

measurement of real time processes on some scientifically interesting time scale). In any case, the Committee notes and applauds the fact that the process is focused on maximization of scientific impact.

### **3.6.3 Recommendation**

1. Approve the proposed baselines for Experiment Systems.

## **3.7 Control Systems (WBS 1.9)**

### **3.7.1 Findings**

In the first DOE review of the SNS project (June 1997), the Committee found, “no areas of high technical risk in the [Control Systems] proposal.” This finding remains true. New scope has been added to the Control Systems WBS element, namely the Personnel Protection System has been transferred from Project Support (WBS 1.2). There is a consistent technical, cost, and schedule baseline, however, schedule and linkages between global systems and user systems need to be updated. In addition, there is adequate cost and schedule contingency. The Committee, therefore, considers the Control Systems to be ready for DOE baseline approval.

The Control Systems portion of the project is well managed. The Control Systems Senior Team Leader and his team have been successful at reducing the cost estimate for this system with little to no negative technical impact. Standardization efforts in areas such as diagnostics, power supply control interfaces, and vacuum control interfaces are underway and should be encouraged, and the project needs to restart the project-wide workshops in this area. The Committee noted that the Timing System proposal needs a conceptual design review.

### **3.7.2 Comments**

The excellent controls teamwork across laboratory and system boundaries seen in previous DOE reviews has continued. The cost estimate has matured, and shows the positive impact of the interlaboratory collaboration and a standardized, global approach. Assigning budget authorization control to the Control Systems Senior Team Leader, as was previously recommended, has worked well.

The SNS Project Office should consider building a “rack factory.” The rack factory would be an on-site SNS facility to assemble and test integrated electronics racks comprising, for example, power supplies, vacuum equipment, diagnostics, and controls. The idea here is to deliver completed racks for installation in the field.

### **3.7.3 Recommendations**

1. Approve the proposed baselines for Control Systems.
2. Hold a conceptual design review for the Timing System. The goal of this conceptual design review should be to confirm that the proposed system meets the functional requirements of all its users.
3. Investigate the cost effectiveness of an on-site “rack factory.”