SWA Team Meeting 2019-10-10

**CJO**

Has put instrument paper (what is so far written) onto link shown in his ppt. Wants people to check it in parallel with him finishing. DPU science team funded til Nov 2021. Engineering til end of commissioning. Prospects for afterwards too. PAS funded until 2029! We need to do more outreach stuff as we get closer to launch. What to do? Jim suggests a google doc for recording everything. When to have next SWA team meeting? Around launch, but when? Venue will need to be booked etc. 10-11 Feb is suggested, SWT is the week before this. This will cover a few days of launch delay.

**CJO science aspirations**

Shows SAP web page. Suggests another google doc for this, so that people can put in their ideas. Jim suggests everyone goes back to their institutions now, and puts together a list of all interests ready for next team meeting. Needs to be applicable to specific people – not just nebulous desires for research. Diego suggests including how much data will be needed (ie timescales etc). This will be an SWA version of the SAP. Daniel V volunteers to collect this, wants it before AGU, say 8th Dec. (this is an AI)

**Gethyn**

Andrei has suggested that we should test all sensors on in compression in BM. Mark has s/w (Brad?) that gets data from EDDS regularly, we have asked for it. Difficulty comes when coping with filling in gaps.

**Andrei**

All working fine, after new software uplink. Calibrations: Dhiren says we will need to do stuff like this on EAS as well. Check if we have pre-existing commanding for this? Circulate doc to Dhiren as well, make sure all necessary commanding exists in procedure form.

How would we do PAS/HIS cross calibration? Do we need to write procedures for that?

**Jim**

For all their new data rate operations, we will need commanding? Stephano wants to not change the mode of the instrument too often – esp cadence. How often is too often? Prob want days to weeks in the same mode. They talk about using cadence TC and PHA number TC and the other one (see ppt!) – will need to make a procedure to do this. Lots of talking about the different data levels

**Gennaro**

Mark asks if the missing HIS data could be because of the time code tick problem. Gennaro says that because of the new software, the TM for the problem has changed. A temporary fix would be a small (S6) patch that we will have to send by MDOR, and a permanent fix would be to change the s/c software. Talks about a soak test (3-4 days uncompressed/compressed BM) that needs to be performed ASAP. See other tests required in his ppt.

**Gethyn Commissioning**

Can we change the set point of our spacecraft survival heaters to be higher than -30? AI to check this. Then we don’t need to leave our own heaters on before we’ve finished commissioning (ie when the spacecraft is out of contact). Mark points out that we might be able to change things at commissioning if we request it at the start of the day meeting – so that we can put heaters on for example, then someone else commissions, then when it comes to our comm we are hot enough. What happens if we are on, and there is a thruster firing overnight? Can we also negotiate with HIS and PAS? Ie use a little of their time to put our heaters on? HIS says yes.

**11.10.2019 – more on commissioning**

Mark on commissioning: at first they dump overnight stuff, then after that (about half an hour) they will be continuous streaming the data. He thinks the light time is what will be the biggest delay. This will be between 2 and 4 mins (he thinks). This is what happened for Bepi.

1-5s command to space

1-2m light time to spacecraft

<10s TC executed

1-2m light time to ground

<10s display on MOC

1-5m MOC to EDDS

Note the MOC can’t decompress science data packets

Check with Daniel if he is sure we can derive parameters from the science (eg total counts).

Are we in PISI, or the room we’ve been testing in so far?

Chris is going to request a workshop on commissioning (at MOC) next week at the SWT.

**Andrei commissioning**

PAS want to connect directly to EDDS, rather than us getting it, then them getting it from MSSL. Using EDDS means we’ll get the data in bursts. Alain says the manual says you can stream directly, but no-one else has heard about this. Andrew Walsh says ask for this at SOWG. Mark says this will be too late. For Bepi, they weren’t allowed requests more often than every minute. Like for Cluster. We will need 4 different EDDS accounts. Mark says there are orange cables all over PISI that you connect to, to get EDDS access. Can’t connect to these until your laptop power has been tested! How do we specify what we want to look at? We need thruster firing data – we need to know if there will be any firings during commissioning – even between our windows, in case we are left on. Gethyn has asked Jose Luis for what spacecraft events are scheduled, but has not heard back. During these early stages, we want to wait 8 hours after any firing before turning on EAS. Andrei wants to leave PAS on with HVs at half of nominal values between one PAS section and the next. So on the second day they can go faster up through channeltron voltage steps. Andrei agrees to write this two-day procedure in tcl then will come and test it here. HIS have also written a word doc of all their TCs. It is 93 pages long!! Do they want to come and test here? Would make sense to test it out. Toni points out that we should have contingency procedures written beforehand. Mark says we should have these as PDORs, which will then wait on the manual stack to be called as necessary. So we should have a good think about what might go wrong, and what we might want to do if it does. AI on everyone to do this. We will need the commanding so we can make contingency PDORs. Include what to do if FDIR kicks – or to avoid an FDIR kick. Toni points out that if we have time tagged TCs, and something goes wrong (eg wrong DOY, as we are in a leap year after Feb 29th) then all TCs might get sent at once. We will be sitting next to the SPACON, not like Cluster. Can plot data from a previous time if we want to, on the MOC screen.

**Gethyn IOR stuff**

HIS and PAS need to tell us what they want to do for all the EFECS events that are shown on his slide. Rolls are done with wheels, so no thruster firings. For some of the events, we might be told what to do by SOC – especially as time goes on, eg we might turn out to be EMC noisy so what we do might change during EMC quiet windows. AI for us to send this list out to HIS and PAS, and they need to tell us what they want to do for each, (and also what they want to do for multi-events? extra suggestion by Mark). IORs apparently go up every two weeks (Mark). Andrew W says there is already a MOC doc (EFECS ICD – send this to everyone) that has what to do for each of these events. All this stuff should be put into the IOR generation software (which will generate also a report of all that we are doing – this should warn us of anything strange). We want these inputs by end of November.

Andrew W says we should get all timings of events from flight dynamics in March. IORs must be submitted 10 days before execution. LTP-1 starts on May 14th. Make sure no-one takes holiday between commissioning and start of LTP-1 as there will be a lot of work to do on getting the IOR written and correct. LTP-2 has really bad bandwidth.

Jim suggests regular SWA telecons during the mission.

Andrew W shows new science planning bit on SOC-public. Says SOOP kitchen sandbox up and running now, so whenever the first EFECS is released, we can start using it.

Talking about when we should have our future meetings, which depends on what we want to do and what data is available to us. Before SWT? Could have science discussion, but not with EFECS info (and other stuff like MAG calibrations etc). Between SWT and SOWG, right before SOWG? Then sandbox would be available.

Next team meeting, when and where? Cape Canaveral. SWT is scheduled for first two days of launch week. Nominal launch is 23:00 on 5th. Probably Fri Sat 7-8th. Might be worth flying out early if there are any tours planned.

Next meeting after that? SOWG will be in July. Sometime between end of Commissioning and SOWG. Where? Europe. May/June – Toulouse or Rome, one in May/June, one in Sept. Rome first. Last week of May would be good for Jim.

ASIDE – ask Daniel if we will ever command through MOC again before launch – if we will, then can’t change procedures for flight yet. SVT2??

Do we want any commissioning of BKA? Maybe, when PAS are doing their 3-day test, we should run BKA?