

PAO Good morning again, thank you for joining us. We are here with lead Flight Director, Gary Coen, and Spacelab Mission Manager Joe Cremin. We will start with summaries from both of these gentlemen and then we will take your questions. Go ahead, Gary

GARY CREMIN (FLIGHT DIRECTOR) Okay, the previous shift before coming over here, we had a good evening on the Shuttle. We did do a few things that we intended to do to start isolating the communications crosstalk problem that we had. One of the basic things we wanted to do was to check out the COMM in the Orbiter itself, so we made sure that the flight deck configuration as it applies to us on entry day was checked out. I did a thorough checkout of that part of the COMM system with no problems. The next step will be to go ahead over on the Spacelab side of the vehicle and start working the COMM problems there. The major thing of course has been this bleedthrough that we have been worrying about for several days. There, we have had a couple of problems to work in various areas. We had a heater to fail. None of those have mission impact so I won't really give you the details unless you later require something. The decision was made yesterday to go ahead and secure the scientific airlock and so we won't be getting any more wide-field camera work. The decision was basically based on the fact that we couldn't explain why the latch handle was bent and we had to presume that that bending was caused by a need for excessive force. We were evaluating options but without that explanation, we really couldn't proceed with our options, so we opted to go ahead and close out that activity. Currently the SAL is secured and the wide-field camera stowed. Consumables status, consumables status on the Orbiter is all pretty much on the nominal. We would have if we, if we ran the Spacelab and the Orbiter at the same power level that we are running right now, we would have a margin of about seventeen (17) hours over our normal 2-day extension requirement. If we powered down, we could stretch that to some more. We would stretch that out longer. I believe that is a fairly complete Orbiter summary. If you need details on the couple of heater failures we had, we can go through them in the question and answer session.

PAO Okay, thank you Gary. Joe

JOE CREMIN (SPACELAB MISSION MANAGER) Okay, thank you. It is a pleasure to be here this morning to discuss our progress with you. In terms of the experiments there are fifteen (15) presently assigned to Spacelab 3. To date we have three (3) running, up and running. I am pleased to report that the fluid experiment system, we did change to the second test cell. It was successfully heated in the preheat enclosure. We did make some changes in terms of the, how we heat. In other words we are taking longer and we are approaching it more gradually. We successfully removed the test cell from the preheat enclosure.

It was installed on the optical bench, and I think you may have seen some pretty dramatic video of the protective cap coming away from the seed crystal, so we think that we have worked that one and that we are now moving along toward the successful conclusion of the test cell (garble). Vapor crystal growth and the mercury iodide crystal growth continue to proceed satisfactorily. The DDM, we do have an inflight maintenance procedure that will be executed by Taylor Wang during this shift and it will be looking into and looking for, basically a hard short within the automatic and the manual control hardware that is presently onboard. So we should be hearing on this shift, some results from that. In terms of the ATMOS, we continue to see a pressure decay in the pressurized area for the lazer controlled electronics, the power supply for that, and the pressure level is presently at 1.5 psi. We continue to operate. The predicted life is (garble) in terms of number of days and we are quite optimistic that we are going to continue to get good data and apparently the data that he is getting is pretty impressive. Some of the details on those experiments, you can expect to hear from George Fichtl, during the Mission Science Briefing. In terms of the animals, I am very pleased to report that the animals are doing well, both primates and the rodents. As you aware by listening to the air to ground loop that we have had some difficulties with crumbling of the rodent food bars. A procedure is the process of being developed and uplinked to the crew that will hopefully mitigate or reduce the amount of the food particulate that has been seen in the cabin. I think Bill Thornton's comment related to that, that it has come into the cabin, but that the Spacelab air system basically clears it quite quickly out of the, out of the air. It is not a health concern of the crew, so we should see that implemented. In terms of the rodent, we are looking to tape around the rodent cages where they match into the cage module to prevent any (garble) coming from that. BTS continues to operate satisfactorily. The DEMS naturally is an ascent/descent investigation that is not operated while we are onorbit. The UMS, we are not operating it in the collection mode as far as collecting from the crew, but we do continue to do calibrations and will be continuing to operate in that fashion. So we are using water for the calibrations. We do not intend to get into the alternate medium any more in this flight. I think you can appreciate that these experiments are verification flights and that is one of the reasons why we are up there is to see how well the design and how well the performance of the hardware is until we get into the actual application and a science flight in the dedicated life science flight. So, the autogenic feedback training you know, records it data on a tape recorder and the crew has been wearing the autogenic, all four crewman wore the device and the recorder and the sensors, so until we get to the ground we won't really know for sure what got onto the tape, but it appears to be nominal from where we stand now. The IONS is into the future, in other words, we haven't reached the scheduled time of turnon, that investigation is still to come.

The, as I mentioned yesterday, the wide-field camera in the one orbit where it was deployed did not get data. The subsequent problems with the airlock have precluded any operation of the investigation, so it is presently destowed from the airlock table, mounted to the mounting plate on the floor, and the protective cover installed over the wide-field camera. The AURORAL has been operated both photographic and video and the comments that I have heard, and I would not want to scoop the Mission Science briefing, but they sound like they were quite spectacular. That is kind of a summary of what I have. I guess you are aware and probably have seen that there was video of the primates that did come down yesterday that is available for viewing if you haven't seen it, but I know you have all seen it.

PAO                      Okay, thank you Joe. Now we will take questions in Houston first. Please give your name and affiliation when I call on you. We will start here with Craig Covault.

CRAIG COVAULT (AVIATION WEEK) One for Gary and one for Joe. Gary, if you are going to make a mission extension decision, when would you like to have that decided upon?

COEN                      We would like to have it decided today. Right now we are not planning a mission extension. The consumables don't really indicate that we can do it and that's not really in the plans. There is no particular time, Craig, that we have to decide. Obviously, it is a planning thing, if you wait until late, then you have a heck of a margin to make up and you a heck of a powerdown to undertake. If you make up your mind early, then you can powerdown a little less but you still have to give up something. Its a, the pot is only so full, so there is no real when, it's a combined when and how.

COVAULT                  Okay, and Joe to kinda indicate the amount of change activity that has gone on in the replanning every day, can you kind of run how many requests you have had for changes or timeline changes and how many have actually been honored, that sort of thing, have you had to do much replanning at all during the day?

CREMIN                  Craig, I would have to, I have to go back to get you some numbers. I don't have that but I will.

PAO                      Frank Seltzer

FRANK SELTZER (CNN) Joe, you said earlier you had three experiments running at fifteen, do you mean three that were down at the fifteen up? You said that initially.

CREMIN Three, three of the experiments to me are, and I am talking wide-field camera, DDM, and UMS, where there is some degree of either troubleshooting or termination of operations.

SELTZER Okay, cause you said fifteen experiments, three were up and running. That is why I wanted to make sure you

CREMIN Oh no, no I am sorry, if I said that, I should be shot. There were eleven (11) up. Thank you.

SELTZER Gary, question for you. I heard some talk about a problem with one of the jets. What is that exactly?

COEN There is a temperature, excuse me, there is a heater failed on one of the jets, jet, it's jet R4 delta, it's an injector heater. We believe that heater probably failed either sometime during launch and just prelaunch. After looking back through the data, the heater has never really responded during the entire mission so far. Since the temperature is about seventy degrees at launch, it was ambient and the heater wouldn't have been calling for any activities, so of course, you would have to catch the heater failed as it cooled down on orbit. It so happens that the attitude we are in is one that is going to cause this heater we believe, the temperature we believe to stabilize out in the fifty to fifty five degree range, which is no problem as far as the jet is concerned. We are, the tail is, of the Orbiter is down towards the Earth and there is enough heat coming off the Earth to keep the back end of the Orbiter warm enough to where we think we can take a heater failure without any impact.

SELTZER As of now, you are getting no leakage through there?

COEN No, there is no leakage. The temperature right now, when I left the control center was something like fifty six degrees and if I recall the numbers properly, you wouldn't expect leakage until you were down into the thirty degree range.

PAO Carlos Byers, Houston Chronicle

CARLOS BYERS (HOUSTON CHRONICLE) Gary, Dale has spent an awful lot of time and effort on this COMM problem. It seems to me that you spent perhaps more time than a minor problem might justify. Is there more to this problem than we understand?

COEN Not really, I guess one of the, one of the problems is that we feel like we should understand it. The, without an understanding, you kinda progress through the flight with kind of a immature feel about where you are going to go. Given, given that the CDR NPLT are available on the flight deck, we thought it would be prudent to go ahead on the Orbiter side and get a checkout finished. With the Spacelab OPS ongoing, it will be a

little harder to work in a good COMM check over on the Spacelab side. Some of the, some of the ideas for doing the COMM are, are concern more than just the onorbit operational capability. You want to know, if you can, where to go from here in terms of making fixes. So, if you have the time and you can work things in, it's reasonable to do some work. It, it has been frustrating but we are going to keep plugging away.

BYERS I have a quick question for Joe. Has there been any, what have you suggested that they do in terms of feeding these rats to keep this crumbled rat food from blowing all over the cabin? Are you going to try to humidify, get some water into the bars so that they don't crumble so badly, or bag them up or what?

CREMIN Okay, the food bars are bagged inside of an additional bag. We have discussed putting some sort of a moistened, moistened cloth or wipe inside of it to see whether we can go ahead and improve the humidity content of them. That is one item that has been discussed. In terms of the installed, or that one that is presently inside of the, each of the rodent cages, we have a procedure now to go ahead and basically have a bag over a bag and utilize the natural drawing capabilities that are within Spacelab to get any of the particulates or to minimize the particulates that are coming out. When we try that, hopefully we will see a considerable improvement in terms of the amount of flaking that is inside. We are also looking at the feeders in different locations inside of the, or will be looking at different locations inside of the RAHF to see if there is a pronounced difference between those that are closest to the flow coming into the cages and those that are furthest away from that flow.

BYERS What, Bill was saying last night that the problem seems to, the worst of it is when he pulls the feeder out and this stuff just blows. Now, is this procedure supposed to take care of that?

CREMIN Yes.

PAO Dave Dooling, Huntsville Times.

DAVE DOOLING (HUNTSVILLE TIMES) Two quick ones and then a longer one, Joe. You left the GFFC off your list.

CREMIN Inadvertently, GFFC has presently run through about five scenarios, two of which were two-fold duration, three of which were significantly into the planned time, such that there is a considerable amount of science content in the first part of it. We are in the process of trying to understand what has brought about a early termination on some of those scenarios. For instance, some of them are approximately three hours in STS

length. Others are six hours in length. They are some where we have gotten approximately half way through, and I guess there is some concern on, we have seen the ground with the instrument a sensitivity to power fluctuations and we are looking at that as a potential cause of

DOOLING Okay in the absence of hard numbers, could you give us a qualitative feel for what the replanning workload has been?

CREMIN I think if you look at the degree to which there has been troubleshooting and inflight maintenance, that it probably has been higher than we would like to, but something that the system can handle.

DOOLING Okay, and on ATMOS, either you or George mentioned yesterday, that the materials investigators gave up some of their TV time so that ATMOS could get as many observations as possible before they lost power. It now appears that they are going to have power, possibly to the end of mission. Is ATMOS going, ATMOS was supposed to operate intermittently instead of continuously, are they going to cut off so that materials people can start getting their TV time back continuously?

CREMIN We are going to see if there is any need to make an adjustment in the subsequent ones. In other words, we are coming back to plan now and we already were providing the video coverage for the critical opportunities for those subsequent ones so the activities that we saw lost were related to test cell number one which is you know, kind of a mute point right now, since we believe we may have some sort of problem with that cell.

PAO Jules Bergman, ABC

JULES BERGMAN (ABC NEWS) Joe, fifteen experiments, can you tell us which, briefly, like the wide-field camera are totally lost, and which, like the UMS, are good for only calibration, not actual collection?

CREMIN Jules, I think you pretty well summarized it, the wide-field camera, the one deployment we were unable to record data for the instrument and I would consider it as extremely crippled in that regard. The UMS continues to operate, but in a calibration mode and we do not plan to work with the alternate medium anymore in this flight, and the DDM is still in a troubleshooting but I wouldn't, you know the jury is still out, relative to whether we can get that back online, because we are trying everything that we can in that regard, and this item that has come up with the GFFC, until we can get a better understanding on why we are seeing some of the terminations, it is not, was at 100 percent, I would have to kinda grade its paper down a little bit in terms of getting its full objectives but we are planning to operate it on the order of about eighty hours in

the mission so there is a significant of time and a number of scenarios.

BERGMAN And the second question, can you analyze this mission, the Spacelab 3 mission, in terms of the Spacelab 1 mission, at this point?

CREMIN I would say that we are having a successful mission. If you will look at the sheer numbers of it, the score card on Spacelab 1 would have to come out better because they had more opportunities. In our instance, we have fewer opportunities and they are generally longer-percolating or longer-growing things. And I, I would think that we would compare favorably, Jules, with Spacelab 1.

PAO Okay, we will take you sir. What is your name please?

MIKE KENNEDY (LOS ANGELES TIMES) Perhaps I misheard this this morning, but is it becoming more difficult to see some of the rats for whatever reason. I thought I heard that conversation this morning.

CREMIN If you are familiar with the configuration for the rats that there is two cages, one towards the front and then one half way back. The animal that is back in the B cage, there is always a certain amount of difficult seeing him. If he decides that he wants to go to the back of the cage and the one in the front, unfortunately moves to where you can't see him, you do have to kinda look through a tortuous path to look back to him. Now, in terms of the window quality and that, I have not heard since I have been on, any comments that addressed that, but I will be more than glad to go ahead and, you know, check further on that. I have not heard anything that was not already anticipated and already seen in that regard.

PAO And also, I am told that we will have a, a downlink from the spacecraft of the RAHF, and I think that will be coming up shortly after this briefing, so I am going to move it along a little bit. We will take a question from Betty and then we will go to the Cape.

BETTY LUMIN (UPI) Joe, do you have any idea how many times ATMOS has operated so far, and whether there have been surprises in the data received? (garble) or otherwise

CREMIN The numbers I have, and I think they may be, you know there may have been some that have come since then, has it that they have collected fifteen, fifteen runs, and in terms of surprises in the data, I have had somebody say that the spectrums really looked super and other than that, you know, have we gotten any revelations from the data, I can't, I can't say that I have

heard any, but, it is an awful lot of data (garble).

PAO                    Okay, we will go now to Kennedy Space Center for questions.

GARBLE (NBC)    For Mr. Cremin, could you for our radio audience, give us a brief rundown, of the, where the experiments stand now, I believe you have eleven operating, do you have three in suspension or modification and one like the wide-field camera completely out of the picture, and also, could you tell us if you are giving any consideration because the wide-field camera is out to extending the mission a day?

CREMIN            Let me try and handle, we have fifteen assigned to the flight, eleven that we feel are, are and have produced and are producing good results. We have three that I would say that the wide-field cameras really hasn't gotten anything because of the problems that we have seen. The UMS is kind of operating, well not kind of operating, it is operating, it is collecting calibration information, which was one of the objectives of the flight and will continue to do so and is performing. The DDM, we still really don't know yet. We have tried and are in a troubleshooting mode now to see if we can't get it online. The other remaining one is the IONS, which is yet to be turned on and we have no indication now that it shouldn't be turned on as per schedule and operate as per schedule. In terms of the additional extension day as Gary had mentioned previously, the STS is not in a position now to say that there is sufficient, in fact right now there isn't sufficient, but we are starting some efforts to at least rereview our preflight plans relative to if that eventuality did happen what would be our answer to utilizing an additional day. I may have missed one additional one inside your question.

                  Mr. Cremin, the bottom answer is you have eleven operating, you have three that are being modified and then you have one cancelled, is that correct?

CREMIN            No, I would say eleven operating, one basically cancelled, one as of yet untested, and two that, one of which is operating, collecting calibration data, the UMS, and the DDM that we are still troubleshooting.

                  Thank you.

JACQUELINE BOLDIN (WCPX TV)    I missed the first couple of minutes so you may have covered this, but just in case, is there still a large amount of food and feces particles floating around Spacelab, are astronauts still wearing surgical masks? I understand it is not a health hazard or not a health concern, but are they still wearing masks and are they still concerned to an extent about those particles?

CREMIN I did cover it earlier. As a nominal operating procedure, the crew does wear a smock, a mask, does wear surgical gloves in any of the operations that they do related to either the primates or the rodents. The particulate that was coming from the rodents feeders was only true when the crewman Bill Thornton was starting to do a procedure for replacement of the food bars. We have in process a procedure that will either eliminate or considerably reduce the amount of crumbling food particles that were experienced yesterday.

PAO Okay, thank you KSC, we are just going to take a couple of more questions here. We are about to acquire signal through TDRS. Anybody I haven't called on. You sir

(NEW YORK TIMES) Four quick questions, one, any change in plan on the second satellite deployment, two did the National Atmospheric Center in Boulder, Colorado, inform you of the major solar flare yesterday afternoon, and three, just to make positive, the rats and the two monkeys are in good shape, is that correct? All of them?

CREMIN True. Okay

NEW YORK TIMES And, did Boulder tell you about the solar flare?

CREMIN Yes, we had preflights set up, (garble) data for three of the investigations, one of which was AURORA.

NEW YORK TIMES And, they called you yesterday afternoon.

CREMIN We were aware that there was solar activity of that nature (garble).

NEW YORK TIMES Okay, any, are you going to deploy the second satellite, or make an attempt?

CREMIN That is not in the plans currently.

PAO Jules Bergman

BERGMAN Gary

CREMIN However, I should say, I should answer that. There is still an option to do that but we are not currently pursuing a plan to that effect. (garble)

BERGMAN Gary, is this a record amount of COMM problems, on any flight?

COEN I don't know about records, Jules, I don't really a good set of records. I think, I couldn't say, I don't have a history.

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PAO One more from Dave, and then we will wrap it up.

DOOLING Joe, before the flight, you characterized the animal holding facility, its purpose on this mission as a sort of shakedown cruise, do you feel like you are getting more than your moneys worth in that respect?

COEN We are getting a good shakedown

PAO Thank you everybody