Rev 3/6/09

**PI Name:**  **Eric Anderssen**

**Proposal Number:**

**Award Number (if applicable):**

**Sponsor Name: Brookhaven National Laboratory**

**Date:**  **3/6/09**

**APPENDIX A**

**STATEMENT OF WORK**

**Period of Performance:**

**May 1, 2008 to September 30, 2009**

**Background** – This is a continuation of the PHENXI Pixel Stave project—additional funds for iterations not included in the original estimate.

**Scope** – Completion of 40 production quality Staves for PHENIX Pixel System

**Technical Tasks** – .

Iteration of the Omega Tooling was required beyond the original estimate (and test production of a statistically significant sample of pre-production Omegas) to adjust the tooling to produce Omegas with sufficient flatness. Original Stainless Steel tool failed during machining (excessive bow and twist), re-started with Aluminum tooling which was later machined with a counter bow to compensate for inherent bow of Omega Laminate.

First 5 pre-production Stave assemblies were not of compliant with production due to use of Barb Fittings of non-rad-hard material. They were produced to verify the assembly tooling and give RIKEN geometric samples to test on their module mount tooling. After the initial test at RIKEN it was thought that the mount blocks on the pre-production stave were shifted by ~1mm. An additional set of 5 blocks were fabricated (and material re-purchased for the then larger block) and an initial stave produced with these new blocks. After further testing at RIKEN with the new block it was determined that the original blocks were correct—a shift of the modules during the initial testing was the source of the perceived error. The original production of blocks was re-started.

None of the above iterations were included in the original estimate. Funding to cover this additional work and to complete the production of 40 good staves is required. Estimate to Complete includes 44 staves (was 42 as of mid-February). First production stave sent to RIKEN was lost due to a problem with the Module glue operation, necessitating an additional stave. The now 3 extra staves in the ETC are intended to cover any additional failures and any yield in the production of the final 40 staves.

Example

|  |  |  |  |
| --- | --- | --- | --- |
| **Task #** | **Description** | **Start****Month** | **Duration** |
| 1 | Assembly start of up to 44 staves | 1 | 3 months |
| 2 | Final QA (Pressure/Leak and Geometry) of 40 Staves | 1 | 4 months |
| 3 | Shipment of 4 batches of completed staves to RIKEN | 1 | 4 months |

**Reports, Data, and Other Deliverables** – 40 serialized Stave Assemblies with associated geometric data and Helium leak rates; production tooling for same.

.