

Minutes of the Plan meeting of 4th May 2011

1.0 : Mechanical :

1.1 Mech: Gear Boxes : update on

(i) efforts to procure spares for existing gear boxes from Rexroth / Innotrans

[During 2nd week of April 2011, Mr.Yogesh lade(Rexroth's Indian executive) was in Germany and he discussed the matter with them. They are working on it and they agreed to supply spares after discussion with their subcontractor. But delivery period could be more than one year.(HSK has requested to make the delivery in 6 month). Mr.Yogesh will give fresh quotation (expected by mid-June).

M/s.Innotrans has given quotation and purchase section has asked for Tender waiver from Director-TIFR (~ Rs 27 Lakh). One suggestion is, to break it into two parts : (a) development of drawings & details for manufacturing (Rs 10 lakh), (b) fabrication of spares (Rs 17 lakh). HSK to follow up with M/s.Innotrans, if this mode [2 separate orders with a time gap] is acceptable to them. To be discussed in SMEC for clearance.]

(ii) efforts to get new gear boxes made by Magtorque / Innotrans

[M/s. Innotrans : they have given quotation (~Rs 9 lakh for AZM & ~Rs 7 lakh for EVEV).

M/s. Magtorq.: in response to enquiry, Magtorq has requested for extension of the date submission of quotation (to 5th May 2011) - done. Waiting for quotation.

M/s Kavitsu : HSK & SCT have discussed (on 19-Apr-11) the matter with this party, who are manufacturing planetary gear boxes at Satara. (Mr. Phadatare of M/s Kavitsu was a partner of M/s. Cyclo transmission). M/s Kavitsu seem to be interested. They will need one spare set for studying.

Visit planned to their factory by HSK, SCT & JNC/YG during May 2011. They are keen to submit quotation of gear box because they had all detail of gear box with them (in 1998).]

1.2 Mech: Update on purchase of milling machine for NCRA workshop

[2 units are being procured. Quotations from 3 parties have been received : HMT, Delhi-party & Mumbai-party. Under evaluation.]

1.3 Mech: Update on purchase of drilling & tapping machines

[No progress so far; cost is ~ 1.2 lakh; HSK to explore fast

track method; next update by mid-May'11]

1.4 Mech: Update on purchase of tensionometer

[Order placed for 2 pieces, on Applied Measurement, UK;
Delivery expected by 15-Jun-11.]

1.5 Mech: Update on procurement of spares required for existing HLPs -- seals, joystick, potentiometer etc.

[Enough stock for 'seals' in hand; one potentiometer is in hand,
but of different type - need help from servo group (Ajee & Bagde)
to implement 'new circuit'.]

1.6 Mech: Discussion on weak points in upkeep / running of existing HLPs -- what can be done to ensure better reliability?

[Primarily fabrication fault of BASE and JIB boom, which
create trouble for levelling mechanism. Exploring 'balancing
circuit', extension of the stroke length of all 4 cylinders,
a consultant for that extension ...]

1.7 Mech: Status of procurement of new HLP

[Within 1 week, indent will go to purchase - to begin tendering]

1.8 Mech: Update on stainless steel theodolite mount (sample was to be tested on W05, and then decision on mass production to be taken)

[Theodolite mount was installed in W05 antenna & readings taken.
Still small improvements are needed. Necessary drawing correction
work is in progress. Final drawing by 15-May-11. Re-testing after
improvements, by early-June & then go for mass-fabrication.]

1.9 Mech: P3 item work : feedback from measurements on 2 sectors that have been repaired on W05 -- what do they tell us?

[Manish will interact with G Shankar to circulate a report in
1 week.

Additional point : Replacement of 'moving angle' and 'fixed angle'
will be carried on same antenna during next MTAC cycle to remove
undulation.]

1.10 Mech: Managing workshop jobs : Update on how well is the scheme for computerised work requests working out?

[System working very well. Status of some jobs showing
'incomplete' due to procedural issue (lack of signature of
senior member) : needs to be addressed.

Similarly, many members continue to give 'old request forms'
(hard copy). To identify a 'cut off date' after which only

electronic forms will be accepted.]

1.11 Mech: Update on automation of AutoCAD drawings : is the software installed? how well is it working? who all are using it? etc.

[Total licenses procured : 10. The software is installed on seven machines so far :

Mechanical:- HSK (1), MSP/MDS/JRN (1),

Computer room (common area)- RKL (1)

Front End:- (1)

Electrical:- RVS (1), BSP (1)

Pune workshop:- (1)

plus

Reserved for new Engineer-D (1)

Safety spare (1)

The last one can be put for either Civil group or in Pune common area;]

1.12 Mech: Other items :

[Azimuth pinion -> indented (x 6 pcs ~ Rs 6 Lakh);

Antenna base doors : ordered for x 6 units; more to be ordered after verifying that user feedback is positive (& no need for any further changes);]

2.0 : Electrical :

2.1 Elec: Update on purchase and installation of slimline AC units at antenna shells

[Voltas order cancelled as they failed to supply. Fresh indent to be raised by mid-May.]

2.2 Elec: Update on number of MSEB transformers improved (for RFI) : results from tests available?

[Now a total 10 (from earlier 8) transformers have been improved. RFI test needs to be planned.]

2.3 Elec: Update on status of spare transformer for 33KV sub-station -- is it ready to use?

[The transformer has reached - currently under 'warming test'; further test to be conducted with MSEB.

Tender specs for (x 10) aircooled generators for Y-array to be prepared by end-June.]

2.4 Elec.: other items :

[Servo stabilizer : manufacture (Rs 2 Lakh)

Transformer oil replacement / overhauling : in progress]

3.0 : Civil :

3.1 Civil: Update on work on strengthening of fence around central square

[Completion by end-June.]

3.2 Civil: Update on jobs relating to toilet block near canteen, leveling and flooring of ground around it and completion of work on FE lab extension

[Completed. Matter closed.]

3.3 Civil: Status of work on Visitor Centre at GMRT

[Good progress in the recent week.]

3.3 Civil : other items :

[Toilets near Recreation Hall : indent to be raised by 10-May-11;

Next phase of road (2 km) in CS : action initiated;

Cherry Picker shed work to begin soon.

RFI shielding of office rooms : SS's room work to finish by end-May;
Then to coordinate testing for effectiveness;

New gate work towards Aundh Road (East Campus entry), including
the outer soling work - to be over by end-June;]

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List of topics for Plan meet of 24th May 2011 (combination of topics covering receiver system works, operations and rfi) :

1. FE :
 - 1.1 CSIRO feed : still waiting for report from ANR summarising the measurements
 - 1.2 Update on Eleven feed testing with 2 types of 150 MHz LNAs (sky test) : waiting for APK to discuss with SSK and report back
 - 1.3 Noise injection with probes : do discuss feedback from DM and APK and decide course of action
 - 1.4 Cone dipole feed : update on repeat of tests and beam shape measurements at antenna base using Sp Analyser -- APK to update status (see mins of 11th May)
 - 1.5 Coverage of 235 MHz : APK to update from meeting of 2 weeks ago (see mins of 11th May)
 - 1.6 Environmental chamber update
2. OF :
 - 2.1 Status update on installation of OF links on antennas
3. FE + OF + BE :
 - 3.1 Discussion of band shapes and levels of final signal at CEB, including leakage of mobile phone RFI signals etc. (ref : full set of measured bandshapes circulated by BAK).
4. Operations :
 - 4.1 Note summarising testing of Rabbit card on ethernet : due from Ops group
 - 4.2 RFI-quiet PCs in ABR (2 options) : update on indent by Ops group + check on 2nd option with SS
 - 4.3 Update on work on new MCM card population
5. RFI
 - 5.1 Air Force RFI : current status and follow-up plan
 - 5.2 Mobile phone RFI : current status vis-a-vis BSNL and Vodafone
 - 5.3 New sources of RFI coming up

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Minutes from Plan meet of 11 May 2011 :

- 1.1 Update on CSIRO feed problem : ANR to circulate doc compiling current set of results : some update in one email from Vishal Temkar -- these results are from Jan 2011; comparison with earlier results from 2010 tbd; slight asymmetry between the V & H probes known to exist, but is much smaller than what is seen at present; further, 2 different feeds behave differently, in terms of which polarisation is poorer ! Actions : (i) ANR to compile report of new and old measurements, and put it out. (ii) To validate the test procedure using working 610 feed.
- 1.2 Update on Eleven feed testing: to try test with 2 types of 150 LNAs & do a sky test to see how it works : no updates available; Action : APK to follow-up with SSK.
- 1.3 Update on noise injection with probes : DM to check for cross dipole feeds at Arecibo and send a response; FE team to try couple of simulation studies : no update from cross-dipole search (to confirm with DM also); simulation work to be initiated.
- 1.4 Coverage for 235 MHz (new item) : can boxing ring design of 150 MHz system be modified for 235 MHz needs? broad-band polarizer, power combiner and LNA needed : Action : (i) APK to explore the possibility (ii) APK to find results from earlier round of testing and circulate.

1.5 Update on purchase of environmental chamber : Some problems with purchase folder (parties requested by indentor may not all have got the enquiries?) -- folder closed and restarted the process of floating enquiries (by email and speed post).

1.6 : Cone-dipole feed matter : Results were discussed briefly; puzzle of difference between ABR and Corr results remains. Action : (i) FE to repeat the measurements on couple of sources for both C6 & C8 and convert to deflections (ii) to investigate possibilities for doing beam shape measurements at ABR using SA.

1.7 : L-band feed : Action : to do measurements of beam shape cuts to check against the number from Raghu's thesis (JNC).

2. Operations :

2.1 Update on field test of Rabbit card in serial port : Tested & working OK (CPK). Follow-up : Of 10 new MCM cards being made, agreed to have one/two antennas with these cards in serial port mode, others to be used in ethernet mode.

2.2 Note from Ops group summarising various kinds of testing of Rabbit card on ethernet : First level version done by Raju and Naresh. Action : 2 weeks for bringing it out.

2.3 ICH to check for any way of sourcing old/new laptops with serial port : HP make item identified ; to go ahead with procurement of 2 nos.

2.4 Ops group to follow-up 2 options for RFI-quiet PCs in ABR : place indent for Kontron and check with SS about other option : Indent to be placed for 2 nos; can be prepared in one week (RBS).

2.5 JPK to ensure 3+1 working old PCs for immediate use at ABR : 2 PCs from Kharmale obtained, 2 more to be obtained + 1 old ==> 5 total (1 may be a bit flaky). Action : 3 working units to be made ready (JPK).

2.6 Update from Ops group on 31st/32nd antenna problem : needs major change in comh program, not advisable at present. Servo : abc-telecon set-up for stand alone mode testing. For control room interface for limited testing : disturb operations of one of the E-arm antennas, by swapping cables, for duration of testing.

2.7 New Rabbit MCM card : PCBs for 10 nos have come; 2 being populated; some problem of availability of connectors -- trying to procure from alternate source. Also some FRC connectors are a bit behind... matter can be taken up 2 weeks for follow-up.

3. RFI :

3.1 Air Force RFI -- follow-up action required : No updates, needs urgent follow-up.

3.2 Mobile phone RFI : draft letter to BSNL; follow-up with Vodafone : No updates, needs urgent follow-up.

3.3 Update on improved performance from RFI proof enclosure testing of Rabbit card : Ops + RFI team to sit together for this and produce next level of report; in about 2 weeks : No update available, needs urgent follow-up.

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List of topics for Plan meet of 1st June 2011 (combination of topics covering receiver system works, operations and rfi) :

1. General item :

1.1 Updating of documents on Plan website : quite a few are still missing

1.2 Finalisation of documents to internal technical reports

2. FE :

2.1 CSIRO feed : summary report of tests circulated by ANR to be discussed (JNC) + follow-up action to be looked at ; to review tests with present 610 feed

2.2 Eleven feed : to check about missing LNAs and plans for testing

2.3 Cone dipole feed : to check if new round of tests have been done or not

3. OF :

Quick update on OF power level tests at W04.

4. FE + OF + BE :

To confirm if signal flow analysis gives acceptable result for 10 dB slope across the band

5. Operations :

5.1 Note summarising testing of Rabbit card on ethernet : due from Ops group

5.2 RFI-quiet PCs in ABR (2 options) : update on indent by Ops group + check on 2nd option with SS and report back

5.3 Update on work on new MCM card population

6. RFI

6.1 Air Force RFI : current status and follow-up plan

6.2 Mobile phone RFI : current status vis-a-vis BSNL and Vodafone

6.3 New sources of RFI coming up

6.4 RFI ambience : 610 MHz result

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Minutes from Plan meet of 25 May 2011 :

1. FE :

1.1 CSIRO feed : still waiting for report from ANR summarising the measurements -- will be done by this Friday; for 610 test (see old MoM) -- can be reviewed next week.

1.2 Update on Eleven feed testing with 2 types of 150 MHz LNAs (sky test) : waiting for APK to discuss with SSK and report back -- some LNAs missing; pending, to be followed up next time.

1.3 Noise injection with probes : (i) to close the matter on cross-dipole geometry (ii) to follow-up on simulation for boxing ring configuration (iii) explore possibilities for implementation (via simulation testing) for horn feed with SAK's lab. Also, theoretical study of power level requirement and path loss to other antennas -- can this be estimated? (iv) A basic study and report to be prepared on the matter (APK).

1.4 Cone dipole feed : update on repeat of tests and beam shape measurements at antenna base using Sp Analyser -- APK to update status (see mins of 11th May) mins : (i) to check for lines in the spectrum (ii) to check to deflection at ABR (iii) to check defl tests at back-end (iv) beam shapes from ABR expt : no major updates, tests to be done this week; to be followed up next week.

1.5 Coverage of 235 MHz : Different aspects were discussed. Action : (i) to check if older results can be resurrected (ii) check if modified fat dipole boxing ring desing is worth following up or not (iii) to explore the scaled Kildal ring feed as a possibility.

1.6 Environmental chamber update : no fresh update.

2. OF :

2.1 Status update on installation of OF links on antennas :

OF BB link : C9, C11 (CWDM); C6, W4, S2, E6 (DWDM); C6, W4, S2 have final electronics (S2 is 10 dB down) ; shortage of amplifiers ; shortage of opt attn (in rcvr room) -- PO gone, excepted in 3-4 weeks.

3. FE + OF + BE :

3.1 Discussion of band shapes and levels of final signal at CEB, including leakage of mobile phone RFI signals etc. (ref : full set of measured bandshapes circulated by BAK). Item 1: sample bandshapes show strong GSM lines seen even in CSQ ==> Action item : (i) to follow-up on conversion of fringe transmitters to 1800 MHz (ii) BE to try notch filter in its path for better filtering. Item 2: problem of slope of 10 dB across the band ==> 2 aspects: (i) degradation of Tsys due to the loss -- to check with signal flow analysis and get the answer (FE group) (b) difference in quantisation scheme at the two ends of the spectrum (BE group). Item 3 : check balancing of power between two channels, presence of lines in the spectrum also to be checked : to do this for L-band right now. Start with W04 and S02.

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