Comments on the `Report from the `LAr Review" S. Pordes 2/9/09

I thank the review committee for their time, and for making available the 1st and 2nd draft version and the final version of their report. I particularly appreciate the changes made between the 2nd and the final version which have reduced the length of this response by 60%.

I think it would be useful to record that we did not report on the work on T962 – a liquid argon effort which is using Fermilab resources – nor on MicroBooNE which is also taking Fermilab effort on Liquid Argon but for which most of the R & D is being undertaken in the context of the program at the PAB.

The comments on the PAB work and on the Purity Demonstration (LAPD) are appreciated. Rob Plunkett has provided some detailed response on the latter. In practice, any R & D needed for the LAPD that can be done in the PAB systems will be done at PAB. This includes any temperature or motion probe development, and Nitrogen detection.

The report says there are a number of concerns about the Dark Matter R & D and lists a number of sensible technical issues. In practice, there are two concerns – that this project will require money, and will require significant engineering resources. On the money side, Andrew has pointed out that there are several universities committed to the Argon program and a variety of funding sources for the R & D. Fermilab will indeed be expected to contribute a significant fraction to MiniMAX, maybe 50%, but we are not the only source of funds.

Finally .. it is clear that a multi-kton LAr neutrino detector requires a major, major (see catch-22) expansion of engineering resources and so the prospect of designing and constructing such a detector is rather remote. If one is to continue the development of liquid argon technology through, and for, the long term, the work needs to include modest but significant efforts with sufficient physics interest to attract and maintain university and Fermilab scientists. This is an important aspect of the synergy with Dark Matter where there is a real possibility of a world-beating experiment - something which I hope the Laboratory management will recognize and support.