

Tuesday, April 7, 15, amended, in green

To: Professor Al Goshaw and Professor John Rutherford

From: Chip Brock, IB Chair

Re: Charge: US ATLAS Analysis Support Centers IB Task Force

The US ATLAS Analysis Support Centers (ASC's) at Lawrence Berkeley National Laboratory, Argonne National Laboratory, and Brookhaven National Laboratory have been in operation for nearly a decade, following the "Baker Task Force" report of July 2005.<sup>1</sup> They have served the US ATLAS community in many capacities, including software tutorials, workshops, visitor residences, and analysis hubs. Research Program support for the ASC's has been generous and as we look to the next decade of LHC operations with the startup of Run 2, this is a good time to look anew the ASC's and ask about their futures.

Please include the following in your report:

1. Please enumerate activities over the last decade at each of the ASC's.
  - 1.1. What do each of the ASC's describe as their individual missions?
  - 1.2. Please obtain approximate statistics on numbers of visitors in categories (faculty, post doc, student, non-host lab staff), average lengths of stays, number of events (workshops, tutorials, etc.), and the purposes of visitors' stays.
  - 1.3. Are there remote scientists who are supported in part by each ASC?
  - 1.4. What are the budgets of the three centers? Please separate into Research Program and Operations Program, if any.
  - 1.5. What is the host lab effort expended on behalf of each ASC?
2. Please assess the scientific and intellectual impacts that the three centers had on the US ATLAS collaboration members.
  - 2.1. Please evaluate the ASC's impact on the university and laboratory groups' people—faculty, staff, post docs, and students—and on their research programs.
  - 2.2. To what extent do visits to an ASC substitute for visits to CERN for ATLAS collaboration meetings and/or for ATLAS collaborative work?
  - 2.3. To what extent are remote (CERN or US) scientists supported by ASCs?

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<sup>1</sup> Subsequently, they were reviewed in 2007 and a survey was done in 2010. These materials are included as attachments to this document.

3. Assuming that one of the goals of each ASC is to attract US ATLAS collaborators for long-term stays, please assess the notion of “critical mass” at the ASC’s.
  - 3.1. What constitutes a “critical mass” of visitors and staff? This might be different depending on the goals of each individual center.
  - 3.2. Are the ASC’s sustaining a critical mass of visitors and staff?
  - 3.3. What have the ASC’s done to attract a critical mass to their respective locations?
4. US ATLAS ASC’s are very different from the US CMS LHC Physics Center (LPC) at Fermilab. Please interview US CMS LPC managers and collaborators to learn the following:
  - 4.1. What are the goals of the LPC?
  - 4.2. What are the statistics of LPC participation?
  - 4.3. What have you learned are the main advantages of the US CMS LPC?
5. Please poll the US ATLAS collaboration for their input which should include at least:
  - 5.1. What has been the nature of individuals’ and group’s ASC experiences?
  - 5.2. What would the collaboration like to see as new or different ASC capabilities?
  - 5.3. Does the collaboration have views on the future evolution of the ASC system?
6. Your Findings might include answering these questions:
  - 6.1. When university colleagues visit the ASC’s, what is the nature of their involvement in each of the centers? Please distinguish among Scholars, Fellows, and other visitors.
  - 6.2. Do the three ASC’s missions complement one another as a whole system? Or are the individual ASC’s unique.
  - 6.3. Is the LPC “concept” better than, worse than, or just different from the US ATLAS multiple ASC concept? **Please compare and contrast the LPC and the ASC models.**
7. Please make Recommendations on the following questions:
  - 7.1. Please recommend if US ATLAS should have only one ASC. If so, where do you recommend it be located. If not, please recommend the optimal number of ASC’s and where they should be located.
  - 7.2. If the optimal number is more than 1, please recommend whether the centers might have different missions. What might be examples of differential missions?

7.3. Should the Scholars Program continue to be supported? Why or why not?

7.4. Please recommend how an evolution of the existing ASC system might take place through the next half-decade—until 2020.

7.5. How might the collaboration be encouraged to participate in the ASC programs?

It would be most useful if your report could be in near-final draft by July 22, 2015 since the DOE Lab Comparative Review is scheduled for the week of July 27. Please provide a mid-course status report during the May IB meeting.