All documents numbers start with a 9

9\_\_\_\_

| | Document per chart

Generation (i.e. PSS has 1,2&3, FEEPS has 1&2) Use 0 when the document doesn't apply to any of these

System

- 0- Non system Specific (group wide)
- 1- PSS
- 2- Reserved for PSS expansion
- 3- FEEPS
- 4- Reserved for FEEPS expansion
- 5- BLEPS
- 6- Reserved for BLEPS expansion
- 7- DIW
- 8- Reserved for future use
- 9- Reserved for future use

#### **000-099 Requirements**

000 – Statement of work For x.1.4.1.4 – Design Statement of Work For Beamlines – Installation Statement of Work 001-009 Reserved for Statement of Works for upgrade, revisions, add-ons, etc.

010 – Cost Estimate

011-019 Additional Cost Estimates

020 System Requirement Specifications021 Hardware Requirement Specifications022 Software Requirement Specifications023 Users Requirement Specifications024 PLC Software Coding Guidelines

030 System I/O List 031 1<sup>st</sup> subsystem's I/O List (Chain A) 032 2<sup>nd</sup> subsystem's I/O List (Chain B) 033 3<sup>rd</sup> subsystem's I/O List (Chain C)

040 System Fault List

041 1<sup>st</sup> subsystem's Fault List (Chain A)

042 2<sup>nd</sup> subsystem's Fault List (Chain B)

043 3<sup>rd</sup> subsystem's Fault List (Chain C)

050 System Interface Control Document For 91x 051 PSS to ACIS ICD 052 PSS to FEEPS ICD 053 PPS to BLEPS ICD 054 PSS to FE Shutter ICD 055 PSS to Integral Shutter ICD 056 PSS to DIW ICD 057 PSS to Remote Shutter Interface ICD/HMI 058 PSS to User controls ICD/EPICS For 93x 051 FEEPS to PSS ICD 052 FEEPS to BLEPS ICD 053 FEEPS to VAT controller ICD 054 FEEPS to MPS chassis ICD For 95x 051 BLEPS to PSS ICD 052 BLEPS to FEEPS ICD

#### 100-199 Design

100 – Functional Description

110 – Standard Beamline Configurations

- 120 Software Design Specifications
- 121 1<sup>st</sup> subsystem's Software Design Specifications (Chain A)
- $122 2^{nd}$  subsystem's Software Design Specifications (Chain B)
- $123 3^{rd}$  subsystem's Software Design Specifications (Chain C)
- 124 4<sup>th</sup> subsystem's Software Design Specifications (HMI)
- 125 Software Design Guideline
- 130 Software Source Code
- 131 1<sup>st</sup> subsystem's Software Source Code (Chain A)
- 132 2<sup>nd</sup> subsystem's Software Source Code (Chain B) 133 3<sup>rd</sup> subsystem's Software Source Code (Chain C)
- 134 4<sup>th</sup> subsystem's Software Source Code (HMI)
- 135 Software Source Code ESD-A pdf version
- 136 Software Source Code ESD-B pdf version
- 137 Software Source Code Chain-C pdf version

140 Code Review Walk Through

141 1<sup>st</sup> subsystem's Code Review Walk Through (Chain A)

142 2<sup>nd</sup> subsystem's Code Review Walk Through (Chain B)

143 3<sup>rd</sup> subsystem's Code Review Walk Through (Chain C)

144 4<sup>th</sup> subsystem's Code Review Walk Through (HMI)

**150 Hardware Design Specifications** 

160 Software Version Control

170 – System Software Change Request (SCR)

171 – 1<sup>st</sup> subsystem's Software Change Request (Chain A)

 $172 - 2^{nd}$  subsystem's Software Change Request (Chain B)

 $173 - 3^{rd}$  subsystem's Software Change Request (Chain C)

174 – 4<sup>th</sup> subsystem's Software Change Request (HMI)

180- Commissioning Plan

181- Bill of Materials

182 – Beamline Readiness Checklist

#### 200-299 Validations Procedures

200 – Initial System Test

210 – System I/O Validation

211 1<sup>st</sup> subsystem's I/O Validation (Chain A)

212 2<sup>nd</sup> subsystem's I/O Validation (Chain B)

213 3<sup>rd</sup> subsystem's I/O Validation (Chain C)

220 - Beamline Functional Validation/(Verification) Procedure

221 – 1<sup>st</sup> Subsystem's Functional Validation/Verification (Chain A Validation)

222 – 2<sup>nd</sup> Subsystem's Functional Validation/Verification (Chain B Validation)

223 – 3<sup>nd</sup> Subsystem's Functional Validation/Verification (C&C Verification)

229 – 30-ID Gen-3 PSS System Commissioning Plan

# 230 System Interface Validation

For 91x 231 PSS to ACIS Interface Validation 232 PSS to FEEPS Interface Validation 233 PPS to BLEPS Interface Validation 234 PSS to FE Shutter Interface Validation 235 PSS to Integral Shutter Interface Validation 236 PSS to DIW Interface Validation 237 PSS to Remote Shutter Interface Validation 238 PSS to User Controls Interface Validation

## 240 Chain C/HMI Functional Change Checkout Procedure

## 250 End-to-End Test

## 260 I/O Commissioning

261 1<sup>st</sup> subsystem's I/O Commissioning Chain A

262 2<sup>nd</sup> subsystem's I/O Commissioning Chain B

263 3<sup>nd</sup> subsystem's I/O Commissioning Chain C

264 Gen-1 PSS Acceptance Test

## **300-399 Test Procedures**

300 Front End Shutter Acceptance Checkout Procedure for Generations 1 & 2 PSS
301 PSS- ACIS Trip Test
302 PSS-DIW Quick Test
303 PSS FE Shutter Simulator Test Procedure

## 400-499 Repair Procedures

400 One-for-One parts replacement 420 PSS Jumper Installation and Removal Procedure 430 Work Request Procedure and Forms 440 PSS Shutter Calibration

#### 500-599 User Docs

User Manual Floor Manager Training User/Operator Training Search and Secure Procedures Administrative Control Procedures Fault Resetting Procedure

600- Misc. 605 – Procedure for Securing Storage Ring Front End Shutters

Create W.B.S. 99 for Lab Beamline Simulator 98 for Lab Prototype System 97 for Test Cart System