

Comments to HEPAP subpanel on AARD
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I would like to bring to the committee's attention some thoughts on problems with the funding of long-term accelerator R&D in the US. For a healthy national program in high energy physics it is essential that DOE support a broad range of very different activities: use of current facilities for particle physics research, construction of next-generation facilities, theory, and longer-term accelerator R&D. It is entirely appropriate that DOE have periodic reviews of the direction and value of each of these areas, and make annual redistributions of funding for each of the general programs, depending on the current budget and new developments in the field. However, once these allocations have been made, I feel it is essential that the funds be used for the purpose they were allocated for. In other words it is important that the programmatic financial "fences" that have existed in the past be maintained. This is a particular concern for advanced accelerator R&D at the national labs. There will be tremendous temptation for local administrators to solve any immediate budget problems with their current physics research activities by taking money from long-term projects. This is the same type of thinking followed by US industry, which has led to the dismantling of many previously world-class basic research laboratories for the sake of short-term profits.

In the last 50 years a succession of new facilities has produced a string of exciting discoveries in HEP. However, each succeeding facility has required more and more demanding properties and has become more and more expensive. The problems facing the development of post-ILC facilities are tremendous. It is no longer sufficient to just find a design that achieves the desired machine parameters. The issue of cost-effectiveness of every system is now a paramount concern. One has to accept that any future facility will require years of dedicated R&D. For that reason we should continue allocating a small fraction of the yearly HEP funding solely for work on the long-term future of the field. "Good fences make good neighbors".