins below on its motion
Counting the last thousand years done.

15 midnights to this night in orbit
A clockwork not of earthly pace
Our day with different meaning now
In this, a new age and place

We move with a speed and time
Past that which human hands can tell
Computers programmed—like boxes
Where only thoughts' shadows dwell

"Central post" our ship's bridge aboard
Screens dancing shapes in pale glow
We guide her course by electronic pulse
In figures no compass could show

Our panels set as sails to the Sun
With wake not ever seen but there
Only gyros feel the silent tugs
Wisps, swirls of such ocean rare

On this ship's deck sits no helm now
Rudder, sheet, and rig long since gone
But here still-- a pull to go places
Beyond lines where sky meets the dawn

Though star trackers mark Altair and Vega
Same as mariners eyed long ago
We are still as wayfinders of knowledge
Seeking new things that mankind shall know.

We commend to crews that will follow
Merit of the good ship we sail
Let sun shine strong on Alpha's wings
A symbol, and bright star we long hail

----------END OF LOG ENTRY ----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 29 DEC

We're up and getting ready for the "Chibis" session. It's a PAO day, so all the razors are out. We are going to have to do haircuts soon.

0750 First TV session with ÖÓÏ, and since we don't have the scheduled Energia videocon, we say happy New Year to a lot of the specialists in Moscow.

Shep does the CMG reconfiguration for SSC 3 in the Node. We have everything set up here so that we can get through this in about 40 minutes, counting all the data logging. We voice the numbers to Houston and the CMGs seem happy.

NCU and FPP experiment restarted after the CMG data take. FPP application seems to be running normally, although we are still not seeing visible traces on the plot.

Yuri starts his Chibis session—same routine as yesterday. An instrumentation pass and then the full session in the apparatus on the following comm. pass. Sergei is doing the setup, comm., and medical instrumentation. The whole process takes about 2 ½ hours.

We do the MPV update on the file server per the OCA note. MPV load does not seem to copy completely and server has a number of error messages. We are apparently out of memory space on the disk, although we're not sure exactly how NT manages its memory. Wait to talk to Houston. We discuss this later in the day, and then delete all the MPV files which frees up about 800 Mb. We also plug in one of the 1 Gb PC cards, so at least for the short term, the server has some more storage space. We would like to know a little more about the long term plan to manage storage on the server--we were kind of wondering when the hard drive was going to get full. Answered that question today.

Lunch and then another OCA media downlink through Houston. Comm was OK, although some of the voice levels with the media contacts were low. At the end of the two sessions, we sent down a New Year's message for media release (see below).

[REDACTED MATERIAL – 3 lines]

We have had intermittent trouble with the ÀÑÓ's hose for the toilet. The electrical switch which activates the system has not been turning it off properly. It seems to be some kind of intermittent open circuit, which we thought would get lots better or lots worse soon. ÖÓÏ said to change the hose out, but we are still not sure that is the right fix to the problem, and we may be throwing out a good hose. We asked to delay this while we keep watching how it operates.

We reset the MEC laptop time. It was about 1 minute off of the rest of the system. We are wondering if the ground call to reset the clock had to do with the fact that we logged an IRED workout yesterday as "29 December", as that was the workout that was done, although the date was the 28 th. IRED program on the MEC does not have the flexibility to accommodate that user change, but we will want to do this.

World map had problems again today. We got another vector that put us on the Equator. If we could get a little more info on where the vector is stored, and how clients get it, we could input this manually if we get stuck again.

1700 Talked with training lead for 5A and CAPCOM about the preliminary 5A material for onboard training. We really like the browser format—this will save us huge amounts of time. The prototype material for FD 4 is going to be very useful. Kudos to the training team from all of us.

Shep and then Sergei on the IRED. We got the note on IRED limits, and we are planning to mark the canisters accordingly. We are doing 2 exercises right now which are at or close to the "12" scale limit—and our adaptation to resistive training in space is still pretty low. Bottom line—this thing is good, but it is going to need more capacity—more resistance, and longer cables.

Finished the day with comm. pass with Moscow—lots of folks on the shift saying hello, as we will not hear from them till next year.

We also would like to share with all our PAO downlink words today:

The exploration of Space is a powerful symbol--of the promise of a new year, and the possibilities of a new millennium.

We are a small part of the large international team which has in the year past, established this new outpost off the planet. The age—where humans have a presence away from Earth--has already started.

To mark this New Year, the crew of "Alpha" would like to honor the many dedicated men and women who have pioneered space travel--

--And to salute now, tonight, this unprecedented space effort, bringing together the best of human technology, science, and engineering, expanding our knowledge and capabilities — defining us as a spacefaring civilization.

Let the real "Space Odyssey 2001" proceed.

----------END OF LOG ENTRY----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 28 DEC

0714 First comm. pass with Moscow. It's "Chibis" day. Sergei gets to do it today, Yuri tomorrow. we have an early TV downlink scheduled so we are chowing down a quick breakfast and then cleaning up and putting on our TV outfits.

0830 TV downlink with Moscow stations. Lots of questions how we spent Christmas day, what the "house" looks like, other questions of general interest about how we are living and getting along.

Sergei ready for the pre-Chibis instrumentation check. It's a lot of electrical equipment—Yuri and Shep help get it all set up. First pass is just to verify all the hookups and monitoring equipment is OK. One rev later, Sergei is in the Chibis and it's pumping down. Pretty similar to the US LBNP test, although this looks like it is done a bit quicker.

Shep spent the morning rigging the plastic wire trays flown up on 2A.2B. Used all the 1" white trays (about 25feet worth) just in the SM. Trays cut with scissors and put down with velcro squares--this works well. They really clean up wire runs inside the living spaces and SM is looking much neater. We are passing an Email tonight to CAPCOM asking for more of this stuff as soon as it can be manifested—we have a feeling the Lab will need it.

We got the IRED workouts that came up in the mail. Nice spreadsheet formats. All 3 of us will be using these. Shep put data for 12/28 workout on the MEC and sent it to the server. Some minor issues with how the data is input, but in general, this is workable. We are using IRED every day and all like it.

Around lunchtime, we missed another Earth Obs site, and we figure it could be for several reasons—Yuri's laptop is gaining a couple of minutes each day. We usually work with the world map on his SSC, and this may be throwing the map off. Also, the Progress docking and attitude changes have most likely moved our state vector. So that may be part of the problem. And we are still getting vector uplinks that put us in zero inclination orbits—happened again today.

After lunch, Shep worked on the IMS database and bar code readers. Sergei and Yuri did air sample monitoring, and then some acoustic data takes with the Russian sound level meter.

We all started pulling out the rest of the light trash in the Progress and preparing ÅÄÂ's, ÊÒÎ's, and other wet trash for stowage. Surprised at how much light stuff came out of Progress. We moved about 1 1/2 stowage racks worth of bags and containers out and tied them down in the Node.

[REDACTED MATERIAL – 10 lines]

Had to reboot the SSC to support the IMS work in the Node. Took the FPP experiment off line, and examined the cable run from the NCU to the Node shell. It is properly connected, and the line is "fair" ("no kinks" for non-nautical types). FPP restarted without errors this time, and SSC readback says it is taking data. Still no visible trace on the screen.

Temperature in the Node seems to be up. We understand the need to keep condensation down—and we are willing to horsetrade some temperature probe data at the points of ground's choice (provided we don't have to move too much) for a little less heat in there.

Ground sent us up an electrical schematic for the Velo. Hopefully we can find some creative way to test some of the circuitry on this.

Ate dinner and watched the first ½ of "Air Force One", then discussed some of the PAO events for tomorrow. Then we hit the email. Each crewperson having access to "their" SSC is really an important thing. We are very glad that we have enough laptops to do this.

----------END OF LOG ENTRY----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 27 DEC

0640 We get up, talk to ÖÓÏ --and are feeling like we have a reasonable schedule for the day.

0745 The workday starts early as usual. Sergei getting ready to install the GPS/GLONASS satellite receiver (ACH). He has about 1 ½ hours scheduled to do this, but the installation is way up on panel SM 338. Access is not good, and lots of cables look like they were routed after the ACH box was installed. They are all in the way. Sergei takes an hour just to scope out the installation and plan how to do it. Job takes 4+ hours, but Sergei comments that it would have been a full day's work if he had just started it without making a good plan.

Shep gets an early start on the FPP activation. Power down the SSC and switch the cabling. SSC is now powered off the RFPDB box on the early comm. rack. Earlier power problems seen on the UOP do not occur, and the SSC boots normally with the parallel port to the FPP gear attached. Received 1 error message when trying to talk to the NCU and called this to the ground. Otherwise, program started normally. Data transfers are showing up in the screen log on SSC, but no visible traces on the voltage plot on the lower screen. Talked with Houston late in the day to discuss possible reasons for this. Will check the NCU-Node shell cable set up tomorrow a.m.

Yuri starts the day pulling foam and light bags out of the Progress to make way for heavier items. ÖÓÏ would like the Kurs radar back as well. Yuri is unrigging all the cabling so we can move stuff. Big Kurs box about the size of a small refrigerator. Yuri and Shep pull this unit out and stow in the Node. Looks very familiar in the forward part of the Node--we have the alcove around the hatch full of bags again.

After lunch, Sergei and Yuri continue pulling the rest of the Kurs boxes out, and looking for extra connector caps to cover the bare sockets.

Shep gets "bilge diving" quals renewed with the ACY hose and filter change. Lots of help from Sergei and Yuri. Work goes surprisingly well, no leakage or mess. Used hose is placed in a garbage bag (thanks, crew equipment!) and stowed in the ÏÐÊ. ACY checks out OK, then won't shut down. Pull out the drawings and we think the separator has a stuck switch. Yuri gives the system a bit of flush water and we are back to normal.

Shep spends the rest of the afternoon in the Node, putting bar codes on the Node rack and the seat track beside the ZSR soft racks. Was going to work with the bar code reader, but the 1 unit which is loaded with current software decided it would lock itself in the RF mode. Could not get it to jump back to the batch mode. Also, when the bar code application software is launched on SSC 3 (in the Node) the SSC says that it can not talk to the server. SSC 3 is, however, talking on the network with other applications, so something is different about how the server is handing BCR program. Shep tries the same application on SSC 2 with the same result. All this worked yesterday, and we are stumped.

Took a quick look at the audit locations requested in the FGB. Panels 210, 311, 313 don't have any stowage behind them. The rest have some gear stowed—mostly small items. Checked the database against quick notes of what was in these locations. Will do a full audit on these panels as we have time.

We got the SSC file server backed up per the daily plan. Finally have this configured so we don't have to change any hardware. Backup took a while. Kept getting messages that "registry" was full, although backup eventually completed itself. We believe that the server is trying to handle a lot of program transactions, and this is taking most of the computing power it has.

All hands got some time on the IRED and the TVIS. Ops normal. Did the TVIS weekly maintenance, and we are getting light chafing on the plastic sheath for the SLD cables, near the pulleys which feed the cable up off the TVIS running surface. We will watch this.

Late in the day, we are having discussions with Moscow and Houston about location of the OCA. Convenience factor of having the OCA where we can continually hear it and see it is strong, and we think regardless of where it is located in the near term, that having it near PCS and SSC (on central post) for lab activation and checkout should be a requirement.

We are thinking about how to lay down some more wire trays—and how we will fasten them. The best solution for right now seems to be velcro. Put some big squares down on the tray in the Node and they are holding. We plan on rigging some more of the small Shuttle-style trays in SM to trim up cable runs to the laptops.

We are also waiting on some words regarding the condensate on the exterior lines for CKB. Unit is producing fairly sizeable bubbles of water—maybe 50g each. We had a similar problem on CKB-2 which was readily fixed with some insulated wrapping and a bit of airconditioner tape, and we are ready to do this again.

Probably used the impact tool 5-6 times today on different things—and it was a light day. Large visegrips got on the scoreboard twice, not counting their semi-permanent task of holding a leg on the wardroom table.

Another most excellent day--with tools and drawings deployed simultaneously.

----------END OF LOG ENTRY ----------
FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 26 DEC

612 Talking with ÖÓÏ about the plan for docking the Progress.

[REDACTED MATERIAL – 4 lines]

Getting ready for the Progress docking. Still getting products on OCA that we have trouble printing out. Have to open the docking diagram—OCA 734--from "acrobat" to print it. The printer won't take the file right off the browser. We have seen this intermittently before.

Had OCA video up for the Progress docking. Picture quality on the SSC looked good. We could not tell what the ground was receiving, but we got words that the resolution was significantly reduced. Approach and fly around of the Progress looked normal—no apparent oscillation. The TV image showed good lighting and contrast. For the last 100m or so when Yuri was driving, the visibility of the target area was significantly better than the previous docking—we had a clear image of target alignment 15-20m out.

Yuri gets a "petyourki" for nailing the docking cone. We opened the FGB hatch and the skid mark on the inside of the cone is about 7 cm. off of dead center. Opened the Progress hatch. Pretty cool inside—maybe 8 deg C. We are glad to have some more volume onboard for stowage. Set up the ducting after prolonged discussion with Moscow about which duct to use.

Shep finished the surface samples. SSK's analyzed, and data logged in the MEC. Zero fungus and low bacteria counts. TEPC read, and numbers from Med Ops, pg 456, left to right:

26 dec / 15:45:40 / .003 / 18.08 / 1679 / 1 / 351 / 352 / .011 / 68.91 / 0E

Shep also trying to log some of the IRED data on the MEC, but the computer keeps saying it can't find a file named "C:\Checs\exer\ired\cdr\sdi2261.dat" and won't open. Help on this would be greatly appreciated.

Earth Obs—We have a "target board" up near the central post, and we are going to try to shoot what is on it every day. Unfortunately, Tuamotou, today's site, got by us. We might

have read the time tag incorrectly—but we were well past it at the GMT called out. We will try to do better at this.

Had a good discussion late in the day with CAPCOM and the IMS folks on fixing some of the IMS issues. We discussed updating the databases and getting better operational understanding of how we need to use the bar codes and readers. We plan on working in the Node tomorrow to restow and code a number of locations. Will advise.

----------END OF LOG ENTRY ----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 25 DEC

0700Christmas morning. Stockings are hung on the ÑÐÂÊ. Yuri and Sergei surprised with this tradition, but hey, that's what stockings are for. We talk to ÖÓÏ and give them a "Merry Christmas" also. We get updates on the OCA schedule today—looks like several comm. passes have been added. After the comm. pass we exchange some presents that Santa must have left in the PMA.

0830 Another TV downlink to Moscow for taping. To be broadcast on New Year's Eve. At least no singing on this one. Sergei sends down a quick video tour of station from the camcorder. Russian media interest on "Alpha" activities has been strong all week.

Phone patch with Mr. Goldin on OCA. We try twice—good uplink, but comm. on the return link is intermittent and unreadable. When we break the patch and go to Houston, comm. is back solid. OCA had a busy day—we did at least 6 links today with Houston, Moscow, and the phone patches. Many thanks to the OCA team, GC's and the other folks on the ground who made this work. OCA comm. yesterday with families in Star City was a very positive event, even though the audio quality fell short. We would definitely like to do this again.

The 5A training package introduction arrived onboard in one of the OCA uplinks. We looked at it briefly. This is good material, well laid out, and will save us lots of time when we start focusing on what we should review.

Sergei and Shep have a discussion on how to work the IMAX schedule better for 5A. We don't know how to fit all the requirements into the time available, only that we got well behind on 4A and don't want to be there again. We figure we can setup and shoot

faster than we did on 4A, but we estimate at least 45 minutes per shot minimum (for 2 people—not including "talent"). This assumes camera is loaded, and lights and sound equipment all assembled and positioned. When you consider all that goes into one scene—lighting, metering, focus, depth of field, camera moves, rehearsal, clothes, props, sound, etc. we think even this estimate could be short.

If we have a shot that requires moving equipment to another location, as many of them do, then we will need 1 person for something like 80 minutes to move lights and do set ups, and the second person for maybe an hour of that time. So for shooting the 4 scenes in one can, we can easily tie up 2 folks for 4-5 hours. For shooting the 3 cans of IMAX we will have on 5A, we are going to need some very creative thinking on how to get this all done..

In between comm. passes and OCA greetings, everyone got caught up on their email, and all took turns on the TVIS and the IRED as well. Shep finished the Winscat left over from last week's schedule.

We would like to say a few words to the Flight Control Teams—

We were very moved with the presentation this evening by the station's Flight Control Team in Houston. It's pretty humbling to see and talk with a room full of people who have put aside their holidays with family and friends to make sure that we fly safely tonight. Space operations are unique—they demand high performance from just about everything—including people. We are proud to be on this team—and even more infused with a sense of "mission". Thanks to all from your "Alpha" crew.

----------END OF LOG ENTRY----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 23 DEC

Got up at 0730. We are all looking forward to the "three-day weekend", and today is basically an open schedule. We spend the first part of the morning just catching up on email and news of the day.

Yuri is looking for the info sent up this week on loading the map programs on the CPSC hard drive, so he can use this for the earth obs work.

Shep and Sergei work with the bar code reader and the IMS database for about 2 hours. We do some planning as to how the Node barcoding will be done. We inventory all the labels

and find we have about 350 spare code labels, and figure that should be enough for now. We do some practice moves and load these in the BCR, and then try batch file transfers on the SSC. It works—data base gets the info. There are some nuances that make it a bit tricky—we had 2 instances of the BCR reader open at the same time, didn't know it, and got the message that the computer could not read the BCR. Both instances were fighting over the comm. port. Just another computer lesson learned. Shep missing his former OS and getting a lot more PC education than he ever wanted, although Sergei is an excellent teacher.

We still have got to come up with an easy way to input data for all the gear and bags that are coded but are not in the data base. We have also got to create codes and data entries for all the soft lockers, PMA 3, Z-1, and several panels in the Node. Sergei suggests that we create some kind of "pile" that we put things in for the ground to help do the detailed data entries. That way, things that appear in the database will have the correct attributes. We're not sure what the most efficient way to do this will be. We are definitely open to any good ideas from the specialists on how to facilitate this.

Yuri and Shep watching Sergei work for more than an hour to load the CD-ROM map package on the CPSD hard drive. We get recurring errors on boot up, and after much troubleshooting, finally decide that some sectors on the drive must be bad. After another spare drive is put in and imaged, it runs OK. The new Ghost software is much more reliable than the earlier version we were using.

Yuri is looking at the map programs—they are usable, but we still think that a high-resolution paper map or atlas will be more handy, particularly when we are looking out the window. We are going to add this to the 5A log request.

We got in some good exercise time on the TVIS and the IRED. We are continually trying to watch the range of motion on the IRED canisters, but it is very easy to overextend the cable. Sergei particularly has limitations with his exercise, as he has more reach than Shep or Yuri.

Reconfigured the Wiener for the DVD drive set up after dinner and tried one of the DVD movies. This is definitely the way to go. Video and sound quality much improved over the CD-ROM disks. Only down-side for us is the network has to come down when the Wiener gets configured for DVD, but we figure for Saturday night, it's worth it.

Everyone secures early as we have several PAO downlinks planned for tomorrow.

----------END OF LOG ENTRY----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 22 DEC

We're up at 0645, getting ready for what promises to be a busy day. We've been waiting for word on moving the OCA back to the Service Module, where it will be much more useful for us. Got the OK last night that we will do it today. Ground also wants to reconfigure the SM TV system and try to send video to the ground today through OCA. We are reading that message and trying to get an overview of what the intended hookup is. Drawing on the last page of the message is kind of simplified, but adds a lot to the big picture.

We start immediately into the changes. Shep is working on pulling cables off OCA and isolating the cable runs in the Node. Sergei and Yuri are behind panels aft of the central post changing cable feeds for the TV system. The downlink "test" of the OCA is scheduled for 4 something p.m. and it sounds like a lot of time, but we are concerned we will be ready.

OCA laptop gets shut down in the Node, and is moved to its original place on the right side of the central post in the SM. Looks good there, although it is right next to CKB-2 which is still condensing way too much water on its piping. We are going to have to fix that sometime later.

[REDACTED MATERIAL – 11 lines]

Sergei and Yuri take turns on TVIS before lunch. Apparently ground is taking instrumentation to see if exercise loads affect the motion control systems.

Back into it with OCA. The procedure to connect up the data line calls for us to pull out 2 data lines which run aft the length of the FGB to the ÏÕÎ and put their aft terminals next to connectors in the ÃÀ so we can check continuity. We leave cables in place and jumper the pins on each end of the cable one at a time to ground and check continuity (and open circuit) that way. Probably saves us 1-2 hours. Also using the scopemeter for this kind of work is sort of overkill. A small test-light probe would do fine here.

[REDACTED MATERIAL – 15 lines]

Got the SSC and the OCA with the right hardware plugged in. ÖÓÏ's on the horn and the ÑÈÌÂÎË is getting a good picture, but we can't get it up on the OCA. Again, no time to read the steps, all 3 of us pushing keys and moving cables, etc. Finally figured we had to restart to change the video settings on the SSC, and we start getting some frames popping up on the OCA downlink. We get a few more lucky keystrokes, and we have Soyuz video going to the ground.

We break for the day at about 1800, having worked hard to get the video changes done. We were lucky. Any one of maybe 6 or 8 things not done correctly would have disrupted the result, and then figuring out what exactly was out of config would have been a lengthy process. But at least it's working.

Took the rest of the day off, watched the first half of “Blues Brothers”, and got on the email.

----------END OF LOG ENTRY ----------
FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP’S LOG 21 DEC

0644 First comm. pass with ÖÓÏ. We’re happy with the new schedule as it looks on form 24. . This will be a big help to get ready for the Progress docking attempt.

0830 Yuri and Sergei test the backup Regul comm. system over a ground site. Checks out OK.

Shep gets the FMK samples from yesterday and starts picking up the Node for PAO’s 11:30 downlink.

Approx 0930--Put the CDMK analyzer out and measured CO2 levels for a while in the SM. CDMK put on panel 449 for now. Readings were steady at 0.38 (we think this is percent). Turned the CDMK off to save the batteries, but ready for more readings when requested.

Did a holiday greeting for PAO over the OCA video system. (See below)

Sergei, Yuri, and Shep strip the remaining food items from the used boxes in the pantry (12) and fill the empty containers with sealed food trash bags. These are then taken back to FGB to be restowed until they can be offloaded to Progress. The next group of 12 containers is put in the pantry. We are right on schedule—1 container a day, and we are on #38 right now. (earlier containers had 1+1/3 days packed in them, so containers don’t exactly match “days”). We also note that aside from wardroom table ops, this is one of the few activities we have had a chance to do recently (besides eat) that we could all do together.

After lunch, did the periodic medical exams—data logged in the MEC. This is “up” on the net and should be accessible.

Sergei and Yuri complete a cable reconfiguration in FGB to cut off the Russian Segment ÏÑÑ caution and warning signals to the lab. This is kind of a redundant path, and apparently, the caution and warning exchanges on the data busses are going to be more reliable in this arrangement.

[REDACTED MATERIAL – 2 lines]

Tried the procedure for repowering FPP in the Node from UOP 2 on port side. Got the identical fault indication on the UOP when the SSC was powered up. Checked the ground on the laptop, and on the parallel cable—it was OK. Also looked for any floating potential on the cable, but could not find anything out of order. Tried to power up the SSC again. Every time the SSC tried to boot with the parallel cable attached, the UOP tripped off, regardless of whether the NCS box had power or not. Decided to wait and call the ground for some new ideas on this one.

Spent some time trying to download the BCR software upgrade to the rest of the bar code readers. BCR's seem to be quite picky about what files they want to read. Will work on this more tomorrow.

Made our first school radio contact tonight , with Burbank school in Chicago. Took about 10 good questions from students—it was a very successful session.

[REDACTED MATERIAL – 5 lines]

We also wanted to pass down that we have thoroughly enjoyed, over the past several weeks, talking to the occasional system expert, Flight Director, or computer guru on the comm. links in Houston.

[REDACTED MATERIAL – 2 lines]

We would like to close with the text of the PAO downlink passed to Houston today:

As the most "forward deployed" citizens of the planet at this moment, We, the first expedition crew aboard Space Station Alpha, send our holiday greetings to Earth.

We are well started on our journey of exploration and discovery, building a foothold for men and women who will voyage and live in places far away from our home planet. We are opening the gateway to space—for all humankind.

On this night, we would like to share with all—our good fortune on this space adventure; our wonder and excitement as we gaze on the Earth's splendor; and our strong sense---that the human spirit to do, to explore, to discover--has no limit.

We would like to send you our wishes for a Merry Christmas and Happy Holidays, and the hope-- that our feelings of good will and purpose onboard "Alpha" may enrich the holiday spirit for all---on the good planet Earth.

----------END OF LOG ENTRY----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 20 DEC

0715 Sort of a late wake up for us. First comm. pass at 0740. Looking at the overnight mail and the OCA messages. Front page does not have a link to today's execute package. Only "19 Dec" is visible. This has happened before, but not in the last several weeks. We scan the onboard message file and find all the current messages for today.

Everyone starts the day with the "urolux" routine. Shep gets wrong strip by mistake and has to do it again. It is going to be one of those days.

[REDACTED MATERIAL – 18 lines]

Crew takes turns doing the EKG monitoring—Sergei and Yuri on one pass, then Shep on the orbit following. The oscilloscope on the medical cabinet is very sensitive to changes in body position, what you are touching, etc. It's surprisingly easy to mess up the readings, and as Sergei points out, get the chance to do it again.

Talked with ÑÐÏ about hooking up the video feed from TOPY and feeding it to the ground for the upcoming Progress redock attempt. We think it can be done, but wonder about TV quality on the ground. We would like to move the OCA anyway, so this will be a positive thing if it helps that. We did get the feeling that we should try and avoid detailed technical discussions on the radio without some kind of diagram or technical reference to help communicate better.

[REDACTED MATERIAL – 9 lines]

Sergei and Yuri set up the sample gas bottle for the gas analyzer. The manometer gauge on the bottle indicates we are out of test "air". ÖÓÏ gives a "wait out" on what to do next. We put the gear away.

After lunch, Shep finishes up the SSK sampling. Then spends about 2 hours going through the IMS database, doing updates on gear moves that have been noted but not entered into the database. Some confusion on where the Z1 storage is listed. Database shows it as "outside" Node. IMS is running very sluggishly on SSC 2—don't know why, although some other applications were open (word, explorer). On SSC4, we timed it earlier, and it was 3-4 times slower than on the Wiener. We will keep looking at this. Putting in new bar code information gives rise to lots of questions about how the barcodes and how the database will be managed.

Sergei and Yuri run the vacuum cleaner around the FGB, and make good use of spare time with more stowage and inventory work.

We all knock off at around 1630 for some gym time—TVIS and IRED. Everyone is using the IRED and we all like it. The list of exercises we have "discovered" on it is still growing. We just regret that we could not get at this thing earlier.

Talked to Houston late in the day, and got the good words that planning is going to shift gears to help us organize our stowage and inventory work. We're happy that MCC's are "feeling our pain"—fixing this will really help ops.

[REDACTED MATERIAL – 38 lines]

We secured for the evening and continued "Lethal Weapon Week" with first disk of LW #4.

----------END OF LOG ENTRY ----------
FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 19 DEC

714 Up and about as usual for our initial comm. pass.

[REDACTED MATERIAL – 6 lines]

Sergei and Yuri are setting up for the Chibis test. We have a long comm. pass and Yuri's going to jump in and see if it pumps down. Ground gets data and Chibis is operational.

Shep looking at TEPC which appears to be hung up in the middle of an "auto restart". Thought we might have had a malfunction here. We check with Houston, and this is an expected indication—which cycles after 30 secs—just did not stare at it long enough. We read TEPC data later and move the detector head to the middle of the SM overhead, panel 327. Troubleshooting the TEPC/MEC computer interface has been deferred.

Sergei and Yuri spend several hours in the morning checking their notes on items in the database against the IMS load on the SSC. Database works OK and things seem to match where we think they should be.

Shep on the TVIS. He and Sergei take a look at the TVIS loading cords as part of the maintenance check. They look OK. Pulling the sleeves down to inspect is still kind of an interesting task. Sleeves are tied up as protection from failure of the loading device. They have to be untied to do the inspection. Finding a knot that will tie two ends of cord to each other, and stay tied in zero g, but is easy to untie has proven challenging. Any marlinspike sailors who want to shine here, speak up.
Also have a short discussion about "critical crack length" on the rubber shock tubes. We think that even a very small flaw will go right to failure on these things, and visual inspection (at least of the rubber part) is probably ineffective. Over to the engineers. TVIS temp data from the maintenance inspection :

Box temp 91.2 Motor temp 96.

After lunch, we have a brief OCA session with the Expedition 2 and 4 crews in Houston. The OCA set up on the Houston end has worse audio quality than we are used to from the front room in MCC---borderline unusable. We pass on that we would have liked some more computer/network training before we left town. We did not realize that keeping all the gear happy up here was going to be quite as complex as it has turned out to be.

[REDACTED MATERIAL – 8 lines]

Shep does another check of the portable blood analyzer. It appears that the internal clock has lost power. Waiting for word on the next steps with PCBA.

Removed the starboard UOP from the Node standoff and disconnected its power feed. Standing by for more words on the UOP situation and the RPC trip.

The crew did a 25 minute OCA downlink for CBS, ABC, and NPR radio stations. Most questions were about our plans to celebrate the holidays and what we thought of the Shuttle's schedule changes.

Yuri ran through a check on Âîçäóô microcompressor #2 which was used earlier but pulled when its performance was suspect. He checked resistance of various legs of the pump with the scopemeter. It appears it's a good unit. We're waiting for more words from ground on the results.

Shep dug out the remaining bar code readers and the extra cradle late in the afternoon. We plan on loading all with the software update and using them for tracking gear. If the bar code readers prove useful, we would like to press on putting codes on everything that is unmarked that needs one. Then we would like to audit some key locations to make sure the data base is working. This could be a sizeable job, and we would like to know if IMS and the BCR are going to cut it well before 5A shows up.

We set up the rheostat for the Node mix valve (RAMV)—numbers requested by Houston: Valve position 14.9 deg. Rheostat 86.2 Knob position - 2 o'clock

We like the proposal in the morning "ops summary" to create a job-jar we can access through Outlook. This is a good idea in that it will use a tool we already have onboard to track these.

[REDACTED MATERIAL – 4 lines]

Ate some dinner and watched disk #2 of "Lethal Weapon 3" (It's Lethal Weapon Week) although the disk kept crashing about 10 minutes from the end.

----------END OF LOG ENTRY ----------

FROM: ALPHA

TO:MCC-H
MCC-M
HSG-M

SHIP'S LOG 19 DEC

[REDACTED MATERIAL – 6 lines]

We have a quick huddle on the work plan. Monday, per the schedule, is going to be a busy day. The form 24 contains a few things we have not done before—TVIS test, CMG's, and FPP activation. CMG commanding with the DAT laptop had been briefed to us by the 4A crew, but we had not had the time to do anything more than a quick view of

the overall logic. The full procedure runs 60 pages and with several messages for updates-- we are concerned that we will be able to get it all done on time. We did some get-aheads Sunday night, pulling the Node P1 panel off, to look at cable connections and to understand whether we needed to move the SSC laptop used for the CMG controller.

0815 Shep starts the periodic fitness assessment on the TVIS, as the velo is down. Got going on this early to get it out of the way before the CMG work. Test takes about 40 minutes. Have to clear all the files from the "polar" watch and then record and send down the data instead of downlinking it through the MEC, and this adds maybe 30 minutes more. Manually switching speeds on the treadmill is somewhat tricky at higher belt speeds and it is recommended that we find a way to load the test as a profile in the TVIS controller.

Right after the TVIS test, Shep and Sergei start into the CMG procedure. We figure it would be better for 2 people to be familiar with this. Sergei is doing double duty, helping set up the "Chibis" and it instrumentation as well as lending a hand with the CMG commanding. The procedure goes as planned, and we cycle through the 4 CMG's fairly rapidly, send commands, and logging the return data. Timeliners have this laid out for 3 ½ hours total in two sessions, and counting the get-ahead time, Sergei's help, and recording data, we figure this was about right. (thanks planners!)

Yuri and Sergei finish up with the Chibis set up, and ground decides there isn't a long enough pass today to get all the checkout done. It will probably be on the plan for tomorrow.

After lunch, we do a quick tape session for a Russian kids' game-show—"Êî ì àíäa íà Ìàðñ". Sergei sends down a short live video tour of the aft part of SM. We wish we had the full "Liv" TV system onboard—it would add a lot to our ability to tape and do reasonably high quality editing. With our limited comm., this would really assist us in getting usable material to the ground. If this stuff shows up on the next Progress or Shuttle, we will definitely make use of it.

Put off the file server backup scheduled for the a.m. as there is too much other stuff going on. Then the OCA plan for uplink/downlink keeps shifting, and we don't want the server tied up with a backup while the ground is trying to access it. Will try and get this in late tonight or first thing in the a.m. Tuesday.

Shep is in the Node, switching power for the Node Comm Unit so we can take more data from the probe on P6. Since the UOP panel on the Starboard side is secured while we troubleshoot, the NCU gets plugged into the Port UOP. Laptop is also powered off of this side. Laptop powers up and starts booting. Shep plugs in the parallel line from the NCU and the UOP trips off with a fault indication. Pretty much the same signature as last week when we could not figure what was wrong with it. Unplugged the parallel cable, and reset the UOP. Laptop (minus the cable) powered up and ran OK. FPP experiment is given the rest of the day off. We're now convinced there's enough weird

science between the FPP and the UOP fault detection circuits to keep folks on the ground busy for some time.

Finished the workday with a checkout of the sound level meter. (SLM). Did the internal test, unit passed with –25.8 dB (OK). Did the visual inspection and had trouble identifying the "protective grid". Our meter has a smooth tip which looks like a cylinder. The top surface does have some damage--about a 3mm hole in it, but is otherwise smooth. No grates or slots. We talk to Houston and are standing by for more words.

After dinner, Yuri is trying to load up the CD world map set sent up on 4A. We apparently need to load some "CPSC" software in addition to read the CD's. Any help from the ground on this one would be greatly appreciated.

We're getting ready for our first school radio contact tomorrow, with Burbank School in Chicago. They sent us an email describing their preparations for the comm. pass, and we want to share this with all the troops in the Control Centers who are making "Alpha" work. If you ever had the question—"why a space station?" --this is a pretty eloquent answer:

". . . .Burbank School is a K-8 school in Burbank, a community located on the southwest side of Chicago. Our school has a student population of 700 students.

> Since being notified of our ISS contact, our teachers and students have been very busy with space, space station, and space exploration topics and activities. Here are just a few things going on at our school.
>
> Our entire school population participated in a school wide art contest involving the creation of our Burbank School/ ISS mission patch. In addition, we held auditions for our team of 12 students with 2 back up students. We ended up with students from a cross-section of classes.
>
> For our questions, we again turned to our students, school wide and were surprised at the quantity and quality of questions received.
> If you walked into our school today and wandered down the halls, you would be surprised at the variety of topics, activities, and displays of work all centered around the ISS mission. Our school is vibrating with excitement and activity.
>
> Our first graders have been creating space people and space capsules. Their themes are "Flying High is Grade One" and "Adventures in Space". Their bulletin boards reflect the imagination and creativity only a first grader can have. They even have Winnie the Pooh in a space suit!
> As you walk past classrooms, you can hear students and teachers alike talking about space, shuttles, space stations, and what the latest information is about the ISS.

Second graders wrote stories about why they would like to be an astronaut and then made shuttles out of Pringle cans. They colored pictures of astronauts and put their own photo in the helmets. Some built space communities of the future and created robots that will perform city services. They even wrote laws for their community. One of our classes created the Cosmic Cafe. Menu items include Lift-off Lemonade, Space Station Steak, and Pluto Pudding.

Students in the middle grades were busy imagining they were astronauts working on the space station. They wrote their own biographies and included future missions they world like to be involved with. They tracked the ISS on the web and plotted on a map where the space stationwas every 45 minutes. They wrote time lines comparing our school day to the ISS. Other children wrote poems and made chalk drawings to accompany their poems.

To prepare for our ISS contact, the junior high students searched the web for information on the space station. After much discussion, the students created power point presentations. They made a ten-slide show, which consisted of one slide telling what the ISS is, one slide for the astronaut, and one for each cosmonaut on the ISS, the remaining slides contained information about space and the space station. Students are prepared to present this to our audience on the day of the contact. The power point work was done by our Special Education students in junior high.

Other junior high classes worked on creating a NASA time line. In Math, students used the distance formula to calculate the ISS' distance from us here in Burbank. This was done over a period of several days so students understood the idea that it was moving constantly.

In addition to measuring distance, students also considered time. They thought about their own future and where they would be in the year 2030.
By then we will need a new ISS, so some of our future engineers decided to design and build the space station of the year 2030. They not only built the model, they also wrote a paper describing how and where it will be built. Our more artistic students decided they would be scientists on the new space station. They proposed that they were assigned to gather information using a new high powered telescope. They then used their creativity and imagination to draw what they saw when they looked through the telescope. Some of our students are very interested in the environment. They decided they would research and write a paper describing a particular man-made Earth pollution problem. They then would develop a plan for solving the problem using the technology of the space station.

All classes spent time using many of the websites that Charlie Sufana shared with us. As our students continued their search, one site led to another and their enthusiasm grew proportionately.

We here at Burbank School are ready.----OVER...."

Submitted by Rita Wright, Burbank School

----------END OF LOG ENTRY ----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 16 DEC

0710 Up and about. Saturday morning. Fortunately, a "rest" day. We are ready for some time off. Looking for coffee. Already drank all the coffee that 4A brought up, but going to order a bunch more on 5A when the lab comes. We root around through the chow boxes and find some more. "Alpha" really needs a "coffee-barka" (translation—coffee locker) somewhere onboard.

Spent some time organizing all the message traffic. We have a regular message board—make that 2 message boards (one OCA, one Radiograms). We try and save whatever paper copies we print instead of printing new ones so we don't use more paper. If stuff gets really old, it goes back through the printer. Got some words from Houston how to sort and search the "messages" page, and this is really useful info—Thanks!!

Checked the Z-1 hatch and the PMA-3 hatch somewhat later—Houston requests that the MPEV 's stay open---we agree, as we have noted some small pressure differences across both hatches when we open the valves. Gave a quick look inside PMA 3—nice and dry. Hull was moderately warm to the touch—maybe 70 degrees. Closed the hatch.

Tweaked the port antenna cables for Early Comm at MCC request and CATO got happy with comm. again.

Sergei and Yuri browsing the IMS database on the SSC—client machines can access, but they load slowly--90 seconds or so. SSC locked up a few times on Sergei—he's going to have more words on this soon.

ÖÓÏ changes caution and warning limits for the cabin pressure sensing and we get false warning alarms. We joke with ÖÓÏ about it.

The crew gets the toolbags out and "turns to" on the wardroom table. Work has been at a standstill since Progress left. We spend half of the morning and most of the afternoon on it. Lots of raw material left over from stowage frames on Progress. Just finding something that is suitable is most of the battle. Mounted the second ÒÃÊ box and otherwise made good headway on the table layout. It is turning into an excellent "team" project. About 1600 we stow the parts and tools and knock off for some exercise.

Everyone takes a turn on the TVIS, and we all get a light workout in on the IRED. Our adaptation to IRED is still taking time, as every session, we rig something a bit different, change clips or settings. The workout routine is just not settled out yet, and as a result, we have only done about 50% of the exercise taping requested.

Finish the day with dinner and the last disk of "Contact".

----------END OF LOG ENTRY ----------
FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 15 DEC

Shep's day started badly. Lost favorite mechanical pencil. Probably pulled out of its belt pouch by velcro and stuck somewhere. List of things unaccounted for onboard is, however, surprisingly low. Black sharpie markers seem to have unique capability to avoid detection. Most everything else turns up after a while in a filter somewhere.

First thing this a.m. is loading the IMS software on the server. Server gives us an unexpected message about a file deletion. We check with the ground and then continue. SSC server now has the IMS load, and we can access it from client machines. OCA 255 complete.

[REDACTED MATERIAL – 28 lines]

Getting ready to swap an RPCM in the Node. One unit has a firmware problem—ground wants to replace it. Not sure whose data is right as to where the spare is—our data base does not agree with what's sent up to us. We pulled a spare RPCM from a different Node stowage location and put in the Z-1 standoff two days ago. Check the Node stowage labels against the message, and yes, the required spare is up in the overhead. Undo the IRED, pull the support braces off, and move the IRED platform down out of the way. Open the Z-1 hatch and pull out the RPCM. Put the IRED back in place and torque everything down. Getting RPCM in hand takes about an hour.
Sergei and Shep pull off the closeout panel and access the installed RPCM. Again, pictures are very useful in the procedure. RPCM changeout straightforward. Talk to Moscow who relays to Houston we are go for powerup. Planned timeline for this one was 40 minutes—not

counting the RPCM hunt, probably needed an extra 20 minutes just to clear the stowage off of the panel.

Sergei and Shep check the 2 acoustic dosimeters we have onboard. Started individual monitoring last night. Measuring parameter is "Lav" (average) Readings were low, and are still low today--Sergei's in the high 20's and Shep's about 35 dB. Talk to the ground and we're discussing troubleshooting. These units just came up on 4A, and batteries were not changed out—battery readout indicates OK for the whole measurement period. We turned the units off.

Yuri finished the workday installing the control unit for Chibis. We get a reprieve on Chibis ops until Monday.

[REDACTED MATERIAL – 5 lines]

All hands took a turn alternating between TVIS and the weight room. Still learning what to do and how to do it on IRED. We come up with something new every time we are on it.

Watched disk 2 of "Contact" and got on the laptops for email. Looking forward to some weekend time off.

----------END OF LOG ENTRY----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 14 DEC

We are up early for the first comm. Lots of activity in the Node has been deleted from the schedule because we may not have a working power panel. The UOP trouble shooting will be done first. We kind of expected that CMG and other activities would have to wait until we got the UOP panel in a reliable configuration. Shep did the procedure sent by OCA in detail, and the UOP "cured" itself. Previous dropouts did not reoccur and we could not repeat the same failures from yesterday. Hooked up SSC 3 to the UOP outlet and it is running fine.

Sergei and Yuri start the day by changing out a ÏÒÀÁ battery controller, and some instrumentation equipment.

Shep finishes the IRED cal. Numbers to follow. One canister has about 10% more resistance at low ranges, and this difference increases at the top of its load setting.

Yuri and Sergei working on the velo, with ground receiving instrumentation, and doing some troubleshooting. Still no resolution on what is wrong with the velo. We have the

scopemeter warmed up and the pin kit ready. Just waiting on a circuit diagram and a short test procedure.

Finished the morning with a 25 minute CNN interview over OCA. Voice quality on the station end was adequate. No data dropouts and the downlink went well—performance of OCA now appears acceptable to support more of this.

Discussion with ground about the condensate drain line for the CKB airconditioning system. Apparently it is not putting out the expected amount of water. Ground thinks a valve may be out of configuration, but we check and feel that it has to be something else. We're standing by for more comprehensive testing tomorrow.

Shep got a run in on TVIS—operating normally.

After lunch, Shep entered some changes to SODF and continued stowage and clean-up in the Node.

Yuri and Sergei successfully installed and tested a new hand controller in the Soyuz living compartment (ÁÎ) This is used for manual maneuvering during docking.

[REDACTED MATERIAL – 8 lines]

Finished the work day with an OCA conference with JSC to participate in the CB office Christmas Party. Link up to us was a bit ragged, but apparently downlink came through well.

----------END OF LOG ENTRY----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 13 DEC

We got up with the usual "privet" with TsUP. First thing this a.m. is a calibration of the CSA-CP gas analyzers to verify the high readings yesterday afternoon. Calibrated both units and the readings are normal.

We were trying to finish storing and closing out PMA 3, but could not find the vent duct cap for the line which connects station and the ODS. Asked Houston about it—they said to make up a cap from something. Line is an intake to a cabin fan, so the cap has to be somewhat rigid. Took out the clamp and bracket kit and made a new vent cap from .030" aluminum. Shears and sheet metal pliers made this a straightforward task. Put the cap on

the end of the duct. Loaded the PMA with gear that we don't plan on seeing again until 5A and closed the hatch. Shep thinking about asking for small machine tools to be sent up.

Sergei and Yuri are looking at installations of the ÈÏ sensors for leak detection. These are fitted around hatches to indicate airflow during small leaks. They look like hot-wire anemometers. We are not sure how well they will work. We didn't put them on the hatches aft to the Soyuz, as this is the first place we will go and leak check regardless of the indicated data. Got several of the sensors up and checking the wiring connections.

[REDACTED MATERIAL – 29 lines]

Try to get started on the IRED calibration. We pulled a cable out a bit too far last night seeing what exercises we could do with IRED, and one canister is now making some "clicking" sound. We pull the canister up and open the bottom up, and the thimble on the end of the lanyard is a bit out of position. Believe it's rubbing the cover so we reset it and put the canister back. Works smoothly. got the calibration going but could not finish it with the troubleshooting for UOP's going on. Will complete this tomorrow. So far, the calibration looks pretty linear, except that one can is about 10% stronger than the other. We plan on just putting up a strip of tape marked with approximate loads anyway. Most of the rest of the activites scheduled in the Node for today are moved later.

Finish the day with an OCA video call from Houston with Precourt and Foale. Word is that we may be able to videocon from Russia for spouses-- this will be great.

Got to secure from the comm. gear about 2100 and watched the last disk of "Private Ryan".

Kind of a frustrating day, but enjoying the aspect of having plenty of time to fix this stuff later. Reminded of the Civil War story at Pittsburg Landing. Union troops start the battle with heavy losses, Sherman tells Grant that they had had the "devil's own day." Grant replies: "Yep. . . lick 'em tomorrow, though"

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 12 DEC 00

0655 Up and talking to TsUP. We had asked for and we get some time to restow the Node, which is good. Since we got a bit ahead with IRED, we had a small hole anyway..

Houston has some words about reconfiguring the valves and ducts in PMA 3. Should be easy

Put away IMAX. Lots of gear, lights, wires, etc. Got it all stowed in the Node soft racks in one area, but the soft rack locker is definitely "full". After a popped zipper, learned the

hard way that you can't stuff these as hard as the rigid lockers—got to be a bit more careful.

[REDACTED MATERIAL – 25 lines]

Everyone takes a run on TVIS. Sergei tries the Velo-ergometer again. It is still stuck at max resistance.

Shep looking at exercise positions on the IRED. Shep and Sergei try squats, dead lift, rowing, bench press, military press. All are very workable and we like the feel of the gear. Width between canisters could be bigger—that's probably the biggest design issue now. Tried a position to get some crunches in, and we think that is going to work well also. Shot a fair amount of video on the DV cam. We can send files to the ground on this through OCA if desired. The weight room is open on Alpha.

Sergei spends about 1 ½ hour in the late afternoon troubleshooting the Russian acoustic meter—the spectrum display shows a strong signal at about 40 hertz (est.) and then lower noise until several hundred Hz. We are wondering what this is—CKB?

We finish up having had a good workday. Pace was excellent. Mood of the crew excellent. Ground kept us informed, but we did not feel rushed. Made good progress in the Node and PMA 3 with stowage and inventory. We should be pretty much done in there with one more good workday.

----------END OF LOG ENTRY----------
FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 11 DEC

Rest day. We are catching up on email and other personal stuff.

Spent some time in the Node cleaning up so we could start setting up the IRED. Took about 2 hours lining it up so that it is square and turnbuckles have enough "thread" with uniform load. Finally get the base plate happy and work with the canisters. Plate is extremely rigid and we are pleased with that. We get RED fully assembled, Shep goes for a quick spin. Everything seems to work OK, although first impression is that this thing is going to need higher resistive load. More data tomorrow.

Everyone gets some exercise on TVIS. Velo has a control problem—we have lost the electronic interface to the display box which shows data and changes the load. Unfortunately, load is stuck at the maximum value. We are thinking something is loose

inside, but we need some expert help to try and resolve. Will wait to talk to the ground tomorrow about what is next. We'd like to get some kind of electrical diagram so we can troubleshoot, but Velo may be out of commission.

Went thru the ship with the vacuum cleaner—pulled all the debris out of filters and intakes. It is amazing—if you ever let loose of something, there is an almost 100% chance it is going to end up in a filter or screen somewhere. So far, we have not "lost" anything important, except maybe some "1"s and "0"s in the IMS database.

Finished the day with some chow and disk 1 of "Private Ryan" (Yuri's choice).

----------END OF LOG ENTRY----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 10 DEC (LATE ENTRY)

Crew got up 0745.

[REDACTED MATERIAL – 6 lines]

We do kind of a hasty safety cleanup—tried to do this last night also—power sockets turned off, hatches clear, no live cables free etc.

Checked pressure in PMA 3 with the scopemeter—holding tight.

[REDACTED MATERIAL – 14 lines]

We spend several more hours just picking up wires, data file, parts, etc. scattered about. Lots of camera gear and transfer items still to be organized. Start with the IMAX--camera stowed. Lights and sound equipment still out. Restowing the camera, magazine, and related stuff takes maybe 1-1/2 hours to do it right.

Sergei and Shep talking about how to barcode things we don't havebarcodes on. We want to get knowledge down to small items as to exactly where they are. We will have to generate new codes and we're not completely sure how we do it.

Several videocons in the afternoon on OCA. Quality is good. Have not had any recurrence of intermittent voice/audio since we changed out machines.

Started laying out the IRED platform and parts in the early evening. Didn't realize we had procedures onboard for this, as they were not in the "Activation" section of the MED OPS book.

Shep starting to put notches in the large vise grips. Used them again today to loosen the vacuum jumper line from the MPEV valve. Even though the hose says hand tighten only—doesn't mean you won't need a tool to get it off. Just think it should be SOP on station that we have tools for every fitting we are expected to work with.

Crew called it a day at 2300—looking forward to another "rest" day on Monday.

----------END OF LOG ENTRY----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG: NARRATIVE OF JOINT OPS 08-09 DEC

[REDACTED MATERIAL – 34 lines]

We set up the quarterdeck with video and rehearse quickly how we open the hatch. Brent and crew do all the PMA 3 config, which is a real lifesafer to us. Brent and crew come into view and we do the arrival honors. It does feel a lot more like a ceremony than the handshake across the hatch. We're glad we got to do it. A few minutes of saying hello on the quarterdeck, and then it's off to Endeavour to see the arrays. Going back through the hatches—we have the sensation of being in a smaller and more cramped environment. Station is getting spacious with the long hatchway fore and aft, and pretty big volume in the Node. It's a real contrast. We check out the arrays—they look too frail to be so large—but they're working. Also surprised at how close the orbiter is to the PMA—we are right on top of it out the AFD window.

Back inside the station for a quick safety brief. Location of O2 masks and some other safety items. Quick tour of FGB and Service Module. We all gather around the central post so Shep can brief the joint ops. Brent and crew have

offered to pitch in to cover all the FD 09 activites. So we pair up and give folks the procedures, tools, and get out of the way.
Sergei and Joe T tackle the IMAX. Joe looks at the magazine and it checks OK . When the camera is reloaded, we finally get it to arm and run. So Joe and Sergei start setting up for shots.

Mark and Yuri are working the gear transfer. Most of the big stuff is ready to go, but the inevitable confusion about the small things. Lots of back and forth to Houston about the details.

Carlos is tackling the FPP data set up. Shep helping with CBCS, IMAX, and gear transfer. We are all scooting around at 60 miles an hour and we still can't stay ahead of the schedule. Houston says to delete IWIS from the plan. We are thankful.

Carlos trying to load the SSC upgrade for the FPP experiment. No go. He spends about 3 hours on this and finally gets it to load after multiple tries. This very consistent with our earlier SSC experience—and one of the big reasons we try to minimize computer reconfigurations.

Carlos and Shep work on the CMG/DAT laptop fam session. The run through is fairly straightforward, but still takes twice as long as scheduled.

We take about 45 minutes out for dinner with the Endeavour crew.
We have the first IMAX shot ready in the wardroom—trying to get a group shot with everyone around the table. Set up drags on and Brent has to cover something with Houston and can't make it. But we get our first IMAX take.

After chow, everyone back to their "post" and we continue to work the schedule. Another check with CBCS—all looks good. FPP is getting data and that looks good also. Cargo transfer complete, except for a few small last minute items.

Back in the SM for a quick group photo shoot. Goes well, several cameras and camcorders on line.

Shep, Sergei, Yuri, and Joe T. back on IMAX. We set up and shoot the rest of the first roll. We wrap IMAX up at 0300. Joe offers to load mag 2 which is a huge help. We finally go lights out around 0400.

SAT 09 DEC

800 Back at it to try and get some more IMAX in the can.

[REDACTED MATERIAL – 20 lines]

Need to be ready for the PMA leak check. Scopemeter is handy, but it is out of battery power. Have to dig for the new batteries. Yuri finds the “D” cells, but the scopemeter needs “C” s. These just came aboard with 4A but we have them temp stowed someplace strange. Finally locate them but can’t find all the vacuum access line gear. Finally locate that and Carlos sets up the pressure test gear and this checks out—about 15 minutes before we think we will need it.

Hatch closure. Just under the bell. PAO has TV going down, so we do a live “departure”. Seems to go well. We are sorry to see the Endeavour crew depart—worked really hard and actually enjoyed that to some degree, but had zero down time together.

Went through the undock procedure and watched the fly around. Then signed off as Endeavour backed away. We are sorry to see the crew depart but are real glad we had their help to get through the 24 hours of joint ops. We could not have done it without them.

----------END OF LOG ENTRY ----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP’S LOG 06 DEC

Up early to talk to ÖÓÏ about the plan of the day.

[REDACTED MATERIAL – 56 lines]

Got the word late in the evening that ground is happy with the CKB 2 performance, and humidity control in the Node is no longer an issue. We have a go to open the hatch on the Node at will. This is great news and we go into the Node for some more packing and rigging until late. Finally have some room to spread out the gear, and clear a path thru FGB.

Finished a real long day with the âîçäóõ back on line. Got more parts to fix it if need be, so we’re happy with that. CKB 2 is up—noisy like # 1 was. From the system standpoint we are back in business. Just have to get moving on the schedule for the rest of the docked period to see what we can make happen.

One thing that we think would help everyone would be if ground could give us more of the technical nuts and bolts of what is going on. We thought we saw CKB –1 “slugging” as it was initially operating several weeks back. It was vibrating heavily which seemed unusual. And the news that specialists were

unhappy with it this week caught us by surprise. (we thought it sounded better). The impact to our week has been real strong. It would be nice to be able to know more about what the technical folks are thinking, and perhaps our insight into what we are seeing will help them figure out what the station is doing.

----------END OF LOG ENTRY ----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 05 DEC

0605 Up for the first comm pass. Say hello to Sergei G. and look for some hot water. Everyone's real happy that we got a bag full of instant coffee and tea drinks from 4A. We are wondering if we should put another order in for 5A.

Sergei and Yuri still having some email problems. Apparently friends in Russia do not have the right email address to reach them.

[REDACTED MATERIAL – 1 line]

Talk to Houston. 4B array is looking good. Everything working well. Some details for us—notes on Node ingress, and a TVIS test this a.m. to see if it can handle faster speeds.

ÖÓÏ has Sergei and Yuri started on a bag full of instrumentation sensors for FGB. They get right on it and spend most of the morning diving behind panels. Lots of fine-work, small markings, long serial numbers, tight access.

Shep on TVIS for the test. Tried all the pc flash cards in the MEC before the data take to see which ones were useable. MEC could not read any of them and 2 of the cards crashed the computer. Same symptoms as before. Ran the TVIS schedule with pc cards anyway. (FE-1 for Shep. Sergei ran later with "spare" card). Noticed that the static buildup discharges when you touch the control panel and blanks the screen display. Happened twice. Also disabled the keyboard entry. But treadmill kept on running. Max speed on the treadmill was 14 km/hr. Video documentation to be shipped down on 4A. Sergei does the same test in the afternoon.

Shep changes out the PCS laptop for a new one which came up on 4A. It runs normally. Also reorganized all the SODF and bagged up the stuff for return to Houston.

Called down to CAPCOM about the logistics plan for 4A gear transfer. We received OCA 431 and this very helpful in figuring out what we need to do. It's a much more integrated plan than the bits and pieces we were working off of earlier. (ought to put this one in the CAPCOM notebook as a model of how to do it.)

[REDACTED MATERIAL – 11 lines]

Mid afternoon, Sergei and Shep spend well over an hour going over the ingress and patch panel details. We find the EPS training drawings to be extraordinarily useful. (Thanks, Bart and Lee). The before and after patch panel config is clearly laid out and although the procedure is 29 pages long, we think we know what our part is about. We are hunting down tools and ziplock bags, tape, connector pliers. Ready to go maybe 1 ½ hours early, which is good because Houston calls and says to get on with it. So Sergei starts to equalize the pressure on the KBD valve, and we're in the PMA and Node in about 5 minutes. Port panel over the patch panel is already off and stowed. We take out the deck panel—this is a 60 second job for the Makita. Check the connectors against the procedure and we're ready.
Back to the central post to standby for a go.

The EVA'ers are rolling and we are trying to stay ahead of the timeline. Houston calls the RACU power off and Sergei and Shep back inside the Node to do the connector swap. Night ops—all the Node lighting powered down. Shep's reading and holding the light--Sergei's doing. Very quick work and we're back out to wait for the next panel. We standby the central post as Houston goes through the rest of the reconfig.. Finally get the call that we're ready-- the second RACU is powered down. We're just finishing up the laptop bus swap, and Endeavor's already on the loop saying that Carlos and Joe have their side done. We are thinking those guys must have had their connectors already half threaded—we are sandbagged. We get in the Node and finish the deck panel. We put up the covers, check the drying fans and depart. Houston's pressing on and the rest of the procedure is configuration clean up. Node running on P6 power.

More listening in on A/G 2 as Endeavour and Houston tag up. EVA is going well.

Discussion with ÖÓÏ about the plan for Wednesday—still under discussion. Specialists want us to do CKB airconditioner installation. We don't know how time critical this is, but we have a lot on our plate to be ready for Friday—and we need some time to get our gear organized. Talk to Houston some more and standing by to see the plan in the a.m.

----------END OF LOG ENTRY ----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG

LOG NOTES FROM O3 DEC (ENTRY INTO NODE 1):

0715 Organizing the notes to do the ingress. Several different OCA messages, 2 procedures, tools. More tools for contingencies. Putting it all together for something which can be executed in 30 mins looks like a real stretch. Told CAPCOM that—ground agrees and OK's being in the Node 1 hr.

0800 Started pressure equalization procedure. Crew getting instruction from ÖÓÏ and Houston virtually simo. This worked out OK in this instance, but we really need to watch this—has the potential, with every good intent, to do something bad. Sergei and Shep getting the big picture and sorting out what we are doing—need maybe 20-30 minutes just to feel like we know what everyone's doing. We ask if there is a time crunch to get ingress started on time. Houston says no, so we take a couple more moments making sure that we don't forget something essential.

PMA is equalizing. Takes a lot longer to settle out than we expected. Maybe 20 minutes or more. Houston has the IMV open so Node and PMA end up at the same pressure. Sergei opens the APAS hatch, goes into the PMA and opens the Node hatch. Lights are on. Node is spacious. A little cool, but not uncomfortable. Shep in shorts and a long shirt and feels OK. Node seems very dry. Hardly any velcro anywhere—we need to put some down when we get in on a permanent basis. Kind of swimming around, as we are used to much tighter quarters in the SM and FGB.

[REDACTED MATERIAL – 13 lines]

Sergei pulls out the Endeavour cargo and we start moving it into the FGB. Lots more volume in the gear transfer than we thought. FGB deck is full of bags again, for the 3rd time this flight. We close the PMA 3 hatch and the equalization valve. Shep in the Node pulling out other IMAX bags we need. Yuri finishes putting in the portable fans. We can't find the new dessicant bags and procedure is kind of convoluted about this. Decide to get out of the Node, close the ÃÀ hatch and talk to Houston. Houston points us to the right location—we're back in and bags are there in a pile of plastic wrappers. We do a quick bag swap. New dessicant bags are wrapped like they are going to Mars and back. Plastic bags over the dessicant are tough to get off. SEAL knives are out. Bags are on the fans and we're out of the Node—just over an hour total time inside.

We secure the gear bags to the deck in FGB, and start going through what we have. We take a couple of minutes to open the crew care package and all the goodies. Sergei and Yuri are happy to get mail. Shep is very happy with large pliers and new tool bits for the power tools. Plus all the other stuff on our "quick turnaround" logistics list. It's kind of like Christmas, early. Thanks guys!

04 DEC

Got up and got the word first EVA was successful. Some problems extending array 2B. 4B still in the box waiting for analysis of what the other wing did on deploy, But we're making power and that's the good news.

[REDACTED MATERIAL – 16 lines]

BME's—we still love you.

Sergei starts wiring up some BITS instrumentation in FGB, and Yuri doing the same in the aft part of SM. Ground needs to check the connections over comm passes.

Shep waiting to get a run in on TVIS—but have to hold up and stay out of Yuri's way and help where possible. Setting up the TVIS. Called down to Houston that the large vise grips were used for the first time on Alpha at GMT 11:16:30--to tighten the SPD arms on the TVIS treadmill. Knobs keep backing off, and the vise grips are used to put some more torque on them.
Got a 20 min. run in at moderate speed. Did have an interesting anomaly with the control display. Treadmill was cranking away at 7 km/hr and somehow the screen displays went blank on the control panel. Keypad was unresponsive. "system pause" would not work either. Treadmill is running as before. Tried the "emergency stop" magnet and that was functional. Stopped the treadmill, powered down, started up, and finished the session with normal indications. We think we have seen this once before on TVIS.

Yuri puts in the new compressor for Á ÎÇÄÓÕ. Yuri and Sergei keep installing equipment through the afternoon—mostly BITS telemetry boxes.

Sergei puts the new hard drive in the Russian laptop, and our RS displays are back up. Although we have the CD-ROM image disk for the Russian software load, it's not exactly clear how we are supposed to image another hard drive for the laptop. (we need to do this for a backup capability). ÖÓÏ says later that we can use the US SSC autoloader floppy for this, but we would feel better if we had a procedure—that someone on the ground had checked first.

Shep worked on gathering all the IMAX gear. Assembled and checked out the camera. All works. Battery is fully charged. Switches off. Going to check all the floodlight equipment tomorrow and maybe tackle the film loading.

Finished the day with a quick “how is it going” TV downlink to Russian ground sites. We are staying busy, and with the Node ingress, IWIS, gear moves, etc. we will find plenty more to do.

----------END OF LOG ENTRY ----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 02 NOV

Up at 0630 for first comm pass. Everything looking normal for docking evolution with Endeavour.

Everyone at a laptop to read mail and sort through the message traffic. We all are seeing some problems. Sergei moved all his mail to a personal folder, yet his ".ost" file is still over 1 Mb. Shep can't run outlook at all on the MEC configured with the SSC 2 hard disk. Yuri is having trouble doing mail in Russian. He needs help on fonts. We feel pretty much like a bunch of campers when it comes to mail-server problems. A little more of the nuts and bolts of how this all works would be useful to us and could help us work better with the ground during troubleshooting sessions.

Questions from the ground if we can verify ÂÀÏ running. This is a fan in the general location of the other fans on the CKB unit which had damage. We can't hear it, and ground does not have telemetry that says it is working. We are wondering if they share the same ducting.

Sergei and Yuri do a cable configuration in SM to get ready for 120 volt P6 power.

Pressure equalization for the Node is put off until tomorrow. Node temps are too low. (4 C.)

Clean up the ship--wipe down rags and the vacuum are out. General pick up of loose stuff. SM looking shipshape. Very few gear bags about--only computer bags and photo bags still out. Everything else stowed.

Shep on the TVIS, followed by Sergei. Trying to get exercise in early today, as the afternoon may be busy. Set up is getting to be routine. We are cranking up the TVIS and

then by the time we get changed and gear on, everything is up to speed and ready to go. Setup and shut down time (together) is less than 10 minutes now.

[REDACTED MATERIAL – 13 lines]

1710 Tried the first VHF comm with Endeavour. No joy. CAPCOM came up later on OCA and said Endeavour was receiving. We try again, and get very weak but readable comm. Comm stays poor through the whole docking event.

We get a visual on Endeavour in trail, about 5-8 km out in very bright light. Approach smooth across the R-bar under us. View looking down on the orbiter is very unreal--more like a model than a 100 ton object--you just can't put a sense of scale to it.
First time we have seen the tail forward maneuver. Orbiter looks like it's in pure rotation--very slow right turn. Tail forward, and Endeavor is about 250 feet below right as we lose daylight. "170 foot" calls exchanged. "Romeo at the dip." (translation: receiving ship is ready for maneuvering ship to begin approach.) Endeavor asks about solar array position, but we can't verify without RS laptop. We ask Endeavour to check with Houston.
Calls from Endeavour close in are very helpful to alert us to initial capture and docking motions. Felt and heard a very slight bump as contact was called. "Capture long" and "arrival" indications came up immediately on PCS. "Drift" for Russian Segment and the LED state took a few seconds longer but both OK. Rest of the docking sequence felt very smooth.

Sergei and Yuri downlink some highlights of the docking we shot with the PAL video camera to Russian ground sites. We float around the wardroom looking for some more food, talking about the docking, and what we will find in the Node tomorrow.
----------END OF LOG ENTRY ----------

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 01 DEC

Woke up to the news that our solar panels are on the way. Thanks for the good work, launch team!

[REDACTED MATERIAL – 5 lines]

SSC 2 is having trouble opening links up on the execute package. This is from a cold boot up with nothing else going on. Problem has been intermittent, although it has been worse for the last two days.

Sergei, Yuri do TV test of ÑÈ ÌÂÎË. Video picture looks clear.

Sergei, Yuri, Shep looking at CKB-2 fans. Both have damage. BT fan has superficial blade nicks, but obviously something flew through it. BTK has 3 blades broken off. One blade is jammed in the housing. Still looking for the other 2 Duct diagram would be nice. Ask ÖÓÏ about this, and we get an uplink file from Houston later--thanks guys!!
Did a quick motor test, both fan motors turn and sound OK. We think we can swap out the fan with the broken blades--although it's an all-day job.

Shep worked on TEPC data transfer, so we could turn TEPC on and let it log some more data. Configured MEC so that comm 1 was enabled. Tried to get MEC and TEPC to talk several times. TEPC was started in "off" position per procedure. Still no joy. No data to MEC. Relocated TEPC on SM 248 and powered it up.

[REDACTED MATERIAL – 19 lines]

CKB installation. Yuri and Sergei work this most of the morning and all afternoon. Installation task is right on top of the central post, and OCA has to be moved out of the way to avoid damage. Still, working with heavy stuff and high loads right over all the computer and network gear is a risk. Nothing gets damaged, but lots of potential for a misstep or impact on something important.
Fit of heat exchanger unit is very tight. We are saying bad things about the engineers. Sergei is sure the unit has been fit-checked on the ground. You can see bright marks where parts were binding together, though. Files, silicon lube, hammers, pry bar, line up tool all in the fight. Finally have to loosen the support bolts for the whole airconditioning unit to float it a little bit and get enough space to slide the heat exchanger in. Could have used the "large vise grips" at least twice, and a 1/4" die-grinder would have been real handy. Told ÖÓÏ that so they would sense this was not your ordinary "bolt it down" job. More like changing out your transmission. Finally got it together about 25 minutes before the undocking.

[REDACTED MATERIAL – 2 lines]

Minor flail trying to find the 4A hard drive which came up on Progress, which has the new software load for 4A. Shep goes through all the computer bags. Finally find the drive at the central post under the ePCS.

[REDACTED MATERIAL – 17 lines]

1615 Undock of Progress. All the critical stuff is done on Progress' internal algorithms. Yuri's at the ÒÎÐÓ control panel ready to intervene. The release is smooth and straight away. "Progress, . . . departing"

Sergei is shooting out the large nadir window with the laser rangefinder. Progress does a backoff pulse and flies below us, going slightly behind. As Progress gets lower it comes into the sunlight and and crosses underneath to the port side aft, well away from station.

After the undock, Shep hooks up the 4A PCS to the central post. Unfortunately, can't find the means to power up the PCS socket for GNC 1 bus. GNC 2 is easy, as that has a tumbler switch on the Ï ÏÑ panel. Talk to ÖÓÏ about this one, and ask if we have a drawing onboard which might show what powers these sockets. (Don't think we do.) More on this one tomorrow. For right now, 4A PCS is on GNC-2.

We finish up having a look over the form 24 for docking day with Endeavour, We decide we have had a pretty good day, having used all the power tools, hammer, files, 1/2 of the other hand tools, COSS reference library, and schematic drawings all in the same day.

----------END OF LOG ENTRY ----------