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RHIC Project

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Dr. Jay Marx
STAR Project Director
Lawrence Berkeley Laboratory
1 Cyclotron Road
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Dear Jay,

At the TAC meeting you raised the question of whether the use of a conventional magnet for STAR would cause the operation of the experiment to be curtailed during times of peak power demand at the Laboratory.

The most recent estimate of the power required for a conventional solenoid for STAR is 3.1 MW (including cooling tower, chiller, etc.), giving a total power requirement of about 3.6 MW for the experiment. The Laboratory is planning that the total peak power consumption for RHIC (including injectors, the collider, experiments and building power) will be about 46 MW, with a 40 week annual running period. We estimate a total site load of about 80 MW when RHIC becomes operational. Of the RHIC total, about 9 MW has been budgeted for the experiments during normal machine operation (5 MW during machine cooldown). Of the other large experiments now being considered, PHENIX and the Forward Hadron Spectrometer are each expected to consume about 1 Megawatt of power, with PHOBOS requiring much less. Thus the operation of STAR with a conventional magnet will still leave a comfortable margin in the power available for the experimental program.

Yours sincerely,

Thomas W. Ludlam
Assoc. Project Head
Detectors & Exp. Support

TWL:bes

cc: S. Ozaki.