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| **Project Name:** | **sPHENIX Calorimeter Electronics** | **Date Issued:** | **11/09/2022** |
| **WBS/Control Account Number:** | **WBS 1.5** | | |
| **Control Account Manager Name (CAM):** | **Eric Mannel** | | |
| **Control Account Title:** | **Calorimeter Electronics** | | |

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| **Purpose:** |
| The purpose of this form is to document acknowledgement by authorized Control Account Manager and Project Manager that work has been completed as defined in the WBS Dictionary for the above Control Account and the corresponding system KPPs (defined in PEP/PMP) are met.  By answering YES to the following questions, you acknowledge all work has been completed and reconciles with the WBS Dictionary. Sign, date and return this form to Project Controls attention Chris Herbst, Bldg 490.  If NO is checked, please use the space below to provide details on all required modifications (additions and deletions) to the WBS Dictionary. Sign, date and return this form to Project Management Center (attention Chris Herbst, Bldg 490.) |

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| **Scope Baseline:** |
| WBS Dictionary (as per latest baseline): The Calorimeter Electronics For The sPHENIX Experiment At RHIC  This account covers readout electronics instrumentation for the Electromagnetic (WBS 1.3) and Hadronic (WBS 1.4) Calorimeters in the sPHENIX Project.  The scope includes all silicon photomultipliers (SiPM), daughterboards to host the SiPMs, preamplifier boards, interface cards, controller and test pulse boards, LED driver boards, digitizer boards, digitizer board crates, digitizer board crate controllers, digitizer board trigger interface modules, digitizer board crate clock masters, digitizer crate backplanes, digitizer board crate transmit modules, and the digitizer crate power systems. The scope also includes all internal and external cables needed to instrument the Electromagnetic and Hadronic Calorimeters. The scope also includes the Bias voltage system for the SiPMs and the Low Voltage system to power all the above electronics. |
| System KPPs (Objective and Threshold; as per latest baseline)  None. This Level-2 WBS subsystem delivers components for use by other Level-2 WBS subsystems to enable them to meet their KPPs, but has none of its own. |

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| **KPPs achieved:** |
| Explain the KPPs achieved and how it is demonstrated. (Attach test results/ reports where applicable)  No KPPs assigned. |

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| **Cost Baseline:** | | | | | | | | |
| Control Account Baseline Cost: $6,290,621 | | | | | | | | |
| Control Account Actual Cost: $5,908,337 | | | | | | | | |
| Control Account CPI: 1.06 | | | | | | | | |
| Estimate to Complete: $0 | | | | | | | | |
| Summary of cost overrun/ underrun:  The CV is +$382,284.  There are about $34K of late invoices for the digitizer system. This is as of the end of September 2022.  Several major components cost somewhat less than budgeted for this WBS for their production orders. These include EMCal SiPM boards (about $10K less), HCal SiPM boards (about $30K less), EMCal interface boards (about $130K less), and EMCal preamp boards (about $230K less), for a total of $400K on some $950K worth of orders. | | | | | | | | |
| **Questions: [*Check Yes or No]*** | | | | | | | |
| 1. Is all work scope for this Control Account complete (all activities per the project baseline attached to this form) | | | | | | | |
|  | Yes | | |  | | No | [If NO, indicate required actions in the below table] |
| 2. Does the WBS Dictionary accurately represent the work completed? | | | | | | | |
|  | Yes | |  | | No | | [If NO, explain in the below table] |
| 3. Any scope (affecting system KPPs) removed from project baseline after necessary approvals? | | | | | | | |
|  | Yes |  | | | No | | [If NO, reference the baseline change document in the table below] |
| 4. Any scope (not affecting the system KPPs) removed from project baseline after necessary approvals? | | | | | | | |
|  | Yes |  | | | No | | [If NO, reference the baseline change document in the table below] |

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| **Notes and Required Actions:** |
| 1. Activities required to complete all work in this Control Account, with expected finish dates: All activities are complete. |
| 1. WBS Dictionary requires the following changes: None |
| 1. The following scope (affecting system KPPs) has been removed from project baseline (Note: Prior approval required, refer baseline change documentation): None |
| 1. The following scope (not affecting system KPPs) has been removed from project baseline (Note: Prior approval required, refer baseline change documentation): None |

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| **Acknowledgements:** | | | | |
| I acknowledge all work is complete as defined in the WBS Dictionary and the system KPPs have been met for this Control Account.  Any remaining cost on this Control Account has been estimated thoroughly and documented in this report. | | | | |
| **Acknowledgement by CAM** | |  | **Acknowledgement by Project Manager** | |
| **CAM Name:** | **Eric Mannel** | **Project Manager:** | Glenn Young |
| **Signature:** |  | **Signature:** |  |
| **Date:** |  | **Date:** |  |

Attachments:

1. P6 baseline
2. Current working file (with baseline attached)
3. Test results/ reports (if applicable)