

ASTP (USA) MC375/1
Time: 15:09 CDT, 103:49 GET
7/19/75

CMP - -(garble)
CC-H That's good news. We also think with all the cameras
OFF now and with the ATS power amplifier OFF and things like that that
we're not going to have the heat load in the Command Module.
CMP Ture.
CC-H The worry here is that we're going to run our of waste
water and then we won't have an evaporator to use and we'll be hot for
an extended period of time.
CMP Copy.
CC-H I've got one thing for Tom Stafford. Gene Cernan,
talked to Weatherford, Oklahoma today and he found out there that every-
thing is fine and Tom's mother is very proud of what's going on in the
Apollo spacecraft.
ACDR Ah, real good, thank you. Give her our regards.
Thank you, Bo.
SPKR (Garble)
CC-H Apollo, Houston. We'd like someone to inhibit the
AC roll so that the auto RCX select auto RCS light switches agree with the
DAC.
ACDR You won't the AC roll OFF?
CC-H Roger.
SPKR (GARBLE)
SPKR (GARBLE)
SPKR (GARBLE)
SPKR (Laughter)
SPKR (GARBLE)
SPKR (GARBLE)
SPKR (GARBLE)
USSR (Garble) I have (garble) your (garble). Over.
USSR (Garble) activate now. Over.
CC-H Apollo, Houston. Over.
ACDR Go ahead, Houston.
CC-H This concerns the waste water. We know that your
gage is very noisy and ours is noisy too but they've been plotting the
average and they feel that the waste water tank is now down to about
15 percent or 9 pounds and so we'd like you to not evaporate if at all
possible.
CC-H The secondary loop, that is.
ACDR Okay, secondary, keep the primary ON, over.
CC-H Roger.
ACDR Okay, we got the secondary loop OFF now, Bo.
CC-H Roger. And we'd like you to- -

END OF TAPE

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ACDR - - okay secondary down, keep the primary ON? Over.
CC-H Roger.
ACDR Okay, we got the secondary loop brought down, Bo.
CC-H Roger. And we'd like you to set the secondary loop
totally down, and turn the pump off too.
ACDR We've got the evaporator reset and the pump is OFF.
CC-H Thank you.
CMP Hey Bo, would you like us to close the potable inlet
valve.
CC-H Let me ask EECOM.
CC-H Apollo, Houston. We agree with you. We'd like you
to close the potable tank inlet valve.
CMP Okay, Bo.
CC-H Apollo, Houston. We're getting ready to dump the
VTR. You won't have any down voice for about a half hour while we
dump it.
ACDR All right.

END OF TAPE

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CC-H Apollo, Houston. We're back with you for a few minutes until ATS LOS.

ACDR Okay.

CC-H I have a couple of items. Two of them are questions and one is a task. Is someone free who can answer the questions?

ACDR Go ahead. We're still eating. No problem.

CC-H Okay. One is: what was the relative brightness on the window light - of the window light of Soyuz on the 150 meter UVA with respect to the retro reflector?

ACDR Deke's off the head set now, and he's the only one that can answer that.

CC-H Okay. The other one is also of the UVA. And the request is after you finish your dinner, we'd like someone to go down and open the cryo freezer cap, and then replace the cyro freezer cap, and the reason we're doing that is that we think that there may be some ice buildup and we'd like to break it loose, so that it can be opened at a later time.

CMP Tom would like to know how long you won't it open, Bo.

CC-H Roger. Just long enough - Apollo, Houston. Just long enough to open it, wait a few seconds and put it back on.

DMP Bo, Deke. Are you trying to call me?

CC-H Roger Deke. We had two questions on the UVA. The first was, what was the relative brightness of the window light on Soyuz on the 150 meter UVA with respect to the retro reflector?

DMP Well, the retro reflector was brighter, but I was very surprised that I could see that - the window light down there and I couldn't see it as well as I could the 150. It was dimmer - -

CC-H Deke, I'm afraid you have broken up. We heard you say that it was dimmer, but after that we couldn't read what you said.

DMP I said it was obviously dimmer. It's difficult for to evaluate numerically how much different. I'd say maybe 4 or 5 times. However, we had a pretty CAL I think, and we were locked on pretty well to the reflector, and I would guess there might have been a degree displacement down to the window, so I would hope that the good data you were getting is coming from the reflector instead of the window.

CC-H Roger. Understand. And were you able to keep the COAS centered on the retro reflector while the Soyuz test meter indicated 2.5 volts?

DMP That's affirmative.

CC-H Okay. And - -

DMP (garble) CAL MARK.

CC-H Roger. Do you have any other comments while they're still fresh, about the UVA?

DMP Well, as far as the data takes are concerned, they went pretty good. I think we had the trajectory pretty well accurate. Initial conditions were all right. Sweeps went well. And we were locked on

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pretty good all the way through. 500 - (garble) surprised that's pretty
easy to see. The reflector - 100 meter (garble).

CC-H

Deke. Do you read?

END OF TAPE

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Time: 15:54 CDT, 104:35 GET
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CC-H Deke, you read?

CC-H Apollo, Houston.

PAO Apollo Control. Ground elapsed time 10⁴ hours and 35 minutes. Loss of signal through the ATS-6 satellite. Next acquisition will be through Orroral Valley. This'll be a low elevation pass, and approximately 2 and a half minutes in duration. Cap comm, Karol Bobko, querying Deke Slayton concerning the relative brightness of the window on the ultraviolet experiment. The window was used inadvertently as a target rather than the retroreflector. And he was asked the relative brightness of the window versus the retroreflector at the 150 meter distance during the UVA experiment. Next acquisition will be Orroral Valley in 3 minutes. We'll hold the line up for this pass.

PAO Apollo Control. Ground elapsed time 10⁴ hours 38 minutes. Loss of signal through Orroral Valley. Next acquisition in - will be through Vanguard tracking station in approximately 8 minutes as the crew concludes their operations for the day, and as Soyuz and Apollo slowly drift apart on this the final day of the joint operations of Apollo-Soyuz. Next acquisition through Vanguard in 7 minutes and 50 seconds. At ground elapsed time of 10⁴ hours, 39 minutes, this is Apollo Control.

END OF TAPE

ASTP (USA) MC379/1
Time: 16:24 CDT, 105:04 GET
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PAO This is Apollo Control. Ground elapsed time
105 hours 5 minutes, with acquisition through Goldstone.
ACDR Houston, Apollo.
CC-H Go ahead, Tom.
ACDR Okay, Dick. We had you once there. Why don't you
verify?
CC-H Oh, Okay. Yeah, I gave an AOS call and didn't
hear anything. We still have about 5 minutes here at Goldstone.
DMP Okay. We're finishing up the (garble) here and then
(garble). Tom's been down there working on the freezer. Had a couple of
problems there which he had to look at.
CC-H Roger.
ACDR You know, I was going to open the freezer as re-
quested. You told me to open up and put her right back. You were
afraid ice was forming. When I started to turn the cap, you know, from
the lock position, the only way I could it had a lot of kind of memory in
the system. It was very hard. I finally got it over to the place. And
now I've had to - to brace my feet against the bulkhead, take both hands,
and I'm just barely starting to move it. And, (garble) I'm afraid I'll
just pop the top right out of it. So we better take it very easy with it.
CC-H Okay. Copy Tom, and if you - why don't you guys
just keep working on it and keep us advised (garble).
ACDR Okay. Yeah, well we're working very gently up here, but
it's really stuck in the bottle.
CC-H Roger. Understand.
CC-H And Tom, Houston. We thought that might be the
case because of the things we were doing with the cabin pressure last
night. We thought you probably would have some trou - have some
trouble and that's the reason we wanted to go ahead and crack it this
afternoon and see how much trouble you would have, or if you could get
it off.
ACDR Okay. I'm working on it right now.
CC-H Okay. Fine.
CC-H Apollo, Houston. Yes, Go ahead.
ACDR (Garble)
CC-H And Tom, Houston. For some reason about the
first couple of minutes of this pass, we could barely hear either you
or Deke - Deke, then all of a sudden we were hearing you loud and clear,
and Deke is still kinda down in the mud. He might reposition the mike if
he gets a chance.
DMP Okay. How do you read now?
CC-H That's better Deke. Thanks.
ACDR Okay. I got the cap off, then I recycled it just
real fast a couple of times. It's lots easier.
CC-H Okay. Fine, Tom. Thanks a lot.
CC-H Apollo, Houston. We're 1 minute from LOS Goldstone.
Newfoundland in 5 minutes from now.
PAO Apollo Control. Ground elapsed time 105 hours
11 minutes. Loss of signal through Goldstone. Next acquisition through
Newfoundland in 16 minutes - no, in 5 minutes and 7 seconds, as Apollo
and Soyuz drifts slowly apart. Drifting approximately 4 to 5 miles
apart on each revolution of the Earth. We'll have a change-of-shift

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briefing in the Building 2 auditorium, main auditorium. And we'll record on tape air-to-ground during this change-of-shift briefing with Pete Frank and Joint Flight Director - We'll bring the line down and bring it back up at the close of the change-of-shift briefing. At ground elapsed time 105 hours 11 minutes, this is Apollo Control.

END OF TAPE

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Time: 16:57 CDT, 105:37 GET
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PAO Apollo Control. Ground elapsed time 105 hours, 37 minutes. We have an accumulation of 2 minutes of tape through the Vanguard pass. We'll play that tape now.

CC-H Apollo, Houston. Hello to Vanguard for 5 minutes. How y'all doing?

CMP Just fine, Dick. How are you?

CC-H Doing real great. Sounds like you guys have had another good day.

CMP Yea, it's been a big day and alot of fun.

CC-H Well, it sure sounded like that down here. It's a real pretty day outside in Houston.

CMP That's right, it still is day-daytime in Houston. Seems to us like it ought to be nighttime over there.

CC-H Apollo, Houston. Two switches on panel 230 we'd like you to check. First, we would like the UPTelemetry switch to DIRECT and also the UV absorption power to ON, it's - that second one is listed in the flight plan.

ACDR Okay.

ACDR We have the UPTelemetry to DIRECT and the UV absorption power to ON.

to CC-H Okay, Tom. Thanks alot.

CC-H Okay, now Tom while you're down there, we would like UP Telemetry back to UP Telemetry, that's center, we need it to get in a quick command there.

ACDR Okay. I have UP Telemetry center.

CC-H Okay. Thanks.

DMP I think we lost comm in the middle of the transmit think I lost anything. You guys got any specific questions on anything you wanted to ask me?

CC-H Okay Deke. I tell you what, why don't we, I'm sure the experiment officer is going to be listening to that tape and so he'll know where you lost it and if we need any more information from you we'll write up a mission note and ask you a little bit later, okay?

DMP Okay.

CC-H Apollo, Houston. We're 1 minute from LOS, I'll give you a call at Goldstone at 105 plus 05.

CC-H Apollo, Houston. I understand I dropped out, we're 30 seconds from LOS and Goldstone at 105 plus 05.

CC-H Apollo, Houston through the satellite. How do you read?

CC-H Apollo, Houston. Through the satellite, we've got alot of loads to get in this pass. We'd like ACCEPT.

ACDR (Garble)

CC-H Tom, we'd like ACCEPT. We've got a guidance officer that's got a whole bunch of loads he needs to get up during the pass.

ACDR (Garble)

ACDR (Garble)

CC-H Roger. I can, I can hear you, I can't hear you what you said, but I do see we have ACCEPT. Thank you much.

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CC-H Apollo, Houston. One thing on configuration, we see that RHC number 2, direct power is ON, we think that probably ought to be off. And also we would like to confirm that Deke has reconfigured the - the various comm switches that are listed at about 105 hours.

DMP Okay Dick. We still apparently trying to get regrouped around here, eating, et cetera. We (garble) with you yet. Stand by.

CC-H Okay. There's no hurry, we thought you probably were with him, no problem.

DMP Okay Dick. We've got the comm reconfigured here. What happened here is we kind of shipped ahead and got on with the leg volume measurements and (garble) in the DM and I'm doing that now (garble) so a little (garble) here.

CC-H Okay. No problem Deke, thanks for letting us know.

DMP Hey Dick. You guys when what reenters?

CC-H I'm sorry, I heard a question about Soyuz, but I didn't copy. Say again.

DMP Yeah, do know when they reenter. Is it tomorrow or later?

CC-H Oh, let me get you a time, stand by just a second.

DMP No big deal. I'm just curious.

CC-H Roger. Understand.

CC-H Apollo, Houston. Deke, Soyuz will be up just something over another 24 hours. The time that they'll be coming down is a 141 hours and 40 something minutes and that's about 5 a.m., central daylight time here in Houston and according to flight plan, you guys will be in the middle of a sleep period.

DMP Ok, okay. Thank you.

CC-H Apollo, Houston. I'm certainly in no hurry because I don't know how busy ya'll are at the moment, but Tom, I can brief you on what we're uplinking into the computer whenever you have a chance to lis-listen and also I've got an update for the mapping pass you're going to do here in a couple revs whenever you can copy that. No hurry on either one, we still got about half hour left on this ATS pass.

pad. DMP Okay Kick. I'll have him call you when he gets back down. We had a small diaster here, we lost the link visory tape.

CC-H (Laughter) Okay, let me know when ya'll have a chance to listen. No-no hurry.

DMP Okay.

CMP Houston, Apollo.

CC-H Apollo, Houston. Go ahead.

CMP Dick, we're just in the midst of doing little leg measurements and I'm finished with mine. I can copy down anything you have.

CC-H Okay. There - there was two things I wanted to tell you Vance. One, I wanted to brief you on what we were doing to the computer. I can talk about that real fast here. What we're doing is we're uplinking the EASTER SCAN EMP, we're giving you a new orbital REFSMMAT. We're giving you a good state vector, we're fixing some

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depth constants and one little odd ball bit that was set there in the UVA today and that-we're also going to give you a high gain EMP. And the - I do have a update to the next mapping pass, it's in the East obs book.

CMP Okay. Stand by and I'll get it.

CC-H Okay.

CMP Okay. Ready to copy.

CC-H Okay Vance. This is on mapping pass M6 and I've got a start and a stop time update for you. The start time is as follows:
107:41:30. Stop time 107:53:30.

CMP Rog. Rev 64 M6 mapping pass, start time
107:41:30. Stop time 107:53:30.

CC-H Okay. While you're at it, if you can get up - if you've got the flight plan there, I've got a - at the tail end of today at about 108 hours and 40 minutes. I've got a couple of deletions there.

CMP Okay. Ready to copy.

CC-H Okay. It's real simple Vance. In the AC's column at about 108 plus 40 where it says verify cabin vent PO installed and the waste stowage vent to VENT and also that note below that. Delete all of that, we're not going to have to do that tonight. In other words, delete starting at verify cabin vent QD all the way down through the note that says the time of 109 plus 29.

CMP Okay. That was - oh I see, I see where the note is. Okay. That's all - that's deleted from verify cabin vent QD through the following three steps after that.

CC-H That's right Vance. And that's all I've got right now. Thanks alot, we still got about another 20 minutes here and I'm standing by.

CMP Okay. Very good. And - would - if it's okay with you, we didn't turn off the VHF FM at the appointed time. We thought you probably wouldn't mind if we left it up until we're out of range of Soyuz. Or until sleep starts.

CC-H Okay. Thanks for letting us know and I don't think we'll have any objection to that, but we'll talk about it here for a second and keep the flight plan out just a second. I think there may be one more correction I have. Hang on just a minute.

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CC-H - -I don't think we'll have any objection to that, but we'll talk about it here for a second, and keep the flight plan out just a second. It think there may be one more correction I have. Hang on just a minute.

CMP Okay.

CC-H Vance, Houston. I've got another correction in the flight plan in your column at 108 plus 32.

CMP Okay, go ahead.

CC-H Okay, all I want to do there is delete the rewind out of that configure DSE loop. And the reason we're doing this is we're planning on having you stop the DSE there, and then we're gonna dump the raster scan data down here real quick, so we can take a look at it tonight.

CMP Okay, the configure DSE stop rewind and command reset. I deleted rewind.

CC-H That's right. Okay, thanks a lot. I'll talk to you later.

CMP Okay.

CC-H Vance, Houston.

CMP Go ahead.

CC-H Hey, Vance. Bob Obermire called from over at Moscow. The Soyuz crew has already gone to bed tonight so we'd suggest you turn the VHF FM to OFF now. But we certainly don't see anything wrong tomorrow when you get up to turn it back ON and monitor in that frequency during the day. Also we've got all the uplinks up and you can go back to BLOCK. The computer's yours. And one other comment that doesn't require any action by you now, but down during the presleep period, there's a note about updating the liftoff time and be advised that we are gonna update the liftoff time tonight by about 2 minutes.

CMP Okay. In other words you're just - what do you mean liftoff time? You're just adjusting GET, is that right?

CC-H Yes, yes, that's right. We're - it's just an uplink to update the CMC - -

CMP Acquisitions.

CC-H That's right.

CMP Right, okay.

END OF TAPE

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Time: 17:17 CDT, 105:57 GET

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CC-H Apollo, Houston. We're a couple of minutes from
ATS LOS. I'll give you a call at Orroral Valley in 4 minutes.

CMP Okay Dick. See you.

CC-H Okay.

DMP Just saw a beautiful sunset or sunrise.

CC-H Roger.

PAO Apollo Control. Ground elapsed time 106 hours
6 minutes as Apollo/Soyuz drift across the South Pacific coming up
over Australia. Next acquisition will be through the Orroral Valley
tracking station in 3 minutes. The spacecraft drifting further and
further apart. Soyuz is below and ahead of Apollo and their rate is
increasing 4 to 5 miles per revolution. The next Apollo passes over
the Orroral Valley tracking station, the crew will be engaged in the
Earth Observations part of an experiment. They'll be asked to photograph
and describe the colors in the Simpson Desert in Australia. And as
the spacecraft crosses over the coastline, they will be asked to observe
and photograph any suspended sediments off the coast of Australia, and
also if they can observe eddies in the Coral Sea. They'll also be asked
to photograph and describe cloud features as the spacecraft crosses
over the southwest Pacific. The crew is completing several experiments
aboard Apollo. On the next ATS pass at 108 ground elapsed time - during
that ATS pass we'll have 16 minutes of - where we will not have comm-
unication - voice communication. As the spacecraft will be oriented for
the EUV experiment, therefore, we will not have voice communication at
that time, for 16 minutes. Acquisition in 1 minute through Orroral
Valley. We'll hold the line up for CAP COMM Dick Truly. Flight
Director is Neil Hutchinson.

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CC-H --completing several experiments aboard Apollo on next
ATS pass at 108 ground elapsed time. During that ATS pass we'll have
16 minutes where we will not have communication voice communication.
The spacecraft will be oriented for the EUV experiment, therefore
we will not have - voice communication at that time for 16 minutes.
Acquisition in 1 minute through Orroral Valley. We'll hold the line
up for CAP COMM Dick Truly. Flight director is Neal Hutchinson.

CC-H Apollo, Houston. Orroral Valley for 3 minutes.

CMP (garble) Dick.

CC-H And Vance, Houston. Any time you have a chance,
I'm not in a hurry cause we've still got a couple of hours but I've
got a up-date to the raster scan time and a couple of comments and that's
in the flight plan and - 108 hours and 25 minutes.

CMP Okay.

CC-H And Vance, we do not need to get this up as fast
if you're busy. No problem.

CMP Okay, I've got it here.

CC-H Okay. The time in the flight plan is 108 plus about
25. It's in the AC's column. The raster scan time should read 108:25:
42.

CMP Okay, the new time is 108:25:42.

CC-H Okay, and right below that Vance, we'd like to
change - see that VERB 49 maneuver. And right after the VERB 49 maneuver
there's a parenthetical statement that says "by 108 plus 50." - We'd - we'd
like you to delete that and replace the by 108:50 to read, not before
108:32.

CMP Not before 108:32.

CC-H Yea, and the reason for this is - is that will
give you - that'll make sure that the EUV raster scan EMP is complete
prior to the VERB 49 maneuver, which was - and we don't want to do
the VERB 49 on top of it. Plus it starts the VERB 49 maneuver to SI,
in order for us to get as early as possible ATS acquisition so we can
get the raster scan data down.

CMP Okay.

CC-H Okay, we're about a minute from LOS. Hawaii comes
up at 106 plus 27. And incidently, I meant - meant to tell you while ago,
but the reason we're interested in getting this raster scan data in
a hurry, is - is since we didn't do a raster scan the other day as you
recall on - I think that was the second day - we want to take a look at
this and - make sure if there are any minor pad changes for tomorrow's
work we can get to work on them as soon as we can.

CMP Okay, understand.

CC-H Okay. See you in Hawaii.

CMP Right on, out.

CMP Aloha.

CC-H Aloha.

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PAO Apollo Control, ground elapsed time 116 hours, and 16 minutes. We've had loss of signal through the Orroral Valley tracking station in Australia, as Apollo and Soyuz cross the South Pacific. The flight activities officer here at the mission operations control room coming up with some figures on the time spent. And the Apollo crew spent aboard Soyuz. A total of 7 hours and 10 minutes for Commander Tom Stafford 6 hours and 30 minutes for Command Module Pilot Vance Brand and 1 hour and 35 minutes by Docking Module Pilot Deke Slayton. That's 7 hours and 10 minutes spent aboard Soyuz for Tom Stafford 6 hours and 30 minutes spent aboard Soyuz by Vance Brand, 1 hour 35 minutes by Deke Slayton. Next acquisition through Hawaii in 10 minutes, and 20 seconds. At ground elapsed time of 106 hours and 17 minutes, this is Apollo Control.

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PAO Apollo Control. Ground elapsed 106 hours and 26 minutes, with acquisition through Hawaii.
CC-H Roger, Tom. And I don't have anything for you here. We're standing by, we - I'm assuming that - you haven't started - we don't see anything on the VTR so I'm assuming that that setup is still going on.

ACDR On the VTR?

CC-H Well, I was looking at these demonstrations that I'm assuming Deke is setting up to put on the VTR.

ACDR Yeah. Deke's working that right now.

CC-H Okay. No problem.

CC-H Apollo, Houston. We're 1 minute from LOS Hawaii. We'll see you when you get locked up on the satellite.

ACDR Roger.

CMP Okay.

PAO Apollo Control. Ground elapsed time 106 hours 35 minutes. Loss of signal through Hawaii tracking station. Next acquisition will be the MILA - will be Newfoundland tracking station in 14 minutes and 10 seconds. The crew scheduled to bed down for the night at 109 hours and 30 minutes, approximately 3 hours from now, for an 8 hour scheduled rest period. Wakeup time is scheduled for 117:30 ground elapsed time, or 4:50 am, central daylight time. Next acquisition in 13 minutes and 35 seconds at ground elapsed time of 136 hours 36 minutes. This is Apollo Control.

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PAO Apollo Control. Ground elapsed time 106 hours, 49 minutes. Acquisition coming through Newfoundland. Bring the line up for Cap Comm Dick Truly.

CC-H Apollo, Houston, through the satellite. How do you read?

ACDR Loud and clear. How do you read us?

CC-H I read you loud and clear, Tom. I've got a couple of comments for you. First of all I just wanted to tell Deke that we would like to get this furnace experiment work done about on time and so if he's running a little bit late on the demos, I don't know if he is or not, we'd like him - for him to interrupt that, do the furnace work and then back to the demos. Also, we're having - on the UVA experiment that's running now, we've got an indication that either we've got a transducer problem or possibly a problem with the N2 lamps. And so I've got a change to make for the UVA shutdown that you're going to be doing here in a few minutes. It's on page 10-7 on the joint ops checklist and that's - those pages - page 10-7, the joint ops checklist. The pages are also located in the back of your experiments book.

ACDR Okay, well Deke's running late on that (garble). It takes a lot to set all those little things up in zero g, lots more than it did in 1 g. And I'll tell him about the furnace?

CC-H Yeah - -

ACDR We can go look at this joint ops check.

CC-H Yeah, we just wanted for him to - we figured he was running a little late, but that's okay. We just wanted to let him know to stop, do the furnace and then go back to it.

SPKR (Garble)

USA Apollo, Houston. How do you read?

CC-H Loud and clear, Tom.

ACDR Okay, I've got the 10-7. You said there's any mod to it?

t CC-H Yeah, it's very minor. What we want you to do is the following, Tom. First we want you to complete the UVA shutdown there at the top of the page. After the shutdown is complete and prior to doing the UVA stow, what we want you to do is turn the UV absorption lamps and power to ON and leave it on for 30 seconds and then turn the lamps OFF and the power OFF. And then go ahead with the stow and this will put some data on the recorder or real time if we happen to have a lockup at that time and give us some data to look at to see if we've really got a lamps problem or not.

ACDR Okay, let me read that back. At the top of the top paragraph UVA shutdown, then turn the UVA power and lamps ON for 30 seconds then OFF, right?

CC-H That's correct. After the shutdown procedure and prior to the stow procedure. Thank you much.

ACDR Real good, thank you. Deke will knock off on that and start of the furnace checklist.

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CC-H Okay. Real fine and incidentally we've been watching
you guys load P20. It looks good to us.
SPKR (Garble)
USA Okay, and we're in the maneuvers as you know.
CC-H I'm sorry, Vance. Say again.
CMP We're in the roll maneuver now.
CC-H Roger. As you probably know, we are going to lose
ATS LOS here in the maneuver for about 5 minutes. I'll call you when
we get locked back up.
ACDR Okay.
CC-H Apollo, Houston. Just a reminder, it's not printed
in the flight plan, but the acquisition after we lose comm and get
rolled all the way around on the UVA, the acquisition angles up there
above for the first acquisition you just made are still good.
CMP Okay.

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CC-H Apollo, Houston. We're locked up again through the
satellite.
ACDR Real good Dick. We're about there in roll.
CC-H Okay.
ACDR Hey Dick. If you want me to, I'll call out these
steps.
CC-H Okay Tom. Since I don't have much else to listen
to and it will help us why don't you?
ACDR Okay. UVA absorption lamps OFF. MARK, UVA
power OFF. MARK. UVA covers closed. MARK it. Barber rate in gray.
CC-H Okay.
ACDR Yes, I'll go - I'll go turn the UVA power ON and
the lamps on for 30 seconds.
CC-H Okay.
ACDR Power ON and lamps on.
CC-H Okay.
ACDR Stand by. lamps off, power OFF. MARK it.
CC-H Okay. Thanks very much, Tom.
ACDR Okay. If you're all finished, we're going to wait
for awhile to drag that cable through. We'll do that later.
CC-H Okay, fine. Thank you very much. We'll take a look
at the data and let you know.
ACDR Okay.

END OF TAPE

ASTP (USA) MC387/1

Time: 18:36 CDT, 107:16 GET

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ACDR Houston, are you reading our DISKY?
CC-H Thank you, Tom. We're dumping data, and so we're
not getting live downlink now.
ACDR Okay.
ACDR Vance is doing the P52.
CC-H Okay. We're not getting the data. So when you
get it, just read it down to me, please.
ACDR Will do.
ACDR Okay, Dick (garble).
CC-H Tom, I'm standing by to copy, but you're breaking
up. Say again.
ACDR Roger. How do you read now?
CC-H Loud and clear now.
ACDR Okay. Star 02 - Star 0207, NOUN 5, all zeros.
Plus 50, minus 81, plus 20. Torque; 107 plus 17 plus 17. Over.
CC-H Roger, Tom. Copy. Thank you very much.
CC-H Apollo, Houston for Tom. Tom, for your information,
that little test that we ran on the UVA - that you ran for us verified
that that M2 lamp problem, was not a lamp problem but an instrumentation
problem, and not only that, when you did it, it resynched the timing in
there and fixed the telemetry point. So it worked well and no degradation
to the experiment.
ACDR Okay. Real good. Thank you, Dick.
CC-H Roger. Thank you.
CC-H Apollo, Houston. We still don't have any data, so
we really can't monitor how you're coming along. I just wanted to
know how you're doing on the P52 option 1?
CMP Not very well, Dick. We're maneuvering like mad
here. And it was a real mistake to make an option 1 while we were
maneuvering at this rate. If there wasn't so much light lost in
the telescope, it would be no problem. But it takes quite a period
of dark adaption to see any stars, and I can't even pick out Rigel yet,
so I know I'm off several degrees just due to movement while the thing
was post charging.

END OF TAPE

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CMP - - several degrees just due to movement while we were making those false torquings.

CC-H Okay. What we'd recommend you do then is go ahead and we only have about 7 minutes of night time left. We'd recommend stopping the maneuver and be sure and get the option 1 because that's most important and - and then start the maneuver again.

CMP Well, that's not the problem, Dick. It isn't the problem of having to stop the motion. The problem is that while the post torquing was going on, the spacecraft was moving and the platform was frozen and auto optics is no help at all now.

CC-H Roger.

CMP I suggest we just maybe press on since we only have 7 minutes and let me go ahead and do the Earth obs, and then maybe the next night pass try to tweak out on a good P52 option 3.

CC-H Okay. Stand by just a second, please.

CC-H Vance, the problem that we had looking at the flight plan is that we just will not have time to do it during that next night pass because each EUV raster scan starts almost right there at darkness itself. And we really want to get the raster scan since we missed the one the other day and - -

CMP Okay. Well, I'll tell you how bad it is. I don't know if this telescope has more light loss than usual. It's not anything to compare with the simulator. And in my whole telescope field of view right now, with the dark adaption I've got. I can see one star.

CC-H Roger.

CMP Oh, I can see two now. I'll try.

CC-H Okay.

ACDR Yeah Dick, looking at the way they compress things on the timeline here to make sure that one has to follow another, it's really success oriented. And to me they've just crammed too much into this one period here. Although it's - doing this (garble) rate like this is, from what you can see telescope, it's kind of bad.

CMP That works great for an option 3, but it's very poor for an option 1.

CC-H Roger. Understand. And we're talking to see how we can help you out.

CC-H Apollo, Houston. On panel 230, we'd like the UP TELEMETRY switch to relay.

END OF TAPE

ASTP (USA) MC389/1
Time: 18:56 CDT 107:36 GET
7/19/75

PAO Apollo Control. Ground elapsed time 107 hours and 38 minutes as Apollo will cross over Australia. The crew members will take observations and photographs of the Simpson Desert, look for eddies on the Coral Sea on this pass over Australia as they reorient the vehicle for the Extreme Ultraviolet Experiment, MA-083. On this pass Tom Stafford telling CAP COMM Dick Truly earlier that possibly too many items were crammed into this short period in their activities for this evening. We'll hold the line up as we have acquisition; a 2 minute pass through the Orroral Valley tracking station.

CC-H Apollo, Houston through Orroral Valley on VHF.
CC-H Apollo, Houston, through Orroral Valley on VHF.
CMP Roger. Loud and clear, Dick. We're in the middle of this Earth obs pass right now.

CC-H Roger. If anyone is free, on panel 230, we'd like the UP TELEMETRY switch to DIRECT.

CMP Okay. Tom's getting it.

ACDR How do you read me, Dick?

CC-H Loud and clear, Tom. How me?

ACDR Okay. Lots better now.

CC-H And Apollo, Houston. We're not going to have another pass prior to the next Newfoundland, or ATS AOS. We want you to do the RASTER SCAN per the checklist. And following the RASTER SCAN, we'd like to pick up another P52 option 3. And we will reconstruct the data after the experiment run.

ACDR Okay. You can do it that way. We said we'd stay up a little extra in this sleep period (garble)

CC-H Apollo, Houston. On panel 230 we'd like the UP TELEMETRY switch back to CENTER UP TELEMETRY. And negative, Tom, we do not want to - we do not want to keep you after the end of the sleep period.

ACDR Okay.

ACDR UP TELEMETRY CENTER.

CC-H Thank you.

CC-H Apollo, Houston. We're about to go LOS at Orroral Valley. See you on ATS.

PAO Apollo Control. Ground elapsed time 107 hours 45 minutes. Loss of signal through Orroral Valley tracking station. Next acquisition will be the - will be in 36 minutes and 20 seconds. It's now been 3 revolutions since Apollo and Soyuz separated. Undocked. And at see the average rate of 4-1/2 miles per revolution, the two vehicles are now 12 to 15 miles apart, with Soyuz below and ahead of the Apollo spacecraft. Next acquisition in 35 minutes and 45 seconds. At ground elapsed time of 107 hours 46 minutes, this is Apollo Control.

END OF TAPE

ASTP MC390/1

Time: 19:40 CDT, 108:20 GET

Date: 7/19/75

PAO Apollo Control, ground elapsed time 108 hours and 20 minutes. Acquisition coming through Bermuda tracking station, as the crew continues operation of the x-ray experiment and the extreme ultraviolet experiments. As their sleep period nears for the night, they're scheduled to begin their presleep activities in about 25 minutes, we'll bring the line up for CAP COMM Dick Truly.

CC-H Apollo, Houston. Bermuda for 7 minutes.

CMP USA Ah, Roger Dick.

CC-H And Apollo, Houston. I was - dropped out on - LOS during the middle of your Earth obs and I was - just wanted to make sure that you got the message that I had. What we'd like you to do is go ahead and do the EUV raster scan on the times in the checklist, and then after you have maneuvered to the So - to the sleep attitude and still in that night pass, do a P52 option 3. Over.

CMP Okay, Dick. Understand.

CC-H Okay. And then - -

ACDR I think that will be a good opportunity to do that P52. It may take about 15 minutes of dark adaption before I can do it. And that'll give you enough time.

CC-H Okay, real fine. And then we'll be able to reconstruct the data - after you do that option 3 and I don't think we'll have any problems.

CMP Okay, I'm glad to hear that. And the other possibility, I could have put a square search out for that star but - in the short time that I had. But the danger there is that if you can't identify it in the telescope you don't really know that you have the right star.

CC-H Roger. And stand by Vance. I'm getting another input. Stand by.

CC-H Apollo, Houston. The DAP is not set up correctly. What we need to do is do a VERB 48 and set up the register 1 per the flight plan at 61101, even if it delays the raster scan start. And then we'll - -

CMP Okay.

CC-H And then we'll - after you do that then we'll have to trim - I'm sorry. Just do what I told you.

CMP Roger.

ACDR That was 61101, right Dick?

CC-H That's affirm, 61101.

CMP Advice. Way back we had to put these phoney numbers in the DAP to - you might check them later in the NOUN 47 but they're close.

CC-H Okay.

CC-H Apollo, Houston. Your attitude looks good to us now, and we're not too late. So we can go ahead and start.

CMP Okay, we'll - right - Okay, we entered on the 82720.

CC-H Okay. Thank you.

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CMP Dick, how long do you want this raster scan to run?
CC-H Six minutes Vance. And we're about - you'll get a
flashing 37 when it's - when it's done, and you're - and after that
you can go ahead and do the next maneuver. We're about 30 seconds
from LOS, and Ascension comes up at 108 plus 40.

CMP Okay.

CC-H And Vance, one reminder. We'd like you to acquire
the ATS as soon as you get in attitude.

CMP Okay.

PAO Apollo Control, ground elapsed time 108 minutes,
20 - 108 hours and 29 minutes with loss of signal through Bermuda.
Next acquisition through Ascension tracking station. The spacecraft out
of touch with the Application Satellite - applied technology
satellite do to the orientation of the vehicle for performance of the
extreme ultraviolet experiment. Next acquisition in 9 minutes, and
22 seconds. At ground elapsed time 108 hours and 30 minutes this is
Apollo Control.

END OF TAPE

ASTP (USA) MC391/1
Time: 19:58 CDT, 108:38 GET
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PAO Apollo Control. Ground elapsed time 108 hours, 38 minutes. Acquisition coming through Ascension. The last pass for the crew today through Ascension. Following the operation of the X-ray and EUV experiments the spacecraft will be reoriented for the sleep attitude for the evening. After Ascension the spacecraft will be reoriented to acquire the ATS satellite.

CC-H Apollo, Houston. Ascension for 4 - 3 minutes.

CC-H Apollo, Houston. Ascension for a couple of minutes.

ACDR Okay, Dick. Read you loud and clear. And, we're maneuvering now to the sleep attitude.

CC-H I didn't quite copy, Tom. I understand that you're now maneuvering to the sleep attitude. When you get in the attitude we'd like you to get a quick ATS block and then do the P52. If you should have any problem though getting the ATS locked up don't delay the P52 too long because that's what we really want.

ACDR Okay. Very good.

ACDR Houston, Apollo.

CC-H Go ahead, Vance.

CC-H Apollo, Houston. Go ahead.

CMP Hey Dick, we're about half way to through the night pass I believe and this is a very slow maneuver rate. I wondered if you wanted us to stop here and do that P52 since it's important and then continue on, or - because you know if we don't get through this until the end of the night pass we might slip another rev on getting that P52.

CC-H Okay, stand by just a second, Vance.

CC-H Apollo, Houston. Vance, we'd like you to go to the sleep attitude. If you'd like to go to a - at a higher rate, either by doing it manually or - or increasing the rate in the DAP. that's fine with us. We're about 20 seconds from LOS and we'll see you when you get us locked up on the ATS.

CMP Okay.

PAO Apollo Control. Ground elapsed time 108 hours, 44 minutes. LOS of signal through the Ascension tracking station. Vehicle should be reoriented shortly for acquisition of the ATS-6 satellite and we may have further communication with the crew as they complete out the experiments scheduled for the evening and begin preparations for their sleep period.

END OF TAPE

ASTP (USA) MC392/1

Time: 20:08 CDT, 108:48 GET

7/19/75

CC-H Apollo, Houston. In the blind we think you ought
to be able to acquire the ATS now.

CC-H Apollo, Houston. In the blind we're seeing some
activity on the ATS. We think you ought to be able to acquire it now.

END OF TAPE