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Subj: 3d flow review
Return-path: <lankford@lankford.ps.uci.edu>
Received: from FNAL.FNAL.GOV by FNAL.FNAL.GOV (PMDf V4.2-12 #3998)
id <01H5IAMCP2XC00JB45@FNAL.FNAL.GOV>; Fri, 19 Nov 1993 17:32:28
CDT Date: Fri, 19 Nov 1993 15:11:59 -0800
From: lankford@lankford.ps.uci.edu (Andrew J. Lankford)
Subject: 3d flow review
To: BUTLER@fnaly
Cc: KIRK@ssc.vxl.ssc.gov
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Content-type: TEXT/PLAIN; CHARSET-US-ASCII
Content-transfer-encoding: 7BIT

Joel,
Please review the following charge and let me know if it
is acceptable to you. Thanks,
Andy

November 19, 1993

Dr. Joel Butler
Fermilab, M.S. 120
P.O. Box 500
Batavia, IL 60510

Dear Joel,

Tom Kirk, acting in his capacity as Deputy Director of SSCL, has asked me to help arrange a technical review of Dario Crosetto's "3D-Flow" processor project. This project has aroused considerable interest among high energy experiments; however, because of the forward-looking nature of the project, high energy physicists are often uncertain of its detailed technical feasibility, particularly of the processing elements. Via this letter, I am charging you with organizing the needed technical review. The results of the review will be used by SSCL in determining the level of support which this project should be given as part of the SSC closeout.

You may formulate the detailed charge to the review committee. I recommend the following charge:

Perform a detailed technical review of the "3D-Flow" processor project being conducted by Dario Crosetto of SSCL. The review should address the following issues:

- a) The technical feasibility of an integrated circuit implementation of the high-speed processing elements, including an estimate of the required development time

and development costs,
- b) The technical feasibility of the proposed system implementation, including an estimate of the required development time and development costs,
- c) The general suitability of this approach for implementation

as a trigger processor for future high energy physics experiments, including practical issues such as flexibility in application to specific experiments, maintainability,

and projected cost.

d) Progress to date in developing this approach. Provide to the Deputy Director of SSCL a written summary of the review addressing the above issues. If appropriate, the summary

may also recommend appropriate goals for continued work on the project as part of the SSC closeout.

The review panel should consist of at minimum the following:

- a technical expert on digital IC design, preferably microprocessor design,
- an additional digital electronics engineer,
- two physicists expert on triggers.

It may consist of other experts, for instance a technical expert who is also knowledgeable about commercialization of the processor for the high energy physics market. A physicist from the European HEP community should be considered. The committee may be expanded as convenient; however, I suggest that the review committee be kept sufficiently compact so as to facilitate a review date in the near future.

The review should be held as soon as possible. It must be held before the new year in order to be useful for SSC closeout. It may be held at a location convenient to you and the reviewers in order to facilitate its timeliness.

I suggest a one-day review, including time to draft the written summary. I do not believe that the review can be performed in sufficient depth in less time. In order to facilitate the in-depth nature of the review, detailed technical material on the project should be circulated to the reviewers well in advance of the review date. I believe that Crosetto already has prepared suitable materials. Sufficient time should be allotted for detailed technical questions from the review committee. In fact, I suggest only a very short formal presentation by Crosetto at the review, in order to allow time to adequately address the committee's questions.

Since this review may be of interest to a number of members of our community, you may choose to publicize it to at least the leaders of trigger groups of current and future experiments. Such interested parties could submit their comments to you, as head of the review, and to Dr. Antony Montgomery, Director of the Office of Research and Technology Applications, SSCL.

Thank you for conducting this important review. I regret that I will be unable to participate.

Sincerely,

Andy
Andrew J. Lankford
SDC Electronics Subsystem Manager