Minutes of the 103rd Energy Calibration Meeting held on 16 August 1996

1 Polarisation plans

There will be a 24 hour polarisation MD on 18/19 August. The aim is to look for high polarisation with electrons at peak–2, and then increase the energy. If the MD goes well, Joerg Wenninger will also try to make a measurement to investigate the effects of correctors. There will be a report on this MD in next week's meeting.

2 LEP2 RF Model

Mike Hildreth reported that the forward and reflected powers as logged are not properly calibrated, so they cannot yet be used to check for phasing problems. Work is in progress to rectify this.

3 Logging Status

Guy Wilkinson has run some checks of the data quality in the logging data base, which in general seems to be much better than in previous years. He has looked at Qs, wigglers, sawtooth, BCT's, RF volts and RF power. There are occasional problems with the RF power, and the sawtooth information is missing about 30% of the time.

The DST's are being made for the 161 GeV running. Paul Bright-Thomas has made files for the NMR data based on Enrico's ntuples, which will also be included in this standard DST framework. Work is also in progress to set up a public area in a LEP group area. When this is finished the files will be copied over from the DELPHI area.

Vertex positions from L3 and ALEPH are requested for RF checks.

4 ISR/Temperature tests

Enrico Bravin reported that the upgrade of the test dipole set up in the ISR tunnel is nearly complete. In addition a finite element analysis of temperature flow in a LEP dipole is being set up. Enrico also presented a reminder of the existing attempts to measure temperature coefficients. The group proposed an experiment for the night of Monday 19 August to Tuesday 20 August, when it should be possible to have the LEP dipoles on overnight without beam. This would allow an examination of the temperature behaviour when the only heating comes from the coil, without synchrotron radiation. In addition, some time in "magnet patrol" conditions to examine the NMR's would be useful. The NMR's of the type in octants 4 and 8 (as were used in 1995) are not robust to synchrotron radiation at 80 GeV. The most recently installed only worked for 10 days. The group therefore want to check whether the Metrolab probes also show signs of degradation.

5 AOB

Giuseppe Mugnai showed a slide explaining what has changed and what is the same for the NMR's in the reference magnet compared with 1995 (to clarify the confusion in an earlier meeting). The NMR's are in the same positions with the same field plates, i.e. the geometry is unchanged. However, 3 of the probes are read out by the same electronics and only one can be selected at a time. Since the probe "B" (which used to be "NMRREF") saturates at 80 GeV, the readout was switched to the probe labelled "A" in the diagram.

Peter Molnar and Alfons Weber of L3 attended the meeting and expressed interest in joining in the work of the group.

For your information, Ronny Billen also sent the following information about overwriting of Logging data:

As you know, all logged systems in the database are implemented with a roll-around mechanism where the oldest data is eventually (but automatically) overwritten after a certain period of time.

In 1992 this maximum time period was chosen to be 1 year in order to make correlations between fills of the same year. Very soon, it was realized that it was useful to compare fills of different years. The database tables have been adapted accordingly.

For some systems the question becomes imminent again if and intervention is needed in order to keep the old data available. The logging of the Power Converter readings is the most urgent one.

This is the situation:

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Vertical Correctors: started overwriting 1994 data

Horizontal Correctors : overwriting of 1993 data will start in approximately
20 days.
Mains : overwriting of 1993 data will start in approximately 30 days.
Wigglers : overwriting of 1993 data will start in approximately 40 days.
QS-QL : overwriting of 1993 data will start in approximately 60 days.
Skews : overwriting of 1993 data will start in approximately 60 days.
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If there is a requirement in order to prevent the overwriting of one of the above systems, please let Ronny know.

6 Next Meeting

The next meeting will be at 14:00 on Friday 23 August in the pavillon. The main topics to be discussed will be the results of the polarisation MD, and plans for a final 161 GeV calibration. The LEP collaborations are likely to want to publish their W mass results from the 161 GeV running by early October, which sets the timescale.

Pippa Wells, 19 August 1996.