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Dr. Melynda Brooks,
Heavy Ion Group Leader
Los Alamos National Laboratory

Dear Melynda,

I understand that Los Alamos is conducting the internal review of the future group plans. I was talking to Gerd Kunde recently about his plans for contributions to CMS Heavy Ion program. As you well know I am very supportive of the participation of Los Alamos in our program and I understand the need of developing a strong program where the laboratory could make significant contribution. While the physics program of Los Alamos is clear with emphasis on jets and muons the “hardware” contribution is less obvious.

Over the last year or so Gerd, Ivan Calo, Andi and others have made significant progress in understanding the functioning of CMS pixel detector. There are indications that CMS may run into difficulties related to memory buffer overflows, especially during the high intensity HI beams expected in 2013 and beyond. In fact, already this year, we will follow Gerd and Ivan’s suggestions and introduce a special trigger hold-off to prevent memory issues.

Gerd, together with the Pixel group is thinking about proposing a memory upgrade, together with new firmware. Such changes require significant development work and highly skilled expertise. One could easily imagine proposing and executing a project, specifically to improve CMS capability in reading out heavy ion data and to be ready for 2013 run. The present work on test board and the actual running experience we hope to get in the HI run this November will make it possible to propose official participation of LANL to DOE NP early next calendar year. Such project would have to be managed carefully within CMS and coordinated with the parallel plans to upgrade pixel detector for high luminosity pp running. We do not have anyone else in the heavy ion group who has enough knowledge to deal with this potentially very difficult issue.

I am very enthusiastic about the opportunity of continuing participation of Los Alamos in the CMS HI program and I would be happy to support your efforts to get funding from DOE NP.

Yours Sincerely

Boleslaw Wyslouch
Professor of Physics
US CMS Heavy Ion Program Manager