****

**US HL-LHC Accelerator Upgrade Project**

**INTERNAL INTERFACE CONTROL DOCUMENT**

**WBS 302.2.02 - 302.2.03**

|  |
| --- |
| **Prepared by:**  Lance Cooley, WBS 302.2.02 L3 Manager, Strand Procurement  Ian Pong, WBS 302.2.03 L3 Manager, Cable Fabrication |
| **Reviewed by:**  Giorgio Ambrosio, WBS 302.2 L2 Manager  Ruben Carcagno, HL-LHC AUP Deputy Project Manager, FNAL |
| **Approved by:**  Giorgio Apollinari, HL-LHC AUP Project Manager, FNAL |

**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Revision** | **Date** | **Section No.** | **Revision Description** |
| v0 | 2017 04 11 | All | Initial Release |
| v1 | 2018 05 16 | All  1  3  4 | Formatting, removing extraneous lines and “draft” watermark  Corrected the entities  Updated the samples provided by 302.2.03 to include virgin leftover wires  Updated reference documents to include Vector 464341 and to exclude “cable report” which is equivalent to Vector 464234 |
| v2 | 2018 11 26 | 4 | Removal of obsolete acceptance/acknowledgment |
| v3 | 2018 11 26 | Nil | Metadata edit on DocDB |
| v4 | 2018 11 27 | Nil | Signoff list edit on DocDB |
| v5 | 2018 12 17 | 4 | Typo correction and text update |

**TABLE OF CONTENTS**

[1. Introduction 4](#_Toc478552247)

[2. ICD Approval 4](#_Toc478552248)

[3. Table 1 – Physical Interfaces 4](#_Toc478552249)

[4. Table 2 – Data Interfaces 4](#_Toc478552250)

1. Introduction

This Interface Control Document (ICD) provides complete information about the internal technical interfaces between the two entities named below. This document is for **internal interfaces only** (from one L3 WBS to another L3 WBS). External interfaces (mainly with CERN) are defined in ICD. This ICD contains two tables: Table 1 – Physical Interfaces and Table 2 – Data Interfaces. Physical Interfaces include the flow of materials from one WBS entity to another, while Data Interfaces include the flow of data and documentation from one WBS entity to another.

|  |  |
| --- | --- |
| This document represents interfaces between the following two entities: | |
| WBS 302.2.02 Strand Procurement | WBS 302.2.03 Cable Fabrication |

1. ICD Approval

Electronic signature is required by the following personnel:

|  |  |  |
| --- | --- | --- |
| WBS Manager | WBS Manager | HL-LHC AUP Project Management Office |
| WBS 302.2.02 L3 Manager  Lance Cooley | WBS 302.2.03 L3 Manager  Ian Pong | WBS 302.2 L2 Manager  System integration Manager Deputy Project Manager Project Manager |

1. Table 1 – Physical Interfaces

Note: hyperlinks within table link to other controlled documents or drawings that define the physical interface

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **WBS 302.2.02 Provides** | **WBS 302.2.03**  **Provide** | **Reference Documents, Drawings, etc.** |
| Nb3Sn strand | Spools of Nb3Sn strand shipped by supplier directly to LBNL | Acknowledgment of strand receipt with label and weight information | Vector 464341 US-HiLumi Doc-40 |
| Cable samples | Acknowledgment of sample receipt | 2 m lengths extracted strands and virgin leftover wires for witness sample preparation | Vector 464342 |

1. Table 2 – Data Interfaces

Note: hyperlinks within table link to other controlled documents that define the data interface

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **WBS 302.2.02 Provides** | **WBS 302.2.03**  **Provides** | **Reference Documents, Drawings, etc.** |
| Strand QC data | Prepares data report and authorization to proceed |  | Vector 464219 Vector 464269 Vector 464341 |
| Cable report |  | Cable report with virgin strands (VS) and extracted strand (XS) ID for witness samples set-up | Vector 464342 |

Link to vector master documents page: <https://vector-offsite.fnal.gov/Tools/TravelerWriter/SelectMasterDocument.asp>