RHIC-AP-18

Temporary Cost Savings in Power Supplies

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Temporary Cost Savings in Power Supplies

The Accelerator Physics Group will study the impact on the initial RHIC performance which would be caused by postponing installation of certain power supplies. In this exercise one assumes that the magnet system and electrical bus-work is built according to the present design and that all power supplies can simply be added at a later time to restore full performance.

Postponement of the following power supplies will be considered:

- 50% of closed orbit power supplies in the arcs
- Elimination of some and/or reduction in strengths of the a_1/b_1 power supplies (shuffling of dipoles according to quadrupole errors is assumed)
- Fixed $\beta^* = 6$ m operation
- Reduce tune variation to $\pm$ 0.25
- Fixed head-on crossing angle operation (unequal species?)
- No octupole power supplies
- Eliminate non-linear random error corrector power supplies
- Eliminate inner/outer insertion quadrupole trim power supplies

The Magnet Division will estimate the cost saving due to each of the above items.