1. PROJECT TITLE/PARTICIPANT	2. DATE	3. IDENTIFICATION NUMBER
7 GeV Advanced Photon Source / ANL	JULY , 2013	39-KC-02-89-R-402

4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1	X									APS PROJECT	X	39KC02	2C,3C	
2		X								CONSTRUCTION	X.1	39KC02	2C,3C	
3			X							PROJECT MANAGEMENT	X.1.1	39KC02	2C,3C	
4				X						PROJECT DIRECTION	X.1.1.1	39KC02	2C,3C	
5					X					PROJECT DIRECTION EFFORT	X.1.1.1.1	39KC02	2C,3C	
6						X				VACUUM CHAMBER	X.1.1.1.1.1	39KC02	2C,3C	
7						X				FIRST UNDULATOR W/GAP CONTROL	X.1.1.1.1.2	39KC02	2C,3C	
8						X				SECOND UNDULATOR W/GAP CONTROL	X.1.1.1.1.3	39KC02	2C,3C	
9					X					PROJ. DIRECTION/M&S	X.1.1.1.2	39KC02	2C,3C	
10						X				FE DESIGN INTEGRATION	X.1.1.1.2.1	39KC02	2C,3C	
11						X				FE COMPONENTS	X.1.1.1.3.1	39KC02	2C,3C	
12					X					DESIGN HANDBOOK	X.1.1.1.8	39KC02	2C,3C	
13					X					SAFETY/ENVIRON. COORD.	X.1.1.1.10	39KC02	2C,3C	
14					X					QA/QC	X.1.1.1.11	39KC02	2C,3C	
15					X					CONFIGURATION MGMT.	X.1.1.1.12	39KC02	2C,3C	
16					X					PROJ. CONTROLLER	X.1.1.1.13	39KC02	2C,3C	
17					X					BUILDING MODIFICATIONS	X.1.1.1.15	39KC02	2C,3C	
18					X					PROJECT-WIDE SUPPORT / M & S	X.1.1.1.16	39KC02	2C,3C	
19					X					PROCUREMENT COORD.	X.1.1.1.17	39KC02	2C,3C	
20					X					MANAGEMENT INFORMATION SYSTEMS	X.1.1.1.18	39KC02	2C,3C	
21				X						PROJECT CONTROL AND INTEGRATION	X.1.1.2	39KC02	2C,3C	
22					X					COST/SCHED. COORD.	X.1.1.2.1	39KC02	2C,3C	
23					X					ADMIN. & SUPPORT	X.1.1.2.6	39KC02	2C,3C	
24					X					ENVIRONMENTAL COMPLIANCE ACTIVITIES	X.1.1.2.8	39KC02	2C,3C	
25					X					TECHNICAL INTEGRATION	X.1.1.2.9	39KC02	2C,3C	
26					X					CONFIGURATION MANAGEMENT	X.1.1.2.11	39KC02	2C,3C	
27					X					INSTALLATION MANAGEMENT	X.1.1.2.12	39KC02	2C,3C	
28			X							INJECTOR	X.1.2	39KC02	2C,3C	
29				X						LINAC	X.1.2.1	39KC02	2C,3C	
30					X					LINAC INJECTOR	X.1.2.1.1	39KC02	2C,3C	
31						X				GUN ASSEMBLY	X.1.2.1.1.1	39KC02	2C,3C	
32							X			GUN ENCLOSURE	X.1.2.1.1.1.1	39KC02	2C,3C	
33							X			ELECTRON GUN	X.1.2.1.1.1.2	39KC02	2C,3C	
34								X		POWER SUPPLY	X.1.2.1.1.1.2.1	39KC02	2C,3C	
35								X		PSCU POWER SUPPLY CONTROL UNIT	X.1.2.1.1.1.2.2	39KC02	2C,3C	
36							X			PULSER	X.1.2.1.1.1.3	39KC02	2C,3C	
37							X			130 KV POWER SUPPLY	X.1.2.1.1.1.5	39KC02	2C,3C	
38							X			VACUUM VALVE	X.1.2.1.1.1.6	39KC02	2C,3C	
39							X			PHOTOINJECTOR DRIVE LASER	X.1.2.1.1.1.7	39KC02	2C,3C	
40						X				LENS AND POWER SUPPLY	X.1.2.1.1.2	39KC02	2C,3C	
41						X				RE-ENTRANT CAVITY	X.1.2.1.1.3	39KC02	2C,3C	
42							X			RE-ENTRANT CAVITY	X.1.2.1.1.3.1	39KC02	2C,3C	
43							X			PHASE SHIFTER & ATTENUATOR	X.1.2.1.1.3.3	39KC02	2C,3C	
44						X				MAIN BUNCHER	X.1.2.1.1.4	39KC02	2C,3C	
45							X			.75 BETA BUNCHER	X.1.2.1.1.4.1	39KC02	2C,3C	
46							X			.75 BETA BUNCHER COOLING SYSTEM	X.1.2.1.1.4.2	39KC02	2C,3C	
47					X					ACCELERATING STRUCTURES	X.1.2.1.2	39KC02	2C,3C	
48						X				ACCELERATOR STRUCTURES	X.1.2.1.2.1	39KC02	2C,3C	
49						X				RF WINDOWS	X.1.2.1.2.2	39KC02	2C,3C	
50						X				ACCELERATOR STRUCTURES COOLING SYSTEM	X.1.2.1.2.3	39KC02	2C,3C	
51					X					RF POWER SYSTEM	X.1.2.1.3	39KC02	2C,3C	
52						X				MODULATORS AND POWER SUPPLIES	X.1.2.1.3.1	39KC02	2C,3C	
53							X			RF-SUMMING BOX	X.1.2.1.3.1.1	39KC02	2C,3C	
54							X			RF-PULSE FORMING NETWORK	X.1.2.1.3.1.2	39KC02	2C,3C	
55							X			RF-THYRATRON BOX	X.1.2.1.3.1.3	39KC02	2C,3C	
56						X				KLYSTRON ASSEMBLY	X.1.2.1.3.2	39KC02	2C,3C	
57						X				RF POWER TRANSMISSION WAVEGUIDE	X.1.2.1.3.3	39KC02	2C,3C	
58							X			HIGH POWER COUPLERS	X.1.2.1.3.3.1	39KC02	2C,3C	
59							X			HIGH POWER PHASE SHIFTER	X.1.2.1.3.3.2	39KC02	2C,3C	
60							X			HIGH POWER ATTENUATOR	X.1.2.1.3.3.3	39KC02	2C,3C	
61							X			RF POWER LOAD (26)	X.1.2.1.3.3.4	39KC02	2C,3C	
62							X			RF POWER TRANS WAVEGUIDE	X.1.2.1.3.3.5	39KC02	2C,3C	
63							X			SLED CAVITIES (3)	X.1.2.1.3.3.7	39KC02	2C,3C	
64							X			BI-DIRECTIONAL COUPLERS (24)	X.1.2.1.3.3.8	39KC02	2C,3C	
65							X			POWER METERS	X.1.2.1.3.3.9	39KC02	2C,3C	
66							X			OPTICAL WINDOWS (5) (KLYSTRON PROTECTION)	X.1.2.1.3.3.10	39KC02	2C,3C	

* 2=Advanced Development, 3=Engineering, C=Construction

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
67							X			RF TRANSM WAVEGUIDE COOLING	X.1.2.1.3.3.11	39KC02	2C,3C	
68							X			WAVEGUIDE SWITCHING	X.1.2.1.3.3.13	39KC02	2C,3C	
69						X				LOW LEVEL RF	X.1.2.1.3.4	39KC02	2C,3C	
70							X			ULTRA STABLE OSCILLATOR	X.1.2.1.3.4.1	39KC02	2C,3C	
71							X			RF AMPLIFIER SOLID STATE	X.1.2.1.3.4.2	39KC02	2C,3C	
72							X			TRIGGER GENERATOR	X.1.2.1.3.4.3	39KC02	2C,3C	
73							X			PULSE/CW MICROWAVE COUNTER	X.1.2.1.3.4.4	39KC02	2C,3C	
74							X			400 WATT RF AMPLIFIER	X.1.2.1.3.4.5	39KC02	2C,3C	
75							X			PHASE SHIFTERS	X.1.2.1.3.4.6	39KC02	2C,3C	
76							X			ATTENUATORS	X.1.2.1.3.4.7	39KC02	2C,3C	
77							X			RF REFERENCE/DRIVE LINE	X.1.2.1.3.4.8	39KC02	2C,3C	
78							X			PHASE & AMPLITUDE MEASUREMENT & CONTROL SYSTEM	X.1.2.1.3.4.10	39KC02	2C,3C	
79							X			2 WATT AMPLF (2)	X.1.2.1.3.4.11	39KC02	2C,3C	
80						X				RF TEST BED (LINAC)	X.1.2.1.3.5	39KC02	2C,3C	
81					X					POSITRON CONVERTOR	X.1.2.1.4	39KC02	2C,3C	
82						X				RETRACTABLE TARGET ASSEMBLY	X.1.2.1.4.1	39KC02	2C,3C	
83						X				HIGH FIELD FOCUSING COIL & POWER SUPPLY	X.1.2.1.4.2	39KC02	2C,3C	
84					X					VACUUM	X.1.2.1.5	39KC02	2C,3C	
85						X				VACUUM ION PUMPS	X.1.2.1.5.1	39KC02	2C,3C	
86						X				TURBO PUMPS	X.1.2.1.5.2	39KC02	2C,3C	
87						X				VACUUM VALVES	X.1.2.1.5.3	39KC02	2C,3C	
88						X				VACUUM LINES	X.1.2.1.5.4	39KC02	2C,3C	
89						X				GAUGES AND CONTROLS	X.1.2.1.5.5	39KC02	2C,3C	
90						X				VACUUM CHAMBERS	X.1.2.1.5.6	39KC02	2C,3C	
91						X				BEAM WINDOWS	X.1.2.1.5.7	39KC02	2C,3C	
92					X					CONTRL.,DIAG.& SAFETY SYSTEMS	X.1.2.1.6	39KC02	2C,3C	
93						X				MONITORING AND CONTROL	X.1.2.1.6.1	39KC02	2C,3C	
94							X			LINAC KLYSTRON NODES	X.1.2.1.6.1.1	39KC02	2C,3C	
95							X			LINAC DIAGNOSTIC NODE	X.1.2.1.6.1.2	39KC02	2C,3C	
96							X			LINAC TIMING SYSTEM DRIVER	X.1.2.1.6.1.3	39KC02	2C,3C	
97							X			CABLE X-BAR PLANT	X.1.2.1.6.1.4	39KC02	2C,3C	
98							X			LOCAL CONTROL CONSOLES	X.1.2.1.6.1.5	39KC02	2C,3C	
99						X				BEAM DIAGNOSTICS	X.1.2.1.6.2	39KC02	2C,3C	
100							X			CURRENT MONITOR	X.1.2.1.6.2.1	39KC02	2C,3C	
101							X			BEAM POSITION AND PHASE	X.1.2.1.6.2.2	39KC02	2C,3C	
102							X			FLUORESCENT SCREENS	X.1.2.1.6.2.3	39KC02	2C,3C	
103							X			LOSS MONITORS	X.1.2.1.6.2.4	39KC02	2C,3C	
104						X				LINAC ACIS	X.1.2.1.6.3	39KC02	2C,3C	
105							X			MCR	X.1.2.1.6.3.1	39KC02	2C,3C	
106							X			GUN DOOR	X.1.2.1.6.3.2	39KC02	2C,3C	
107							X			LINAC DOOR	X.1.2.1.6.3.3	39KC02	2C,3C	
108							X			PAR DOOR	X.1.2.1.6.3.4	39KC02	2C,3C	
109							X			ITS	X.1.2.1.6.3.5	39KC02	2C,3C	
110							X			OVERVIEW	X.1.2.1.6.3.9	39KC02	2C,3C	
111					X					BEAM FOCUSING SYSTEMS	X.1.2.1.7	39KC02	2C,3C	
112						X				HELMHOLTZ COILS	X.1.2.1.7.1	39KC02	2C,3C	
113							X			SUPPORTS	X.1.2.1.7.1.1	39KC02	2C,3C	
114							X			POWER SUPPLY	X.1.2.1.7.1.2	39KC02	2C,3C	
115							X			SHUNTS	X.1.2.1.7.1.3	39KC02	2C,3C	
116							X			HELMHOLTZ COILS	X.1.2.1.7.1.4	39KC02	2C,3C	
117						X				EARTH FIELD COILS	X.1.2.1.7.2	39KC02	2C,3C	
118							X			COILS	X.1.2.1.7.2.1	39KC02	2C,3C	
119							X			POWER SUPPLY	X.1.2.1.7.2.2	39KC02	2C,3C	
120						X				STEERING COILS	X.1.2.1.7.3	39KC02	2C,3C	
121							X			COILS	X.1.2.1.7.3.1	39KC02	2C,3C	
122							X			POWER SUPPLY	X.1.2.1.7.3.2	39KC02	2C,3C	
123						X				QUADRUPOLE MAGNETS AND POWER SUPPLY	X.1.2.1.7.4	39KC02	2C,3C	
124							X			1.5 INCH QUADRUPOLE MAGNETS	X.1.2.1.7.4.1	39KC02	2C,3C	
125							X			POWER SUPPLY	X.1.2.1.7.4.2	39KC02	2C,3C	
126							X			6 INCH QUADRUPOLE MAGNETS	X.1.2.1.7.4.3	39KC02	2C,3C	
127							X			6 INCH POWER SUPPLY	X.1.2.1.7.4.4	39KC02	2C,3C	
128						X				SOLENOID	X.1.2.1.7.5	39KC02	2C,3C	
129							X			SOLENOID COIL	X.1.2.1.7.5.1	39KC02	2C,3C	
130							X			POWER SUPPLY	X.1.2.1.7.5.2	39KC02	2C,3C	
131					X					SUPPORT AND ALIGNMENT	X.1.2.1.8	39KC02	2C,3C	
132						X				EQUIPMENT	X.1.2.1.8.1	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
133					X					SUPPLEMENTAL SHIELDING	X.1.2.1.9	39KC02	2C,3C	
134						X				POSITRON CONVERTOR SHIELDING	X.1.2.1.9.1	39KC02	2C,3C	
135					X					LINAC EQUIPMENT INTERLOCKS	X.1.2.1.10	39KC02	2C,3C	
136					X					BUNCH COMPRESSION SYSTEM	X.1.2.1.11	39KC02	2C,3C	
137						X				MECHANICAL	X.1.2.1.11.1	39KC02	2C,3C	
138							X			MAGNETS	X.1.2.1.11.1.1	39KC02	2C,3C	
139								X		DIPOLES	X.1.2.1.11.1.1.1	39KC02	2C,3C	
140									X	CHICANE DIPOLES	X.1.2.1.11.1.1.1.1	39KC02	2C,3C	
141									X	ANALYZING MAGNET	X.1.2.1.11.1.1.1.2	39KC02	2C,3C	
142								X		QUADRUPOLES	X.1.2.1.11.1.1.2	39KC02	2C,3C	
143									X	TWEAKER QUADS	X.1.2.1.11.1.1.2.1	39KC02	2C,3C	
144									X	MATCHING QUADS	X.1.2.1.11.1.1.2.2	39KC02	2C,3C	
145									X	LINAC QUADS	X.1.2.1.11.1.1.2.3	39KC02	2C,3C	
146								X		CORRECTORS	X.1.2.1.11.1.1.3	39KC02	2C,3C	
147							X			PRIMARY SUPPORTS (FLOOR TO SECONDARY)	X.1.2.1.11.1.2	39KC02	2C,3C	
148								X		CHICANE REGION	X.1.2.1.11.1.2.1	39KC02	2C,3C	
149								X		MATCHING QUAD REGION	X.1.2.1.11.1.2.2	39KC02	2C,3C	
150								X		EMITTANCE MEASUREMENT SECTION	X.1.2.1.11.1.2.3	39KC02	2C,3C	
151							X			SECONDARY SUPPORTS	X.1.2.1.11.1.3	39KC02	2C,3C	
152								X		CHICANE	X.1.2.1.11.1.3.1	39KC02	2C,3C	
153									X	TRANSVERSE SLIDING SUPPORT	X.1.2.1.11.1.3.1.1	39KC02	2C,3C	
154									X	LONGITUDINAL SLIDING SUPPORT	X.1.2.1.11.1.3.1.2	39KC02	2C,3C	
155									X	DIPOLE SUPPORT	X.1.2.1.11.1.3.1.3	39KC02	2C,3C	
156									X	QUADRUPOLE SUPPORT	X.1.2.1.11.1.3.1.4	39KC02	2C,3C	
157									X	DIAGNOSTIC SUPPORTS	X.1.2.1.11.1.3.1.5	39KC02	2C,3C	
158									X	VACUUM SYSTEM SUPPLEMENTAL SUPPORT	X.1.2.1.11.1.3.1.6	39KC02	2C,3C	
159									X	WATER AND CABLE	X.1.2.1.11.1.3.1.7	39KC02	2C,3C	
160								X		MATCHING QUADS REGION	X.1.2.1.11.1.3.2	39KC02	2C,3C	
161									X	QUAD SUPPORT	X.1.2.1.11.1.3.2.1	39KC02	2C,3C	
162									X	CORRECTOR SUPPORT	X.1.2.1.11.1.3.2.2	39KC02	2C,3C	
163									X	VACUUM SYSTEM SUPPLEMENTAL SUPPORT	X.1.2.1.11.1.3.2.3	39KC02	2C,3C	
164									X	WATER AND CABLE	X.1.2.1.11.1.3.2.4	39KC02	2C,3C	
165								X		EMITTANCE MEASUREMENT SECTION	X.1.2.1.11.1.3.3	39KC02	2C,3C	
166									X	ANALYZING MAGNET SUPPORT	X.1.2.1.11.1.3.3.1	39KC02	2C,3C	
167									X	PRECISION FLAG SUPPORTS	X.1.2.1.11.1.3.3.2	39KC02	2C,3C	
168									X	BEAM DUMP SUPPORT	X.1.2.1.11.1.3.3.3	39KC02	2C,3C	
169									X	ICT SUPPORT	X.1.2.1.11.1.3.3.4	39KC02	2C,3C	
170									X	WIRE SCANNER SUPPORT	X.1.2.1.11.1.3.3.5	39KC02	2C,3C	
171									X	VACUUM SYSTEM SUPPLEMENTAL SUPPORT	X.1.2.1.11.1.3.3.6	39KC02	2C,3C	
172									X	WATER AND CABLE	X.1.2.1.11.1.3.3.7	39KC02	2C,3C	
173							X			MAGNET MEASUREMENT AND FIDUCIALIZATION	X.1.2.1.11.1.4	39KC02	2C,3C	
174							X			INSTALLATION	X.1.2.1.11.1.5	39KC02	2C,3C	
175							X			ALIGNMENT	X.1.2.1.11.1.6	39KC02	2C,3C	
176						X				POWER SUPPLIES	X.1.2.1.11.2	39KC02	2C,3C	
177							X			MAGNETS	X.1.2.1.11.2.1	39KC02	2C,3C	
178								X		DIPOLES	X.1.2.1.11.2.1.1	39KC02	2C,3C	
179									X	CHICANE DIPOLES	X.1.2.1.11.2.1.1.1	39KC02	2C,3C	
180									X	ANALYZING MAGNET	X.1.2.1.11.2.1.1.2	39KC02	2C,3C	
181								X		QUADRUPOLES	X.1.2.1.11.2.1.2	39KC02	2C,3C	
182									X	TWEAKER QUADS	X.1.2.1.11.2.1.2.1	39KC02	2C,3C	
183									X	MATCHING QUADS	X.1.2.1.11.2.1.2.2	39KC02	2C,3C	
184									X	LINAC QUADS	X.1.2.1.11.2.1.2.3	39KC02	2C,3C	
185								X		CORRECTORS	X.1.2.1.11.2.1.3	39KC02	2C,3C	
186								X		CONTROL ELECTRONICS	X.1.2.1.11.2.1.4	39KC02	2C,3C	
187								X		INSTALLATION AND WIRING	X.1.2.1.11.2.1.5	39KC02	2C,3C	
188						X				CONTROLS	X.1.2.1.11.3	39KC02	2C,3C	
189							X			IOC	X.1.2.1.11.3.1	39KC02	2C,3C	
190							X			MECHANICAL MOTION	X.1.2.1.11.3.2	39KC02	2C,3C	
191								X		TRANSVERSE SLIDING SUPPORT	X.1.2.1.11.3.2.1	39KC02	2C,3C	
192								X		LONGITUDINAL SLIDING SUPPORT	X.1.2.1.11.3.2.2	39KC02	2C,3C	
193							X			POWER SUPPLIES	X.1.2.1.11.3.3	39KC02	2C,3C	
194								X		DIPOLES	X.1.2.1.11.3.3.1	39KC02	2C,3C	
195									X	CHICANE DIPOLES	X.1.2.1.11.3.3.1.1	39KC02	2C,3C	
196									X	ANALYZING MAGNET	X.1.2.1.11.3.3.1.2	39KC02	2C,3C	
197								X		QUADRUPOLES	X.1.2.1.11.3.3.2	39KC02	2C,3C	
198									X	TWEAKER QUADS	X.1.2.1.11.3.3.2.1	39KC02	2C,3C	

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1. PROJECT TITLE/PARTICIPANT	2. DATE	3. IDENTIFICATION NUMBER
7 GeV Advanced Photon Source / ANL	JULY , 2013	39-KC-02-89-R-402

4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
199									X	MATCHING QUADS	X.1.2.1.11.3.3.2.2	39KC02	2C,3C	
200									X	LINAC QUADS	X.1.2.1.11.3.3.2.3	39KC02	2C,3C	
201								X		CORRECTORS	X.1.2.1.11.3.3.3	39KC02	2C,3C	
202							X			VACUUM	X.1.2.1.11.3.4	39KC02	2C,3C	
203								X		PUMPS	X.1.2.1.11.3.4.1	39KC02	2C,3C	
204								X		GATE VALVES	X.1.2.1.11.3.4.2	39KC02	2C,3C	
205							X			DIAGNOSTICS	X.1.2.1.11.3.5	39KC02	2C,3C	
206								X		BPMS	X.1.2.1.11.3.5.1	39KC02	2C,3C	
207								X		PRECISION FLAGS	X.1.2.1.11.3.5.2	39KC02	2C,3C	
208									X	ACTUATOR CONTROL	X.1.2.1.11.3.5.2.1	39KC02	2C,3C	
209									X	CAMERA ASSEMBLY CONTROL	X.1.2.1.11.3.5.2.2	39KC02	2C,3C	
210								X		OTHER FLAGS	X.1.2.1.11.3.5.3	39KC02	2C,3C	
211									X	ACTUATOR CONTROL	X.1.2.1.11.3.5.3.1	39KC02	2C,3C	
212									X	CAMERA ASSEMBLY CONTROL	X.1.2.1.11.3.5.3.2	39KC02	2C,3C	
213								X		SCRAPER	X.1.2.1.11.3.5.4	39KC02	2C,3C	
214								X		ICT	X.1.2.1.11.3.5.5	39KC02	2C,3C	
215								X		WIRE SCANNER	X.1.2.1.11.3.5.6	39KC02	2C,3C	
216								X		FARADAY CUP	X.1.2.1.11.3.5.7	39KC02	2C,3C	
217							X			VIDEO SYSTEMS	X.1.2.1.11.3.6	39KC02	2C,3C	
218								X		VIDEO DISTRIBUTION	X.1.2.1.11.3.6.1	39KC02	2C,3C	
219								X		IMAGE CAPTURE AND ANALYSIS	X.1.2.1.11.3.6.2	39KC02	2C,3C	
220							X			WATER AND TEMPERATURE	X.1.2.1.11.3.7	39KC02	2C,3C	
221							X			INSTALLATION AND WIRING	X.1.2.1.11.3.8	39KC02	2C,3C	
222						X				DIAGNOSTICS	X.1.2.1.11.4	39KC02	2C,3C	
223							X			BEAM POSITION MONITORS (BPMS)	X.1.2.1.11.4.1	39KC02	2C,3C	
224							X			FLAGS	X.1.2.1.11.4.2	39KC02	2C,3C	
225								X		PRECISION	X.1.2.1.11.4.2.1	39KC02	2C,3C	
226								X		CALIBRATION AND TEST STAND	X.1.2.1.11.4.2.2	39KC02	2C,3C	
227								X		OTHER	X.1.2.1.11.4.2.3	39KC02	2C,3C	
228							X			SCRAPER	X.1.2.1.11.4.3	39KC02	2C,3C	
229							X			ICT	X.1.2.1.11.4.4	39KC02	2C,3C	
230							X			SYNCHROTRON LIGHT PORTS	X.1.2.1.11.4.5	39KC02	2C,3C	
231							X			WIRE SCANNER	X.1.2.1.11.4.6	39KC02	2C,3C	
232							X			FARADAY CUP	X.1.2.1.11.4.7	39KC02	2C,3C	
233							X			VIDEO SYSTEMS	X.1.2.1.11.4.8	39KC02	2C,3C	
234							X			INSTALLATION AND WIRING	X.1.2.1.11.4.9	39KC02	2C,3C	
235							X			TESTING, CHARACTERIZATION AND FIDUCIALIZATION	X.1.2.1.11.4.10	39KC02	2C,3C	
236							X			LOCAL ELECTRONICS	X.1.2.1.11.4.11	39KC02	2C,3C	
237							X			LOCAL ELECTRONIC SHIELDING	X.1.2.1.11.4.12	39KC02	2C,3C	
238						X				VACUUM	X.1.2.1.11.5	39KC02	2C,3C	
239							X			PUMPING	X.1.2.1.11.5.1	39KC02	2C,3C	
240							X			VALVES	X.1.2.1.11.5.2	39KC02	2C,3C	
241							X			VACUUM MONITORING	X.1.2.1.11.5.3	39KC02	2C,3C	
242							X			LOCAL ELECTRONICS	X.1.2.1.11.5.4	39KC02	2C,3C	
243							X			CHICANE REGION	X.1.2.1.11.5.5	39KC02	2C,3C	
244								X		CHAMBERS	X.1.2.1.11.5.5.1	39KC02	2C,3C	
245								X		FLEX JOINT	X.1.2.1.11.5.5.2	39KC02	2C,3C	
246								X		TELESCOPIC JOINT	X.1.2.1.11.5.5.3	39KC02	2C,3C	
247								X		MISCELLANEOUS HARDWARE	X.1.2.1.11.5.5.4	39KC02	2C,3C	
248								X		SUPPORTS	X.1.2.1.11.5.5.5	39KC02	2C,3C	
249							X			MATCHING QUAD REGION	X.1.2.1.11.5.6	39KC02	2C,3C	
250								X		CHAMBERS	X.1.2.1.11.5.6.1	39KC02	2C,3C	
251								X		MISCELLANEOUS HARDWARE	X.1.2.1.11.5.6.2	39KC02	2C,3C	
252								X		SUPPORTS	X.1.2.1.11.5.6.3	39KC02	2C,3C	
253							X			EMITTANCE MEASUREMENT SECTION	X.1.2.1.11.5.7	39KC02	2C,3C	
254								X		CHAMBERS	X.1.2.1.11.5.7.1	39KC02	2C,3C	
255								X		MISCELLANEOUS HARDWARE	X.1.2.1.11.5.7.2	39KC02	2C,3C	
256								X		SUPPORTS	X.1.2.1.11.5.7.3	39KC02	2C,3C	
257							X			INSTALLATION AND WIRING	X.1.2.1.11.5.8	39KC02	2C,3C	
258						X				SAFETY ITEMS	X.1.2.1.11.6	39KC02	2C,3C	
259							X			SUPPLEMENTAL SHIELDING	X.1.2.1.11.6.1	39KC02	2C,3C	
260				X						INJECTOR SYNCHROTRON	X.1.2.2	39KC02	2C,3C	
261					X					MAGNETS	X.1.2.2.1	39KC02	2C,3C	
262						X				DIPOLES	X.1.2.2.1.1	39KC02	2C,3C	
263						X				QUADRUPOLE	X.1.2.2.1.2	39KC02	2C,3C	
264						X				SEXTUPOLE	X.1.2.2.1.3	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
	INDENTURE LEVEL											BUDGET AND		
Line No.	1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	Reporting NO.	PHASE *	OTHER
265						X				INJECTION SEPTUM	X.1.2.2.1.4	39KC02	2C,3C	
266						X				INJECTION KICKER	X.1.2.2.1.5	39KC02	2C,3C	
267						X				EXTRACTION SEPTUM (AC)	X.1.2.2.1.6	39KC02	2C,3C	
268						X				EXTRACTION SEPTUM (DC)	X.1.2.2.1.7	39KC02	2C,3C	
269						X				EXTRACTION KICKER	X.1.2.2.1.8	39KC02	2C,3C	
270						X				SUPPORTS	X.1.2.2.1.9	39KC02	2C,3C	
271						X				CORRECTION MAGNETS	X.1.2.2.1.10	39KC02	2C,3C	
272						X				MAGNET INTERLOCKS	X.1.2.2.1.11	39KC02	2C,3C	
273						X				MAGNET WIRING AND INSTALLATION	X.1.2.2.1.12	39KC02	2C,3C	
274						X				MAGNET COOLING INSTALLATION	X.1.2.2.1.13	39KC02	2C,3C	
275						X				MAGNET MEASUREMENTS	X.1.2.2.1.14	39KC02	2C,3C	
276					X					POWER SUPPLIES	X.1.2.2.2	39KC02	2C,3C	
277						X				DIPOLE POWER SUPPLY	X.1.2.2.2.1	39KC02	2C,3C	
278						X				QUADRUPOLE POWER SUPPLY	X.1.2.2.2.2	39KC02	2C,3C	
279						X				SEXTUPOLE POWER SUPPLIES	X.1.2.2.2.3	39KC02	2C,3C	
280						X				INJECTION SEPTUM POWER SUPPLY	X.1.2.2.2.4	39KC02	2C,3C	
281						X				INJECTION KICKER POWER SUPPLY	X.1.2.2.2.5	39KC02	2C,3C	
282						X				EXTRACTION SEPTUM (AC) POWER SUPPLY	X.1.2.2.2.6	39KC02	2C,3C	
283						X				EXTRACTION SEPTUM (DC) POWER SUPPLY	X.1.2.2.2.7	39KC02	2C,3C	
284						X				EXTRACTION KICKER	X.1.2.2.2.8	39KC02	2C,3C	
285						X				CORRECTION MAGNETS	X.1.2.2.2.9	39KC02	2C,3C	
286						X				POWER SUPPLY INST. & WIRING	X.1.2.2.2.10	39KC02	2C,3C	
287					X					VACUUM	X.1.2.2.3	39KC02	2C,3C	
288						X				VACUUM CHAMBER	X.1.2.2.3.1	39KC02	2C,3C	
289							X			STAINLESS STEEL CHAMBER	X.1.2.2.3.1.1	39KC02	2C,3C	
290							X			EXTRACTION VACUUM CHAMBER	X.1.2.2.3.1.2	39KC02	2C,3C	
291							X			INJECTION VACUUM CHAMBER	X.1.2.2.3.1.3	39KC02	2C,3C	
292						X				PUMPING	X.1.2.2.3.2	39KC02	2C,3C	
293							X			ION PUMPS	X.1.2.2.3.2.1	39KC02	2C,3C	
294							X			TURBO PUMPING STATIONS	X.1.2.2.3.2.2	39KC02	2C,3C	
295						X				BAKING SYSTEM	X.1.2.2.3.3	39KC02	2C,3C	
296						X				VACUUM ISOLATION VALVES	X.1.2.2.3.4	39KC02	2C,3C	
297							X			RING ISOLATION VALVES	X.1.2.2.3.4.1	39KC02	2C,3C	
298							X			DIAGNOSTIC ISOLATION VALVES	X.1.2.2.3.4.2	39KC02	2C,3C	
299						X				BELLOWS	X.1.2.2.3.5	39KC02	2C,3C	
300						X				VACUUM MONITORING	X.1.2.2.3.6	39KC02	2C,3C	
301							X			ION GAUGES	X.1.2.2.3.6.1	39KC02	2C,3C	
302							X			THERMOCOUPLE GAUGES	X.1.2.2.3.6.2	39KC02	2C,3C	
303							X			PENNING GAUGES	X.1.2.2.3.6.3	39KC02	2C,3C	
304							X			GAS ANALYZER	X.1.2.2.3.6.4	39KC02	2C,3C	
305							X			LEAK DETECTOR	X.1.2.2.3.6.5	39KC02	2C,3C	
306						X				MISC. HARDWARE	X.1.2.2.3.7	39KC02	2C,3C	
307							X			FEEDTHRUS	X.1.2.2.3.7.1	39KC02	2C,3C	
308							X			SEALS	X.1.2.2.3.7.3	39KC02	2C,3C	
309							X			FLANGES. ETC.	X.1.2.2.3.7.4	39KC02	2C,3C	
310					X					RF SYSTEM	X.1.2.2.4	39KC02	2C,3C	
311						X				ACCELERATION CAVITY	X.1.2.2.4.1	39KC02	2C,3C	
312							X			CAVITY (353 MHZ 5-CELL)	X.1.2.2.4.1.1	39KC02	2C,3C	
313							X			VACUUM	X.1.2.2.4.1.2	39KC02	2C,3C	
314							X			TUNERS	X.1.2.2.4.1.3	39KC02	2C,3C	
315							X			COUPLERS	X.1.2.2.4.1.4	39KC02	2C,3C	
316						X				RF POWER SYSTEM/AMPLIFIER SYSTEM	X.1.2.2.4.2	39KC02	2C,3C	
317							X			KLYSTRON AMPLIFIER	X.1.2.2.4.2.1	39KC02	2C,3C	
318							X			KLYSTRON POWER SUPPLY	X.1.2.2.4.2.2	39KC02	2C,3C	
319								X		FUSED DISCONNECT	X.1.2.2.4.2.2.1	39KC02	2C,3C	
320								X		MATCHING TRANSFORMER	X.1.2.2.4.2.2.2	39KC02	2C,3C	
321								X		SCR'S	X.1.2.2.4.2.2.3	39KC02	2C,3C	
322								X		POWER SUPPLY CONTROLS	X.1.2.2.4.2.2.4	39KC02	2C,3C	
323								X		TR SET	X.1.2.2.4.2.2.5	39KC02	2C,3C	
324								X		CROWBAR	X.1.2.2.4.2.2.6	39KC02	2C,3C	
325								X		MOD-ANODE	X.1.2.2.4.2.2.7	39KC02	2C,3C	
326								X		COMPUTER INTERFACE	X.1.2.2.4.2.2.8	39KC02	2C,3C	
327							X			COMPUTER INTERFACE	X.1.2.2.4.2.3	39KC02	2C,3C	
328						X				WAVEGUIDE SYSTEM	X.1.2.2.4.3	39KC02	2C,3C	
329						X				LOW-LEVEL RF SYSTEM	X.1.2.2.4.4	39KC02	2C,3C	
330						X				INTERLOCK SYSTEMS	X.1.2.2.4.5	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
331					X					CONTROL, DIAGNOSTIC, & SAFETY SYSTEMS	X.1.2.2.5	39KC02	2C,3C	
332						X				CONTROL & MONITORING	X.1.2.2.5.1	39KC02	2C,3C	
333							X			NETWORK INFRASTRUCTURE	X.1.2.2.5.1.1	39KC02	2C,3C	
334							X			RF NODE (MAIN)	X.1.2.2.5.1.2	39KC02	2C,3C	
335							X			RF NODE (NORTH CAVITY)	X.1.2.2.5.1.3	39KC02	2C,3C	
336							X			SYNCHROTRON (VAC,PS,DIAG) NODE	X.1.2.2.5.1.4	39KC02	2C,3C	
337							X			INJECTOR SW DEV. COMPUTER	X.1.2.2.5.1.5	39KC02	2C,3C	
338							X			SYNCHROTRON TIMING SYSTEM DRIVER	X.1.2.2.5.1.6	39KC02	2C,3C	
339							X			CABLE X-BAR PLANT	X.1.2.2.5.1.7	39KC02	2C,3C	
340							X			LOCAL CONSOLES	X.1.2.2.5.1.8	39KC02	2C,3C	
341						X				SYNCHROTON ACIS	X.1.2.2.5.3	39KC02	2C,3C	
342							X			MCR	X.1.2.2.5.3.1	39KC02	2C,3C	
343							X			INJECTION DOOR	X.1.2.2.5.3.2	39KC02	2C,3C	
344							X			EXTRACTION DOOR	X.1.2.2.5.3.3	39KC02	2C,3C	
345							X			ROOM A005	X.1.2.2.5.3.4	39KC02	2C,3C	
346						X				BEAM DIAGNOSTICS	X.1.2.2.5.4	39KC02	2C,3C	
347							X			CURRENT MONITOR	X.1.2.2.5.4.1	39KC02	2C,3C	
348							X			POSITION MONITOR	X.1.2.2.5.4.2	39KC02	2C,3C	
349							X			PHOTON MONITOR	X.1.2.2.5.4.3	39KC02	2C,3C	
350							X			TUNE MEASUREMENT SYSTEM	X.1.2.2.5.4.4	39KC02	2C,3C	
351							X			BEAM LOSS MONITORS	X.1.2.2.5.4.5	39KC02	2C,3C	
352							X			FLUORESCENT SCREENS	X.1.2.2.5.4.6	39KC02	2C,3C	
353							X			BEAM SCRAPER SYSTEM	X.1.2.2.5.4.7	39KC02	2C,3C	
354					X					SUPPLEMENTAL SHIELDING	X.1.2.2.6	39KC02	2C,3C	
355						X				EXTRACTION REGION SHIELDING	X.1.2.2.6.1	39KC02	2C,3C	
356				X						LOW ENERGY TRANSPORT LINE	X.1.2.3	39KC02	2C,3C	
357					X					MAGNETS	X.1.2.3.1	39KC02	2C,3C	
358						X				DIPOLE	X.1.2.3.1.1	39KC02	2C,3C	
359						X				QUADRUPOLE	X.1.2.3.1.2	39KC02	2C,3C	
360						X				MAGNET INTERLOCKS	X.1.2.3.1.3	39KC02	2C,3C	
361						X				SUPPORTS	X.1.2.3.1.4	39KC02	2C,3C	
362						X				MAGNET WIRING AND INSTALLATION	X.1.2.3.1.5	39KC02	2C,3C	
363						X				MAGNET COOLING INSTALLATION	X.1.2.3.1.6	39KC02	2C,3C	
364					X					POWER SUPPLIES	X.1.2.3.2	39KC02	2C,3C	
365						X				DIPOLE POWER SUPPLY	X.1.2.3.2.1	39KC02	2C,3C	
366						X				QUADRUPOLE POWER SUPPLY	X.1.2.3.2.2	39KC02	2C,3C	
367						X				INSTALLATION AND WIRING	X.1.2.3.2.3	39KC02	2C,3C	
368						X				CORRECTION POWER SUPPLIES	X.1.2.3.2.4	39KC02	2C,3C	
369					X					VACUUM	X.1.2.3.3	39KC02	2C,3C	
370						X				VACUUM CHAMBERS	X.1.2.3.3.1	39KC02	2C,3C	
371						X				SUPPORTS	X.1.2.3.3.2	39KC02	2C,3C	
372						X				VALVES	X.1.2.3.3.3	39KC02	2C,3C	
373							X			ISOLATION VALVES	X.1.2.3.3.3.1	39KC02	2C,3C	
374							X			FAST ACTING VALVE	X.1.2.3.3.3.2	39KC02	2C,3C	
375						X				PUMPS	X.1.2.3.3.4	39KC02	2C,3C	
376						X				GAUGES	X.1.2.3.3.5	39KC02	2C,3C	
377						X				MISC. HARDWARE	X.1.2.3.3.6	39KC02	2C,3C	
378					X					DIAG. & SAFETY SYSTEMS	X.1.2.3.4	39KC02	2C,3C	
379						X				BEAM DIAGNOSTICS	X.1.2.3.4.1	39KC02	2C,3C	
380							X			CURRENT MONITIORS	X.1.2.3.4.1.1	39KC02	2C,3C	
381							X			POSITION MONITORS	X.1.2.3.4.1.2	39KC02	2C,3C	
382							X			WIRE SCANNERS	X.1.2.3.4.1.3	39KC02	2C,3C	
383							X			FLUORESCENT SCREENS	X.1.2.3.4.1.4	39KC02	2C,3C	
384							X			LOSS MONITORS	X.1.2.3.4.1.5	39KC02	2C,3C	
385						X				LET PARTITIONS	X.1.2.3.4.2	39KC02	2C,3C	
386							X			MCR	X.1.2.3.4.2.1	39KC02	2C,3C	
387							X			PTB TRIPLE STOP	X.1.2.3.4.2.2	39KC02	2C,3C	
388							X			MISC. INTERLOCKS	X.1.2.3.4.2.3	39KC02	2C,3C	
389							X			LTL DOUBLE STOP	X.1.2.3.4.2.6	39KC02	2C,3C	
390					X					SUPPLEMENTAL SHIELDING	X.1.2.3.5	39KC02	2C,3C	
391						X				BENDING MAGNET SHIELDING	X.1.2.3.5.1	39KC02	2C,3C	
392				X						HIGH ENERGY TRANSPORT LINE	X.1.2.4	39KC02	2C,3C	
393					X					MAGNETS	X.1.2.4.1	39KC02	2C,3C	
394						X				DIPOLES	X.1.2.4.1.1	39KC02	2C,3C	
395						X				QUADRUPOLES	X.1.2.4.1.2	39KC02	2C,3C	
396						X				MAGNET INTERLOCKS	X.1.2.4.1.3	39KC02	2C,3C	

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1. PROJECT TITLE/PARTICIPANT	2. DATE	3. IDENTIFICATION NUMBER
7 GeV Advanced Photon Source / ANL	JULY , 2013	39-KC-02-89-R-402

4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
397						X				SUPPORTS	X.1.2.4.1.4	39KC02	2C,3C	
398						X				MAGNET WIRING AND INSTALLATION	X.1.2.4.1.5	39KC02	2C,3C	
399						X				MAGNET COOLING INSTALLATION	X.1.2.4.1.6	39KC02	2C,3C	
400					X					POWER SUPPLIES	X.1.2.4.2	39KC02	2C,3C	
401						X				DIPOLES	X.1.2.4.2.1	39KC02	2C,3C	
402						X				QUADRUPOLE (0.6M)	X.1.2.4.2.2	39KC02	2C,3C	
403						X				INSTALLATION AND WIRING	X.1.2.4.2.3	39KC02	2C,3C	
404						X				CORRECTION POWER SUPPLIES	X.1.2.4.2.4	39KC02	2C,3C	
405					X					VACUUM	X.1.2.4.3	39KC02	2C,3C	
406						X				VACUUM CHAMBERS	X.1.2.4.3.1	39KC02	2C,3C	
407						X				SUPPORTS	X.1.2.4.3.2	39KC02	2C,3C	
408						X				VALVES	X.1.2.4.3.3	39KC02	2C,3C	
409							X			ISOLATION VALVES	X.1.2.4.3.3.1	39KC02	2C,3C	
410							X			FAST ACTING VALVE	X.1.2.4.3.3.2	39KC02	2C,3C	
411						X				PUMPS	X.1.2.4.3.4	39KC02	2C,3C	
412						X				GAUGES	X.1.2.4.3.5	39KC02	2C,3C	
413						X				MISC. HARDWARE	X.1.2.4.3.6	39KC02	2C,3C	
414					X					CONTROL, DIAGNOSTIC, & SAFETY SYSTEMS	X.1.2.4.4	39KC02	2C,3C	
415						X				CONTROL & MONITORING	X.1.2.4.4.1	39KC02	2C,3C	
416							X			SYNC > SR BEAM TRANSPORT NODE	X.1.2.4.4.1.1	39KC02	2C,3C	
417							X			CABLE PLANT	X.1.2.4.4.1.2	39KC02	2C,3C	
418							X			LOCAL CONSOLE	X.1.2.4.4.1.3	39KC02	2C,3C	
419						X				BEAM DIAGNOSTICS	X.1.2.4.4.2	39KC02	2C,3C	
420							X			CURRENT MONITORS	X.1.2.4.4.2.1	39KC02	2C,3C	
421							X			POSITION MONITORS	X.1.2.4.4.2.2	39KC02	2C,3C	
422							X			WIRE SCANNERS	X.1.2.4.4.2.3	39KC02	2C,3C	
423							X			FLUORESCENT SCREENS	X.1.2.4.4.2.4	39KC02	2C,3C	
424							X			LOSS MONITORS	X.1.2.4.4.2.5	39KC02	2C,3C	
425						X				HET PARTITIONS	X.1.2.4.4.3	39KC02	2C,3C	
426							X			MCR	X.1.2.4.4.3.1	39KC02	2C,3C	
427							X			BTR DOUBLE STOP	X.1.2.4.4.3.2	39KC02	2C,3C	
428							X			MISC. INTERLOCKS	X.1.2.4.4.3.3	39KC02	2C,3C	
429					X					SUPPLEMENTAL SHIELDING	X.1.2.4.5	39KC02	2C,3C	
430						X				BENDING MAGNET SHIELDING	X.1.2.4.5.1	39KC02	2C,3C	
431				X						POSITRON ACCUMULATOR RING	X.1.2.5	39KC02	2C,3C	
432					X					PAR MAGNETS	X.1.2.5.1	39KC02	2C,3C	
433						X				DIPOLE	X.1.2.5.1.1	39KC02	2C,3C	
434						X				QUADRUPOLE	X.1.2.5.1.2	39KC02	2C,3C	
435						X				12-POLE CORRECTION	X.1.2.5.1.3	39KC02	2C,3C	
436						X				AC SEPTUM	X.1.2.5.1.4	39KC02	2C,3C	
437						X				BEAM BUMP KICKER	X.1.2.5.1.5	39KC02	2C,3C	
438						X				SUPPORTS	X.1.2.5.1.6	39KC02	2C,3C	
439						X				MAGNET INTERLOCKS	X.1.2.5.1.7	39KC02	2C,3C	
440						X				MAGNET WIRING AND INSTALLATION	X.1.2.5.1.8	39KC02	2C,3C	
441						X				MAGNET COOLING INSTALLATION	X.1.2.5.1.9	39KC02	2C,3C	
442						X				MAGNET MEASUREMENTS	X.1.2.5.1.10	39KC02	2C,3C	
443					X					PAR POWER SUPPLIES	X.1.2.5.2	39KC02	2C,3C	
444						X				DIPOLE	X.1.2.5.2.1	39KC02	2C,3C	
445						X				TRIM DIPOLE COIL	X.1.2.5.2.2	39KC02	2C,3C	
446						X				QUADRUPOLE	X.1.2.5.2.3	39KC02	2C,3C	
447						X				SEXTUPOLE	X.1.2.5.2.4	39KC02	2C,3C	
448						X				H-V CORR. DIPOLE	X.1.2.5.2.5	39KC02	2C,3C	
449						X				AC SEPTUM	X.1.2.5.2.6	39KC02	2C,3C	
450						X				BEAM BUMPER KICKER	X.1.2.5.2.7	39KC02	2C,3C	
451						X				INSTALLATION AND WIRING	X.1.2.5.2.8	39KC02	2C,3C	
452					X					PAR VACUUM	X.1.2.5.3	39KC02	2C,3C	
453						X				VACUUM CHAMBER	X.1.2.5.3.1	39KC02	2C,3C	
454							X			STEEL VACUUM CHAMBER	X.1.2.5.3.1.1	39KC02	2C,3C	
455							X			EXTRACTION CHAMBER	X.1.2.5.3.1.2	39KC02	2C,3C	
456						X				PUMPING	X.1.2.5.3.2	39KC02	2C,3C	
457							X			ION PUMPS	X.1.2.5.3.2.1	39KC02	2C,3C	
458							X			TURBO PUMPING STATION	X.1.2.5.3.2.2	39KC02	2C,3C	
459						X				BAKEOUT SYSTEM	X.1.2.5.3.3	39KC02	2C,3C	
460						X				VACUUM VALVES	X.1.2.5.3.4	39KC02	2C,3C	
461							X			RING ISOLATION VALVES	X.1.2.5.3.4.1	39KC02	2C,3C	
462							X			DIAGNOSTIC ISOLATION VALVES	X.1.2.5.3.4.2	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
463						X				BELLOWS	X.1.2.5.3.5	39KC02	2C,3C	
464						X				VACUUM MONITORING	X.1.2.5.3.6	39KC02	2C,3C	
465							X			VACUUM GAUGES	X.1.2.5.3.6.1	39KC02	2C,3C	
466							X			GAS ANALYZER	X.1.2.5.3.6.2	39KC02	2C,3C	
467							X			LEAK DETECTOR	X.1.2.5.3.6.3	39KC02	2C,3C	
468						X				MISC. HARDWARE	X.1.2.5.3.7	39KC02	2C,3C	
469							X			FEEDTHROUGHS	X.1.2.5.3.7.1	39KC02	2C,3C	
470							X			NUTS & BOLTS	X.1.2.5.3.7.2	39KC02	2C,3C	
471							X			SEALS	X.1.2.5.3.7.3	39KC02	2C,3C	
472							X			FLANGES	X.1.2.5.3.7.4	39KC02	2C,3C	
473					X					PAR RF SYSTEM	X.1.2.5.4	39KC02	2C,3C	
474						X				FUNDAMENTAL FREQUENCY RF SYSTEM	X.1.2.5.4.1	39KC02	2C,3C	
475							X			FUNDAMENTAL FREQUENCY CAVITY	X.1.2.5.4.1.1	39KC02	2C,3C	
476							X			POWER AMPLIFIER	X.1.2.5.4.1.2	39KC02	2C,3C	
477							X			LOW LEVEL RF CONTROL	X.1.2.5.4.1.3	39KC02	2C,3C	
478							X			COMPUTER CONTROL	X.1.2.5.4.1.4	39KC02	2C,3C	
479						X				TWELFTH HARMONIC RF SYSTEM	X.1.2.5.4.2	39KC02	2C,3C	
480							X			RF CAVITY	X.1.2.5.4.2.1	39KC02	2C,3C	
481							X			RF POWER AMPLIFIER	X.1.2.5.4.2.2	39KC02	2C,3C	
482							X			LOW LEVEL RF CONTROL	X.1.2.5.4.2.3	39KC02	2C,3C	
483							X			COMPUTER CONTROL	X.1.2.5.4.2.4	39KC02	2C,3C	
484					X					CONTROL, DIAG. & SAFETY SYSTEMS	X.1.2.5.5	39KC02	2C,3C	
485						X				CONTROL & MONITORING	X.1.2.5.5.1	39KC02	2C,3C	
486							X			PAR RF NODE	X.1.2.5.5.1.1	39KC02	2C,3C	
487							X			PAR DIAGNOSTIC NODE	X.1.2.5.5.1.2	39KC02	2C,3C	
488							X			PAR VACUUM/PS/DIAGNOSTIC NODE	X.1.2.5.5.1.3	39KC02	2C,3C	
489							X			PAR TIMING SYSTEM DRIVER	X.1.2.5.5.1.4	39KC02	2C,3C	
490							X			CABLE X-BAR PLANT	X.1.2.5.5.1.5	39KC02	2C,3C	
491							X			LOCAL CONSOLES	X.1.2.5.5.1.6	39KC02	2C,3C	
492						X				PAR ACIS	X.1.2.5.5.3	39KC02	2C,3C	
493							X			CONTROLLED ACCESS ZONE	X.1.2.5.5.3.1	39KC02	2C,3C	
494							X			RADIATION MONITORS	X.1.2.5.5.3.2	39KC02	2C,3C	
495							X			MISC. INTERLOCKS	X.1.2.5.5.3.3	39KC02	2C,3C	
496						X				BEAM DIAGNOSTICS	X.1.2.5.5.4	39KC02	2C,3C	
497							X			CURRENT MONITOR	X.1.2.5.5.4.1	39KC02	2C,3C	
498							X			POSITION MONITORS	X.1.2.5.5.4.2	39KC02	2C,3C	
499							X			PHOTON MONITOR	X.1.2.5.5.4.3	39KC02	2C,3C	
500							X			TUNE MEASUREMENT SYSTEM	X.1.2.5.5.4.4	39KC02	2C,3C	
501							X			BEAM LOSS MONITOR	X.1.2.5.5.4.5	39KC02	2C,3C	
502							X			FLUORESCENT SCREENS	X.1.2.5.5.4.6	39KC02	2C,3C	
503							X			BEAM SCRAPER SYSTEM	X.1.2.5.5.4.7	39KC02	2C,3C	
504					X					SUPPLEMENTAL SHIELDING	X.1.2.5.6	39KC02	2C,3C	
505						X				SUPPLEMENTAL SHIELDING	X.1.2.5.6.1	39KC02	2C,3C	
506				X						INJECTOR INSTALLATION	X.1.2.6	39KC02	2C,3C	
507					X					MECHANICAL ASSEMBLY	X.1.2.6.1	39KC02	2C,3C	
508						X				PAR/LET MECHANICAL INSTALLATION	X.1.2.6.1.1	39KC02	2C,3C	
509						X				SYNC/HET MECHANICAL INSTALLATION	X.1.2.6.1.2	39KC02	2C,3C	
510					X					POWER SUPPLIES	X.1.2.6.2	39KC02	2C,3C	
511						X				POWER SUPPLIES	X.1.2.6.2.1	39KC02	2C,3C	
512					X					VACUUM	X.1.2.6.3	39KC02	2C,3C	
513						X				INJECTOR VACUUM INSTALLATION	X.1.2.6.3.1	39KC02	2C,3C	
514					X					RF SYSTEMS	X.1.2.6.4	39KC02	2C,3C	
515						X				RF SYSTEMS	X.1.2.6.4.1	39KC02	2C,3C	
516					X					CONTROLS-BESOCM TRIGGER CHASSIS BLOCK	X.1.2.6.5	39KC02	2C,3C	
517						X				CONTROLS	X.1.2.6.5.1	39KC02	2C,3C	
518					X					DIAGNOSTICS	X.1.2.6.6	39KC02	2C,3C	
519						X				DIAGNOSTICS	X.1.2.6.6.1	39KC02	2C,3C	
520				X						INJECTOR LOW CONDUCTIVITY WATER SYSTEM	X.1.2.7	39KC02	2C,3C	
521			X							STORAGE RING	X.1.3	39KC02	2C,3C	
522				X						STORAGE RING TECHNICAL COMPONENTS	X.1.3.1	39KC02	2C,3C	
523					X					MAGNETS	X.1.3.1.1	39KC02	2C,3C	
524						X				DIPOLES	X.1.3.1.1.1	39KC02	2C,3C	
525							X			DIPOLES	X.1.3.1.1.1.1	39KC02	2C,3C	
526							X			TRIM COIL	X.1.3.1.1.1.2	39KC02	2C,3C	
527						X				QUADRUPOLES	X.1.3.1.1.2	39KC02	2C,3C	
528							X			QUADRUPOLE 0.8M LONG	X.1.3.1.1.2.1	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
529							X			QUADRUPOLE 0.6M LONG	X.1.3.1.1.2.2	39KC02	2C,3C	
530							X			QUADRUPOLE 0.5M LONG	X.1.3.1.1.2.3	39KC02	2C,3C	
531							X			SKEW QUADRUPOLE	X.1.3.1.1.2.4	39KC02	2C,3C	
532						X				SEXTUPOLES	X.1.3.1.1.3	39KC02	2C,3C	
533							X			SEXTUPOLE	X.1.3.1.1.3.1	39KC02	2C,3C	
534							X			VERTICAL CORRECTION WINDING	X.1.3.1.1.3.2	39KC02	2C,3C	
535						X				CORRECTION DIPOLES	X.1.3.1.1.4	39KC02	2C,3C	
536							X			HORIZONTAL CORRECTION DIPOLE	X.1.3.1.1.4.1	39KC02	2C,3C	
537							X			HORIZ.&VERT. CORRECTION DIPOLE	X.1.3.1.1.4.2	39KC02	2C,3C	
538						X				INJECTION MAGNETS	X.1.3.1.1.5	39KC02	2C,3C	
539							X			SEPTUM (AC)	X.1.3.1.1.5.1	39KC02	2C,3C	
540							X			SEPTUM (DC)	X.1.3.1.1.5.2	39KC02	2C,3C	
541							X			BEAM BUMP	X.1.3.1.1.5.3	39KC02	2C,3C	
542						X				BEAM ABORT MAGNETS	X.1.3.1.1.6	39KC02	2C,3C	
543							X			ABORT KICKER	X.1.3.1.1.6.1	39KC02	2C,3C	
544							X			ABORT SEPTUM (PERM. MAGNET)	X.1.3.1.1.6.2	39KC02	2C,3C	
545						X				MAGNET INTERLOCKS	X.1.3.1.1.7	39KC02	2C,3C	
546						X				MAGNET MEASUREMENTS	X.1.3.1.1.11	39KC02	2C,3C	
547					X					POWER SUPPLIES	X.1.3.1.2	39KC02	2C,3C	
548						X				DIPOLES	X.1.3.1.2.1	39KC02	2C,3C	
549							X			DIPOLE	X.1.3.1.2.1.1	39KC02	2C,3C	
550							X			TRIM COILS	X.1.3.1.2.1.2	39KC02	2C,3C	
551						X				QUADRUPOLES	X.1.3.1.2.2	39KC02	2C,3C	
552							X			QUADRUPOLES (0.8M)	X.1.3.1.2.2.1	39KC02	2C,3C	
553							X			QUADRUPOLE (0.6M)	X.1.3.1.2.2.2	39KC02	2C,3C	
554							X			QUADRUPOLE (0.5M)	X.1.3.1.2.2.3	39KC02	2C,3C	
555							X			QUADRUPOLE (SKEW)	X.1.3.1.2.2.4	39KC02	2C,3C	
556						X				SEXTUPOLES	X.1.3.1.2.3	39KC02	2C,3C	
557							X			SEXTUPOLES	X.1.3.1.2.3.1	39KC02	2C,3C	
558							X			VERTICAL CORRECTION WINDING	X.1.3.1.2.3.2	39KC02	2C,3C	
559						X				CORRECTION DIPOLES	X.1.3.1.2.4	39KC02	2C,3C	
560							X			HORIZONTAL CORRECTION DIPOLE	X.1.3.1.2.4.1	39KC02	2C,3C	
561							X			HORIZ & VERT COR. DIPOLE	X.1.3.1.2.4.2	39KC02	2C,3C	
562						X				INJECTION MAGNETS	X.1.3.1.2.5	39KC02	2C,3C	
563							X			SEPTUM (AC) POWER SUPPLY	X.1.3.1.2.5.1	39KC02	2C,3C	
564							X			SEPTUM (DC) POWER SUPPLY	X.1.3.1.2.5.2	39KC02	2C,3C	
565							X			BEAM BUMP	X.1.3.1.2.5.3	39KC02	2C,3C	
566						X				ABORT KICKER	X.1.3.1.2.6	39KC02	2C,3C	
567							X			KICKER	X.1.3.1.2.6.1	39KC02	2C,3C	
568						X				CHOPPERS	X.1.3.1.2.7	39KC02	2C,3C	
569							X			CHOPPER DC POWER SUPPLY NO.1	X.1.3.1.2.7.1	39KC02	2C,3C	
570							X			CHOPPER DC POWER SUPPLY NO. 2	X.1.3.1.2.7.2	39KC02	2C,3C	
571							X			CHOPPER DC POWER SUPPLY NO.3	X.1.3.1.2.7.3	39KC02	2C,3C	
572							X			CHOPPER DC POWER SUPPLY NO.4	X.1.3.1.2.7.4	39KC02	2C,3C	
573						X				POWER SUPPLY INST. WIRING	X.1.3.1.2.8	39KC02	2C,3C	
574					X					VACUUM	X.1.3.1.3	39KC02	2C,3C	
575						X				VACUUM CHAMBERS	X.1.3.1.3.1	39KC02	2C,3C	
576							X			SECTIONS 1 THRU 6	X.1.3.1.3.1.1	39KC02	2C,3C	
577							X			SECTION 6	X.1.3.1.3.1.6	39KC02	2C,3C	
578							X			INJECTION VACUUM CHAMBER	X.1.3.1.3.1.7	39KC02	2C,3C	
579							X			ABORT VACUUM CHAMBER	X.1.3.1.3.1.8	39KC02	2C,3C	
580						X				PUMPING SYSTEM	X.1.3.1.3.2	39KC02	2C,3C	
581							X			PRIMARY SYSTEM (NEG PUMPING)	X.1.3.1.3.2.1	39KC02	2C,3C	
582								X		DISTRIBUTED NEG STRIPS	X.1.3.1.3.2.1.1	39KC02	2C,3C	
583								X		LUMPED NEG PUMPS	X.1.3.1.3.2.1.2	39KC02	2C,3C	
584							X			HOLDING AND INTERMEDIATE SYSTEM	X.1.3.1.3.2.2	39KC02	2C,3C	
585								X		LUMPED ION 220 P	X.1.3.1.3.2.2.1	39KC02	2C,3C	
586								X		LUMPED ION 30 P	X.1.3.1.3.2.2.2	39KC02	2C,3C	
587							X			ROUGHING SYSTEM	X.1.3.1.3.2.3	39KC02	2C,3C	
588								X		TURBOMOLECULAR PUMPS	X.1.3.1.3.2.3.1	39KC02	2C,3C	
589								X		SORPTION PUMPS	X.1.3.1.3.2.3.2	39KC02	2C,3C	
590						X				BAKEOUT SYSTEM	X.1.3.1.3.3	39KC02	2C,3C	
591						X				VALVES	X.1.3.1.3.4	39KC02	2C,3C	
592							X			RING ISOLATION VALVES	X.1.3.1.3.4.1	39KC02	2C,3C	
593							X			BEAM LINE ISOLATION VALVES	X.1.3.1.3.4.2	39KC02	2C,3C	
594							X			TURBOPUMP ISOLATION VALVES	X.1.3.1.3.4.3	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
595							X			DIAGNOSTIC ISOLATION VALVES	X.1.3.1.3.4.4	39KC02	2C,3C	
596							X			INTERLOCK GAUGE ISOLATION VALVES	X.1.3.1.3.4.5	39KC02	2C,3C	
597						X				BELLOWS	X.1.3.1.3.5	39KC02	2C,3C	
598							X			RING BELLOWS	X.1.3.1.3.5.1	39KC02	2C,3C	
599							X			BEAM EXIT BELLOWS	X.1.3.1.3.5.2	39KC02	2C,3C	
600						X				VACUUM MONITORING	X.1.3.1.3.6	39KC02	2C,3C	
601							X			VACUUM GAUGES	X.1.3.1.3.6.1	39KC02	2C,3C	
602							X			GAS ANALYZER	X.1.3.1.3.6.2	39KC02	2C,3C	
603							X			LEAK DETECTOR	X.1.3.1.3.6.3	39KC02	2C,3C	
604						X				MISC. HARDWARE	X.1.3.1.3.7	39KC02	2C,3C	
605							X			VACUUM SEALS	X.1.3.1.3.7.1	39KC02	2C,3C	
606							X			FEEDTHRUS	X.1.3.1.3.7.2	39KC02	2C,3C	
607							X			NUTS AND BOLTS	X.1.3.1.3.7.3	39KC02	2C,3C	
608							X			FLANGES	X.1.3.1.3.7.4	39KC02	2C,3C	
609						X				SR VACUUM ABSORBERS	X.1.3.1.3.8	39KC02	2C,3C	
610							X			CROTCH	X.1.3.1.3.8.1	39KC02	2C,3C	
611							X			DISTRIBUTED ABSORBERS	X.1.3.1.3.8.2	39KC02	2C,3C	
612					X					RF SYSTEM	X.1.3.1.4	39KC02	2C,3C	
613						X				352 MHZ SYSTEM	X.1.3.1.4.1	39KC02	2C,3C	
614							X			CAVITY	X.1.3.1.4.1.1	39KC02	2C,3C	
615								X		SHELL (352 MHZ SINGLE CELL)	X.1.3.1.4.1.1.1	39KC02	2C,3C	
616								X		VACUUM	X.1.3.1.4.1.1.2	39KC02	2C,3C	
617								X		TUNERS	X.1.3.1.4.1.1.3	39KC02	2C,3C	
618								X		COUPLERS	X.1.3.1.4.1.1.4	39KC02	2C,3C	
619								X		DAMPERS	X.1.3.1.4.1.1.5	39KC02	2C,3C	
620								X		BLOWERS & BLOWER CONTROLS	X.1.3.1.4.1.1.6	39KC02	2C,3C	
621							X			RF POWER SYSTEM	X.1.3.1.4.1.2	39KC02	2C,3C	
622								X		KLYSTRON	X.1.3.1.4.1.2.1	39KC02	2C,3C	
623								X		KLYSTRON POWER SUPPLIES	X.1.3.1.4.1.2.2	39KC02	2C,3C	
624									X	FUSED DISCONNECT	X.1.3.1.4.1.2.2.1	39KC02	2C,3C	
625									X	MATCHING TRANSFORMERS	X.1.3.1.4.1.2.2.2	39KC02	2C,3C	
626									X	SCR'S	X.1.3.1.4.1.2.2.3	39KC02	2C,3C	
627									X	POWER SUPPLY CONTROLS	X.1.3.1.4.1.2.2.4	39KC02	2C,3C	
628									X	TR SET	X.1.3.1.4.1.2.2.5	39KC02	2C,3C	
629									X	CROWBAR	X.1.3.1.4.1.2.2.6	39KC02	2C,3C	
630									X	MOD ANODE	X.1.3.1.4.1.2.2.7	39KC02	2C,3C	
631									X	COMPUTER INTERFACE	X.1.3.1.4.1.2.2.8	39KC02	2C,3C	
632								X		COMPUTER INTERFACE	X.1.3.1.4.1.2.3	39KC02	2C,3C	
633							X			WAVEGUIDES	X.1.3.1.4.1.3	39KC02	2C,3C	
634							X			LOW LEVEL RF SYSTEMS	X.1.3.1.4.1.4	39KC02	2C,3C	
635							X			SYNCHROTRON STORAGE RING ACIS/RF	X.1.3.1.4.1.5	39KC02	2C,3C	
636							X			INTERLOCK SYSTEMS	X.1.3.1.4.1.6	39KC02	2C,3C	
637						X				420 RF TEST BED	X.1.3.1.4.2	39KC02	2C,3C	
638							X			LOW-LEVEL RF	X.1.3.1.4.2.1	39KC02	2C,3C	
639							X			CAVITY	X.1.3.1.4.2.2	39KC02	2C,3C	
640							X			WAVEGUIDE	X.1.3.1.4.2.3	39KC02	2C,3C	
641							X			VACUUM	X.1.3.1.4.2.4	39KC02	2C,3C	
642							X			INTERLOCK SYSTEMS	X.1.3.1.4.2.5	39KC02	2C,3C	
643							X			KLYSTRON	X.1.3.1.4.2.6	39KC02	2C,3C	
644						X				2815 MHZ SYSTEM	X.1.3.1.4.3	39KC02	2C,3C	
645							X			DEFLECTING CAVITY	X.1.3.1.4.3.1	39KC02	2C,3C	
646								X		VACUUM	X.1.3.1.4.3.1.1	39KC02	2C,3C	
647							X			HOM/LOM DAMPER	X.1.3.1.4.3.2	39KC02	2C,3C	
648							X			SUPPORTS	X.1.3.1.4.3.3	39KC02	2C,3C	
649					X					CONTROL, DIAGNOSTIC, & SAFETY SYSTEMS	X.1.3.1.5	39KC02	2C,3C	
650						X				CONTROL & MONITORING	X.1.3.1.5.1	39KC02	2C,3C	
651							X			NETWORK INFRASTRUCTURE	X.1.3.1.5.1.1	39KC02	2C,3C	
652							X			RF NODES	X.1.3.1.5.1.2	39KC02	2C,3C	
653							X			POWER SUPPLY NODE	X.1.3.1.5.1.3	39KC02	2C,3C	
654							X			DIAGNOSTIC NODES	X.1.3.1.5.1.4	39KC02	2C,3C	
655							X			STORAGE RING NODES	X.1.3.1.5.1.5	39KC02	2C,3C	
656							X			STORAGE RING SW DEV. COMPUTER	X.1.3.1.5.1.6	39KC02	2C,3C	
657							X			STORAGE RING TIMING SYSTEM DRIVE	X.1.3.1.5.1.7	39KC02	2C,3C	
658							X			CABLE X-BAR PLANT	X.1.3.1.5.1.8	39KC02	2C,3C	
659							X			LOOP PROCESSORS	X.1.3.1.5.1.9	39KC02	2C,3C	
660							X			LOCAL CONSOLES	X.1.3.1.5.1.10	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
661						X				STORAGE RING ACIS	X.1.3.1.5.3	39KC02	2C,3C	
662							X			MCR, RF AREA	X.1.3.1.5.3.1	39KC02	2C,3C	
663							X			SUPER DOOR F	X.1.3.1.5.3.2	39KC02	2C,3C	
664							X			ROOM A005	X.1.3.1.5.3.3	39KC02	2C,3C	
665							X			RF TEST ROOM	X.1.3.1.5.3.4	39KC02	2C,3C	
666							X			EAA	X.1.3.1.5.3.5	39KC02	2C,3C	
667							X			MCR, ZONE A-E	X.1.3.1.5.3.11	39KC02	2C,3C	
668							X			SUPER DOOR A	X.1.3.1.5.3.12	39KC02	2C,3C	
669							X			SUPER DOOR B	X.1.3.1.5.3.13	39KC02	2C,3C	
670							X			SUPER DOOR C	X.1.3.1.5.3.14	39KC02	2C,3C	
671							X			SUPER DOOR D	X.1.3.1.5.3.15	39KC02	2C,3C	
672							X			SUPER DOOR E	X.1.3.1.5.3.16	39KC02	2C,3C	
673							X			SECTOR 1	X.1.3.1.5.3.20.1	39KC02	2C,3C	
674							X			SECTOR 2	X.1.3.1.5.3.20.2	39KC02	2C,3C	
675							X			SECTOR 3	X.1.3.1.5.3.20.3	39KC02	2C,3C	
676							X			SECTOR 4	X.1.3.1.5.3.20.4	39KC02	2C,3C	
677							X			SECTOR 5	X.1.3.1.5.3.20.5	39KC02	2C,3C	
678							X			SECTOR 6	X.1.3.1.5.3.20.6	39KC02	2C,3C	
679							X			SECTOR 7	X.1.3.1.5.3.20.7	39KC02	2C,3C	
680							X			SECTOR 8	X.1.3.1.5.3.20.8	39KC02	2C,3C	
681							X			SECTOR 9	X.1.3.1.5.3.20.9	39KC02	2C,3C	
682							X			SECTOR 10	X.1.3.1.5.3.20.10	39KC02	2C,3C	
683							X			SECTOR 11	X.1.3.1.5.3.20.11	39KC02	2C,3C	
684							X			SECTOR 12	X.1.3.1.5.3.20.12	39KC02	2C,3C	
685							X			SECTOR 13	X.1.3.1.5.3.20.13	39KC02	2C,3C	
686							X			SECTOR 14	X.1.3.1.5.3.20.14	39KC02	2C,3C	
687							X			SECTOR 15	X.1.3.1.5.3.20.15	39KC02	2C,3C	
688							X			SECTOR 16	X.1.3.1.5.3.20.16	39KC02	2C,3C	
689							X			SECTOR 17	X.1.3.1.5.3.20.17	39KC02	2C,3C	
690							X			SECTOR 18	X.1.3.1.5.3.20.18	39KC02	2C,3C	
691							X			SECTOR 19	X.1.3.1.5.3.20.19	39KC02	2C,3C	
692							X			SECTOR 20	X.1.3.1.5.3.20.20	39KC02	2C,3C	
693							X			SECTOR 21	X.1.3.1.5.3.20.21	39KC02	2C,3C	
694							X			SECTOR 22	X.1.3.1.5.3.20.22	39KC02	2C,3C	
695							X			SECTOR 23	X.1.3.1.5.3.20.23	39KC02	2C,3C	
696							X			SECTOR 24	X.1.3.1.5.3.20.24	39KC02	2C,3C	
697							X			SECTOR 25	X.1.3.1.5.3.20.25	39KC02	2C,3C	
698							X			SECTOR 26	X.1.3.1.5.3.20.26	39KC02	2C,3C	
699							X			SECTOR 27	X.1.3.1.5.3.20.27	39KC02	2C,3C	
700							X			SECTOR 28	X.1.3.1.5.3.20.28	39KC02	2C,3C	
701							X			SECTOR 29	X.1.3.1.5.3.20.29	39KC02	2C,3C	
702							X			SECTOR 30	X.1.3.1.5.3.20.30	39KC02	2C,3C	
703							X			SECTOR 31	X.1.3.1.5.3.20.31	39KC02	2C,3C	
704							X			SECTOR 32	X.1.3.1.5.3.20.32	39KC02	2C,3C	
705							X			SECTOR 33	X.1.3.1.5.3.20.33	39KC02	2C,3C	
706							X			SECTOR 34	X.1.3.1.5.3.20.34	39KC02	2C,3C	
707							X			SECTOR 35	X.1.3.1.5.3.20.35	39KC02	2C,3C	
708						X				BEAM DIAGNOSTICS	X.1.3.1.5.4	39KC02	2C,3C	
709							X			CURRENT MONITORS	X.1.3.1.5.4.1	39KC02	2C,3C	
710							X			POSITION MONITORS	X.1.3.1.5.4.2	39KC02	2C,3C	
711							X			PHOTON MONITORS	X.1.3.1.5.4.3	39KC02	2C,3C	
712								X		BEND MAG. PHOTON MON. STATION	X.1.3.1.5.4.3.1	39KC02	2C,3C	
713								X		ID PHOTON MONITORING STATION	X.1.3.1.5.4.3.2	39KC02	2C,3C	
714							X			SPECIAL BEAM STUDIES	X.1.3.1.5.4.4	39KC02	2C,3C	
715							X			BEAM LOSS MONITORS	X.1.3.1.5.4.5	39KC02	2C,3C	
716							X			FLUORESCENT SCREENS	X.1.3.1.5.4.6	39KC02	2C,3C	
717							X			BEAM SCRAPER SYSTEM	X.1.3.1.5.4.7	39KC02	2C,3C	
718					X					SUPPLEMENTAL SHIELDING	X.1.3.1.6	39KC02	2C,3C	
719						X				INJECTION REGION SHIELDING	X.1.3.1.6.1	39KC02	2C,3C	
720						X				LEAD COLLAR	X.1.3.1.6.2	39KC02	2C,3C	
721						X				UNINSTRUMENTED PHOTON PORT	X.1.3.1.6.3	39KC02	2C,3C	
722						X				PHOTON BEAM EXIT PORTS	X.1.3.1.6.4	39KC02	2C,3C	
723						X				BEAM DUMP SHIELDING	X.1.3.1.6.5	39KC02	2C,3C	
724					X					STORAGE RING GIRDER ASSEMBLY	X.1.3.1.7	39KC02	2C,3C	
725						X				STORAGE RING GIRDER ASSEMBLY	X.1.3.1.7.1	39KC02	2C,3C	
726						X				STORAGE RING GIRDER-MAGNET INTERFACES	X.1.3.1.7.2	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
727					X					MECHANICAL SYSTEMS SUPPORT	X.1.3.1.8	39KC02	2C,3C	
728						X				STORAGE RING COOLING DISTRIBUTION SYSTEM	X.1.3.1.8.1	39KC02	2C,3C	
729				X						STORAGE RING INSTALLATION	X.1.3.2	39KC02	2C,3C	
730					X					MECHANICAL ASSEMBLY	X.1.3.2.1	39KC02	2C,3C	
731						X				MECHANICAL INSTALLATION	X.1.3.2.1.1	39KC02	2C,3C	
732					X					POWER SUPPLIES	X.1.3.2.2	39KC02	2C,3C	
733						X				POWER SUPPLIES	X.1.3.2.2.1	39KC02	2C,3C	
734					X					VACUUM	X.1.3.2.3	39KC02	2C,3C	
735						X				VACUUM INSTALLATION	X.1.3.2.3.1	39KC02	2C,3C	
736					X					RF SYSTEMS	X.1.3.2.4	39KC02	2C,3C	
737						X				RF SYSTEMS	X.1.3.2.4.1	39KC02	2C,3C	
738					X					CONTROLS	X.1.3.2.5	39KC02	2C,3C	
739						X				CONTROLS	X.1.3.2.5.1	39KC02	2C,3C	
740					X					DIAGNOSTICS	X.1.3.2.6	39KC02	2C,3C	
741						X				DIAGNOSTICS	X.1.3.2.6.1	39KC02	2C,3C	
742				X						STORAGE RING LOW CONDUCTIVITY WATER SYSTEM	X.1.3.3	39KC02	2C,3C	
743			X							EXPERIMENTAL FACILITIES	X.1.4	39KC02	2C,3C	
744				X						EXPERIMENTAL FACILITIES TECHNICAL COMPONENTS	X.1.4.1	39KC02	2C,3C	
745					X					INSERTION DEVICES SYSTEM	X.1.4.1.1	39KC02	2C,3C	
746						X				UNDULATORS	X.1.4.1.1.1	39KC02	2C,3C	
747							X			UNDULATOR A 3.3 CM	X.1.4.1.1.1.1	39KC02	2C,3C	
748							X			UNDULATOR 2.7 CM	X.1.4.1.1.1.2	39KC02	2C,3C	
749								X		UNDULATOR 2.7 CM #12	X.1.4.1.1.1.2.1	39KC02	2C,3C	
750								X		UNDULATOR 2.7 #2	X.1.4.1.1.1.2.2	39KC02	2C,3C	
751								X		UNDULATOR 2.7 #3	X.1.4.1.1.1.2.3	39KC02	2C,3C	
752							X			UNDULATOR 5.5 CM	X.1.4.1.1.1.3	39KC02	2C,3C	
753							X			UNDULATOR 1.8 CM	X.1.4.1.1.1.4	39KC02	2C,3C	
754							X			UNDULATOR 3.0 CM	X.1.4.1.1.1.5	39KC02	2C,3C	
755							X			SPECIAL PURPOSE UNDULATORS	X.1.4.1.1.1.6	39KC02	2C,3C	
756								X		SUPERCONDUCTING UNDULATOR	X.1.4.1.1.1.6.1	39KC02	2C,3C	
757								X		VARIABLE PERIOD UNDULATOR	X.1.4.1.1.1.6.2	39KC02	2C,3C	
758								X		UNDULATOR 2.3CM	X.1.4.1.1.1.6.3	39KC02	2C,3C	
759							X			ID MOTION CONTROLS AND ELECTRONICS	X.1.4.1.1.1.7	39KC02	2C,3C	
760								X		ID SAFETY AND INTERLOCKS	X.1.4.1.1.1.7.1	39KC02	2C,3C	
761								X		SURVEY AND ALIGNMENT	X.1.4.1.1.1.7.2	39KC02	2C,3C	
762							X			ID SAFETY AND INTERLOCKS	X.1.4.1.1.1.8	39KC02	2C,3C	
763							X			SMCO UNDULATOR	X.1.4.1.1.1.9	39KC02	2C,3C	
764							X			CIRCULARLY POLARIZED UNDULATOR	X.1.4.1.1.1.10	39KC02	2C,3C	
765							X			UNDULATOR 2.3 CM	X.1.4.1.1.1.11	39KC02	2C,3C	
766							X			UNDULATOR 3.6 CM	X.1.4.1.1.1.12	39KC02	2C,3C	
767						X				WIGGLERS	X.1.4.1.1.2	39KC02	2C,3C	
768							X			WIGGLER A	X.1.4.1.1.2.1	39KC02	2C,3C	
769							X			WIGGLER B	X.1.4.1.1.2.2	39KC02	2C,3C	
770						X				ID VACUUM SYSTEM	X.1.4.1.1.3	39KC02	2C,3C	
771							X			ID 12MM VACUUM SYSTEM	X.1.4.1.1.3.9	39KC02	2C,3C	
772							X			ID 8MM VACUUM SYSTEM	X.1.4.1.1.3.10	39KC02	2C,3C	
773							X			ID 5MM VACUUM SYSTEM	X.1.4.1.1.3.11	39KC02	2C,3C	
774							X			EMW VACUUM SYSTEM	X.1.4.1.1.3.12	39KC02	2C,3C	
775							X			ID 7.5MM VACUUM SYSTEM	X.1.4.1.1.3.13	39KC02	2C,3C	
776						X				ID MAGNET MEASUREMENT FACILITY	X.1.4.1.1.4	39KC02	2C,3C	
777							X			PERMANENT MAGNET BLOCK CHARACTERIZATION	X.1.4.1.1.4.1	39KC02	2C,3C	
778							X			ID CHARACTERIZATION/MAG.FLD. PROFILERS	X.1.4.1.1.4.3	39KC02	2C,3C	
779							X			MAGNETIC CALIBRATION FACILITY	X.1.4.1.1.4.4	39KC02	2C,3C	
780						X				SPECIAL PURPOSE INSERTIONS DEVICES	X.1.4.1.1.5	39KC02	2C,3C	
781							X			ELLIPTICAL MULTIPOLE WIGGLER	X.1.4.1.1.5.1	39KC02	2C,3C	
782						X				FRONT END/BEAMLINE SHUTTERS	X.1.4.1.1.6	39KC02	2C,3C	
783							X			VACUUM	X.1.4.1.1.6.1	39KC02	2C,3C	
784					X					BEAM LINE FRONT-ENDS	X.1.4.1.2	39KC02	2C,3C	
785						X				ID FRONT ENDS	X.1.4.1.2.1	39KC02	2C,3C	
786							X			FRONT-END COMPONENT ASSEMBLIES	X.1.4.1.2.1.1	39KC02	2C,3C	
787								X		FIXED MASK ASSEMBLY AND ENCLOSURES	X.1.4.1.2.1.1.1	39KC02	2C,3C	
788								X		LEAD COLLIMATORS AND HOUSING	X.1.4.1.2.1.1.2	39KC02	2C,3C	
789								X		PHOTON SHUTTERS, ENCLOSURES AND MONITORING	X.1.4.1.2.1.1.3	39KC02	2C,3C	
790								X		PHOTON BEAM POS. MONITOR ASSEMBLY AND ENCLOS.	X.1.4.1.2.1.1.4	39KC02	2C,3C	
791								X		SECOND FIXED MASK ASSEMBLY AND MONITORING	X.1.4.1.2.1.1.5	39KC02	2C,3C	
792								X		SECOND PHOTON SHUTTER	X.1.4.1.2.1.1.6	39KC02	2C,3C	

* 2=Advanced Development, 3=Engineering, C=Construction

1. PROJECT TITLE/PARTICIPANT	2. DATE	3. IDENTIFICATION NUMBER
7 GeV Advanced Photon Source / ANL	JULY , 2013	39-KC-02-89-R-402

4.	5. WBS ELEMENTS										6.	7.	8.	9.
	INDENTURE LEVEL											BUDGET AND		OTHER
Line No.	1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	Reporting NO.	PHASE *	
793								X		THERMAL FILTERS, FILTER ASSEMBLY AND MONITORING	X.1.4.1.2.1.1.7	39KC02	2C,3C	
794								X		SAFETY SHUTTER ASSEMBLY	X.1.4.1.2.1.1.8	39KC02	2C,3C	
795								X		VACUUM WINDOW ASSEMBLY	X.1.4.1.2.1.1.9	39KC02	2C,3C	
796								X		FRONT END SUPPORT TABLE AND STAGES	X.1.4.1.2.1.1.10	39KC02	2C,3C	
797								X		FRONT END SUPPORT TABLES AND KINEMATIC MOUNTS	X.1.4.1.2.1.1.11	39KC02	2C,3C	
798								X		BEAM POSITION MONITOR SUPPORT	X.1.4.1.2.1.1.12	39KC02	2C,3C	
799								X		RATCHET WALL SHIELDING	X.1.4.1.2.1.1.13	39KC02	2C,3C	
800								X		S3 SAFETY SHUTTER ASSEMBLY	X.1.4.1.2.1.1.14	39KC02	2C,3C	
801								X		PHOTON SHUTTER PROTECTIVE MASK	X.1.4.1.2.1.1.15	39KC02	2C,3C	
802							X			ID FRONT END VACUUM	X.1.4.1.2.1.2	39KC02	2C,3C	
803								X		PUMPS	X.1.4.1.2.1.2.1	39KC02	2C,3C	
804								X		ISOLATION VALVE	X.1.4.1.2.1.2.2	39KC02	2C,3C	
805								X		FAST VALVE AND MONITORING	X.1.4.1.2.1.2.3	39KC02	2C,3C	
806								X		SLOW VALVE	X.1.4.1.2.1.2.4	39KC02	2C,3C	
807								X		VACUUM MONITORING EQUIPMENT	X.1.4.1.2.1.2.5	39KC02	2C,3C	
808								X		BAKEOUT SYSTEM	X.1.4.1.2.1.2.6	39KC02	2C,3C	
809								X		DIFFERENTIAL PUMPS AND ACCESSORIES	X.1.4.1.2.1.2.7	39KC02	2C,3C	
810								X		BELLOWS	X.1.4.1.2.1.2.8	39KC02	2C,3C	
811								X		MISC. VACUUM FITTINGS	X.1.4.1.2.1.2.9	39KC02	2C,3C	
812								X		TOOLS & TEST EQUIPMENT	X.1.4.1.2.1.2.10	39KC02	2C,3C	
813							X			ID FRONT END EQUIPMENT PROTECTION SYSTEM	X.1.4.1.2.1.3	39KC02	2C,3C	
814							X			ID FRONT END PERSONNEL SAFETY SYSTEM	X.1.4.1.2.1.4	39KC02	2C,3C	
815							X			SURVEY AND ALIGNMENT	X.1.4.1.2.1.5	39KC02	2C,3C	
816							X			POWER & UTILITIES	X.1.4.1.2.1.6	39KC02	2C,3C	
817						X				BM FRONT ENDS	X.1.4.1.2.2	39KC02	2C,3C	
818							X			FRONT END COMPONENT ASSEMBLIES	X.1.4.1.2.2.1	39KC02	2C,3C	
819								X		FIXED MASK ASSEMBLY AND ENCLOSURES	X.1.4.1.2.2.1.1	39KC02	2C,3C	
820								X		LEAD COLLIMATORS AND HOUSING	X.1.4.1.2.2.1.2	39KC02	2C,3C	
821								X		PHOTON SHUTTERS, ENCLOSURES AND MONITORING	X.1.4.1.2.2.1.3	39KC02	2C,3C	
822								X		PHOTON BEAM POS. MONITOR ASSEMBLY AND ENCLO.	X.1.4.1.2.2.1.4	39KC02	2C,3C	
823								X		SAFETY SHUTTER ASSEMBLY	X.1.4.1.2.2.1.5	39KC02	2C,3C	
824								X		BE WINDOW ASSEMBLY	X.1.4.1.2.2.1.6	39KC02	2C,3C	
825								X		FRONT END SUPPORT TABLE AND STAGES	X.1.4.1.2.2.1.7	39KC02	2C,3C	
826								X		FRONT END SUPPORT TABLES AND KINEMATIC MOUNTS	X.1.4.1.2.2.1.8	39KC02	2C,3C	
827								X		BEAM POSITION MONITOR SUPPORT	X.1.4.1.2.2.1.9	39KC02	2C,3C	
828								X		BEAM PIPE SUPPORT AND WINDOW SUPPORT	X.1.4.1.2.2.1.10	39KC02	2C,3C	
829								X		SUPPORT SYSTEM TEST STATION	X.1.4.1.2.2.1.11	39KC02	2C,3C	
830								X		BEAM POSITION MONITOR CALIBRATION SYSTEM	X.1.4.1.2.2.1.12	39KC02	2C,3C	
831								X		RATCHET WALL SHIELDING	X.1.4.1.2.2.1.13	39KC02	2C,3C	
832							X			BM FRONT END VACUUM	X.1.4.1.2.2.2	39KC02	2C,3C	
833								X		PUMPS	X.1.4.1.2.2.2.1	39KC02	2C,3C	
834								X		ISOLATION VALVE	X.1.4.1.2.2.2.2	39KC02	2C,3C	
835								X		FAST VALVE AND MONITORING	X.1.4.1.2.2.2.3	39KC02	2C,3C	
836								X		SLOW VALVE	X.1.4.1.2.2.2.4	39KC02	2C,3C	
837								X		VACUUM MONITORING EQUIPMENT	X.1.4.1.2.2.2.5	39KC02	2C,3C	
838								X		BAKEOUT SYSTEM	X.1.4.1.2.2.2.6	39KC02	2C,3C	
839								X		VACUUM FLANGES AND BEAM PIPES	X.1.4.1.2.2.2.7	39KC02	2C,3C	
840								X		BELLOWS	X.1.4.1.2.2.2.8	39KC02	2C,3C	
841								X		MISC. VACUUM FITTINGS	X.1.4.1.2.2.2.9	39KC02	2C,3C	
842								X		TOOLS & TEST EQUIPMENT	X.1.4.1.2.2.2.10	39KC02	2C,3C	
843							X			BM FRONT END EQUIPMENT PROTECTION SYSTEM	X.1.4.1.2.2.3	39KC02	2C,3C	
844							X			BM FRONT END PERSONNEL SAFETY SYSTEM	X.1.4.1.2.2.4	39KC02	2C,3C	
845							X			SURVEY AND ALIGNMENT	X.1.4.1.2.2.5	39KC02	2C,3C	
846							X			POWER & UTILITIES	X.1.4.1.2.2.6	39KC02	2C,3C	
847						X				CANTED UNDULATOR INSERTION DEVICE FRONT ENDS	X.1.4.1.2.3	39KC02	2C,3C	
848							X			COMPONENT ASSEMBLIES	X.1.4.1.2.3.1	39KC02	2C,3C	
849								X		1ST FIXED MASK	X.1.4.1.2.3.1.1	39KC02	2C,3C	
850								X		SECOND FIXED MASK	X.1.4.1.2.3.1.2	39KC02	2C,3C	
851								X		FIRST PHOTON SHUTTER/VERTICAL MASK	X.1.4.1.2.3.1.3	39KC02	2C,3C	
852								X		X-RAY BPM (VERTICAL ONLY)	X.1.4.1.2.3.1.4	39KC02	2C,3C	
853								X		SECOND PHOTON SHUTTER/VERTICAL MASK	X.1.4.1.2.3.1.5	39KC02	2C,3C	
854								X		SAFETY SHUTTER	X.1.4.1.2.3.1.6	39KC02	2C,3C	
855								X		MASK/BEAMSPLITTER	X.1.4.1.2.3.1.7	39KC02	2C,3C	
856								X		EXIT COLLIMATOR	X.1.4.1.2.3.1.8	39KC02	2C,3C	
857								X		BREMSSTRAHLUNG MASK	X.1.4.1.2.3.1.9	39KC02	2C,3C	
858								X		HORIZONTAL COLLIMATORS	X.1.4.1.2.3.1.10	39KC02	2C,3C	

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7 GeV Advanced Photon Source / ANL	JULY , 2013	39-KC-02-89-R-402

4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
859								X		BE WINDOW ASSEMBLY	X.1.4.1.2.3.1.11	39KC02	2C,3C	
860								X		FRONT END SUPPORT TABLES	X.1.4.1.2.3.1.12	39KC02	2C,3C	
861								X		RATCHET WALL SHIELDING	X.1.4.1.2.3.1.13	39KC02	2C,3C	
862								X		SURVEY AND ALIGNMENT	X.1.4.1.2.3.1.14	39KC02	2C,3C	
863							X			VACUUM SYSTEM	X.1.4.1.2.3.2	39KC02	2C,3C	
864								X		PUMPS	X.1.4.1.2.3.2.1	39KC02	2C,3C	
865								X		VALVES	X.1.4.1.2.3.2.2	39KC02	2C,3C	
866								X		VACUUM MONITORING EQUIPMENT	X.1.4.1.2.3.2.3	39KC02	2C,3C	
867								X		BELLOWS/SPOOLPIECES	X.1.4.1.2.3.2.4	39KC02	2C,3C	
868								X		MISC. VACUUM FITTINGS	X.1.4.1.2.3.2.5	39KC02	2C,3C	
869								X		TOOLS AND TEST EQUIPMENT	X.1.4.1.2.3.2.6	39KC02	2C,3C	
870							X			DESIGN REPORT	X.1.4.1.2.3.3	39KC02	2C,3C	
871								X		CANTED UNDULATOR FRONT END SR RAY TRACING	X.1.4.1.2.3.3.1	39KC02	2C,3C	
872								X		CANTED UNDULATOR FRONT END BS RAY TRACING	X.1.4.1.2.3.3.2	39KC02	2C,3C	
873							X			CANTED UNDULATOR-POWER SUPPLIES	X.1.4.1.2.3.4	39KC02	2C,3C	
874								X		CANTED UNDULATOR-P/S CORRECTORS	X.1.4.1.2.3.4.1	39KC02	2C,3C	
875								X		CANTED UNDULATOR P/S DIPOLES	X.1.4.1.2.3.4.2	39KC02	2C,3C	
876							X			PNEUMATIC SYSTEM	X.1.4.1.2.3.5	39KC02	2C,3C	
877						X				IXS-CAT FRONT END	X.1.4.1.2.4	39KC02	2C,3C	
878							X			COMPONENT ASSEMBLIES	X.1.4.1.2.4.1	39KC02	2C,3C	
879								X		IXS-CAT PRE-MASK	X.1.4.1.2.4.1.1	39KC02	2C,3C	
880								X		IXS-CAT FIRST FIXED MASK	X.1.4.1.2.4.1.2	39KC02	2C,3C	
881								X		IXS-CAT SECOND FIXED MASK	X.1.4.1.2.4.1.3	39KC02	2C,3C	
882								X		IXS-CAT THIRD FIXED MASK	X.1.4.1.2.4.1.4	39KC02	2C,3C	
883								X		IXS-CAT PHOTON SHUTTER (FIRST AND SECOND)	X.1.4.1.2.4.1.5	39KC02	2C,3C	
884								X		IXS-CAT EXIT MASK	X.1.4.1.2.4.1.6	39KC02	2C,3C	
885								X		IXS-CAT BE WINDOW ASSEMBLY	X.1.4.1.2.4.1.7	39KC02	2C,3C	
886								X		IXS-CAT FIRST LEAD COLLIMATOR	X.1.4.1.2.4.1.8	39KC02	2C,3C	
887								X		IXS-CAT SAFETY SHUTTER	X.1.4.1.2.4.1.9	39KC02	2C,3C	
888								X		IXS-CAT RATCHET WALL COLLIMATOR	X.1.4.1.2.4.1.10	39KC02	2C,3C	
889								X		IXS-CAT EXIT TUNGSTEN COLLIMATOR	X.1.4.1.2.4.1.11	39KC02	2C,3C	
890								X		IXS-CAT BEAM POSITION MONITOR AND SUPPORT	X.1.4.1.2.4.1.12	39KC02	2C,3C	
891								X		IXS-CAT BELLOWS/SPOOLPIECES	X.1.4.1.2.4.1.13	39KC02	2C,3C	
892								X		IXS-CAT FE SUPPORT TABLE	X.1.4.1.2.4.1.14	39KC02	2C,3C	
893								X		FOURTH FIXED MASK	X.1.4.1.2.4.1.15	39KC02	2C,3C	
894							X			VACUUM SYSTEM	X.1.4.1.2.4.2	39KC02	2C,3C	
895								X		PUMPS	X.1.4.1.2.4.2.1	39KC02	2C,3C	
896								X		VALVES	X.1.4.1.2.4.2.2	39KC02	2C,3C	
897								X		VACUUM MONITORING EQUIPMENT	X.1.4.1.2.4.2.3	39KC02	2C,3C	
898								X		MISCELLANEOUS VACUUM FITTINGS	X.1.4.1.2.4.2.4	39KC02	2C,3C	
899								X		TOOLS AND TEST EQUIPMENT	X.1.4.1.2.4.2.5	39KC02	2C,3C	
900							X			DESIGN REPORT	X.1.4.1.2.4.3	39KC02	2C,3C	
901								X		IXS FE SYNCHROTRON RAY TRACING	X.1.4.1.2.4.3.1	39KC02	2C,3C	
902								X		IXS FE BREMSSTRAHLUNG RAY TRACING	X.1.4.1.2.4.3.2	39KC02	2C,3C	
903							X			IXS FE EPS SYSTEM	X.1.4.1.2.4.4	39KC02	2C,3C	
904							X			IXS FE PSS SYSTEM	X.1.4.1.2.4.5	39KC02	2C,3C	
905							X			IXS FE SURVEY AND ALIGNMENT	X.1.4.1.2.4.6	39KC02	2C,3C	
906							X			IXS FE PNEUMATIC SYSTEM	X.1.4.1.2.4.7	39KC02	2C,3C	
907						X				PNEUMATIC CONTROLLERS	X.1.4.1.2.5	39KC02	2C,3C	
908							X			COMPONENT PNEUMATIC CONTROLLERS	X.1.4.1.2.5.1	39KC02	2C,3C	
909							X			HUTCH DOOR PNEUMATIC CONTROLLERS	X.1.4.1.2.5.2	39KC02	2C,3C	
910						X				HIGH HEAT LOAD FRONT END	X.1.4.1.2.6	39KC02	2C,3C	
911					X					X-RAYS OPTICS FABR. & CHARACTERIZATION	X.1.4.1.3	39KC02	2C,3C	
912						X				HIGH HEAT LOAD OPTICS	X.1.4.1.3.1	39KC02	2C,3C	
913							X			DOUBLE CRYSTAL MONOCHROMATOR	X.1.4.1.3.1.1	39KC02	2C,3C	
914								X		VACUUM SYSTEM	X.1.4.1.3.1.1.1	39KC02	2C,3C	
915								X		CRYSTALS AND MOUNTS	X.1.4.1.3.1.1.2	39KC02	2C,3C	
916								X		MECHANICAL COMPONENTS	X.1.4.1.3.1.1.3	39KC02	2C,3C	
917								X		COOLING APPARATUS/HEAT EXCHANGER	X.1.4.1.3.1.1.4	39KC02	2C,3C	
918								X		CONTROLS/INTERFACING/CABLING	X.1.4.1.3.1.1.5	39KC02	2C,3C	
919								X		DIAGNOSTICS	X.1.4.1.3.1.1.6	39KC02	2C,3C	
920								X		DCM SUPPORT STRUCTURE	X.1.4.1.3.1.1.7	39KC02	2C,3C	
921						X				OPTICS METROLOGY AND FABRICATION FACILITY	X.1.4.1.3.2	39KC02	2C,3C	
922							X			SINGLE CRYSTAL FABRICATION	X.1.4.1.3.2.1	39KC02	2C,3C	
923							X			CHARACTERIZATION	X.1.4.1.3.2.2	39KC02	2C,3C	
924							X			METROLOGY	X.1.4.1.3.2.3	39KC02	2C,3C	

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7 GeV Advanced Photon Source / ANL	JULY , 2013	39-KC-02-89-R-402

4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
925							X			CLEAN ROOMS	X.1.4.1.3.2.4	39KC02	2C,3C	
926							X			X-RAY MIRRORS	X.1.4.1.3.2.5	39KC02	2C,3C	
927							X			NOVEL OPTICS	X.1.4.1.3.2.6	39KC02	2C,3C	
928						X				OPTICS COATING FACILITY	X.1.4.1.3.3	39KC02	2C,3C	
929					X					BEAMLINE & FRONT END INTERLOCKS	X.1.4.1.4	39KC02	2C,3C	
930							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 1BM	X.1.4.1.4.1.1	39KC02	2C,3C	
931							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 1ID	X.1.4.1.4.1.2	39KC02	2C,3C	
932							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 2BM	X.1.4.1.4.2.1	39KC02	2C,3C	
933							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 2ID	X.1.4.1.4.2.2	39KC02	2C,3C	
934							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 3BM	X.1.4.1.4.3.1	39KC02	2C,3C	
935							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 3ID	X.1.4.1.4.3.2	39KC02	2C,3C	
936							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 4BM	X.1.4.1.4.4.1	39KC02	2C,3C	
937							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 4ID	X.1.4.1.4.4.2	39KC02	2C,3C	
938							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 5BM	X.1.4.1.4.5.1	39KC02	2C,3C	
939							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 5ID	X.1.4.1.4.5.2	39KC02	2C,3C	
940							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 6BM	X.1.4.1.4.6.1	39KC02	2C,3C	
941							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 6ID	X.1.4.1.4.6.2	39KC02	2C,3C	
942							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 7BM	X.1.4.1.4.7.1	39KC02	2C,3C	
943							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 7ID	X.1.4.1.4.7.2	39KC02	2C,3C	
944							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 8BM	X.1.4.1.4.8.1	39KC02	2C,3C	
945							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 8ID	X.1.4.1.4.8.2	39KC02	2C,3C	
946							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 9BM	X.1.4.1.4.9.1	39KC02	2C,3C	
947							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 9ID	X.1.4.1.4.9.2	39KC02	2C,3C	
948							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 10BM	X.1.4.1.4.10.1	39KC02	2C,3C	
949							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 10ID	X.1.4.1.4.10.2	39KC02	2C,3C	
950							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 11BM	X.1.4.1.4.11.1	39KC02	2C,3C	
951							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 11ID	X.1.4.1.4.11.2	39KC02	2C,3C	
952							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 12BM	X.1.4.1.4.12.1	39KC02	2C,3C	
953							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 12ID	X.1.4.1.4.12.2	39KC02	2C,3C	
954							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 13BM	X.1.4.1.4.13.1	39KC02	2C,3C	
955							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 13ID	X.1.4.1.4.13.2	39KC02	2C,3C	
956							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 14BM	X.1.4.1.4.14.1	39KC02	2C,3C	
957							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 14ID	X.1.4.1.4.14.2	39KC02	2C,3C	
958							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 15BM	X.1.4.1.4.15.1	39KC02	2C,3C	
959							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 15ID	X.1.4.1.4.15.2	39KC02	2C,3C	
960							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 16BM	X.1.4.1.4.16.1	39KC02	2C,3C	
961							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 16ID	X.1.4.1.4.16.2	39KC02	2C,3C	
962							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 17BM	X.1.4.1.4.17.1	39KC02	2C,3C	
963							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 17ID	X.1.4.1.4.17.2	39KC02	2C,3C	
964							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 18BM	X.1.4.1.4.18.1	39KC02	2C,3C	
965							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 18ID	X.1.4.1.4.18.2	39KC02	2C,3C	
966							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 19BM	X.1.4.1.4.19.1	39KC02	2C,3C	
967							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 19ID	X.1.4.1.4.19.2	39KC02	2C,3C	
968							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 20BM	X.1.4.1.4.20.1	39KC02	2C,3C	
969							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 20ID	X.1.4.1.4.20.2	39KC02	2C,3C	
970							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 21BM	X.1.4.1.4.21.1	39KC02	2C,3C	
971							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 21ID	X.1.4.1.4.21.2	39KC02	2C,3C	
972							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 22BM	X.1.4.1.4.22.1	39KC02	2C,3C	
973							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 22ID	X.1.4.1.4.22.2	39KC02	2C,3C	
974							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 23BM	X.1.4.1.4.23.1	39KC02	2C,3C	
975							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 23ID	X.1.4.1.4.23.2	39KC02	2C,3C	
976							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 24BM	X.1.4.1.4.24.1	39KC02	2C,3C	
977							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 24ID	X.1.4.1.4.24.2	39KC02	2C,3C	
978							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 25BM	X.1.4.1.4.25.1	39KC02	2C,3C	
979							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 25ID	X.1.4.1.4.25.2	39KC02	2C,3C	
980							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 26BM	X.1.4.1.4.26.1	39KC02	2C,3C	
981							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 26ID	X.1.4.1.4.26.2	39KC02	2C,3C	
982							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 27BM	X.1.4.1.4.27.1	39KC02	2C,3C	
983							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 27ID	X.1.4.1.4.27.2	39KC02	2C,3C	
984							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 28BM	X.1.4.1.4.28.1	39KC02	2C,3C	
985							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 28ID	X.1.4.1.4.28.2	39KC02	2C,3C	
986							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 29BM	X.1.4.1.4.29.1	39KC02	2C,3C	
987							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 29ID	X.1.4.1.4.29.2	39KC02	2C,3C	
988							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 30BM	X.1.4.1.4.30.1	39KC02	2C,3C	
989							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 30ID	X.1.4.1.4.30.2	39KC02	2C,3C	
990							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 31BM	X.1.4.1.4.31.1	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
	INDENTURE LEVEL											BUDGET		
Line No.	1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	AND Reporting NO.	PHASE *	OTHER
991							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 31ID	X.1.4.1.4.31.2	39KC02	2C,3C	
992							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 32BM	X.1.4.1.4.32.1	39KC02	2C,3C	
993							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 32ID	X.1.4.1.4.32.2	39KC02	2C,3C	
994							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 33BM	X.1.4.1.4.33.1	39KC02	2C,3C	
995							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 33ID	X.1.4.1.4.33.2	39KC02	2C,3C	
996							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 34BM	X.1.4.1.4.34.1	39KC02	2C,3C	
997							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 34ID	X.1.4.1.4.34.2	39KC02	2C,3C	
998							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 35BM	X.1.4.1.4.35.1	39KC02	2C,3C	
999							X			BEAMLINE & FRONT END INTERLOCKS SECTOR 35ID	X.1.4.1.4.35.2	39KC02	2C,3C	
1000						X				PSS TEST FOR CART SYSTEM	X.1.4.1.4.97	39KC02	2C,3C	
1001						X				PSS- FOR LAB PROTOTYPE SYSTEM	X.1.4.1.4.98	39KC02	2C,3C	
1002						X				PSS- FOR LAB BEAMLINE SIMULATOR	X.1.4.1.4.99	39KC02	2C,3C	
1003					X					BEAMLINES	X.1.4.1.5	39KC02	2C,3C	
1004						X				SECTOR 1 ID BEAMLINE	X.1.4.1.5.1	39KC02	2C,3C	
1005							X			1 ID-A (FIRST OPTICS ENCLOSURE)	X.1.4.1.5.1.1	39KC02	2C,3C	
1006								X		XOR SECTOR 1-ID-FOE HEM VACUUM TANK ASSEMBLY	X.1.4.1.5.1.1.1	39KC02	2C,3C	
1007							X			1 ID-B (HIGH ENERGY X-RAY SCATTERING STATION)	X.1.4.1.5.1.2	39KC02	2C,3C	
1008							X			1 ID-C (ID DIAGNOSTIC STATION)	X.1.4.1.5.1.3	39KC02	2C,3C	
1009							X			EQUIPMENT PROTECTION SYSTEM	X.1.4.1.5.1.4	39KC02	2C,3C	
1010							X			PERSONNEL SAFETY SYSTEM	X.1.4.1.5.1.5	39KC02	2C,3C	
1011							X			SURVEY AND ALIGNMENT	X.1.4.1.5.1.6	39KC02	2C,3C	
1012							X			UTILITIES	X.1.4.1.5.1.7	39KC02	2C,3C	
1013						X				SECTOR 1 BM BEAMLINE	X.1.4.1.5.2	39KC02	2C,3C	
1014							X			1 BM-A (FIRST OPTICS ENCLOSURE)	X.1.4.1.5.2.1	39KC02	2C,3C	
1015							X			1 BM-B (TIME-RESOLVED X-RAY SCATTERING STATION)	X.1.4.1.5.2.2	39KC02	2C,3C	
1016							X			1 BM-C (POLARIZATION STATION)	X.1.4.1.5.2.3	39KC02	2C,3C	
1017							X			EQUIPMENT PROTECTION SYSTEM	X.1.4.1.5.2.4	39KC02	2C,3C	
1018							X			PERSONNEL SAFETY SYSTEM	X.1.4.1.5.2.5	39KC02	2C,3C	
1019							X			SURVEY AND ALIGNMENT	X.1.4.1.5.2.6	39KC02	2C,3C	
1020							X			UTILITIES	X.1.4.1.5.2.7	39KC02	2C,3C	
1021						X				SECTOR 2 ID BEAMLINE	X.1.4.1.5.3	39KC02	2C,3C	
1022							X			2 ID-A (FIRST OPTICS ENCLOSURE)	X.1.4.1.5.3.1	39KC02	2C,3C	
1023							X			2 ID-D (COHERENCE/IMAGING BRANCHLINE)	X.1.4.1.5.3.2	39KC02	2C,3C	
1024							X			2 ID-C (SPECTROSCOPY BRANCHLINE)	X.1.4.1.5.3.3	39KC02	2C,3C	
1025							X			2 ID-B (IMAGING & COHERENCE TECHNIQUES 0.5-4 KEV	X.1.4.1.5.3.4	39KC02	2C,3C	
1026							X			EQUIPMENT PROTECTION SYSTEM	X.1.4.1.5.3.5	39KC02	2C,3C	
1027							X			PERSONNEL SAFETY SYSTEM	X.1.4.1.5.3.6	39KC02	2C,3C	
1028							X			SURVEY AND ALIGNMENT	X.1.4.1.5.3.7	39KC02	2C,3C	
1029							X			UTILITIES	X.1.4.1.5.3.8	39KC02	2C,3C	
1030						X				SECTOR 2 BM BEAMLINE	X.1.4.1.5.4	39KC02	2C,3C	
1031							X			2 BM-A (FIRST OPTICS ENCLOSURE)	X.1.4.1.5.4.1	39KC02	2C,3C	
1032							X			2 BM-B (PINK/MONOCHROMATIC BEAMLINE)	X.1.4.1.5.4.2	39KC02	2C,3C	
1033							X			EQUIPMENT PROTECTION SYSTEM	X.1.4.1.5.4.3	39KC02	2C,3C	
1034							X			PERSONNEL SAFETY SYSTEM	X.1.4.1.5.4.4	39KC02	2C,3C	
1035							X			SURVEY AND ALIGNMENT	X.1.4.1.5.4.5	39KC02	2C,3C	
1036							X			UTILITIES	X.1.4.1.5.4.6	39KC02	2C,3C	
1037						X				SECTOR 3 ID BEAMLINE	X.1.4.1.5.5	39KC02	2C,3C	
1038							X			3 ID-A (FIRST OPTICS ENCLOSURE)	X.1.4.1.5.5.1	39KC02	2C,3C	
1039							X			3 ID-B (WHITE BEAM EXPERIMENTAL ENCLOSURE)	X.1.4.1.5.5.2	39KC02	2C,3C	
1040							X			3 ID-C (INELASTIC SCATTERING STATION)	X.1.4.1.5.5.3	39KC02	2C,3C	
1041							X			3 ID-D (NUCLEAR RESONANCE SCATTERING STATION)	X.1.4.1.5.5.4	39KC02	2C,3C	
1042							X			EQUIPMENT PROTECTION SYSTEM	X.1.4.1.5.5.5	39KC02	2C,3C	
1043							X			PERSONNEL SAFETY SYSTEM	X.1.4.1.5.5.6	39KC02	2C,3C	
1044							X			SURVEY & ALIGNMENT	X.1.4.1.5.5.7	39KC02	2C,3C	
1045							X			UTILITIES	X.1.4.1.5.5.8	39KC02	2C,3C	
1046						X				SECTOR 3 BM BEAMLINE	X.1.4.1.5.6	39KC02	2C,3C	
1047							X			3 BM-A (FIRST OPTICS ENCLOSURE)	X.1.4.1.5.6.1	39KC02	2C,3C	
1048							X			3 BM-B (WHITE BEAM STATION)	X.1.4.1.5.6.2	39KC02	2C,3C	
1049							X			3 BM-C (MONO. STATION)	X.1.4.1.5.6.3	39KC02	2C,3C	
1050							X			EQUIPMENT PROTECTION SYSTEM	X.1.4.1.5.6.4	39KC02	2C,3C	
1051							X			PERSONNEL SAFETY SYSTEM	X.1.4.1.5.6.5	39KC02	2C,3C	
1052							X			SURVEY AND ALIGNMENT	X.1.4.1.5.6.6	39KC02	2C,3C	
1053							X			UTILITIES	X.1.4.1.5.6.7	39KC02	2C,3C	
1054						X				SECTOR 4 ID BEAMLINE	X.1.4.1.5.7	39KC02	2C,3C	
1055							X			COMPONENT ASSEMBLIES	X.1.4.1.5.7.1	39KC02	2C,3C	
1056							X			VACUUM COMPONENTS	X.1.4.1.5.7.2	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
	INDENTURE LEVEL											BUDGET AND		
Line No.	1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	Reporting NO.	PHASE *	OTHER
1057							X			4 ID-C (EXPERIMENTAL N STATIONS	X.1.4.1.5.7.3	39KC02	2C,3C	
1058							X			4-ID DOUBLE CRYSTAL MONOCHROMATOR	X.1.4.1.5.7.4	39KC02	2C,3C	
1059						X				SECTOR 4 BM BEAMLINE	X.1.4.1.5.8	39KC02	2C,3C	
1060							X			COMPONENT ASSEMBLIES	X.1.4.1.5.8.1	39KC02	2C,3C	
1061							X			VACUUM COMPONENTS	X.1.4.1.5.8.2	39KC02	2C,3C	
1062						X				STANDARD COMPONENTS	X.1.4.1.5.9	39KC02	2C,3C	
1063							X			A ACTUATORS	X.1.4.1.5.9.1	39KC02	2C,3C	
1064								X		A1 LIGHT LOAD STEPPING LINEAR ACTUATOR	X.1.4.1.5.9.1.1	39KC02	2C,3C	
1065								X		A2 HEAVY LOAD STEPPING LINEAR ACTUATOR	X.1.4.1.5.9.1.2	39KC02	2C,3C	
1066								X		A3 LIGHT LOAD PNEUMATIC LINEAR ACTUATOR	X.1.4.1.5.9.1.3	39KC02	2C,3C	
1067								X		A4 HEAVY LOAD PNEUMATIC LINEAR ACTUATOR	X.1.4.1.5.9.1.4	39KC02	2C,3C	
1068								X		A5 FAST ACTING ACTUATORS	X.1.4.1.5.9.1.5	39KC02	2C,3C	
1069							X			G ALIGNMENT SYSTEM	X.1.4.1.5.9.2	39KC02	2C,3C	
1070								X		G1 FLUORESCENT SCREEN	X.1.4.1.5.9.2.1	39KC02	2C,3C	
1071								X		G2 BEAM PROFILER	X.1.4.1.5.9.2.2	39KC02	2C,3C	
1072								X		G3 LASER AIDED ALIGNMENT	X.1.4.1.5.9.2.3	39KC02	2C,3C	
1073							X			H ENCLOSURES	X.1.4.1.5.9.3	39KC02	2C,3C	
1074								X		HG SECTOR 1 ENCLOSURES	X.1.4.1.5.9.3.1	39KC02	2C,3C	
1075								X		HH SECTOR 2 ENCLOSURES	X.1.4.1.5.9.3.2	39KC02	2C,3C	
1076								X		HI SECTOR 3 ENCLOSURES	X.1.4.1.5.9.3.3	39KC02	2C,3C	
1077								X		SECTOR 4 ENCLOSURES	X.1.4.1.5.9.3.4	39KC02	2C,3C	
1078								X		HJ SECTOR 5 ENCLOSURES	X.1.4.1.5.9.3.5	39KC02	2C,3C	
1079								X		HK SECTOR 6 ENCLOSURES	X.1.4.1.5.9.3.6	39KC02	2C,3C	
1080									X	6 BM-A SHIELDED ENCLOSURE AS-BUILT ASSEMBLY DWGS	X.1.4.1.5.9.3.6.1	39KC02	2C,3C	
1081									X	6 BM-B SHIELDED ENCLOSURE AS-BUILT ASSEMBLY DWGS	X.1.4.1.5.9.3.6.2	39KC02	2C,3C	
1082								X		HL SECTOR 7 ENCLOSURES	X.1.4.1.5.9.3.7	39KC02	2C,3C	
1083								X		HM SECTOR 8 ENCLOSURES	X.1.4.1.5.9.3.8	39KC02	2C,3C	
1084								X		HN SECTOR 9 ENCLOSURES	X.1.4.1.5.9.3.9	39KC02	2C,3C	
1085								X		HO SECTOR 10 ENCLOSURES	X.1.4.1.5.9.3.10	39KC02	2C,3C	
1086								X		HP SECTOR 11 ENCLOSURES	X.1.4.1.5.9.3.11	39KC02	2C,3C	
1087								X		HQ SECTOR 12 ENCLOSURES	X.1.4.1.5.9.3.12	39KC02	2C,3C	
1088								X		HR SECTOR 13 ENCLOSURES	X.1.4.1.5.9.3.13	39KC02	2C,3C	
1089								X		HS SECTOR 14 ENCLOSURES	X.1.4.1.5.9.3.14	39KC02	2C,3C	
1090								X		HT SECTOR 15 ENCLOSURES	X.1.4.1.5.9.3.15	39KC02	2C,3C	
1091								X		SECTOR 16 ENCLOSURES	X.1.4.1.5.9.3.16	39KC02	2C,3C	
1092								X		HU SECTOR 17 ENCLOSURES	X.1.4.1.5.9.3.17	39KC02	2C,3C	
1093								X		HV SECTOR 18 ENCLOSURES	X.1.4.1.5.9.3.18	39KC02	2C,3C	
1094								X		HW SECTOR 19 ENCLOSURES	X.1.4.1.5.9.3.19	39KC02	2C,3C	
1095								X		HX SECTOR 20 ENCLOSURES	X.1.4.1.5.9.3.20	39KC02	2C,3C	
1096								X		SECTOR 21 ENCLOSURES	X.1.4.1.5.9.3.21	39KC02	2C,3C	
1097								X		SECTOR 22 ENCLOSURES	X.1.4.1.5.9.3.22	39KC02	2C,3C	
1098								X		SECTOR 23 ENCLOSURES	X.1.4.1.5.9.3.23	39KC02	2C,3C	
1099								X		SECTOR 24 ENCLOSURES	X.1.4.1.5.9.3.24	39KC02	2C,3C	
1100								X		SECTOR 25 ENCLOSURES	X.1.4.1.5.9.3.25	39KC02	2C,3C	
1101								X		SECTOR 26 ENCLOSURES	X.1.4.1.5.9.3.26	39KC02	2C,3C	
1102								X		SECTOR 27 ENCLOSURES	X.1.4.1.5.9.3.27	39KC02	2C,3C	
1103								X		SECTOR 28 ENCLOSURES	X.1.4.1.5.9.3.28	39KC02	2C,3C	
1104								X		SECTOR 29 ENCLOSURES	X.1.4.1.5.9.3.29	39KC02	2C,3C	
1105								X		SECTOR 30 ENCLOSURES	X.1.4.1.5.9.3.30	39KC02	2C,3C	
1106								X		SECTOR 31 ENCLOSURES	X.1.4.1.5.9.3.31	39KC02	2C,3C	
1107								X		SECTOR 32 ENCLOSURES	X.1.4.1.5.9.3.32	39KC02	2C,3C	
1108								X		HY SECTOR 33 ENCLOSURES	X.1.4.1.5.9.3.33	39KC02	2C,3C	
1109								X		HZ SECTOR 34 ENCLOSURES	X.1.4.1.5.9.3.34	39KC02	2C,3C	
1110								X		SECTOR 35 ENCLOSURES	X.1.4.1.5.9.3.35	39KC02	2C,3C	
1111								X		SECTOR 36 ENCLOSURES	X.1.4.1.5.9.3.36	39KC02	2C,3C	
1112								X		SECTOR 37 ENCLOSURES	X.1.4.1.5.9.3.37	39KC02	2C,3C	
1113								X		SECTOR 38 ENCLOSURES	X.1.4.1.5.9.3.38	39KC02	2C,3C	
1114								X		SECTOR 39 ENCLOSURES	X.1.4.1.5.9.3.39	39KC02	2C,3C	
1115								X		SECTOR 40 ENCLOSURES	X.1.4.1.5.9.3.40	39KC02	2C,3C	
1116							X			K COLLIMATORS	X.1.4.1.5.9.4	39KC02	2C,3C	
1117								X		K1 ID FRONT-END COLLIMATORS	X.1.4.1.5.9.4.1	39KC02	2C,3C	
1118								X		K2 BM FRONT-END COLLIMATORS	X.1.4.1.5.9.4.2	39KC02	2C,3C	
1119								X		K3 ID2 BEAMLINE COLLIMATORS	X.1.4.1.5.9.4.3	39KC02	2C,3C	
1120								X		K4 BM2 BEAMLINE COLLIMATORS	X.1.4.1.5.9.4.4	39KC02	2C,3C	
1121								X		K5 LOCAL SHIELDING	X.1.4.1.5.9.4.5	39KC02	2C,3C	
1122							X			T TABLES	X.1.4.1.5.9.5	39KC02	2C,3C	

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1. PROJECT TITLE/PARTICIPANT	2. DATE	3. IDENTIFICATION NUMBER
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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1123								X		T1 FRONT-END SUPPORT TABLES	X.1.4.1.5.9.5.1	39KC02	2C,3C	
1124								X		T2 PBPM SUPPORT TABLES	X.1.4.1.5.9.5.2	39KC02	2C,3C	
1125								X		T3 DIFFERENTIAL TABLES	X.1.4.1.5.9.5.3	39KC02	2C,3C	
1126								X		T4 HEAVY LOAD TABLE	X.1.4.1.5.9.5.4	39KC02	2C,3C	
1127								X		T5 BEAMLINE TRANSPORT TABLE ASSEMBLIES	X.1.4.1.5.9.5.5	39KC02	2C,3C	
1128								X		T6 EXPERIMENTAL STATION TABLE	X.1.4.1.5.9.5.6	39KC02	2C,3C	
1129							X			U TRANSPORTS	X.1.4.1.5.9.6	39KC02	2C,3C	
1130								X		U1 4" I.D. SHIELDED TRANSPORT	X.1.4.1.5.9.6.1	39KC02	2C,3C	
1131								X		U2 ID3 TRANSPORT FOR BACKSCATTERING	X.1.4.1.5.9.6.2	39KC02	2C,3C	
1132								X		U3 BM BEAMLINE MOVEABLE TRANSPORT	X.1.4.1.5.9.6.3	39KC02	2C,3C	
1133								X		U4 SOFT X-RAY 2.5" I.D. TRANSPORT	X.1.4.1.5.9.6.4	39KC02	2C,3C	
1134								X		U5 6" I.D. SHIELDED TRANSPORT	X.1.4.1.5.9.6.5	39KC02	2C,3C	
1135								X		U6 SHIELDED CABINETS	X.1.4.1.5.9.6.6	39KC02	2C,3C	
1136							X			V VACUUM	X.1.4.1.5.9.7	39KC02	2C,3C	
1137								X		V1 APS DIFFERENTIAL PUMPING SYSTEM	X.1.4.1.5.9.7.1	39KC02	2C,3C	
1138								X		V2 BELLOWS	X.1.4.1.5.9.7.2	39KC02	2C,3C	
1139								X		V3 TEES	X.1.4.1.5.9.7.3	39KC02	2C,3C	
1140								X		V4 TUBES	X.1.4.1.5.9.7.4	39KC02	2C,3C	
1141								X		V5 FLANGES	X.1.4.1.5.9.7.5	39KC02	2C,3C	
1142								X		V6 VALVES	X.1.4.1.5.9.7.6	39KC02	2C,3C	
1143								X		V7 VACUUM DELAY TANK	X.1.4.1.5.9.7.7	39KC02	2C,3C	
1144								X		V8 EXPLOSIVE BONDING UNIT	X.1.4.1.5.9.7.8	39KC02	2C,3C	
1145								X		V9 VACUUM CHAMBER	X.1.4.1.5.9.7.9	39KC02	2C,3C	
1146							X			W WINDOWS	X.1.4.1.5.9.8	39KC02	2C,3C	
1147								X		W1 ID FRONT-END 4" I.D. WINDOW	X.1.4.1.5.9.8.1	39KC02	2C,3C	
1148								X		W2 BM FRONT-END 8" I.D. WINDOW	X.1.4.1.5.9.8.2	39KC02	2C,3C	
1149								X		W3 ID BEAMLINE 4" I.D. WINDOW	X.1.4.1.5.9.8.3	39KC02	2C,3C	
1150								X		W4 ID & BM BEAMLINE 6" I.D. WINDOW	X.1.4.1.5.9.8.4	39KC02	2C,3C	
1151							X			P SHUTTERS	X.1.4.1.5.9.9	39KC02	2C,3C	
1152								X		P1 ID FRONT END FIRST PHOTON SHUTTER	X.1.4.1.5.9.9.1	39KC02	2C,3C	
1153								X		P2 ID FRONT END SECOND PHOTON SHUTTER	X.1.4.1.5.9.9.2	39KC02	2C,3C	
1154								X		P3 BM FRONT END PHOTON SHUTTER	X.1.4.1.5.9.9.3	39KC02	2C,3C	
1155								X		P4 ID WHITE BEAM STOP WITH INTEGRAL SHUTTERS	X.1.4.1.5.9.9.4	39KC02	2C,3C	
1156								X		P5 ID WHITE BEAM FIXED STOP WITH INTEGRAL SHUTTE	X.1.4.1.5.9.9.5	39KC02	2C,3C	
1157								X		P6 BM WHITE BEAM STOP WITH INTEGRAL SHUTTERS	X.1.4.1.5.9.9.6	39KC02	2C,3C	
1158								X		P7 BM WHITE BEAM FIXED STOP WITH INTEGRAL SHUTTE	X.1.4.1.5.9.9.7	39KC02	2C,3C	
1159								X		P8 ID3 MONO PHOTON SHUTTER	X.1.4.1.5.9.9.8	39KC02	2C,3C	
1160								X		P9 ID2 PINK BEAM STOP WITH INTEGRAL SHUTTERS	X.1.4.1.5.9.9.9	39KC02	2C,3C	
1161								X		P10 ID WHITE BEAM SHUTTER	X.1.4.1.5.9.9.10	39KC02	2C,3C	
1162								X		P11 MOVEABLE WHITE BEAM AND BREMSSTRAHLUNG STOP	X.1.4.1.5.9.9.11	39KC02	2C,3C	
1163								X		P12 FIXED WHITE BEAM AND BREMSSTRAHLUNG STOP	X.1.4.1.5.9.9.12	39KC02	2C,3C	
1164								X		P13 MOVABLE MONO BEAM STOP	X.1.4.1.5.9.9.13	39KC02	2C,3C	
1165							X			M PHOTON MASKS	X.1.4.1.5.9.10	39KC02	2C,3C	
1166								X		M1 ID FRONT END FIRST FIXED MASK	X.1.4.1.5.9.10.1	39KC02	2C,3C	
1167								X		M2 ID FRONT END SECOND FIXED MASK	X.1.4.1.5.9.10.2	39KC02	2C,3C	
1168								X		M3 BM FRONT END FIXED MASK	X.1.4.1.5.9.10.3	39KC02	2C,3C	
1169								X		M4 BM SPECIAL FIXED MASK	X.1.4.1.5.9.10.4	39KC02	2C,3C	
1170								X		M5 ID1 MONO. FIXED MASK	X.1.4.1.5.9.10.5	39KC02	2C,3C	
1171								X		M6 BM1 WHITE BEAM FIXED MASK	X.1.4.1.5.9.10.6	39KC02	2C,3C	
1172								X		M7 ID2 WHITE BEAM FIXED MASK	X.1.4.1.5.9.10.7	39KC02	2C,3C	
1173								X		M8 ID SPECIAL FIXED MASK	X.1.4.1.5.9.10.8	39KC02	2C,3C	
1174								X		M9 ID2 WHITE BEAM FIXED MASK/PLUG	X.1.4.1.5.9.10.9	39KC02	2C,3C	
1175								X		MA BM2 WHITE BEAM FIXED MASK/PLUG	X.1.4.1.5.9.10.10	39KC02	2C,3C	
1176								X		MB BM2 WHITE BEAM FIXED MASK	X.1.4.1.5.9.10.11	39KC02	2C,3C	
1177								X		PINK BEAM MASK	X.1.4.1.5.9.10.12	39KC02	2C,3C	
1178							X			X MONOCHROMATOR MOUNTS	X.1.4.1.5.9.11	39KC02	2C,3C	
1179								X		X1 UNDULATOR WB VERTICAL REFLECTION	X.1.4.1.5.9.11.1	39KC02	2C,3C	
1180								X		X2 UNDULATOR WB HORIZONTAL REFLECTION	X.1.4.1.5.9.11.2	39KC02	2C,3C	
1181								X		X3 WIGGLER WB VERTICAL REFLECTION	X.1.4.1.5.9.11.3	39KC02	2C,3C	
1182								X		X4 WIGGLER WB HORIZONTAL REFLECTION	X.1.4.1.5.9.11.4	39KC02	2C,3C	
1183								X		X5 BM WB VERTICAL REFLECTION	X.1.4.1.5.9.11.5	39KC02	2C,3C	
1184								X		X6 HORIZONTAL REFLECTION	X.1.4.1.5.9.11.6	39KC02	2C,3C	
1185							X			Y MIRROR MOUNTS	X.1.4.1.5.9.12	39KC02	2C,3C	
1186								X		Y1 UNDULATOR WB VERTICAL REFLECTION	X.1.4.1.5.9.12.1	39KC02	2C,3C	
1187								X		Y2 UNDULATOR WB HORIZONTAL REFLECTION	X.1.4.1.5.9.12.2	39KC02	2C,3C	
1188								X		Y3 WIGGLER WB VERTICAL REFLECTION	X.1.4.1.5.9.12.3	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1189								X		Y4 WIGGLER WB HORIZONTAL REFLECTION	X.1.4.1.5.9.12.4	39KC02	2C,3C	
1190								X		Y5 BM WB VERTICAL REFLECTION	X.1.4.1.5.9.12.5	39KC02	2C,3C	
1191								X		Y6 BM WB HORIZONTAL REFLECTION	X.1.4.1.5.9.12.6	39KC02	2C,3C	
1192								X		Y7 UNDULATOR MONO. VERTICAL REFLECTION	X.1.4.1.5.9.12.7	39KC02	2C,3C	
1193								X		Y8 UNDULATOR MONO. HORIZONTAL REFLECTION	X.1.4.1.5.9.12.8	39KC02	2C,3C	
1194								X		Y9 WIGGLER MONO. VERTICAL REFLECTION	X.1.4.1.5.9.12.9	39KC02	2C,3C	
1195								X		Y10 WIGGLER MONO. HORIZONTAL REFLECTION	X.1.4.1.5.9.12.10	39KC02	2C,3C	
1196								X		Y11 BM MONO. VERTICAL REFLECTION	X.1.4.1.5.9.12.11	39KC02	2C,3C	
1197								X		Y12 BM MONO. HORIZONTAL REFLECTION	X.1.4.1.5.9.12.12	39KC02	2C,3C	
1198							X			F FILTERS	X.1.4.1.5.9.13	39KC02	2C,3C	
1199								X		F1 FE FILTERS	X.1.4.1.5.9.13.1	39KC02	2C,3C	
1200								X		F2 BEAMLINE FILTERS	X.1.4.1.5.9.13.2	39KC02	2C,3C	
1201								X		F6 ID BEAMLINE FILTERS	X.1.4.1.5.9.13.6	39KC02	2C,3C	
1202								X		F10 BM BEAMLINE FILTERS	X.1.4.1.5.9.13.10	39KC02	2C,3C	
1203							X			B BEAM POSITION MONITORS	X.1.4.1.5.9.14	39KC02	2C,3C	
1204								X		B1 ID FE PBPM	X.1.4.1.5.9.14.1	39KC02	2C,3C	
1205								X		B2 BM FE PBPM	X.1.4.1.5.9.14.2	39KC02	2C,3C	
1206								X		B5 ID MONO. PBPM	X.1.4.1.5.9.14.5	39KC02	2C,3C	
1207								X		B6 BM MONO. PBPM	X.1.4.1.5.9.14.6	39KC02	2C,3C	
1208								X		B7 BEAM MISSTEERING SAFETY MONITOR	X.1.4.1.5.9.14.7	39KC02	2C,3C	
1209							X			L SLITS	X.1.4.1.5.9.15	39KC02	2C,3C	
1210								X		L1 ID U/W WHITE BEAM H & V SLITS	X.1.4.1.5.9.15.1	39KC02	2C,3C	
1211								X		L2 ID MONO. BEAM H & V SLITS	X.1.4.1.5.9.15.2	39KC02	2C,3C	
1212								X		L3 BM WHITE BEAM H & V SLITS	X.1.4.1.5.9.15.3	39KC02	2C,3C	
1213								X		L4 BM MONO. BEAM H & V SLITS	X.1.4.1.5.9.15.4	39KC02	2C,3C	
1214								X		L5 UNDULATOR WHITE BEAM H & V SLITS	X.1.4.1.5.9.15.5	39KC02	2C,3C	
1215								X		L6 SOFT X-RAY ENTRANCE V-SLIT	X.1.4.1.5.9.15.6	39KC02	2C,3C	
1216								X		L7 SOFT X-RAY EXIT V-SLIT	X.1.4.1.5.9.15.7	39KC02	2C,3C	
1217								X		L8 SOFT X-RAY ENTRANCE H-SLIT	X.1.4.1.5.9.15.8	39KC02	2C,3C	
1218								X		L9 SOFT X-RAY EXIT H-SLIT	X.1.4.1.5.9.15.9	39KC02	2C,3C	
1219							X			BEAMLINE SAFETY SHUTTER	X.1.4.1.5.9.16	39KC02	2C,3C	
1220								X		S4 ID BEAMLINE SAFETY SHUTTER	X.1.4.1.5.9.16.1	39KC02	2C,3C	
1221							X			BEAMLINE DIAGNOSTICS	X.1.4.1.5.9.17	39KC02	2C,3C	
1222								X		FLUORESCENCE DETECTOR	X.1.4.1.5.9.17.1	39KC02	2C,3C	
1223							X			BEAM CHOPPER	X.1.4.1.5.9.18	39KC02	2C,3C	
1224					X					TITLE 1 FOR EXPERIMENTAL FACILITIES	X.1.4.1.8	39KC02	2C,3C	
1225					X					CIRCULARLY POLARIZED UNDULATOR (CPU)	X.1.4.1.10	39KC02	2C,3C	
1226				X						BEAMLINE ID	X.1.4.3	39KC02	2C,3C	
1227					X					SECTOR 1 ID	X.1.4.3.1	39KC02	2C,3C	
1228						X				TABLE ASSEMBLIES	X.1.4.3.1.1	39KC02	2C,3C	
1229					X					SECTOR 2 ID	X.1.4.3.2	39KC02	2C,3C	
1230						X				TABLE ASSEMBLIES	X.1.4.3.2.1	39KC02	2C,3C	
1231					X					SECTOR 3 ID	X.1.4.3.3	39KC02	2C,3C	
1232						X				TABLE ASSEMBLIES	X.1.4.3.3.1	39KC02	2C,3C	
1233					X					SECTOR 4 ID	X.1.4.3.4	39KC02	2C,3C	
1234						X				TABLE ASSEMBLIES	X.1.4.3.4.1	39KC02	2C,3C	
1235					X					SECTOR 5 ID	X.1.4.3.5	39KC02	2C,3C	
1236						X				TABLE ASSEMBLIES	X.1.4.3.5.1	39KC02	2C,3C	
1237					X					SECTOR 6 ID	X.1.4.3.6	39KC02	2C,3C	
1238						X				TABLE ASSEMBLIES	X.1.4.3.6.1	39KC02	2C,3C	
1239					X					SECTOR 7 ID	X.1.4.3.7	39KC02	2C,3C	
1240						X				TABLE ASSEMBLIES	X.1.4.3.7.1	39KC02	2C,3C	
1241					X					SECTOR 8 ID	X.1.4.3.8	39KC02	2C,3C	
1242						X				TABLE ASSEMBLIES	X.1.4.3.8.1	39KC02	2C,3C	
1243					X					SECTOR 9 ID	X.1.4.3.9	39KC02	2C,3C	
1244						X				TABLE ASSEMBLIES	X.1.4.3.9.1	39KC02	2C,3C	
1245					X					SECTOR 10 ID	X.1.4.3.10	39KC02	2C,3C	
1246						X				TABLE ASSEMBLIES	X.1.4.3.10.1	39KC02	2C,3C	
1247					X					SECTOR 11 ID	X.1.4.3.11	39KC02	2C,3C	
1248						X				TABLE ASSEMBLIES	X.1.4.3.11.1	39KC02	2C,3C	
1249					X					SECTOR 12 ID	X.1.4.3.12	39KC02	2C,3C	
1250						X				TABLE ASSEMBLIES	X.1.4.3.12.1	39KC02	2C,3C	
1251					X					SECTOR 13 ID	X.1.4.3.13	39KC02	2C,3C	
1252						X				TABLE ASSEMBLIES	X.1.4.3.13.1	39KC02	2C,3C	
1253					X					SECTOR 14 ID	X.1.4.3.14	39KC02	2C,3C	
1254						X				TABLE ASSEMBLIES	X.1.4.3.14.1	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1255					X					SECTOR 15 ID	X.1.4.3.15	39KC02	2C,3C	
1256						X				TABLE ASSEMBLIES	X.1.4.3.15.1	39KC02	2C,3C	
1257					X					SECTOR 16 ID	X.1.4.3.16	39KC02	2C,3C	
1258						X				TABLE ASSEMBLIES	X.1.4.3.16.1	39KC02	2C,3C	
1259					X					SECTOR 17 ID	X.1.4.3.17	39KC02	2C,3C	
1260						X				TABLE ASSEMBLIES	X.1.4.3.17.1	39KC02	2C,3C	
1261					X					SECTOR 18 ID	X.1.4.3.18	39KC02	2C,3C	
1262						X				TABLE ASSEMBLIES	X.1.4.3.18.1	39KC02	2C,3C	
1263					X					SECTOR 19 ID	X.1.4.3.19	39KC02	2C,3C	
1264						X				TABLE ASSEMBLIES	X.1.4.3.19.1	39KC02	2C,3C	
1265					X					SECTOR 20 ID	X.1.4.3.20	39KC02	2C,3C	
1266						X				TABLE ASSEMBLIES	X.1.4.3.20.1	39KC02	2C,3C	
1267					X					SECTOR 21 ID	X.1.4.3.21	39KC02	2C,3C	
1268						X				TABLE ASSEMBLIES	X.1.4.3.21.1	39KC02	2C,3C	
1269					X					SECTOR 22 ID	X.1.4.3.22	39KC02	2C,3C	
1270						X				TABLE ASSEMBLIES	X.1.4.3.22.1	39KC02	2C,3C	
1271					X					SECTOR 23 ID	X.1.4.3.23	39KC02	2C,3C	
1272						X				TABLE ASSEMBLIES	X.1.4.3.23.1	39KC02	2C,3C	
1273					X					SECTOR 24 ID	X.1.4.3.24	39KC02	2C,3C	
1274						X				TABLE ASSEMBLIES	X.1.4.3.24.1	39KC02	2C,3C	
1275					X					SECTOR 25 ID	X.1.4.3.25	39KC02	2C,3C	
1276						X				TABLE ASSEMBLIES	X.1.4.3.25.1	39KC02	2C,3C	
1277					X					SECTOR 26 ID	X.1.4.3.26	39KC02	2C,3C	
1278						X				TABLE ASSEMBLIES	X.1.4.3.26.1	39KC02	2C,3C	
1279					X					SECTOR 27 ID	X.1.4.3.27	39KC02	2C,3C	
1280						X				TABLE ASSEMBLIES	X.1.4.3.27.1	39KC02	2C,3C	
1281					X					SECTOR 28 ID	X.1.4.3.28	39KC02	2C,3C	
1282						X				TABLE ASSEMBLIES	X.1.4.3.28.1	39KC02	2C,3C	
1283					X					SECTOR 29 ID	X.1.4.3.29	39KC02	2C,3C	
1284						X				STATION A FOE	X.1.4.3.29.1	39KC02	2C,3C	
1285						X				STATION B MERIX	X.1.4.3.29.2	39KC02	2C,3C	
1286						X				STATION C HERIX ANALYZER	X.1.4.3.29.3	39KC02	2C,3C	
1287						X				OPTICS AND DIAGNOSTICS	X.1.4.3.29.8	39KC02	2C,3C	
1288							X			WHITE BEAM SLIT	X.1.4.3.29.8.1	39KC02	2C,3C	
1289					X					SECTOR 30 ID	X.1.4.3.30	39KC02	2C,3C	
1290						X				PLANNING	X.1.4.3.30.1	39KC02	2C,3C	
1291							X			CDR	X.1.4.3.30.1.1	39KC02	2C,3C	
1292							X			MANAGEMENT PLAN	X.1.4.3.30.1.2	39KC02	2C,3C	
1293							X			SAFETY PLAN	X.1.4.3.30.1.3	39KC02	2C,3C	
1294							X			COST & SCHEDULE PLAN	X.1.4.3.30.1.4	39KC02	2C,3C	
1295							X			MEMORANDA OF UNDERSTANDING	X.1.4.3.30.1.5	39KC02	2C,3C	
1296							X			PDR	X.1.4.3.30.1.6	39KC02	2C,3C	
1297							X			FDR	X.1.4.3.30.1.7	39KC02	2C,3C	
1298							X			COMMISSIONING	X.1.4.3.30.1.8	39KC02	2C,3C	
1299						X				SR MODIFICATIONS	X.1.4.3.30.2	39KC02	2C,3C	
1300						X				STRAIGHT SECTION VACUUM CHAMBER (5M)	X.1.4.3.30.3	39KC02	2C,3C	
1301						X				INSERTION DEVICES	X.1.4.3.30.4	39KC02	2C,3C	
1302						X				FRONT END	X.1.4.3.30.5	39KC02	2C,3C	
1303						X				BEAMLINE STATIONS & INFRASTRUCTURE	X.1.4.3.30.6	39KC02	2C,3C	
1304							X			STATION A FOE	X.1.4.3.30.6.1	39KC02	2C,3C	
1305							X			STATION B MERIX	X.1.4.3.30.6.2	39KC02	2C,3C	
1306							X			STATION C HERIX ANALYZER	X.1.4.3.30.6.3	39KC02	2C,3C	
1307							X			BEAMLINE UTILITIES	X.1.4.3.30.6.4	39KC02	2C,3C	
1308							X			WORK AREA ENCLOSURE	X.1.4.3.30.6.5	39KC02	2C,3C	
1309						X				BEAMLINE OPTICS	X.1.4.3.30.7	39KC02	2C,3C	
1310							X			FILTER	X.1.4.3.30.7.1	39KC02	2C,3C	
1311							X			WHITE BEAM SLITS	X.1.4.3.30.7.2	39KC02	2C,3C	
1312							X			FOCUSING LENS	X.1.4.3.30.7.3	39KC02	2C,3C	
1313							X			PRIMARY MONOCHROMATOR	X.1.4.3.30.7.4	39KC02	2C,3C	
1314							X			IXS-CDT INTEGRAL SHUTTER	X.1.4.3.30.7.5	39KC02	2C,3C	
1315							X			MONOCHROMATIC SHUTTER	X.1.4.3.30.7.6	39KC02	2C,3C	
1316							X			MONOCHROMATIC MIRRORS	X.1.4.3.30.7.7	39KC02	2C,3C	
1317							X			SUPPORT TABLES(3)	X.1.4.3.30.7.8	39KC02	2C,3C	
1318							X			OPTICAL TABLES	X.1.4.3.30.7.9	39KC02	2C,3C	
1319							X			VACUUM HARDWARE	X.1.4.3.30.7.10	39KC02	2C,3C	
1320							X			BE WINDOWS	X.1.4.3.30.7.11	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1321						X				GENERAL INSTRUMENTATION	X.1.4.3.30.8	39KC02	2C,3C	
1322							X			PSS	X.1.4.3.30.8.1	39KC02	2C,3C	
1323							X			EPS	X.1.4.3.30.8.2	39KC02	2C,3C	
1324							X			CONTROLS	X.1.4.3.30.8.3	39KC02	2C,3C	
1325						X				MERIX INSTRUMENTATION	X.1.4.3.30.9	39KC02	2C,3C	
1326						X				HERIX INSTRUMENTATION	X.1.4.3.30.10	39KC02	2C,3C	
1327							X			HERIX SPECTROMETER VACUUM CHAMBER	X.1.4.3.30.10.5	39KC02	2C,3C	
1328						X				LAB OFFICE MODULE	X.1.4.3.30.11	39KC02	2C,3C	
1329					X					SECTOR 31 ID	X.1.4.3.31	39KC02	2C,3C	
1330						X				TABLE ASSEMBLIES	X.1.4.3.31.1	39KC02	2C,3C	
1331					X					SECTOR 32 ID	X.1.4.3.32	39KC02	2C,3C	
1332						X				TABLE ASSEMBLIES	X.1.4.3.32.1	39KC02	2C,3C	
1333					X					SECTOR 33 ID	X.1.4.3.33	39KC02	2C,3C	
1334						X				TABLE ASSEMBLIES	X.1.4.3.33.1	39KC02	2C,3C	
1335					X					SECTOR 34 ID	X.1.4.3.34	39KC02	2C,3C	
1336						X				TABLE ASSEMBLIES	X.1.4.3.34.1	39KC02	2C,3C	
1337					X					SECTOR 35 ID	X.1.4.3.35	39KC02	2C,3C	
1338						X				TABLE ASSEMBLIES	X.1.4.3.35.1	39KC02	2C,3C	
1339				X						BEAMLINE BM	X.1.4.4	39KC02	2C,3C	
1340					X					SECTOR 1 BM	X.1.4.4.1	39KC02	2C,3C	
1341						X				TABLE ASSEMBLIES	X.1.4.4.1.1	39KC02	2C,3C	
1342					X					SECTOR 2 BM	X.1.4.4.2	39KC02	2C,3C	
1343						X				TABLE ASSEMBLIES	X.1.4.4.2.1	39KC02	2C,3C	
1344					X					SECTOR 3 BM	X.1.4.4.3	39KC02	2C,3C	
1345						X				TABLE ASSEMBLIES	X.1.4.4.3.1	39KC02	2C,3C	
1346					X					SECTOR 4 BM	X.1.4.4.4	39KC02	2C,3C	
1347						X				TABLE ASSEMBLIES	X.1.4.4.4.1	39KC02	2C,3C	
1348					X					SECTOR 5 BM	X.1.4.4.5	39KC02	2C,3C	
1349						X				TABLE ASSEMBLIES	X.1.4.4.5.1	39KC02	2C,3C	
1350					X					SECTOR 6 BM	X.1.4.4.6	39KC02	2C,3C	
1351						X				TABLE ASSEMBLIES	X.1.4.4.6.1	39KC02	2C,3C	
1352					X					SECTOR 7 BM	X.1.4.4.7	39KC02	2C,3C	
1353						X				TABLE ASSEMBLIES	X.1.4.4.7.1	39KC02	2C,3C	
1354					X					SECTOR 8 BM	X.1.4.4.8	39KC02	2C,3C	
1355						X				TABLE ASSEMBLIES	X.1.4.4.8.1	39KC02	2C,3C	
1356					X					SECTOR 9 BM	X.1.4.4.9	39KC02	2C,3C	
1357						X				TABLE ASSEMBLIES	X.1.4.4.9.1	39KC02	2C,3C	
1358					X					SECTOR 10 BM	X.1.4.4.10	39KC02	2C,3C	
1359						X				TABLE ASSEMBLIES	X.1.4.4.10.1	39KC02	2C,3C	
1360					X					SECTOR 11 BM	X.1.4.4.11	39KC02	2C,3C	
1361						X				TABLE ASSEMBLIES	X.1.4.4.11.1	39KC02	2C,3C	
1362					X					SECTOR 12 BM	X.1.4.4.12	39KC02	2C,3C	
1363						X				TABLE ASSEMBLIES	X.1.4.4.12.1	39KC02	2C,3C	
1364					X					SECTOR 13 BM	X.1.4.4.13	39KC02	2C,3C	
1365						X				TABLE ASSEMBLIES	X.1.4.4.13.1	39KC02	2C,3C	
1366					X					SECTOR 14 BM	X.1.4.4.14	39KC02	2C,3C	
1367						X				USER BEAMLINES-BM-14(BIO CARS)	X.1.4.4.14.1	39KC02	2C,3C	
1368					X					SECTOR 15 BM	X.1.4.4.15	39KC02	2C,3C	
1369						X				TABLE ASSEMBLIES	X.1.4.4.15.1	39KC02	2C,3C	
1370					X					SECTOR 16 BM	X.1.4.4.16	39KC02	2C,3C	
1371						X				TABLE ASSEMBLIES	X.1.4.4.16.1	39KC02	2C,3C	
1372					X					SECTOR 17 BM	X.1.4.4.17	39KC02	2C,3C	
1373						X				TABLE ASSEMBLIES	X.1.4.4.17.1	39KC02	2C,3C	
1374					X					SECTOR 18 BM	X.1.4.4.18	39KC02	2C,3C	
1375						X				TABLE ASSEMBLIES	X.1.4.4.18.1	39KC02	2C,3C	
1376					X					SECTOR 19 BM	X.1.4.4.19	39KC02	2C,3C	
1377						X				TABLE ASSEMBLIES	X.1.4.4.19.1	39KC02	2C,3C	
1378					X					SECTOR 20 BM	X.1.4.4.20	39KC02	2C,3C	
1379						X				TABLE ASSEMBLIES	X.1.4.4.20.1	39KC02	2C,3C	
1380					X					SECTOR 21 BM	X.1.4.4.21	39KC02	2C,3C	
1381						X				TABLE ASSEMBLIES	X.1.4.4.21.1	39KC02	2C,3C	
1382					X					SECTOR 22 BM	X.1.4.4.22	39KC02	2C,3C	
1383						X				TABLE ASSEMBLIES	X.1.4.4.22.1	39KC02	2C,3C	
1384					X					SECTOR 23 BM	X.1.4.4.23	39KC02	2C,3C	
1385						X				TABLE ASSEMBLIES	X.1.4.4.23.1	39KC02	2C,3C	
1386					X					SECTOR 24 BM	X.1.4.4.24	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1387						X				TABLE ASSEMBLIES	X.1.4.4.24.1	39KC02	2C,3C	
1388					X					SECTOR 25 BM	X.1.4.4.25	39KC02	2C,3C	
1389						X				TABLE ASSEMBLIES	X.1.4.4.25.1	39KC02	2C,3C	
1390					X					SECTOR 26 BM	X.1.4.4.26	39KC02	2C,3C	
1391						X				TABLE ASSEMBLIES	X.1.4.4.26.1	39KC02	2C,3C	
1392					X					SECTOR 27 BM	X.1.4.4.27	39KC02	2C,3C	
1393						X				TABLE ASSEMBLIES	X.1.4.4.27.1	39KC02	2C,3C	
1394					X					SECTOR 28 BM	X.1.4.4.28	39KC02	2C,3C	
1395						X				TABLE ASSEMBLIES	X.1.4.4.28.1	39KC02	2C,3C	
1396					X					SECTOR 29 BM	X.1.4.4.29	39KC02	2C,3C	
1397						X				TABLE ASSEMBLIES	X.1.4.4.29.1	39KC02	2C,3C	
1398					X					SECTOR 30 BM	X.1.4.4.30	39KC02	2C,3C	
1399						X				TABLE ASSEMBLIES	X.1.4.4.30.1	39KC02	2C,3C	
1400					X					SECTOR 31 BM	X.1.4.4.31	39KC02	2C,3C	
1401						X				TABLE ASSEMBLIES	X.1.4.4.31.1	39KC02	2C,3C	
1402					X					SECTOR 32 BM	X.1.4.4.32	39KC02	2C,3C	
1403						X				TABLE ASSEMBLIES	X.1.4.4.32.1	39KC02	2C,3C	
1404					X					SECTOR 33 BM	X.1.4.4.33	39KC02	2C,3C	
1405						X				TABLE ASSEMBLIES	X.1.4.4.33.1	39KC02	2C,3C	
1406					X					SECTOR 34 BM	X.1.4.4.34	39KC02	2C,3C	
1407						X				TABLE ASSEMBLIES	X.1.4.4.34.1	39KC02	2C,3C	
1408					X					SECTOR 35 BM	X.1.4.4.35	39KC02	2C,3C	
1409						X				TABLE ASSEMBLIES	X.1.4.4.35.1	39KC02	2C,3C	
1410				X						FRONT END ID	X.1.4.5	39KC02	2C,3C	
1411					X					SECTOR 1 ID	X.1.4.5.1	39KC02	2C,3C	
1412						X				TABLE ASSEMBLIES	X.1.4.5.1.1	39KC02	2C,3C	
1413					X					SECTOR 2 ID	X.1.4.5.2	39KC02	2C,3C	
1414						X				TABLE ASSEMBLIES	X.1.4.5.2.1	39KC02	2C,3C	
1415					X					SECTOR 3 ID	X.1.4.5.3	39KC02	2C,3C	
1416						X				TABLE ASSEMBLIES	X.1.4.5.3.1	39KC02	2C,3C	
1417					X					SECTOR 4 ID	X.1.4.5.4	39KC02	2C,3C	
1418						X				TABLE ASSEMBLIES	X.1.4.5.4.1	39KC02	2C,3C	
1419					X					SECTOR 5 ID	X.1.4.5.5	39KC02	2C,3C	
1420						X				TABLE ASSEMBLIES	X.1.4.5.5.1	39KC02	2C,3C	
1421					X					SECTOR 6 ID	X.1.4.5.6	39KC02	2C,3C	
1422						X				TABLE ASSEMBLIES	X.1.4.5.6.1	39KC02	2C,3C	
1423					X					SECTOR 7 ID	X.1.4.5.7	39KC02	2C,3C	
1424						X				TABLE ASSEMBLIES	X.1.4.5.7.1	39KC02	2C,3C	
1425					X					SECTOR 8 ID	X.1.4.5.8	39KC02	2C,3C	
1426						X				TABLE ASSEMBLIES	X.1.4.5.8.1	39KC02	2C,3C	
1427					X					SECTOR 9 ID	X.1.4.5.9	39KC02	2C,3C	
1428						X				TABLE ASSEMBLIES	X.1.4.5.9.1	39KC02	2C,3C	
1429					X					SECTOR 10 ID	X.1.4.5.10	39KC02	2C,3C	
1430						X				TABLE ASSEMBLIES	X.1.4.5.10.1	39KC02	2C,3C	
1431					X					SECTOR 11 ID	X.1.4.5.11	39KC02	2C,3C	
1432						X				TABLE ASSEMBLIES	X.1.4.5.11.1	39KC02	2C,3C	
1433					X					SECTOR 12 ID	X.1.4.5.12	39KC02	2C,3C	
1434						X				TABLE ASSEMBLIES	X.1.4.5.12.1	39KC02	2C,3C	
1435					X					SECTOR 13 ID	X.1.4.5.13	39KC02	2C,3C	
1436						X				TABLE ASSEMBLIES	X.1.4.5.13.1	39KC02	2C,3C	
1437					X					SECTOR 14 ID	X.1.4.5.14	39KC02	2C,3C	
1438						X				TABLE ASSEMBLIES	X.1.4.5.14.1	39KC02	2C,3C	
1439					X					SECTOR 15 ID	X.1.4.5.15	39KC02	2C,3C	
1440						X				TABLE ASSEMBLIES	X.1.4.5.15.1	39KC02	2C,3C	
1441					X					SECTOR 16 ID	X.1.4.5.16	39KC02	2C,3C	
1442						X				TABLE ASSEMBLIES	X.1.4.5.16.1	39KC02	2C,3C	
1443					X					SECTOR 17 ID	X.1.4.5.17	39KC02	2C,3C	
1444						X				TABLE ASSEMBLIES	X.1.4.5.17.1	39KC02	2C,3C	
1445					X					SECTOR 18 ID	X.1.4.5.18	39KC02	2C,3C	
1446						X				TABLE ASSEMBLIES	X.1.4.5.18.1	39KC02	2C,3C	
1447					X					SECTOR 19 ID	X.1.4.5.19	39KC02	2C,3C	
1448						X				TABLE ASSEMBLIES	X.1.4.5.19.1	39KC02	2C,3C	
1449					X					SECTOR 20 ID	X.1.4.5.20	39KC02	2C,3C	
1450						X				TABLE ASSEMBLIES	X.1.4.5.20.1	39KC02	2C,3C	
1451					X					SECTOR 21 ID	X.1.4.5.21	39KC02	2C,3C	
1452						X				TABLE ASSEMBLIES	X.1.4.5.21.1	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1453					X					SECTOR 22 ID	X.1.4.5.22	39KC02	2C,3C	
1454						X				TABLE ASSEMBLIES	X.1.4.5.22.1	39KC02	2C,3C	
1455					X					SECTOR 23 ID	X.1.4.5.23	39KC02	2C,3C	
1456						X				TABLE ASSEMBLIES	X.1.4.5.23.1	39KC02	2C,3C	
1457					X					SECTOR 24 ID	X.1.4.5.24	39KC02	2C,3C	
1458						X				TABLE ASSEMBLIES	X.1.4.5.24.1	39KC02	2C,3C	
1459					X					SECTOR 25 ID	X.1.4.5.25	39KC02	2C,3C	
1460						X				TABLE ASSEMBLIES	X.1.4.5.25.1	39KC02	2C,3C	
1461					X					SECTOR 26 ID	X.1.4.5.26	39KC02	2C,3C	
1462						X				TABLE ASSEMBLIES	X.1.4.5.26.1	39KC02	2C,3C	
1463					X					SECTOR 27 ID	X.1.4.5.27	39KC02	2C,3C	
1464						X				TABLE ASSEMBLIES	X.1.4.5.27.1	39KC02	2C,3C	
1465					X					SECTOR 28 ID	X.1.4.5.28	39KC02	2C,3C	
1466						X				TABLE ASSEMBLIES	X.1.4.5.28.1	39KC02	2C,3C	
1467					X					SECTOR 29 ID	X.1.4.5.29	39KC02	2C,3C	
1468						X				TABLE ASSEMBLIES	X.1.4.5.29.1	39KC02	2C,3C	
1469					X					SECTOR 30 ID	X.1.4.5.30	39KC02	2C,3C	
1470						X				TABLE ASSEMBLIES	X.1.4.5.30.1	39KC02	2C,3C	
1471					X					SECTOR 31 ID	X.1.4.5.31	39KC02	2C,3C	
1472						X				TABLE ASSEMBLIES	X.1.4.5.31.1	39KC02	2C,3C	
1473					X					SECTOR 32 ID	X.1.4.5.32	39KC02	2C,3C	
1474						X				TABLE ASSEMBLIES	X.1.4.5.32.1	39KC02	2C,3C	
1475					X					SECTOR 33 ID	X.1.4.5.33	39KC02	2C,3C	
1476						X				TABLE ASSEMBLIES	X.1.4.5.33.1	39KC02	2C,3C	
1477					X					SECTOR 34 ID	X.1.4.5.34	39KC02	2C,3C	
1478						X				TABLE ASSEMBLIES	X.1.4.5.34.1	39KC02	2C,3C	
1479					X					SECTOR 35 ID	X.1.4.5.35	39KC02	2C,3C	
1480						X				TABLE ASSEMBLIES	X.1.4.5.35.1	39KC02	2C,3C	
1481			X							FRONT END BM	X.1.4.6	39KC02	2C,3C	
1482					X					SECTOR 1 BM	X.1.4.6.1	39KC02	2C,3C	
1483						X				TABLE ASSEMBLIES	X.1.4.6.1.1	39KC02	2C,3C	
1484					X					SECTOR 2 BM	X.1.4.6.2	39KC02	2C,3C	
1485						X				TABLE ASSEMBLIES	X.1.4.6.2.1	39KC02	2C,3C	
1486					X					SECTOR 3 BM	X.1.4.6.3	39KC02	2C,3C	
1487						X				TABLE ASSEMBLIES	X.1.4.6.3.1	39KC02	2C,3C	
1488					X					SECTOR 4 BM	X.1.4.6.4	39KC02	2C,3C	
1489						X				TABLE ASSEMBLIES	X.1.4.6.4.1	39KC02	2C,3C	
1490					X					SECTOR 5 BM	X.1.4.6.5	39KC02	2C,3C	
1491						X				TABLE ASSEMBLIES	X.1.4.6.5.1	39KC02	2C,3C	
1492					X					SECTOR 6 BM	X.1.4.6.6	39KC02	2C,3C	
1493						X				TABLE ASSEMBLIES	X.1.4.6.6.1	39KC02	2C,3C	
1494					X					SECTOR 7 BM	X.1.4.6.7	39KC02	2C,3C	
1495						X				TABLE ASSEMBLIES	X.1.4.6.7.1	39KC02	2C,3C	
1496					X					SECTOR 8 BM	X.1.4.6.8	39KC02	2C,3C	
1497						X				TABLE ASSEMBLIES	X.1.4.6.8.1	39KC02	2C,3C	
1498					X					SECTOR 9 BM	X.1.4.6.9	39KC02	2C,3C	
1499						X				TABLE ASSEMBLIES	X.1.4.6.9.1	39KC02	2C,3C	
1500					X					SECTOR 10 BM	X.1.4.6.10	39KC02	2C,3C	
1501						X				TABLE ASSEMBLIES	X.1.4.6.10.1	39KC02	2C,3C	
1502					X					SECTOR 11 BM	X.1.4.6.11	39KC02	2C,3C	
1503						X				TABLE ASSEMBLIES	X.1.4.6.11.1	39KC02	2C,3C	
1504					X					SECTOR 12 BM	X.1.4.6.12	39KC02	2C,3C	
1505						X				TABLE ASSEMBLIES	X.1.4.6.12.1	39KC02	2C,3C	
1506					X					SECTOR 13 BM	X.1.4.6.13	39KC02	2C,3C	
1507						X				TABLE ASSEMBLIES	X.1.4.6.13.1	39KC02	2C,3C	
1508					X					SECTOR 14 BM	X.1.4.6.14	39KC02	2C,3C	
1509						X				TABLE ASSEMBLIES	X.1.4.6.14.1	39KC02	2C,3C	
1510					X					SECTOR 15 BM	X.1.4.6.15	39KC02	2C,3C	
1511						X				TABLE ASSEMBLIES	X.1.4.6.15.1	39KC02	2C,3C	
1512					X					SECTOR 16 BM	X.1.4.6.16	39KC02	2C,3C	
1513						X				TABLE ASSEMBLIES	X.1.4.6.16.1	39KC02	2C,3C	
1514					X					SECTOR 17 BM	X.1.4.6.17	39KC02	2C,3C	
1515						X				TABLE ASSEMBLIES	X.1.4.6.17.1	39KC02	2C,3C	
1516					X					SECTOR 18 BM	X.1.4.6.18	39KC02	2C,3C	
1517						X				TABLE ASSEMBLIES	X.1.4.6.18.1	39KC02	2C,3C	
1518					X					SECTOR 19 BM	X.1.4.6.19	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1519						X				TABLE ASSEMBLIES	X.1.4.6.19.1	39KC02	2C,3C	
1520					X					SECTOR 20 BM	X.1.4.6.20	39KC02	2C,3C	
1521						X				TABLE ASSEMBLIES	X.1.4.6.20.1	39KC02	2C,3C	
1522					X					SECTOR 21 BM	X.1.4.6.21	39KC02	2C,3C	
1523						X				TABLE ASSEMBLIES	X.1.4.6.21.1	39KC02	2C,3C	
1524					X					SECTOR 22 BM	X.1.4.6.22	39KC02	2C,3C	
1525						X				TABLE ASSEMBLIES	X.1.4.6.22.1	39KC02	2C,3C	
1526					X					SECTOR 23 BM	X.1.4.6.23	39KC02	2C,3C	
1527						X				TABLE ASSEMBLIES	X.1.4.6.23.1	39KC02	2C,3C	
1528					X					SECTOR 24 BM	X.1.4.6.24	39KC02	2C,3C	
1529						X				TABLE ASSEMBLIES	X.1.4.6.24.1	39KC02	2C,3C	
1530					X					SECTOR 25 BM	X.1.4.6.25	39KC02	2C,3C	
1531						X				TABLE ASSEMBLIES	X.1.4.6.25.1	39KC02	2C,3C	
1532					X					SECTOR 26 BM	X.1.4.6.26	39KC02	2C,3C	
1533						X				TABLE ASSEMBLIES	X.1.4.6.26.1	39KC02	2C,3C	
1534					X					SECTOR 27 BM	X.1.4.6.27	39KC02	2C,3C	
1535						X				TABLE ASSEMBLIES	X.1.4.6.27.1	39KC02	2C,3C	
1536					X					SECTOR 28 BM	X.1.4.6.28	39KC02	2C,3C	
1537						X				TABLE ASSEMBLIES	X.1.4.6.28.1	39KC02	2C,3C	
1538					X					SECTOR 29 BM	X.1.4.6.29	39KC02	2C,3C	
1539						X				TABLE ASSEMBLIES	X.1.4.6.29.1	39KC02	2C,3C	
1540					X					SECTOR 30 BM	X.1.4.6.30	39KC02	2C,3C	
1541						X				TABLE ASSEMBLIES	X.1.4.6.30.1	39KC02	2C,3C	
1542					X					SECTOR 31 BM	X.1.4.6.31	39KC02	2C,3C	
1543						X				TABLE ASSEMBLIES	X.1.4.6.31.1	39KC02	2C,3C	
1544					X					SECTOR 32 BM	X.1.4.6.32	39KC02	2C,3C	
1545						X				TABLE ASSEMBLIES	X.1.4.6.32.1	39KC02	2C,3C	
1546					X					SECTOR 33 BM	X.1.4.6.33	39KC02	2C,3C	
1547						X				TABLE ASSEMBLIES	X.1.4.6.33.1	39KC02	2C,3C	
1548					X					SECTOR 34 BM	X.1.4.6.34	39KC02	2C,3C	
1549						X				TABLE ASSEMBLIES	X.1.4.6.34.1	39KC02	2C,3C	
1550					X					SECTOR 35 BM	X.1.4.6.35	39KC02	2C,3C	
1551						X				TABLE ASSEMBLIES	X.1.4.6.35.1	39KC02	2C,3C	
1552				X						FRONT END/BEAMLINE LOW CONDUCTIVITY WATER SYSTEM	X.1.4.7	39KC02	2C,3C	
1553			X							PROJECT TECHNICAL SUPPORT	X.1.5	39KC02	2C,3C	
1554				X						APS COMPUTER SYSTEMS	X.1.5.1	39KC02	2C,3C	
1555					X					CENTRAL CONTROL AND MONITORING	X.1.5.1.1	39KC02	2C,3C	
1556						X				CENTRAL CONTROL COMPUTER SYSTEM	X.1.5.1.1.1	39KC02	2C,3C	
1557							X			MAIN FRAME	X.1.5.1.1.1.1	39KC02	2C,3C	
1558							X			DISK DRIVES	X.1.5.1.1.1.2	39KC02	2C,3C	
1559							X			PRINTERS	X.1.5.1.1.1.3	39KC02	2C,3C	
1560							X			TAPE DRIVES	X.1.5.1.1.1.4	39KC02	2C,3C	
1561							X			HOST TERMINAL	X.1.5.1.1.1.5	39KC02	2C,3C	
1562							X			NETWORK EQUIPMENT	X.1.5.1.1.1.6	39KC02	2C,3C	
1563							X			TERMINAL SERVER INTERFACE	X.1.5.1.1.1.7	39KC02	2C,3C	
1564							X			SOFTWARE LICENSES	X.1.5.1.1.1.8	39KC02	2C,3C	
1565							X			SOFTWARE DEVELOPMENT TERMINALS	X.1.5.1.1.1.9	39KC02	2C,3C	
1566						X				CENTRAL CONSOLES	X.1.5.1.1.2	39KC02	2C,3C	
1567							X			CONSOLE COMPUTERS	X.1.5.1.1.2.1	39KC02	2C,3C	
1568							X			NETWORK EQUIPMENT	X.1.5.1.1.2.2	39KC02	2C,3C	
1569							X			ENGINEERING DEVELOPMENT CO	X.1.5.1.1.2.3	39KC02	2C,3C	
1570							X			SOFTWARE LICENSES	X.1.5.1.1.2.4	39KC02	2C,3C	
1571							X			VIDEO PROCESSORS	X.1.5.1.1.2.5	39KC02	2C,3C	
1572							X			VIDEO DISPLAYS	X.1.5.1.1.2.6	39KC02	2C,3C	
1573							X			CONSOLES	X.1.5.1.1.2.7	39KC02	2C,3C	
1574							X			SIGNAL DISPLAY SYSTEMS	X.1.5.1.1.2.8	39KC02	2C,3C	
1575							X			CABLE PLANT	X.1.5.1.1.2.9	39KC02	2C,3C	
1576						X				ANCILLARY CONT. & MON. EQUIPMENT	X.1.5.1.1.3	39KC02	2C,3C	
1577							X			SIGNAL ANALYSIS INSTRUMENTATION	X.1.5.1.1.3.1	39KC02	2C,3C	
1578							X			SIGNAL OSCILLOSCOPES	X.1.5.1.1.3.2	39KC02	2C,3C	
1579						X				MACHINE ACCESS CONTROL CONSOLES	X.1.5.1.1.4	39KC02	2C,3C	
1580							X			VIDEO DISPLAYS	X.1.5.1.1.4.1	39KC02	2C,3C	
1581							X			VIDEO SUPPORT EQUIPMENT	X.1.5.1.1.4.2	39KC02	2C,3C	
1582						X				NETWORKS	X.1.5.1.1.5	39KC02	2C,3C	
1583							X			NETWORK INFRASTRUCTURE	X.1.5.1.1.5.1	39KC02	2C,3C	
1584							X			NETWORK ANALYSIS INSTRUMENTATION	X.1.5.1.1.5.2	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1585						X				CONTROL SYSTEM SOFTWARE	X.1.5.1.1.6	39KC02	2C,3C	
1586					X					DATA ANALYSIS COMPUTER SYSTEM	X.1.5.1.2	39KC02	2C,3C	
1587						X				COMPUTER HARDWARE	X.1.5.1.2.1	39KC02	2C,3C	
1588							X			HOST COMPUTER SYSTEM	X.1.5.1.2.1.1	39KC02	2C,3C	
1589							X			STORAGE DEVICES	X.1.5.1.2.1.2	39KC02	2C,3C	
1590							X			I/O/ DEVICES	X.1.5.1.2.1.3	39KC02	2C,3C	
1591							X			PLOTTING EQUIPMENT	X.1.5.1.2.1.4	39KC02	2C,3C	
1592							X			INTERFACING	X.1.5.1.2.1.5	39KC02	2C,3C	
1593						X				HOST COMPUTER SOFTWARE	X.1.5.1.2.2	39KC02	2C,3C	
1594							X			OPERATING SYSTEM	X.1.5.1.2.2.1	39KC02	2C,3C	
1595							X			LANGUAGES	X.1.5.1.2.2.2	39KC02	2C,3C	
1596							X			GRAPHICS	X.1.5.1.2.2.3	39KC02	2C,3C	
1597							X			WORD PROCESSING	X.1.5.1.2.2.4	39KC02	2C,3C	
1598							X			DATA MANAGEMENT	X.1.5.1.2.2.5	39KC02	2C,3C	
1599							X			CODE MANAGEMENT	X.1.5.1.2.2.6	39KC02	2C,3C	
1600				X						MAGNET MEASURING SYSTEM	X.1.5.2	39KC02	2C,3C	
1601					X					MAGNET MEASURING FACILITY	X.1.5.2.1	39KC02	2C,3C	
1602						X				DIPOLE MAGNET MEASURING	X.1.5.2.1.1	39KC02	2C,3C	
1603						X				QUADRUPOLE MAGNET MEASURING	X.1.5.2.1.2	39KC02	2C,3C	
1604						X				SEXTUPOLE MAGNET MEASURING	X.1.5.2.1.3	39KC02	2C,3C	
1605						X				OTHER MAGNET MEASURING	X.1.5.2.1.4	39KC02	2C,3C	
1606					X					MAGNET MEASUREMENTS	X.1.5.2.2	39KC02	2C,3C	
1607						X				SYNCHROTRON MAGNET MEASURING	X.1.5.2.2.1	39KC02	2C,3C	
1608						X				SR DIPOLE MEASURING	X.1.5.2.2.2	39KC02	2C,3C	
1609						X				SR QUADRUPOLE MEASURING	X.1.5.2.2.3	39KC02	2C,3C	
1610						X				SR SEXTUPOLE MEASURING	X.1.5.2.2.4	39KC02	2C,3C	
1611						X				MISCELLANEOUS MAGNET MEASURING	X.1.5.2.2.5	39KC02	2C,3C	
1612				X						SURVEY AND ALIGNMENT	X.1.5.3	39KC02	2C,3C	
1613					X					SURVEY AND ALIGNMENT SYSTEMS	X.1.5.3.1	39KC02	2C,3C	
1614						X				OPTICAL LEVEL	X.1.5.3.1.1	39KC02	2C,3C	
1615						X				COORDINATE MEASURING SYSTEM	X.1.5.3.1.2	39KC02	2C,3C	
1616						X				ELECTRONIC THEODOLITE SYSTEM	X.1.5.3.1.3	39KC02	2C,3C	
1617						X				OPTICAL CALIBRATION SYSTEM	X.1.5.3.1.4	39KC02	2C,3C	
1618						X				DISTINVAR SYSTEM	X.1.5.3.1.5	39KC02	2C,3C	
1619						X				LASER TRACKING SYSTEM	X.1.5.3.1.6	39KC02	2C,3C	
1620						X				CALIBRATION BENCH	X.1.5.3.1.7	39KC02	2C,3C	
1621						X				TILT SENSING SYSTEM	X.1.5.3.1.8	39KC02	2C,3C	
1622						X				EDM SYSTEM	X.1.5.3.1.9	39KC02	2C,3C	
1623						X				NYLON WIRE OFFSET SYSTEM	X.1.5.3.1.10	39KC02	2C,3C	
1624						X				DATA MANAGEMENT SYSTEM	X.1.5.3.1.11	39KC02	2C,3C	
1625						X				OPTICAL TOOLING EQUIPMENT	X.1.5.3.1.12	39KC02	2C,3C	
1626						X				MAGNET HARDWARE	X.1.5.3.1.13	39KC02	2C,3C	
1627						X				MISC. HARDWARE	X.1.5.3.1.14	39KC02	2C,3C	
1628						X				RING REFERENCE SYSTEM	X.1.5.3.1.15	39KC02	2C,3C	
1629					X					INJ. & STORAGE RING ALIGNMENT	X.1.5.3.2	39KC02	2C,3C	
1630						X				SURVEY AND ALIGNMENT	X.1.5.3.2.1	39KC02	2C,3C	
1631			X							CONVENTIONAL FACILITIES	X.1.7	39KC02	2C,3C	
1632				X						SITE WORK	X.1.7.1	39KC02	2C,3C	
1633					X					SITE PREPARATION	X.1.7.1.1	39KC02	2C,3C	
1634						X				EARTHWORK	X.1.7.1.1.1	39KC02	2C,3C	
1635						X				WETLAND MITIGATION	X.1.7.1.1.2	39KC02	2C,3C	
1636					X					SITE IMPROVEMENTS	X.1.7.1.2	39KC02	2C,3C	
1637						X				ROADS, WALKS, AND PARKING	X.1.7.1.2.1	39KC02	2C,3C	
1638						X				FINAL GRADING AND LANDSCAPE	X.1.7.1.2.2	39KC02	2C,3C	
1639						X				DRAINAGE	X.1.7.1.2.3	39KC02	2C,3C	
1640						X				SPECIALTIES	X.1.7.1.2.4	39KC02	2C,3C	
1641					X					SITE UTILITIES	X.1.7.1.3	39KC02	2C,3C	
1642						X				CHILLED WATER SYSTEM	X.1.7.1.3.1	39KC02	2C,3C	
1643						X				WATER DISTRIBUTION SYSTEMS	X.1.7.1.3.2	39KC02	2C,3C	
1644						X				ELECTRICAL SYSTEM	X.1.7.1.3.3	39KC02	2C,3C	
1645						X				STEAM DISTRIBUTION SYSTEM	X.1.7.1.3.4	39KC02	2C,3C	
1646						X				SEWAGE COLLECTION SYSTEM	X.1.7.1.3.5	39KC02	2C,3C	
1647						X				COMPRESSED AIR SYSTEM	X.1.7.1.3.8	39KC02	2C,3C	
1648						X				PROPOSED BUILDING 369 SIDE BLDG. MODIFICATIONS	X.1.7.1.3.9	39KC02	2C,3C	
1649				X						INJECTOR FACILITIES	X.1.7.2	39KC02	2C,3C	
1650					X					INJECTOR FACILITIES (BLDG. 411,412 & 415)	X.1.7.2.1	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1651						X				STRUCTURAL	X.1.7.2.1.1	39KC02	2C,3C	
1652							X			FOUNDATIONS	X.1.7.2.1.1.1	39KC02	2C,3C	
1653							X			SUBSTRUCTURE	X.1.7.2.1.1.2	39KC02	2C,3C	
1654							X			SUPERSTRUCTURE	X.1.7.2.1.1.3	39KC02	2C,3C	
1655						X				ARCHITECTURAL	X.1.7.2.1.2	39KC02	2C,3C	
1656							X			EXTERIOR CLOSURE	X.1.7.2.1.2.1	39KC02	2C,3C	
1657							X			ROOFING	X.1.7.2.1.2.2	39KC02	2C,3C	
1658							X			INTERIOR CONSTRUCTION	X.1.7.2.1.2.3	39KC02	2C,3C	
1659							X			CONVEYING	X.1.7.2.1.2.4	39KC02	2C,3C	
1660						X				MECHANICAL	X.1.7.2.1.3	39KC02	2C,3C	
1661							X			PLUMBING	X.1.7.2.1.3.1	39KC02	2C,3C	
1662							X			H.V.A.C.	X.1.7.2.1.3.2	39KC02	2C,3C	
1663							X			FIRE PROTECTION	X.1.7.2.1.3.3	39KC02	2C,3C	
1664						X				ELECTRICAL	X.1.7.2.1.4	39KC02	2C,3C	
1665							X			SERVICE & DISTRIBUTION	X.1.7.2.1.4.1	39KC02	2C,3C	
1666							X			LIGHTING & POWER	X.1.7.2.1.4.2	39KC02	2C,3C	
1667							X			SPECIAL SYSTEMS	X.1.7.2.1.4.3	39KC02	2C,3C	
1668						X				GENERAL	X.1.7.2.1.5	39KC02	2C,3C	
1669						X				CIVIL	X.1.7.2.1.6	39KC02	2C,3C	
1670				X						EXPERIMENTAL HALL AND STORAGE RING	X.1.7.3	39KC02	2C,3C	
1671					X					EXPERIMENTAL HALL AND STORAGE RING (BLDG.400)	X.1.7.3.1	39KC02	2C,3C	
1672						X				STRUCTURAL	X.1.7.3.1.1	39KC02	2C,3C	
1673							X			FOUNDATIONS	X.1.7.3.1.1.1	39KC02	2C,3C	
1674							X			SUBSTRUCTURE	X.1.7.3.1.1.2	39KC02	2C,3C	
1675							X			SUPERSTRUCTURE	X.1.7.3.1.1.3	39KC02	2C,3C	
1676						X				ARCHITECTURAL	X.1.7.3.1.2	39KC02	2C,3C	
1677							X			EXTERIOR CLOSURE	X.1.7.3.1.2.1	39KC02	2C,3C	
1678							X			ROOFING	X.1.7.3.1.2.2	39KC02	2C,3C	
1679							X			INTERIOR CONSTRUCTION	X.1.7.3.1.2.3	39KC02	2C,3C	
1680							X			CONVEYING	X.1.7.3.1.2.4	39KC02	2C,3C	
1681						X				MECHANICAL	X.1.7.3.1.3	39KC02	2C,3C	
1682							X			PLUMBING	X.1.7.3.1.3.1	39KC02	2C,3C	
1683							X			H.V.A.C.	X.1.7.3.1.3.2	39KC02	2C,3C	
1684							X			FIRE PROTECTION	X.1.7.3.1.3.3	39KC02	2C,3C	
1685						X				ELECTRICAL	X.1.7.3.1.4	39KC02	2C,3C	
1686							X			SERVICE & DISTRIBUTION	X.1.7.3.1.4.1	39KC02	2C,3C	
1687							X			LIGHTING & POWER	X.1.7.3.1.4.2	39KC02	2C,3C	
1688							X			SPECIAL SYSTEMS	X.1.7.3.1.4.3	39KC02	2C,3C	
1689						X				GENERAL	X.1.7.3.1.5	39KC02	2C,3C	
1690						X				CIVIL	X.1.7.3.1.6	39KC02	2C,3C	
1691				X						CENTRAL LABORATORY/OFFICE (CLO) COMPLEX	X.1.7.4	39KC02	2C,3C	
1692					X					CLO, MF & SUPPORT BLDGS. (401, 402, 403)	X.1.7.4.1	39KC02	2C,3C	
1693						X				STRUCTURAL	X.1.7.4.1.1	39KC02	2C,3C	
1694							X			FOUNDATIONS	X.1.7.4.1.1.1	39KC02	2C,3C	
1695							X			SUBSTRUCTURE	X.1.7.4.1.1.2	39KC02	2C,3C	
1696							X			SUPERSTRUCTURE	X.1.7.4.1.1.3	39KC02	2C,3C	
1697						X				ARCHITECTURAL	X.1.7.4.1.2	39KC02	2C,3C	
1698							X			EXTERIOR CLOSURE	X.1.7.4.1.2.1	39KC02	2C,3C	
1699							X			ROOFING	X.1.7.4.1.2.2	39KC02	2C,3C	
1700							X			INTERIOR CONSTRUCTION	X.1.7.4.1.2.3	39KC02	2C,3C	
1701							X			CONVEYING	X.1.7.4.1.2.4	39KC02	2C,3C	
1702						X				MECHANICAL	X.1.7.4.1.3	39KC02	2C,3C	
1703							X			PLUMBING	X.1.7.4.1.3.1	39KC02	2C,3C	
1704							X			H.V.A.C.	X.1.7.4.1.3.2	39KC02	2C,3C	
1705							X			FIRE PROTECTION	X.1.7.4.1.3.3	39KC02	2C,3C	
1706						X				ELECTRICAL	X.1.7.4.1.4	39KC02	2C,3C	
1707							X			SERVICE & DISTRIBUTION	X.1.7.4.1.4.1	39KC02	2C,3C	
1708							X			LIGHTING & POWER	X.1.7.4.1.4.2	39KC02	2C,3C	
1709							X			SPECIAL SYSTEMS	X.1.7.4.1.4.3	39KC02	2C,3C	
1710				X						OTHER SUPPORT BUILDINGS	X.1.7.5	39KC02	2C,3C	
1711					X					LAB/OFFICE MODULES	X.1.7.5.1	39KC02	2C,3C	
1712						X				LAB/OFFICE MODULE BLDG. 431	X.1.7.5.1.1	39KC02	2C,3C	
1713							X			STRUCTURAL	X.1.7.5.1.1.1	39KC02	2C,3C	
1714								X		FOUNDATIONS	X.1.7.5.1.1.1.1	39KC02	2C,3C	
1715								X		SUBSTRUCTURE	X.1.7.5.1.1.1.2	39KC02	2C,3C	
1716								X		SUPERSTRUCTURE	X.1.7.5.1.1.1.3	39KC02	2C,3C	

* 2=Advanced Development, 3=Engineering, C=Construction

1. PROJECT TITLE/PARTICIPANT	2. DATE	3. IDENTIFICATION NUMBER
7 GeV Advanced Photon Source / ANL	JULY , 2013	39-KC-02-89-R-402

4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1717							X			ARCHITECTURAL	X.1.7.5.1.1.2	39KC02	2C,3C	
1718								X		EXTERIOR CLOSURE	X.1.7.5.1.1.2.1	39KC02	2C,3C	
1719								X		ROOFING	X.1.7.5.1.1.2.2	39KC02	2C,3C	
1720								X		INTERIOR CONSTRUCTION	X.1.7.5.1.1.2.3	39KC02	2C,3C	
1721								X		EQUIPMENT	X.1.7.5.1.1.2.4	39KC02	2C,3C	
1722							X			MECHANICAL	X.1.7.5.1.1.3	39KC02	2C,3C	
1723								X		PLUMBING	X.1.7.5.1.1.3.1	39KC02	2C,3C	
1724								X		H.V.A.C.	X.1.7.5.1.1.3.2	39KC02	2C,3C	
1725								X		FIRE PROTECTION	X.1.7.5.1.1.3.3	39KC02	2C,3C	
1726							X			ELECTRICAL	X.1.7.5.1.1.4	39KC02	2C,3C	
1727								X		SERVICE & DISTRIBUTION	X.1.7.5.1.1.4.1	39KC02	2C,3C	
1728								X		LIGHTING & POWER	X.1.7.5.1.1.4.2	39KC02	2C,3C	
1729								X		SPECIAL SYSTEMS	X.1.7.5.1.1.4.3	39KC02	2C,3C	
1730							X			GENERAL	X.1.7.5.1.1.5	39KC02	2C,3C	
1731							X			CIVIL	X.1.7.5.1.1.6	39KC02	2C,3C	
1732						X				LAB/OFFICE MODULE BLDG. 432	X.1.7.5.1.2	39KC02	2C,3C	
1733							X			STRUCTURAL	X.1.7.5.1.2.1	39KC02	2C,3C	
1734								X		FOUNDATIONS	X.1.7.5.1.2.1.1	39KC02	2C,3C	
1735								X		SUBSTRUCTURE	X.1.7.5.1.2.1.2	39KC02	2C,3C	
1736								X		SUPERSTRUCTURE	X.1.7.5.1.2.1.3	39KC02	2C,3C	
1737							X			ARCHITECTURAL	X.1.7.5.1.2.2	39KC02	2C,3C	
1738								X		EXTERIOR CLOSURE	X.1.7.5.1.2.2.1	39KC02	2C,3C	
1739								X		ROOFING	X.1.7.5.1.2.2.2	39KC02	2C,3C	
1740								X		INTERIOR CONSTRUCTION	X.1.7.5.1.2.2.3	39KC02	2C,3C	
1741								X		EQUIPMENT	X.1.7.5.1.2.2.4	39KC02	2C,3C	
1742							X			MECHANICAL	X.1.7.5.1.2.3	39KC02	2C,3C	
1743								X		PLUMBING	X.1.7.5.1.2.3.1	39KC02	2C,3C	
1744								X		H.V.A.C.	X.1.7.5.1.2.3.2	39KC02	2C,3C	
1745								X		FIRE PROTECTION	X.1.7.5.1.2.3.3	39KC02	2C,3C	
1746							X			ELECTRICAL	X.1.7.5.1.2.4	39KC02	2C,3C	
1747								X		SERVICE & DISTRIBUTION	X.1.7.5.1.2.4.1	39KC02	2C,3C	
1748								X		LIGHTING & POWER	X.1.7.5.1.2.4.2	39KC02	2C,3C	
1749								X		SPECIAL SYSTEMS	X.1.7.5.1.2.4.3	39KC02	2C,3C	
1750							X			GENERAL	X.1.7.5.1.2.5	39KC02	2C,3C	
1751							X			CIVIL	X.1.7.5.1.2.6	39KC02	2C,3C	
1752						X				LAB/OFFICE MODULE BLDG. 433	X.1.7.5.1.3	39KC02	2C,3C	
1753							X			STRUCTURAL	X.1.7.5.1.3.1	39KC02	2C,3C	
1754								X		FOUNDATIONS	X.1.7.5.1.3.1.1	39KC02	2C,3C	
1755								X		SUBSTRUCTURE	X.1.7.5.1.3.1.2	39KC02	2C,3C	
1756								X		SUPERSTRUCTURE	X.1.7.5.1.3.1.3	39KC02	2C,3C	
1757							X			ARCHITECTURAL	X.1.7.5.1.3.2	39KC02	2C,3C	
1758								X		EXTERIOR CLOSURE	X.1.7.5.1.3.2.1	39KC02	2C,3C	
1759								X		ROOFING	X.1.7.5.1.3.2.2	39KC02	2C,3C	
1760								X		INTERIOR CONSTRUCTION	X.1.7.5.1.3.2.3	39KC02	2C,3C	
1761								X		EQUIPMENT	X.1.7.5.1.3.2.4	39KC02	2C,3C	
1762							X			MECHANICAL	X.1.7.5.1.3.3	39KC02	2C,3C	
1763								X		PLUMBING	X.1.7.5.1.3.3.1	39KC02	2C,3C	
1764								X		H.V.A.C.	X.1.7.5.1.3.3.2	39KC02	2C,3C	
1765								X		FIRE PROTECTION	X.1.7.5.1.3.3.3	39KC02	2C,3C	
1766							X			ELECTRICAL	X.1.7.5.1.3.4	39KC02	2C,3C	
1767								X		SERVICE & DISTRIBUTION	X.1.7.5.1.3.4.1	39KC02	2C,3C	
1768								X		LIGHTING & POWER	X.1.7.5.1.3.4.2	39KC02	2C,3C	
1769								X		SPECIAL SYSTEMS	X.1.7.5.1.3.4.3	39KC02	2C,3C	
1770							X			GENERAL	X.1.7.5.1.3.5	39KC02	2C,3C	
1771							X			CIVIL	X.1.7.5.1.3.6	39KC02	2C,3C	
1772						X				LAB/OFFICE MODULE BLDG. 434	X.1.7.5.1.4	39KC02	2C,3C	
1773							X			STRUCTURAL	X.1.7.5.1.4.1	39KC02	2C,3C	
1774								X		FOUNDATIONS	X.1.7.5.1.4.1.1	39KC02	2C,3C	
1775								X		SUBSTRUCTURE	X.1.7.5.1.4.1.2	39KC02	2C,3C	
1776								X		SUPERSTRUCTURE	X.1.7.5.1.4.1.3	39KC02	2C,3C	
1777							X			ARCHITECTURAL	X.1.7.5.1.4.2	39KC02	2C,3C	
1778								X		EXTERIOR CLOSURE	X.1.7.5.1.4.2.1	39KC02	2C,3C	
1779								X		ROOFING	X.1.7.5.1.4.2.2	39KC02	2C,3C	
1780								X		INTERIOR CONSTRUCTION	X.1.7.5.1.4.2.3	39KC02	2C,3C	
1781								X		EQUIPMENT	X.1.7.5.1.4.2.4	39KC02	2C,3C	
1782							X			MECHANICAL	X.1.7.5.1.4.3	39KC02	2C,3C	

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1. PROJECT TITLE/PARTICIPANT	2. DATE	3. IDENTIFICATION NUMBER
7 GeV Advanced Photon Source / ANL	JULY , 2013	39-KC-02-89-R-402

4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1783								X		PLUMBING	X.1.7.5.1.4.3.1	39KC02	2C,3C	
1784								X		H.V.A.C.	X.1.7.5.1.4.3.2	39KC02	2C,3C	
1785								X		FIRE PROTECTION	X.1.7.5.1.4.3.3	39KC02	2C,3C	
1786							X			ELECTRICAL	X.1.7.5.1.4.4	39KC02	2C,3C	
1787								X		SERVICE & DISTRIBUTION	X.1.7.5.1.4.4.1	39KC02	2C,3C	
1788								X		LIGHTING & POWER	X.1.7.5.1.4.4.2	39KC02	2C,3C	
1789								X		SPECIAL SYSTEMS	X.1.7.5.1.4.4.3	39KC02	2C,3C	
1790							X			GENERAL	X.1.7.5.1.4.5	39KC02	2C,3C	
1791							X			CIVIL	X.1.7.5.1.4.6	39KC02	2C,3C	
1792						X				LAB/OFFICE MODULE BLDG. 435	X.1.7.5.1.5	39KC02	2C,3C	
1793							X			STRUCTURAL	X.1.7.5.1.5.1	39KC02	2C,3C	
1794								X		FOUNDATIONS	X.1.7.5.1.5.1.1	39KC02	2C,3C	
1795								X		SUBSTRUCTURE	X.1.7.5.1.5.1.2	39KC02	2C,3C	
1796								X		SUPERSTRUCTURE	X.1.7.5.1.5.1.3	39KC02	2C,3C	
1797							X			ARCHITECTURAL	X.1.7.5.1.5.2	39KC02	2C,3C	
1798								X		EXTERIOR CLOSURE	X.1.7.5.1.5.2.1	39KC02	2C,3C	
1799								X		ROOFING	X.1.7.5.1.5.2.2	39KC02	2C,3C	
1800								X		INTERIOR CONSTRUCTION	X.1.7.5.1.5.2.3	39KC02	2C,3C	
1801								X		EQUIPMENT	X.1.7.5.1.5.2.4	39KC02	2C,3C	
1802							X			MECHANICAL	X.1.7.5.1.5.3	39KC02	2C,3C	
1803								X		PLUMBING	X.1.7.5.1.5.3.1	39KC02	2C,3C	
1804								X		H.V.A.C.	X.1.7.5.1.5.3.2	39KC02	2C,3C	
1805								X		FIRE PROTECTION	X.1.7.5.1.5.3.3	39KC02	2C,3C	
1806							X			ELECTRICAL	X.1.7.5.1.5.4	39KC02	2C,3C	
1807								X		SERVICE & DISTRIBUTION	X.1.7.5.1.5.4.1	39KC02	2C,3C	
1808								X		LIGHTING & POWER	X.1.7.5.1.5.4.2	39KC02	2C,3C	
1809								X		SPECIAL SYSTEMS	X.1.7.5.1.5.4.3	39KC02	2C,3C	
1810							X			GENERAL	X.1.7.5.1.5.5	39KC02	2C,3C	
1811							X			CIVIL	X.1.7.5.1.5.6	39KC02	2C,3C	
1812						X				LAB/OFFICE MODULE BLDG. 436	X.1.7.5.1.6	39KC02	2C,3C	
1813							X			STRUCTURAL	X.1.7.5.1.6.1	39KC02	2C,3C	
1814								X		FOUNDATIONS	X.1.7.5.1.6.1.1	39KC02	2C,3C	
1815								X		SUBSTRUCTURE	X.1.7.5.1.6.1.2	39KC02	2C,3C	
1816								X		SUPERSTRUCTURE	X.1.7.5.1.6.1.3	39KC02	2C,3C	
1817								X		SITEWORK	X.1.7.5.1.6.1.4	39KC02	2C,3C	
1818							X			ARCHITECTURAL	X.1.7.5.1.6.2	39KC02	2C,3C	
1819								X		EXTERIOR CLOSURE	X.1.7.5.1.6.2.1	39KC02	2C,3C	
1820								X		ROOFING	X.1.7.5.1.6.2.2	39KC02	2C,3C	
1821								X		INTERIOR CONSTRUCTION	X.1.7.5.1.6.2.3	39KC02	2C,3C	
1822								X		EQUIPMENT	X.1.7.5.1.6.2.4	39KC02	2C,3C	
1823							X			MECHANICAL	X.1.7.5.1.6.3	39KC02	2C,3C	
1824								X		PLUMBING	X.1.7.5.1.6.3.1	39KC02	2C,3C	
1825								X		H.V.A.C.	X.1.7.5.1.6.3.2	39KC02	2C,3C	
1826								X		FIRE PROTECTION	X.1.7.5.1.6.3.3	39KC02	2C,3C	
1827							X			ELECTRICAL	X.1.7.5.1.6.4	39KC02	2C,3C	
1828								X		SERVICE & DISTRIBUTION	X.1.7.5.1.6.4.1	39KC02	2C,3C	
1829								X		LIGHTING & POWER	X.1.7.5.1.6.4.2	39KC02	2C,3C	
1830								X		SPECIAL SYSTEMS	X.1.7.5.1.6.4.3	39KC02	2C,3C	
1831							X			SPECIFICATIONS (SCOPE OF WORK)	X.1.7.5.1.6.5	39KC02	2C,3C	
1832								X		GENERAL	X.1.7.5.1.6.5.1	39KC02	2C,3C	
1833							X			CIVIL	X.1.7.5.1.6.6	39KC02	2C,3C	
1834						X				LAB/OFFICE MODULE BLDG. 437	X.1.7.5.1.7	39KC02	2C,3C	
1835							X			PROJECT MANAGEMENT AND INTEGRATION SUPPORT	X.1.7.5.1.7.1	39KC02	2C,3C	
1836								X		NEPA	X.1.7.5.1.7.1.1	39KC02	2C,3C	
1837								X		BUILDING PERMIT	X.1.7.5.1.7.1.2	39KC02	2C,3C	
1838								X		SUPERSTRUCTURE	X.1.7.5.1.7.1.3	39KC02	2C,3C	
1839							X			NEPA	X.1.7.5.1.7.2	39KC02	2C,3C	
1840								X		NEPA APPROVAL	X.1.7.5.1.7.2.1	39KC02	2C,3C	
1841								X		COST ESTIMATE	X.1.7.5.1.7.2.2	39KC02	2C,3C	
1842								X		PROCUREMENT	X.1.7.5.1.7.2.3	39KC02	2C,3C	
1843								X		PREPARE BID PACKAGE(S)	X.1.7.5.1.7.2.4	39KC02	2C,3C	
1844								X		CONTRACTORS DEVELOP BIDS	X.1.7.5.1.7.2.5	39KC02	2C,3C	
1845								X		ANL REVIEW BID(S) REC. AWARDS	X.1.7.5.1.7.2.6	39KC02	2C,3C	
1846								X		NEGOTIATE AND AWARD CONTRACTS	X.1.7.5.1.7.2.7	39KC02	2C,3C	
1847							X			BUILDING PERMIT	X.1.7.5.1.7.3	39KC02	2C,3C	
1848								X		FACILITY TO ANL SITTING PLAN	X.1.7.5.1.7.3.1	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1849								X		H.V.A.C. UNITS	X.1.7.5.1.7.3.2	39KC02	2C,3C	
1850								X		JOHNSON CONTROL PROPRIETARY EQUIP.	X.1.7.5.1.7.3.3	39KC02	2C,3C	
1851							X			ENGINEERING DESIGN	X.1.7.5.1.7.4	39KC02	2C,3C	
1852								X		PREPARE DESIGN PACKAGE	X.1.7.5.1.7.4.1	39KC02	2C,3C	
1853								X		UPDATE DRAWINGS	X.1.7.5.1.7.4.2	39KC02	2C,3C	
1854								X		REVIEW DRAWINGS	X.1.7.5.1.7.4.3	39KC02	2C,3C	
1855									X	DRILLED PIERS/CAISSONS	X.1.7.5.1.7.4.3.1	39KC02	2C,3C	
1856								X		COST ESTIMATE	X.1.7.5.1.7.4.4	39KC02	2C,3C	
1857							X			PROCUREMENT	X.1.7.5.1.7.5	39KC02	2C,3C	
1858								X		PREPARE BID PACKAGES	X.1.7.5.1.7.5.1	39KC02	2C,3C	
1859								X		DEFINE COST ESTIMATOR BID	X.1.7.5.1.7.5.2	39KC02	2C,3C	
1860								X		DEVELOPS GC BID PKG	X.1.7.5.1.7.5.3	39KC02	2C,3C	
1861								X		DEVELOP QC BID PKG	X.1.7.5.1.7.5.4	39KC02	2C,3C	
1862							X			CONTRACTORS DEV. BIDS	X.1.7.5.1.7.6	39KC02	2C,3C	
1863								X		ESTIMATOR DEVS. BIDS	X.1.7.5.1.7.6.1	39KC02	2C,3C	
1864								X		QC DEVELOPS BIDS	X.1.7.5.1.7.6.2	39KC02	2C,3C	
1865								X		GC DEVELOPS BIDS	X.1.7.5.1.7.6.3	39KC02	2C,3C	
1866								X		LIGHTING	X.1.7.5.1.7.6.4	39KC02	2C,3C	
1867								X		SPECIAL SYSTEMS-HVAC INST/CTRL SYS.	X.1.7.5.1.7.6.5	39KC02	2C,3C	
1868							X			ANL REVS. BIDS AWARD	X.1.7.5.1.7.7	39KC02	2C,3C	
1869								X		REVIEW QC BIDS	X.1.7.5.1.7.7.1	39KC02	2C,3C	
1870									X	METAL WALL PANELS	X.1.7.5.1.7.7.1.1	39KC02	2C,3C	
1871									X	GLAZING	X.1.7.5.1.7.7.1.2	39KC02	2C,3C	
1872									X	DOORS AND FRAMES	X.1.7.5.1.7.7.1.3	39KC02	2C,3C	
1873									X	ROOFING AND ACCESSORIES	X.1.7.5.1.7.7.1.4	39KC02	2C,3C	
1874								X		REVIEW GC BID	X.1.7.5.1.7.7.2	39KC02	2C,3C	
1875							X			NEGOTIATE & AWARD CONTRACT	X.1.7.5.1.7.8	39KC02	2C,3C	
1876								X		AWARD COST ESTIMATE	X.1.7.5.1.7.8.1	39KC02	2C,3C	
1877								X		AWARD QC CONTRACT	X.1.7.5.1.7.8.2	39KC02	2C,3C	
1878								X		AWARD GC CONTRACT	X.1.7.5.1.7.8.3	39KC02	2C,3C	
1879								X		GC MOBILIZATION	X.1.7.5.1.7.8.4	39KC02	2C,3C	
1880								X		GC/WALSH COORDINATION	X.1.7.5.1.7.8.5	39KC02	2C,3C	
1881							X			CFG CONSTRUCTION	X.1.7.5.1.7.9	39KC02	2C,3C	
1882								X		OWNER-PUR. EQUIP & SERV	X.1.7.5.1.7.9.1	39KC02	2C,3C	
1883								X		HVAC UNITS	X.1.7.5.1.7.9.2	39KC02	2C,3C	
1884									X	HVAC PURCHASE UNITS	X.1.7.5.1.7.9.2.1	39KC02	2C,3C	
1885								X		JOHNSON CONTROL PROP. EQUIP	X.1.7.5.1.7.9.3	39KC02	2C,3C	
1886								X		SOIL AND CONCRETE TESTING	X.1.7.5.1.7.9.5	39KC02	2C,3C	
1887									X	QC SERVICES	X.1.7.5.1.7.9.5.1	39KC02	2C,3C	
1888							X			SITEWORK	X.1.7.5.1.7.10	39KC02	2C,3C	
1889								X		EARTHWORK CIVIL	X.1.7.5.1.7.10.1	39KC02	2C,3C	
1890								X		CIVIL PREPARATION	X.1.7.5.1.7.10.2	39KC02	2C,3C	
1891								X		CIVIL - DETAILED WORK	X.1.7.5.1.7.10.3	39KC02	2C,3C	
1892								X		DRYWALL AND PLASTER	X.1.7.5.1.7.10.4	39KC02	2C,3C	
1893								X		FLOORING	X.1.7.5.1.7.10.5	39KC02	2C,3C	
1894								X		PAINTING	X.1.7.5.1.7.10.6	39KC02	2C,3C	
1895							X			FOUNDATIONS	X.1.7.5.1.7.11	39KC02	2C,3C	
1896								X		CAISONS	X.1.7.5.1.7.11.1	39KC02	2C,3C	
1897								X		BENEFICIAL OCCUPANCY	X.1.7.5.1.7.11.2	39KC02	2C,3C	
1898							X			ARCHITECTURAL	X.1.7.5.1.7.12	39KC02	2C,3C	
1899								X		METAL WALL PANELS	X.1.7.5.1.7.12.1	39KC02	2C,3C	
1900								X		METAL PANEL PROCUREMENT	X.1.7.5.1.7.12.2	39KC02	2C,3C	
1901								X		WALL PANEL INSTALLATION	X.1.7.5.1.7.12.3	39KC02	2C,3C	
1902							X			GLAZING	X.1.7.5.1.7.13	39KC02	2C,3C	
1903								X		GLAZING WINDOWS	X.1.7.5.1.7.13.1	39KC02	2C,3C	
1904							X			DOORS AND FRAMES	X.1.7.5.1.7.14	39KC02	2C,3C	
1905							X			MASONRY	X.1.7.5.1.7.15	39KC02	2C,3C	
1906							X			DAMPROOFING	X.1.7.5.1.7.16	39KC02	2C,3C	
1907							X			ROUGH CARPENTRY	X.1.7.5.1.7.17	39KC02	2C,3C	
1908								X		METAL STUD FRAMING	X.1.7.5.1.7.17.1	39KC02	2C,3C	
1909								X		ROUGH CARPENTRY	X.1.7.5.1.7.17.2	39KC02	2C,3C	
1910							X			DRYWALL AND PLASTER	X.1.7.5.1.7.18	39KC02	2C,3C	
1911							X			FLOORING	X.1.7.5.1.7.19	39KC02	2C,3C	
1912							X			PAINTING	X.1.7.5.1.7.20	39KC02	2C,3C	
1913							X			STRUCTURAL	X.1.7.5.1.7.21	39KC02	2C,3C	
1914								X		STORM SEWER	X.1.7.5.1.7.21.1	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1915							X			WATER DISTRIBUTION	X.1.7.5.1.7.22	39KC02	2C,3C	
1916								X		SANITARY AND LAB WASTE	X.1.7.5.1.7.22.1	39KC02	2C,3C	
1917								X		CONCRETE LAB	X.1.7.5.1.7.22.2	39KC02	2C,3C	
1918							X			CONCRETE FOUNDATIONS	X.1.7.5.1.7.23	39KC02	2C,3C	
1919								X		CONCRETE MEZZANINE	X.1.7.5.1.7.23.1	39KC02	2C,3C	
1920							X			STRUCTURAL STEEL	X.1.7.5.1.7.24	39KC02	2C,3C	
1921								X		STEEL PROCUREMENT	X.1.7.5.1.7.24.1	39KC02	2C,3C	
1922								X		STRUCTURAL STEEL INSTALL.	X.1.7.5.1.7.24.2	39KC02	2C,3C	
1923							X			ROOFING AND ACCESSORIES	X.1.7.5.1.7.25	39KC02	2C,3C	
1924							X			PLUMBING	X.1.7.5.1.7.26	39KC02	2C,3C	
1925							X			FIRE PROTECTION	X.1.7.5.1.7.27	39KC02	2C,3C	
1926								X		FIRE EXTINGUISHERS	X.1.7.5.1.7.27.1	39KC02	2C,3C	
1927									X	FIRE EXTINGUISHER INSTALL.	X.1.7.5.1.7.27.1.1	39KC02	2C,3C	
1928								X		FIRE PROTECTION SYSTEM	X.1.7.5.1.7.27.2	39KC02	2C,3C	
1929							X			HVAC	X.1.7.5.1.7.28	39KC02	2C,3C	
1930								X		MECHANICAL SYSTEMS	X.1.7.5.1.7.28.1	39KC02	2C,3C	
1931								X		DUCTWORK	X.1.7.5.1.7.28.2	39KC02	2C,3C	
1932								X		HVAC EQUIPMENT	X.1.7.5.1.7.28.3	39KC02	2C,3C	
1933								X		HVAC INSTALLATIONS	X.1.7.5.1.7.28.4	39KC02	2C,3C	
1934							X			ELECTRICAL SYSTEMS	X.1.7.5.1.7.29	39KC02	2C,3C	
1935								X		GROUNDING SYSTEM	X.1.7.5.1.7.29.1	39KC02	2C,3C	
1936								X		POWER	X.1.7.5.1.7.29.2	39KC02	2C,3C	
1937								X		ELECTRICAL DISTRIBUTION	X.1.7.5.1.7.29.3	39KC02	2C,3C	
1938								X		LIGHTING	X.1.7.5.1.7.29.4	39KC02	2C,3C	
1939								X		SPECIAL SYS. HVAC/CTRL.	X.1.7.5.1.7.29.5	39KC02	2C,3C	
1940							X			COMMISSIONING	X.1.7.5.1.7.30	39KC02	2C,3C	
1941								X		EQUIPMENT TESTING	X.1.7.5.1.7.30.1	39KC02	2C,3C	
1942								X		BENEFICIAL OCCUPANCY	X.1.7.5.1.7.30.2	39KC02	2C,3C	
1943								X		BO INSPECTION	X.1.7.5.1.7.30.3	39KC02	2C,3C	
1944								X		ACCEPT BUILDING	X.1.7.5.1.7.30.4	39KC02	2C,3C	
1945						X				LAB/OFFICE MODULE BLDG. 438	X.1.7.5.1.8	39KC02	2C,3C	
1946							X			STRUCTURAL	X.1.7.5.1.8.1	39KC02	2C,3C	
1947								X		FOUNDATIONS	X.1.7.5.1.8.1.1	39KC02	2C,3C	
1948								X		SUBSTRUCTURE	X.1.7.5.1.8.1.2	39KC02	2C,3C	
1949								X		SUPERSTRUCTURE	X.1.7.5.1.8.1.3	39KC02	2C,3C	
1950							X			ARCHITECTURAL	X.1.7.5.1.8.2	39KC02	2C,3C	
1951								X		EXTERIOR CLOSURE	X.1.7.5.1.8.2.1	39KC02	2C,3C	
1952								X		ROOFING	X.1.7.5.1.8.2.2	39KC02	2C,3C	
1953								X		INTERIOR CONSTRUCTION	X.1.7.5.1.8.2.3	39KC02	2C,3C	
1954								X		EQUIPMENT	X.1.7.5.1.8.2.4	39KC02	2C,3C	
1955							X			MECHANICAL	X.1.7.5.1.8.3	39KC02	2C,3C	
1956								X		PLUMBING	X.1.7.5.1.8.3.1	39KC02	2C,3C	
1957								X		H.V.A.C.	X.1.7.5.1.8.3.2	39KC02	2C,3C	
1958								X		FIRE PROTECTION	X.1.7.5.1.8.3.3	39KC02	2C,3C	
1959							X			ELECTRICAL	X.1.7.5.1.8.4	39KC02	2C,3C	
1960								X		SERVICE & DISTRIBUTION	X.1.7.5.1.8.4.1	39KC02	2C,3C	
1961								X		LIGHTING & POWER	X.1.7.5.1.8.4.2	39KC02	2C,3C	
1962								X		SPECIAL SYSTEMS	X.1.7.5.1.8.4.3	39KC02	2C,3C	
1963							X			GENERAL	X.1.7.5.1.8.5	39KC02	2C,3C	
1964							X			CIVIL	X.1.7.5.1.8.6	39KC02	2C,3C	
1965						X				NANOSCALE MATERIALS BLDG-440	X.1.7.5.1.9	39KC02	2C,3C	
1966							X			NANOSCALE MATERIALS-TITLE I	X.1.7.5.1.9.3	39KC02	2C,3C	
1967								X		GENERAL	X.1.7.5.1.9.3.1	39KC02	2C,3C	
1968								X		CIVIL	X.1.7.5.1.9.3.2	39KC02	2C,3C	
1969								X		LANDSCAPE	X.1.7.5.1.9.3.3	39KC02	2C,3C	
1970								X		STRUCTURAL	X.1.7.5.1.9.3.4	39KC02	2C,3C	
1971								X		ARCHITECTURE	X.1.7.5.1.9.3.5	39KC02	2C,3C	
1972								X		INDUSTRIAL	X.1.7.5.1.9.3.6	39KC02	2C,3C	
1973								X		FIRE	X.1.7.5.1.9.3.7	39KC02	2C,3C	
1974								X		PLUMBING	X.1.7.5.1.9.3.8	39KC02	2C,3C	
1975								X		PROCESS	X.1.7.5.1.9.3.9	39KC02	2C,3C	
1976								X		HVAC	X.1.7.5.1.9.3.10	39KC02	2C,3C	
1977								X		ELECTRICAL	X.1.7.5.1.9.3.11	39KC02	2C,3C	
1978					X					UTILITY BUILDING (BLDG. 450)	X.1.7.5.3	39KC02	2C,3C	
1979						X				STRUCTURAL	X.1.7.5.3.1	39KC02	2C,3C	
1980							X			FOUNDATIONS	X.1.7.5.3.1.1	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
	INDENTURE LEVEL											BUDGET AND		
Line No.	1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	Reporting NO.	PHASE *	OTHER
1981							X			SUBSTRUCTURE	X.1.7.5.3.1.2	39KC02	2C,3C	
1982							X			SUPERSTRUCTURE	X.1.7.5.3.1.3	39KC02	2C,3C	
1983						X				ARCHITECTURAL	X.1.7.5.3.2	39KC02	2C,3C	
1984							X			EXTERIOR CLOSURE	X.1.7.5.3.2.1	39KC02	2C,3C	
1985							X			ROOFING	X.1.7.5.3.2.2	39KC02	2C,3C	
1986							X			INTERIOR CONSTRUCTION	X.1.7.5.3.2.3	39KC02	2C,3C	
1987						X				MECHANICAL	X.1.7.5.3.3	39KC02	2C,3C	
1988							X			PLUMBING	X.1.7.5.3.3.1	39KC02	2C,3C	
1989							X			H.V.A.C.	X.1.7.5.3.3.2	39KC02	2C,3C	
1990							X			FIRE PROTECTION	X.1.7.5.3.3.3	39KC02	2C,3C	
1991							X			LOW CONDUCTIVITY WATER SYSTEM	X.1.7.5.3.3.4	39KC02	2C,3C	
1992						X				ELECTRICAL	X.1.7.5.3.4	39KC02	2C,3C	
1993							X			SERVICE & DISTRIBUTION	X.1.7.5.3.4.1	39KC02	2C,3C	
1994							X			LIGHTING & POWER	X.1.7.5.3.4.2	39KC02	2C,3C	
1995							X			SPECIAL SYSTEMS	X.1.7.5.3.4.3	39KC02	2C,3C	
1996						X				GENERAL	X.1.7.5.3.5	39KC02	2C,3C	
1997						X				CIVIL	X.1.7.5.3.6	39KC02	2C,3C	
1998						X				THERMAL STORAGE	X.1.7.5.3.7	39KC02	2C,3C	
1999					X					RF EXTRACTION WING (BLDG. 420)	X.1.7.5.4	39KC02	2C,3C	
2000						X				STRUCTURAL	X.1.7.5.4.1	39KC02	2C,3C	
2001						X				ARCHITECTURAL	X.1.7.5.4.2	39KC02	2C,3C	
2002						X				MECHANICAL	X.1.7.5.4.3	39KC02	2C,3C	
2003						X				ELECTRICAL	X.1.7.5.4.4	39KC02	2C,3C	
2004						X				GENERAL	X.1.7.5.4.5	39KC02	2C,3C	
2005						X				CIVIL	X.1.7.5.4.6	39KC02	2C,3C	
2006						X				HEATING	X.1.7.5.4.7	39KC02	2C,3C	
2007						X				FIRE	X.1.7.5.4.8	39KC02	2C,3C	
2008					X					CONTROL CENTER (BLDG. 410)	X.1.7.5.6	39KC02	2C,3C	
2009						X				STRUCTURAL	X.1.7.5.6.1	39KC02	2C,3C	
2010						X				ARCHITECTURAL	X.1.7.5.6.2	39KC02	2C,3C	
2011						X				MECHANICAL	X.1.7.5.6.3	39KC02	2C,3C	
2012						X				ELECTRICAL	X.1.7.5.6.4	39KC02	2C,3C	
2013						X				GENERAL	X.1.7.5.6.5	39KC02	2C,3C	
2014						X				CIVIL	X.1.7.5.6.6	39KC02	2C,3C	
2015			X							STANDARD EQUIPMENT	X.1.7.6	39KC02	2C,3C	
2016				X						STANDARD EQUIPMENT	X.1.7.6.1	39KC02	2C,3C	
2017						X				STANDARD EQUIPMENT	X.1.7.6.1.2	39KC02	2C,3C	
2018			X							LOM/OFFICE MODULE BLDG. 430	X.1.7.7	39KC02	2C,3C	
2019				X						STRUCTURAL	X.1.7.7.1	39KC02	2C,3C	
2020						X				FOUNDATIONS	X.1.7.7.1.1	39KC02	2C,3C	
2021							X			SUBSTRUCTURE	X.1.7.7.1.1.1	39KC02	2C,3C	
2022					X					SUPERSTRUCTURE	X.1.7.7.2	39KC02	2C,3C	
2023						X				ARCHITECTURAL	X.1.7.7.2.1	39KC02	2C,3C	
2024						X				EXTERIOR CLOSURE	X.1.7.7.2.2	39KC02	2C,3C	
2025						X				ROOFING	X.1.7.7.2.3	39KC02	2C,3C	
2026						X				INTERIOR CONSTRUCTION	X.1.7.7.2.4	39KC02	2C,3C	
2027					X					EQUIPMENT	X.1.7.7.3	39KC02	2C,3C	
2028						X				MECHANICAL	X.1.7.7.3.1	39KC02	2C,3C	
2029						X				PLUMBING	X.1.7.7.3.2	39KC02	2C,3C	
2030						X				H.V.A.C.	X.1.7.7.3.3	39KC02	2C,3C	
2031						X				FIRE PROTECTION	X.1.7.7.3.4	39KC02	2C,3C	
2032					X					ELECTRICAL	X.1.7.7.4	39KC02	2C,3C	
2033						X				SERVICE & DISTRIBUTION	X.1.7.7.4.1	39KC02	2C,3C	
2034						X				LIGHTING & POWER	X.1.7.7.4.2	39KC02	2C,3C	
2035						X				SPECIAL SYSTEMS	X.1.7.7.4.3	39KC02	2C,3C	
2036					X					GENERAL	X.1.7.7.5	39KC02	2C,3C	
2037					X					CIVIL	X.1.7.7.6	39KC02	2C,3C	
2038			X							LOW ENERGY UNDULATOR TEST LINE(LEUTL)BLDG.413	X.1.7.8	39KC02	2C,3C	
2039					X					STRUCTURAL	X.1.7.8.1	39KC02	2C,3C	
2040					X					ARCHITECTURAL	X.1.7.8.2	39KC02	2C,3C	
2041					X					MECHANICAL	X.1.7.8.3	39KC02	2C,3C	
2042					X					ELECTRICAL	X.1.7.8.4	39KC02	2C,3C	
2043						X				GENERAL	X.1.7.8.4.1	39KC02	2C,3C	
2044						X				CIVIL	X.1.7.8.4.2	39KC02	2C,3C	
2045						X				HEATING	X.1.7.8.4.3	39KC02	2C,3C	
2046						X				FIRE PROTECTION	X.1.7.8.4.4	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
2047					X					LIGHTING	X.1.7.8.5	39KC02	2C,3C	
2048					X					POWER	X.1.7.8.6	39KC02	2C,3C	
2049				X						CONVENT. FACILITIES SUPPORT & SERVICES	X.1.7.9	39KC02	2C,3C	
2050					X					INTEGRATION AND SUPPORT (ANL)	X.1.7.9.1	39KC02	2C,3C	
2051						X				TITLE I ANL INTEG. AND SUPPORT	X.1.7.9.1.1	39KC02	2C,3C	
2052						X				TITLE II ANL INTEG AND SUPPORT	X.1.7.9.1.2	39KC02	2C,3C	
2053						X				TITLE III ANL INTEG. AND SUPPORT	X.1.7.9.1.3	39KC02	2C,3C	
2054					X					ARCHITECTURAL/ENGR. SERVICES	X.1.7.9.2	39KC02	2C,3C	
2055						X				TITLE I PRELIMINARY DESIGN	X.1.7.9.2.1	39KC02	2C,3C	
2056							X			SITE WORK	X.1.7.9.2.1.1	39KC02	2C,3C	
2057							X			INJECTOR FACILITIES	X.1.7.9.2.1.2	39KC02	2C,3C	
2058							X			EXPERIMENTAL HALL AND STORAGE RING	X.1.7.9.2.1.3	39KC02	2C,3C	
2059							X			CENTRAL LAB OFFICE BUILDING	X.1.7.9.2.1.4	39KC02	2C,3C	
2060							X			OTHER SUPPORT BUILDINGS	X.1.7.9.2.1.5	39KC02	2C,3C	
2061							X			INTEGRATION AND SUPPORT	X.1.7.9.2.1.9	39KC02	2C,3C	
2062						X				TITLE II FINAL DESIGN	X.1.7.9.2.2	39KC02	2C,3C	
2063						X				TITLE III SERVICES	X.1.7.9.2.3	39KC02	2C,3C	
2064						X				OTHER A/E SUPPORT	X.1.7.9.2.9	39KC02	2C,3C	
2065					X					CONSTRUCTION/MANAGEMENT SERVICES	X.1.7.9.3	39KC02	2C,3C	
2066						X				DESIGN PHASE SERVICES	X.1.7.9.3.1	39KC02	2C,3C	
2067						X				CONSTRUCTION PHASE SERVICES	X.1.7.9.3.2	39KC02	2C,3C	
2068						X				OTHER CM SUPPORT	X.1.7.9.3.9	39KC02	2C,3C	
2069					X					INSPECTION AND TESTING SERVICES	X.1.7.9.4	39KC02	2C,3C	
2070					X					CLO A/E SERVICES	X.1.7.9.5	39KC02	2C,3C	
2071						X				CLO A/E SERVICES	X.1.7.9.5.1	39KC02	2C,3C	
2072					X					GENERAL CONDITIONS	X.1.7.9.9	39KC02	2C,3C	
2073			X							BACKSCATTER BEAMLINE	X.1.8	39KC02	2C,3C	
2074			X							DEVELOPMENTAL WORK (RESEARCH AND DEVELOPMENT	X.1.9	39KC02	2C,3C	
2075				X						MECHANICAL SYSTEMS	X.1.9.1	39KC02	2C,3C	
2076				X						ELECTRICAL	X.1.9.2	39KC02	2C,3C	
2077				X						RF SYSTEMS	X.1.9.3	39KC02	2C,3C	
2078						X				POWER SYSTEMS SWITCHING	X.1.9.3.1.1	39KC02	2C,3C	
2079		X								OPERATIONS	X.3	39KC02	2C,3C	
2080				X						DESIGN REVIEW PROCEDURES	X.3.1.1	39KC02	2C,3C	
2081			X							INJECTOR	X.3.2	39KC02	2C,3C	
2082				X						LINAC	X.3.2.1	39KC02	2C,3C	
2083					X					ACCELERATING STRUCTURES (SRF)	X.3.2.1.2	39KC02	2C,3C	
2084					X					RF POWER SYSTEM	X.3.2.1.3	39KC02	2C,3C	
2085						X				RF POWER TRANSMISSION WAVEGUIDE SWITCH	X.3.2.1.3.3	39KC02	2C,3C	
2086			X							PROJECT TECHNICAL SUPPORT	X.3.5	39KC02	2C,3C	
2087				X						VACUUM R&D	X.3.5.1	39KC02	2C,3C	
2088					X					MOBILE SURFACE ANALYSIS SYSTEM	X.3.5.1.1	39KC02	2C,3C	
2089				X						DEPOSITION SYSTEMS	X.3.5.4	39KC02	2C,3C	
2090					X					THIN FILM DEPOSITION	X.3.5.4.1	39KC02	2C,3C	
2091						X				THIN FILM SOURCES	X.3.5.4.1.1	39KC02	2C,3C	
2092						X				THIN FILM POWER SUPPLIES	X.3.5.4.1.2	39KC02	2C,3C	
2093						X				THIN FILM COOLING SYSTEM	X.3.5.4.1.3	39KC02	2C,3C	
2094						X				THIN FILM PNEUMATIC SYSTEM	X.3.5.4.1.4	39KC02	2C,3C	
2095						X				THIN FILM POWER DISTRIBUTION	X.3.5.4.1.5	39KC02	2C,3C	
2096						X				THIN FILM GAS DISTRIBUTION AND CONTROL	X.3.5.4.1.6	39KC02	2C,3C	
2097						X				THIN FILM VACUUM	X.3.5.4.1.7	39KC02	2C,3C	
2098						X				THIN FILM SAMPLE	X.3.5.4.1.8	39KC02	2C,3C	
2099						X				THIN FILM SUPPORTS	X.3.5.4.1.9	39KC02	2C,3C	
2100						X				THIN FILM SYSTEM CONTROLS	X.3.5.4.1.10	39KC02	2C,3C	
2101		X								APS (STATE FUNDED) USER RESIDENCE FACILITY	X.4	39KC02	2C,3C	
2102			X							PROJECT MANAGEMENT	X.4.1	39KC02	2C,3C	
2103			X							FACILITY DESIGN	X.4.2	39KC02	2C,3C	
2104				X						TITLE I DESIGN	X.4.2.1	39KC02	2C,3C	
2105				X						TITLE II DESIGN	X.4.2.2	39KC02	2C,3C	
2106				X						TITLE III DESIGN	X.4.2.3	39KC02	2C,3C	
2107				X						OTHER A/E SERVICES	X.4.2.4	39KC02	2C,3C	
2108			X							FACILITY CONSTRUCTION	X.4.3	39KC02	2C,3C	
2109				X						SITE PREPARATION	X.4.3.1	39KC02	2C,3C	
2110				X						SITE SURVEY/IMPROVEMENTS	X.4.3.2	39KC02	2C,3C	
2111				X						SITE UTILITIES	X.4.3.3	39KC02	2C,3C	
2112				X						CIVIL/STRUCTURAL	X.4.3.4	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
2113				X						MECHANICAL	X.4.3.5	39KC02	2C,3C	
2114				X						ELECTRICAL	X.4.3.6	39KC02	2C,3C	
2115				X						ARCHITECTURAL	X.4.3.7	39KC02	2C,3C	
2116				X						GENERAL CONDITIONS	X.4.3.8	39KC02	2C,3C	
2117				X						OTHER	X.4.3.9	39KC02	2C,3C	
2118			X							FURNISHINGS	X.4.4	39KC02	2C,3C	
2119		X								APS THERMAL STORAGE SYSTEM	X.5	39KC02	2C,3C	
2120			X							PROJECT MANAGEMENT	X.5.1	39KC02	2C,3C	
2121			X							SYSTEM DESIGN	X.5.2	39KC02	2C,3C	
2122			X							TESTING AND INSPECTION	X.5.3	39KC02	2C,3C	
2123			X							SYSTEM CONSTRUCTION	X.5.4	39KC02	2C,3C	
2124				X						CIVIL/STRUCTURAL	X.5.4.1	39KC02	2C,3C	
2125				X						MECHANICAL	X.5.4.2	39KC02	2C,3C	
2126					X					EQUIPMENT PROCUREMENT	X.5.4.2.1	39KC02	2C,3C	
2127					X					FABRICATION & INSTALLATION	X.5.4.2.2	39KC02	2C,3C	
2128				X						ELECTRICAL	X.5.4.3	39KC02	2C,3C	
2129		X								UNDULATOR TEST LINE	X.6	39KC02	2C,3C	
2130			X							PARTICLE BEAM	X.6.1	39KC02	2C,3C	
2131				X						MAGNETS	X.6.1.1	39KC02	2C,3C	
2132					X					DIPOLES	X.6.1.1.1	39KC02	2C,3C	
2133						X				END DUMP MAGNET	X.6.1.1.1.1	39KC02	2C,3C	
2134					X					QUADRUPOLES	X.6.1.1.2	39KC02	2C,3C	
2135					X					CORRECTORS	X.6.1.1.3	39KC02	2C,3C	
2136					X					SUPPORTS	X.6.1.1.4	39KC02	2C,3C	
2137					X					MAGNET COOLING	X.6.1.1.5	39KC02	2C,3C	
2138					X					MEASUREMENTS	X.6.1.1.6	39KC02	2C,3C	
2139					X					INSTALLATION	X.6.1.1.7	39KC02	2C,3C	
2140					X					ALIGNMENT	X.6.1.1.8	39KC02	2C,3C	
2141					X					ALPHA MAGNET	X.6.1.1.9	39KC02	2C,3C	
2142					X					SOLENOID MAGNET	X.6.1.1.10	39KC02	2C,3C	
2143					X					FAST KICKER	X.6.1.1.11	39KC02	2C,3C	
2144					X					MAGNET TOOLING	X.6.1.1.12	39KC02	2C,3C	
2145				X						POWER SUPPLIES	X.6.1.2	39KC02	2C,3C	
2146					X					DIPOLES	X.6.1.2.1	39KC02	2C,3C	
2147					X					QUADRUPOLES	X.6.1.2.2	39KC02	2C,3C	
2148					X					CORRECTORS	X.6.1.2.3	39KC02	2C,3C	
2149					X					FAST KICKER	X.6.1.2.4	39KC02	2C,3C	
2150					X					INTERLOCKS	X.6.1.2.5	39KC02	2C,3C	
2151					X					LOCAL ELECTRONICS	X.6.1.2.6	39KC02	2C,3C	
2152					X					INSTALLATION AND WIRING	X.6.1.2.7	39KC02	2C,3C	
2153				X						VACUUM	X.6.1.3	39KC02	2C,3C	
2154					X					CHAMBERS	X.6.1.3.1	39KC02	2C,3C	
2155					X					PUMPING	X.6.1.3.2	39KC02	2C,3C	
2156					X					VALVES	X.6.1.3.3	39KC02	2C,3C	
2157					X					VACUUM MONITORING	X.6.1.3.4	39KC02	2C,3C	
2158					X					SUPPORTS	X.6.1.3.5	39KC02	2C,3C	
2159					X					MISCELLANEOUS HARDWARE	X.6.1.3.6	39KC02	2C,3C	
2160					X					LOCAL ELECTRONICS	X.6.1.3.7	39KC02	2C,3C	
2161					X					INSTALLATION	X.6.1.3.8	39KC02	2C,3C	
2162					X					ALIGNMENT	X.6.1.3.9	39KC02	2C,3C	
2163				X						RF	X.6.1.4	39KC02	2C,3C	
2164					X					RF GUN	X.6.1.4.1	39KC02	2C,3C	
2165					X					WAVEGUIDE	X.6.1.4.2	39KC02	2C,3C	
2166					X					ATTENUATOR	X.6.1.4.3	39KC02	2C,3C	
2167					X					PHASE SHIFTER	X.6.1.4.4	39KC02	2C,3C	
2168					X					LOAD	X.6.1.4.5	39KC02	2C,3C	
2169					X					MONITORING	X.6.1.4.6	39KC02	2C,3C	
2170					X					SUPPORTS	X.6.1.4.7	39KC02	2C,3C	
2171					X					LOCAL ELECTRONICS	X.6.1.4.8	39KC02	2C,3C	
2172					X					INSTALLATION	X.6.1.4.9	39KC02	2C,3C	
2173					X					PHOTOCATHODE GUN	X.6.1.4.10	39KC02	2C,3C	
2174				X						CONTROLS	X.6.1.5	39KC02	2C,3C	
2175					X					MAGNETS	X.6.1.5.1	39KC02	2C,3C	
2176					X					POWER SUPPLIES	X.6.1.5.2	39KC02	2C,3C	
2177					X					VACUUM	X.6.1.5.3	39KC02	2C,3C	
2178					X					RF	X.6.1.5.4	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
2179					X					DIAGNOSTICS	X.6.1.5.5	39KC02	2C,3C	
2180					X					LASER SYSTEM	X.6.1.5.6	39KC02	2C,3C	
2181					X					SCRAPER	X.6.1.5.7	39KC02	2C,3C	
2182				X						DIAGNOSTICS	X.6.1.6	39KC02	2C,3C	
2183					X					RF BEAM POSITION MONITORS	X.6.1.6.1	39KC02	2C,3C	
2184					X					BEAM INTERCEPTING SCREENS	X.6.1.6.2	39KC02	2C,3C	
2185					X					CURRENT MONITOR	X.6.1.6.3	39KC02	2C,3C	
2186					X					SYNCHROTRON LIGHT MONITOR	X.6.1.6.4	39KC02	2C,3C	
2187					X					TRANSVERSE EMITTANCE MEASUREMENT	X.6.1.6.5	39KC02	2C,3C	
2188					X					LONGITUDINAL EMITTANCE MEASUREMENT	X.6.1.6.6	39KC02	2C,3C	
2189					X					SUPPORTS	X.6.1.6.7	39KC02	2C,3C	
2190					X					LOCAL ELECTRONICS	X.6.1.6.8	39KC02	2C,3C	
2191					X					INSTALLATION	X.6.1.6.9	39KC02	2C,3C	
2192				X						LASER SYSTEM	X.6.1.7	39KC02	2C,3C	
2193					X					OSCILLATOR	X.6.1.7.1	39KC02	2C,3C	
2194					X					AMPLIFIER	X.6.1.7.2	39KC02	2C,3C	
2195					X					PULSE MANIPULATION	X.6.1.7.3	39KC02	2C,3C	
2196					X					TRANSPORT OPTICS AND TABLE	X.6.1.7.4	39KC02	2C,3C	
2197					X					LASER ROOM	X.6.1.7.5	39KC02	2C,3C	
2198					X					DIAGNOSTICS VACUUM ULTRAVIOLET (VUV)	X.6.1.7.6	39KC02	2C,3C	
2199					X					TIMING SYSTEM	X.6.1.7.7	39KC02	2C,3C	
2200					X					LOCAL ELECTRONICS	X.6.1.7.8	39KC02	2C,3C	
2201					X					INSTALLATION	X.6.1.7.9	39KC02	2C,3C	
2202				X						SAFETY SYSTEMS	X.6.1.8	39KC02	2C,3C	
2203					X					LEUTL	X.6.1.8.1	39KC02	2C,3C	
2204						X				MCR	X.6.1.8.1.1	39KC02	2C,3C	
2205						X				WEST DOOR	X.6.1.8.1.2	39KC02	2C,3C	
2206						X				EAST DOOR	X.6.1.8.1.3	39KC02	2C,3C	
2207					X					BEAM STOPS	X.6.1.8.2	39KC02	2C,3C	
2208						X				MCR	X.6.1.8.2.1	39KC02	2C,3C	
2209						X				BUILDING 412	X.6.1.8.2.2	39KC02	2C,3C	
2210					X					BEAM DUMP	X.6.1.8.3	39KC02	2C,3C	
2211					X					LOCAL SHIELDING	X.6.1.8.4	39KC02	2C,3C	
2212					X					SUPPORTS	X.6.1.8.5	39KC02	2C,3C	
2213					X					INSTALLATION	X.6.1.8.6	39KC02	2C,3C	
2214					X					LEUTL RADIATION STOP	X.6.1.8.7	39KC02	2C,3C	
2215					X					END STATION	X.6.1.8.8	39KC02	2C,3C	
2216						X				LASER INTERLOCKS	X.6.1.8.8.1	39KC02	2C,3C	
2217				X						MECHANICAL	X.6.1.9	39KC02	2C,3C	
2218					X					RF GUN	X.6.1.9.1	39KC02	2C,3C	
2219					X					STATION #1	X.6.1.9.2	39KC02	2C,3C	
2220					X					STATION #2	X.6.1.9.3	39KC02	2C,3C	
2221					X					STATION #3	X.6.1.9.4	39KC02	2C,3C	
2222					X					STATION #4	X.6.1.9.5	39KC02	2C,3C	
2223					X					STATION #5	X.6.1.9.6	39KC02	2C,3C	
2224					X					BYPASS	X.6.1.9.7	39KC02	2C,3C	
2225					X					BOOSTER	X.6.1.9.8	39KC02	2C,3C	
2226					X					TEST AREA	X.6.1.9.9	39KC02	2C,3C	
2227					X					GUN TEST STAND	X.6.1.9.10	39KC02	2C,3C	
2228			X							LIGHT	X.6.2	39KC02	2C,3C	
2229				X						DIAGNOSTICS	X.6.2.1	39KC02	2C,3C	
2230			X							CONVENTIONAL FACILITIES	X.6.3	39KC02	2C,3C	
2231		X								BACKSCATTER BEAMLINE	X.7	39KC02	2C,3C	
2232			X							PROJECT MANAGEMENT	X.7.1	39KC02	2C,3C	
2233			X							ACCELERATOR SYSTEMS	X.7.2	39KC02	2C,3C	
2234				X						MAGNETS	X.7.2.1	39KC02	2C,3C	
2235				X						VACUUM	X.7.2.2	39KC02	2C,3C	
2236				X						CONTROLS	X.7.2.3	39KC02	2C,3C	
2237				X						SURVEY AND ALIGNMENT	X.7.2.4	39KC02	2C,3C	
2238				X						DIAGNOSTICS	X.7.2.5	39KC02	2C,3C	
2239			X							CONVENTIONAL FACILITIES	X.7.3	39KC02	2C,3C	
2240		X								BEAMLINE OPERATIONS	X.8	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1	X									APS PROJECT	X	39KC02	2C,3C	
2		X								CENTER FOR NANOSCALE MATERIALS PROJECT	N.1	39KC02	2C,3C	
3			X							NANOPROBE BEAMLINE SYSTEM	N.1.1	39KC02	2C,3C	
4				X						UNDULATORS AND FRONT ENDS	N.1.1.1	39KC02	2C,3C	
5					X					UNDULATORS AND GAP CONTROLS	N.1.1.1.1	39KC02	2C,3C	
6						X				VACUUM CHAMBER	N.1.1.1.1.1	39KC02	2C,3C	
7						X				FIRST UNDULATOR W/GAP CONTROL	N.1.1.1.1.2	39KC02	2C,3C	
8						X				SECOND UNDULATOR W/GAP CONTROL	N.1.1.1.1.3	39KC02	2C,3C	
9					X					FRONT END INTEGRATION	N.1.1.1.2	39KC02	2C,3C	
10						X				FE DESIGN INTEGRATION	N.1.1.1.2.1	39KC02	2C,3C	
11					X					FRONT END	N.1.1.1.3	39KC02	2C,3C	
12						X				FE COMPONENTS	N.1.1.1.3.1	39KC02	2C,3C	
13						X				FRONT END VACUUM	N.1.1.1.3.2	39KC02	2C,3C	
14						X				FRONT END UTILITIES	N.1.1.1.3.3	39KC02	2C,3C	
15						X				FRONT END COMPONENTS INSTALLATION	N.1.1.1.3.4	39KC02	2C,3C	
16				X						BEAMLINE OPTICAL SYSTEMS	N.1.1.2	39KC02	2C,3C	
17						X				FOE DESIGN INTEGRATION	N.1.1.2.1.1	39KC02	2C,3C	
18					X					26-ID-A FIRST OPTICAL ENCLOSURE(FOE)	N.1.1.2.2	39KC02	2C,3C	
19						X				26-ID-A HUTCH WITH UTILITIES	N.1.1.2.2.1	39KC02	2C,3C	
20					X					FOE STANDARD COMPONENTS	N.1.1.2.3	39KC02	2C,3C	
21						X				FOE WHITE-BEAM SLITS	N.1.1.2.3.1	39KC02	2C,3C	
22						X				FOE COLLIMATOR	N.1.1.2.3.2	39KC02	2C,3C	
23						X				FOE MASKS	N.1.1.2.3.3	39KC02	2C,3C	
24						X				FOE SHUTTER	N.1.1.2.3.4	39KC02	2C,3C	
25						X				FOE SUPPORTS	N.1.1.2.3.5	39KC02	2C,3C	
26						X				FOE STANDARD COMPONENTS INSTALLATION	N.1.1.2.3.6	39KC02	2C,3C	
27					X					MIRROR SYSTEM	N.1.1.2.4	39KC02	2C,3C	
28						X				MIRROR OPTICS	N.1.1.2.4.1	39KC02	2C,3C	
29						X				MIRROR SYSTEM	N.1.1.2.4.2	39KC02	2C,3C	
30						X				MIRROR SYSTEM INSTALLATION	N.1.1.2.4.3	39KC02	2C,3C	
31					X					BEAM-DEFINING APERTURE SYSTEM(BDA)	N.1.1.2.5	39KC02	2C,3C	
32						X				BDA SLITS	N.1.1.2.5.1	39KC02	2C,3C	
33						X				BDA HOUSING, SUPPORT, VIBRATION CONTROL	N.1.1.2.5.2	39KC02	2C,3C	
34						X				BDA SYSTEM INSTALLATION	N.1.1.2.5.3	39KC02	2C,3C	
35					X					FOE VACUUM COMPONENTS	N.1.1.2.6	39KC02	2C,3C	
36						X				FOE TRANSPORT PIPES 26-ID-A,26-ID-B	N.1.1.2.6.1	39KC02	2C,3C	
37						X				FOE PUMPS, CONTROLLERS, CABLES	N.1.1.2.6.2	39KC02	2C,3C	
38						X				FOE RGA	N.1.1.2.6.3	39KC02	2C,3C	
39						X				FOE VACUUM MONITORS	N.1.1.2.6.4	39KC02	2C,3C	
40						X				FOE BELLOWS	N.1.1.2.6.5	39KC02	2C,3C	
41						X				FOE VALVES	N.1.1.2.6.6	39KC02	2C,3C	
42						X				FOE VACUUM HARDWARE	N.1.1.2.6.7	39KC02	2C,3C	
43						X				FOE VACUUM COMPONENTS INSTALLATION	N.1.1.2.6.8	39KC02	2C,3C	
44					X					FOE SURVEY AND ALIGNMENT	N.1.1.2.7	39KC02	2C,3C	
45						X				FOE SURVEY AND ALIGNMENT	N.1.1.2.7.1	39KC02	2C,3C	
46					X					SOE DESIGN INTEGRATION	N.1.1.2.8	39KC02	2C,3C	
47						X				SOE DESIGN INTEGRATION	N.1.1.2.8.1	39KC02	2C,3C	
48					X					26-ID-B, SECOND OPTICAL ENCLOSURE (SOE)	N.1.1.2.9	39KC02	2C,3C	
49						X				26-ID-B HUTCH WITH UTILITIES	N.1.1.2.9.1	39KC02	2C,3C	
50					X					SOE STANDARD COMPONENTS	N.1.1.2.10	39KC02	2C,3C	
51						X				SOE MASKS	N.1.1.2.10.1	39KC02	2C,3C	
52						X				SOE PINK-BEAM SLITS	N.1.1.2.10.2	39KC02	2C,3C	
53						X				SOE SHUTTER	N.1.1.2.10.3	39KC02	2C,3C	
54						X				SOE SUPPORTS	N.1.1.2.10.4	39KC02	2C,3C	
55						X				SOE DIAGNOSTIC SCREENS	N.1.1.2.10.5	39KC02	2C,3C	
56						X				SOE X-RAY BPM	N.1.1.2.10.6	39KC02	2C,3C	
57						X				SOE STANDARD COMPONENTS INSTALLATION	N.1.1.2.10.7	39KC02	2C,3C	
58					X					CRYSTAL MONOCHROMATOR SYSTEM	N.1.1.2.11	39KC02	2C,3C	
59						X				CRYSTALS	N.1.1.2.11.1	39KC02	2C,3C	
60						X				CRYSTAL MONO HOUSING/MECHANISM/SUPPORT	N.1.1.2.11.2	39KC02	2C,3C	
61						X				CRYSTAL MONO COOLING SYSTEM	N.1.1.2.11.3	39KC02	2C,3C	
62						X				CRYSTAL MONO SYSTEM INSTALLATION	N.1.1.2.11.4	39KC02	2C,3C	
63					X					MULTILAYER MONOCHROMATOR SYSTEM (MM)	N.1.1.2.12	39KC02	2C,3C	
64						X				MULTILAYERS	N.1.1.2.12.1	39KC02	2C,3C	
65						X				MM HOUSING MECHANISM SUPPORT	N.1.1.2.12.2	39KC02	2C,3C	
66						X				MM SYSTEM INSTALLATION	N.1.1.2.12.3	39KC02	2C,3C	

* 2=Advanced Development, 3=Engineering, C=Construction

1. PROJECT TITLE/PARTICIPANT	2. DATE	3. IDENTIFICATION NUMBER
7 GeV Advanced Photon Source / ANL	JULY , 2013	39-KC-02-89-R-402

4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
67						X				CHOPPER	N.1.1.2.13.1	39KC02	2C,3C	
68						X				CHOPPER HOUSING SUPPORT	N.1.1.2.13.2	39KC02	2C,3C	
69							X			CHOPPER SUPPORT INSTALLATION	N.1.1.2.13.3	39KC02	2C,3C	
70					X					POLARIZER SYSTEM	N.1.1.2.14	39KC02	2C,3C	
71						X				POLARIZER OPTICS	N.1.1.2.14.1	39KC02	2C,3C	
72						X				POLARIZER HOUSING SUPPORT	N.1.1.2.14.2	39KC02	2C,3C	
73						X				POLARIZER SYSTEM INSTALLATION	N.1.1.2.14.3	39KC02	2C,3C	
74					X					SOE VACUUM COMPONENTS	N.1.1.2.15	39KC02	2C,3C	
75						X				SOE TRANSPORT PIPES 26-ID-B, 26-ID-C	N.1.1.2.15.1	39KC02	2C,3C	
76						X				SOE PUMPS, CONTROLLERS, CABLES	N.1.1.2.15.2	39KC02	2C,3C	
77						X				SOE VACUUM MONITORS	N.1.1.2.15.3	39KC02	2C,3C	
78						X				SOE BELLOWS	N.1.1.2.15.4	39KC02	2C,3C	
79						X				SOE VALVES	N.1.1.2.15.5	39KC02	2C,3C	
80						X				SOE BE WINDOWS	N.1.1.2.15.6	39KC02	2C,3C	
81						X				SOE VACUUM HARDWARE	N.1.1.2.15.7	39KC02	2C,3C	
82						X				ROUGHING STATION	N.1.1.2.15.8	39KC02	2C,3C	
83						X				LEAK DETECTOR	N.1.1.2.15.9	39KC02	2C,3C	
84						X				LN2 DEWARS	N.1.1.2.15.10	39KC02	2C,3C	
85						X				SOE VACUUM COMPONENTS INSTALLATION	N.1.1.2.15.11	39KC02	2C,3C	
86					X					SOE SURVEY AND ALIGNMENT	N.1.1.2.16	39KC02	2C,3C	
87						X				SOE SURVEY AND ALINGMENT	N.1.1.2.16.1	39KC02	2C,3C	
88				X						END STATION	N.1.1.3	39KC02	2C,3C	
89					X					NES INTEGRATION	N.1.1.3.1	39KC02	2C,3C	
90						X				NES DESIGN INTEGRATION	N.1.1.3.1.1	39KC02	2C,3C	
91					X					26-ID-C NANOPROBE ENCLOSURE	N.1.1.3.2	39KC02	2C,3C	
92						X				NES HUTCH WITH UTILITIES	N.1.1.3.2.1	39KC02	2C,3C	
93						X				NES CLEAN ROOM	N.1.1.3.2.2	39KC02	2C,3C	
94						X				NES TEMPERATURE CONTROL	N.1.1.3.2.3	39KC02	2C,3C	
95						X				NES ANTEROOM	N.1.1.3.2.4	39KC02	2C,3C	
96					X					NANOPROBE SYSTEMS	N.1.1.3.3	39KC02	2C,3C	
97						X				NANOPROBE INSTRUMENT	N.1.1.3.3.1	39KC02	2C,3C	
98						X				NANOPROBE OPTICS STAGING	N.1.1.3.3.2	39KC02	2C,3C	
99						X				NANOPROBE SUPPORT TABLE	N.1.1.3.3.3	39KC02	2C,3C	
100						X				NANOPROBE PREALIGNMENT OPTICS	N.1.1.3.3.4	39KC02	2C,3C	
101						X				NANOPROBE HIGH ENERGY OPTICS	N.1.1.3.3.5	39KC02	2C,3C	
102						X				NANOPROBE CHAMBER AND DETECTOR MOUNT	N.1.1.3.3.6	39KC02	2C,3C	
103						X				NANOPROBE SYSTEM COMPLETE	N.1.1.3.3.7	39KC02	2C,3C	
104					X					ZONE PLATE OPTICS	N.1.1.3.4	39KC02	2C,3C	
105						X				FOCUSING/OBJECTIVE ZONE PLATE OPTICS	N.1.1.3.4.1	39KC02	2C,3C	
106						X				OBJECTIVE ZONE PLATE OPTICS	N.1.1.3.4.2	39KC02	2C,3C	
107						X				CONSENSOR ZONE PLATE OPTICS	N.1.1.3.4.3	39KC02	2C,3C	
108					X					NANOPROBE DETECTORS	N.1.1.3.5	39KC02	2C,3C	
109						X				TRANSMISSION DETECTORS	N.1.1.3.5.1	39KC02	2C,3C	
110						X				DIFFRACTION DETECTORS	N.1.1.3.5.2	39KC02	2C,3C	
111						X				FLUORESCENCE DETECTORS	N.1.1.3.5.3	39KC02	2C,3C	
112						X				ALIGNMENT DETECTORS	N.1.1.3.5.4	39KC02	2C,3C	
113						X				NANOPROBE DETECTORS INSTALLATION	N.1.1.3.5.5	39KC02	2C,3C	
114					X					NES SURVEY AND ALIGNMENT	N.1.1.3.6	39KC02	2C,3C	
115						X				NES SURVEY AND ALIGNMENT	N.1.1.3.6.1	39KC02	2C,3C	
116					X					BEAMLINE (BL) DAS & CONT,26-ID-A,B,C	N.1.1.3.7	39KC02	2C,3C	
117						X				CONTROL ELECTRONICS AND SOFTWARE	N.1.1.3.7.1	39KC02	2C,3C	
118						X				CONTROL COMPUTERS	N.1.1.3.7.2	39KC02	2C,3C	
119						X				COMPUTER CLUSTER	N.1.1.3.7.3	39KC02	2C,3C	
120						X				NANOPROBE DATA ACQ & ANALY SOFTWARE	N.1.1.3.7.4	39KC02	2C,3C	
121					X					BEAMLINE PSS/EPS	N.1.1.3.8	39KC02	2C,3C	
122						X				BL PSS	N.1.1.3.8.1	39KC02	2C,3C	
123						X				BL EPS	N.1.1.3.8.2	39KC02	2C,3C	
124					X					26-ID-A, B, C UTILITIES	N.1.1.3.9	39KC02	2C,3C	
125						X				UTILITIES SUPPORTS	N.1.1.3.9.1	39KC02	2C,3C	
126						X				POWER	N.1.1.3.9.2	39KC02	2C,3C	
127						X				PLUMBING	N.1.1.3.9.3	39KC02	2C,3C	
128						X				HVAC	N.1.1.3.9.4	39KC02	2C,3C	
129					X					MATERIALS AND SUPPLIES FOR BL ED&I	N.1.1.3.10	39KC02	2C,3C	
130						X				MATERIALS AND SUPPLIES FOR BL ED&I	N.1.1.3.10.1	39KC02	2C,3C	
131					X					NANOPROBE SYSTEMS MANAGEMENT	N.1.1.3.11	39KC02	2C,3C	
132						X				NANOPROBE SYSTEMS MANAGEMENT	N.1.1.3.11.1	39KC02	2C,3C	

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7 GeV Advanced Photon Source / ANL	JULY , 2013	39-KC-02-89-R-402

4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
133					X					SXSPM INSTRUMENT ASSEMBLY	N.1.1.3.12	39KC02	2C,3C	
134			X							NANOLITHOGRAPHY & PROCESSING EQUIPMENT	N.1.2	39KC02	2C,3C	
135				X						ELECTRON BEAM LITHOGRAPHY	N.1.2.1	39KC02	2C,3C	
136					X					HIGH VOLTAGE ELECTRON BEAM LITHOGRAPHY	N.1.2.1.1	39KC02	2C,3C	
137					X					HVEBL UPS	N.1.2.1.2	39KC02	2C,3C	
138					X					MATERIALS AND SUPPLIES	N.1.2.1.99	39KC02	2C,3C	
139				X						FOCUSED ION BEAM (FIB) EQUIPMENT	N.1.2.2	39KC02	2C,3C	
140					X					FOCUSED ION BEAM	N.1.2.2.1	39KC02	2C,3C	
141					X					UNITERRUPABLE POWER SUPPLY	N.1.2.2.2	39KC02	2C,3C	
142					X					MATERIALS AND SUPPLIES	N.1.2.2.99	39KC02	2C,3C	
143					X					MATERIALS AND SUPPLIES	N.1.2.3.99	39KC02	2C,3C	
144				X						CHEMISTRY EQUIPMENT	N.1.2.4	39KC02	2C,3C	
145					X					CHROMATOGRAPHY SYSTEM	N.1.2.4.1	39KC02	2C,3C	
146					X					SCANNING VIBRATING ELECTRODE	N.1.2.4.2	39KC02	2C,3C	
147					X					VOLTAMETRY SYSTEM	N.1.2.4.3	39KC02	2C,3C	
148					X					SCANNING VIBRATING ELECTRODE	N.1.2.4.4	39KC02	2C,3C	
149					X					VOLTAMETRY SYSTEM	N.1.2.4.5	39KC02	2C,3C	
150					X					WAFER SPIN RINSE TOOLS	N.1.2.4.6	39KC02	2C,3C	
151					X					WAFER PRIMING OVEN	N.1.2.4.7	39KC02	2C,3C	
152					X					NANOIMPRINTER	N.1.2.4.9	39KC02	2C,3C	
153					X					LAMINAR FLOW HOODS PROCESS STATIONS	N.1.2.4.10	39KC02	2C,3C	
154						X				MATERIALS/SUPPLIES FOR WET/DRY LABS	N.1.2.4.99.1	39KC02	2C,3C	
155						X				CONSUMABLES FOR WBS 1.2	N.1.2.4.99.2	39KC02	2C,3C	
156						X				SMALL CAP RESIST PROCESSING	N.1.2.4.99.3	39KC02	2C,3C	
157						X				SMALL CAP ELECTROCHEM/WET CHEM EQUIP	N.1.2.4.99.4	39KC02	2C,3C	
158						X				CABINETS, BENCHES, AND TABLES	N.1.2.4.99.5	39KC02	2C,3C	
159						X				CLEANROOM GAS CABINETS	N.1.2.4.99.6	39KC02	2C,3C	
160						X				LFPS M&S	N.1.2.4.99.7	39KC02	2C,3C	
161				X						METROLOGY EQUIPMENT	N.1.2.5	39KC02	2C,3C	
162					X					SPECTROSCOPIC ELLIPSOMETER	N.1.2.5.2	39KC02	2C,3C	
163					X					SURFACE PROFILOMETER	N.1.2.5.3	39KC02	2C,3C	
164					X					OPTICAL MICROSCOPE	N.1.2.5.4	39KC02	2C,3C	
165					X					METROLOGY EQUIP MATERIALS AND SUPPLIES	N.1.2.5.99	39KC02	2C,3C	
166			X							NANOSYNTHESIS AND CHARACTERIZATION EQUIPMENT	N.1.3	39KC02	2C,3C	
167				X						SELF ASSEMBLY AND BIOSYNTHESIS EQUIPMENT	N.1.3.1	39KC02	2C,3C	
168					X					FOURIER TRANSFORM INFRARED SPECTROMETER	N.1.3.1.1	39KC02	2C,3C	
169					X					RAMAN SPECTROMETER	N.1.3.1.2	39KC02	2C,3C	
170					X					LUMINESCENCE SPECTROMETER	N.1.3.1.3	39KC02	2C,3C	
171					X					UV-VIS-NIR SPECTROMETER	N.1.3.1.4	39KC02	2C,3C	
172					X					CENTRIFUGES	N.1.3.1.5	39KC02	2C,3C	
173					X					PARTICLE ANALYZERS	N.1.3.1.6	39KC02	2C,3C	
174					X					SOLVENT PURIFICATION SYSTEMS	N.1.3.1.7	39KC02	2C,3C	
175					X					THERMOGRAVIMETRIC ANALYSIS AND RHEOLOGY	N.1.3.1.8	39KC02	2C,3C	
176					X					AUTOMATED SYNTHESIZER	N.1.3.1.9	39KC02	2C,3C	
177					X					GLOVEBOXES	N.1.3.1.10	39KC02	2C,3C	
178					X					LANGMUIR-BLODGETT TROUGH SYSTEM	N.1.3.1.11	39KC02	2C,3C	
179					X					LASER SCANNING CONFOCAL MICROSCOPE	N.1.3.1.12	39KC02	2C,3C	
180					X					LABORATORY CASEWORK & HOODS	N.1.3.1.13	39KC02	2C,3C	
181					X					MATERIALS AND SUPPLIES	N.1.3.1.99	39KC02	2C,3C	
182				X						THIN FILM SYNTHESIS EQUIPMENT	N.1.3.2	39KC02	2C,3C	
183					X					SPUTTERING SYSTEM	N.1.3.2.1	39KC02	2C,3C	
184					X					ELECTRON-BEAM EVAPORATOR	N.1.3.2.2	39KC02	2C,3C	
185					X					OXIDE MBE SYSTEM	N.1.3.2.3	39KC02	2C,3C	
186					X					MAGNETIC MATERIALS MBE SYSTEM	N.1.3.2.4	39KC02	2C,3C	
187					X					MICROWAVE PLASMA CVD SYSTEM	N.1.3.2.5	39KC02	2C,3C	
188					X					MATERIALS AND SUPPLIES	N.1.3.2.99	39KC02	2C,3C	
189				X						NANOCHARACTERIZATION EQUIPMENT	N.1.3.3	39KC02	2C,3C	
190					X					MAGNETOMETER	N.1.3.3.1	39KC02	2C,3C	
191					X					MAGNETO-OPTIC KERR EFFECT IMAGING	N.1.3.3.2	39KC02	2C,3C	
192					X					NEAR FIELD SCANNING OPTICAL MICROSCOPE	N.1.3.3.3	39KC02	2C,3C	
193					X					SCANNING ELECTRON/PROBE MICROSCOPE	N.1.3.3.4	39KC02	2C,3C	
194					X					SCANNING PROBE MICROSCOPES	N.1.3.3.5	39KC02	2C,3C	
195					X					X-RAY DIFFRACTOMETER	N.1.3.3.6	39KC02	2C,3C	
196					X					OPTICAL MICROSCOPES	N.1.3.3.7	39KC02	2C,3C	
197					X					ELECTRICAL CHARACTERIZATION	N.1.3.3.8	39KC02	2C,3C	
198					X					HIGH SENSITIVITY SQUID MAGNETOMETER	N.1.3.3.9	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
199					X					FIELD EMISSION SCAN ELECTRON MICROSCOPE	N.1.3.3.10	39KC02	2C,3C	
200					X					MATERIALS AND SUPPLIES	N.1.3.3.99	39KC02	2C,3C	
201			X							PROJECT MANAGEMENT,INTEGRATION, INFRASTRUCTURE	N.1.4	39KC02	2C,3C	
202				X						PROJECT MANAGEMENT	N.1.4.1	39KC02	2C,3C	
203					X					PROJECT MANAGEMENT-QUARTERLY REPORTS	N.1.4.1.1	39KC02	2C,3C	
204					X					PROJECT MANAGEMENT - BASELINE SCHEDULES	N.1.4.1.2	39KC02	2C,3C	
205					X					PROJECT MANAGEMENT - WORKING SCHEDULES	N.1.4.1.3	39KC02	2C,3C	
206					X					PROJECT MANAGMENT - PROJECT CHANGE REQUESTS	N.1.4.1.4	39KC02	2C,3C	
207					X					PROJECT MANAGEMENT - COST BASELINE - MIE SUBPROJ	N.1.4.1.5	39KC02	2C,3C	
208					X					PROJECT MANAGEMENT - COST BASELINE - CF SUBPROJE	N.1.4.1.6	39KC02	2C,3C	
209					X					PROJECT MANAGEMENT - WORK PKGS/WORK PLAN AGREEME	N.1.4.1.7	39KC02	2C,3C	
210					X					PROJECT MANAGEMENT - MONTHLY REPORTS	N.1.4.1.8	39KC02	2C,3C	
211					X					CNM CF SUBPROJECT MONTHLY REPORT	N.1.4.1.9	39KC02	2C,3C	
212					X					PROJECT MANAGEMENT - BUDGET DOCUMENTS	N.1.4.1.10	39KC02	2C,3C	
213					X					PROJECT ES&H DOCUMENTS	N.1.4.1.11	39KC02	2C,3C	
214					X					MOAS / MOUS	N.1.4.1.12	39KC02	2C,3C	
215				X						PROJECT SUPPORT AND INTEGRATION	N.1.4.2	39KC02	2C,3C	
216					X					PROJECT SUPPORT AND INTEGRATION	N.1.4.2.1	39KC02	2C,3C	
217				X						INFRASTRUCTURE	N.1.4.3	39KC02	2C,3C	
218					X					SAFETY SYSTEMS	N.1.4.3.1	39KC02	2C,3C	
219					X					COMPUTING NETWORK AND TELEPRESENCE	N.1.4.3.2	39KC02	2C,3C	
220					X					UNINTERRUPTIBLE POWER SUPPLY	N.1.4.3.3	39KC02	2C,3C	
221				X						DEIONIZED WATER SYSTEM	N.1.4.4	39KC02	2C,3C	
222					X					DI WATER STORAGE TANKS	N.1.4.4.1	39KC02	2C,3C	
223					X					DEIONIZED WATER SYSTEM	N.1.4.4.2	39KC02	2C,3C	
224			X							CONVENTIONAL FACILITIES	N.1.5	39KC02	2C,3C	
225				X						ENGINEERING DESIGN	N.1.5.1	39KC02	2C,3C	
226					X					A/E DESIGN T1, T11, AND T111	N.1.5.1.1	39KC02	2C,3C	
227						X				TITLE I DOCUMENTS	N.1.5.1.1.1	39KC02	2C,3C	
228						X				TITLE II DOCUMENTS	N.1.5.1.1.2	39KC02	2C,3C	
229							X			STRUCTURAL	N.1.5.1.1.2.1	39KC02	2C,3C	
230								X		FOUNDATIONS	N.1.5.1.1.2.1.1	39KC02	2C,3C	
231								X		SUBSTRUCTURE	N.1.5.1.1.2.1.2	39KC02	2C,3C	
232								X		SUPERSTRUCTURE	N.1.5.1.1.2.1.3	39KC02	2C,3C	
233							X			ARCHITECTURAL	N.1.5.1.1.2.2	39KC02	2C,3C	
234								X		EXTERIOR CLOSURE	N.1.5.1.1.2.2.1	39KC02	2C,3C	
235								X		ROOFING	N.1.5.1.1.2.2.2	39KC02	2C,3C	
236								X		INTERIOR CLOSURE	N.1.5.1.1.2.2.3	39KC02	2C,3C	
237								X		EQUIPMENT	N.1.5.1.1.2.2.4	39KC02	2C,3C	
238							X			MECHANICAL	N.1.5.1.1.2.3	39KC02	2C,3C	
239								X		PLUMBING	N.1.5.1.1.2.3.1	39KC02	2C,3C	
240								X		HVAC	N.1.5.1.1.2.3.2	39KC02	2C,3C	
241								X		FIRE PROTECTION	N.1.5.1.1.2.3.3	39KC02	2C,3C	
242							X			ELECTRICAL	N.1.5.1.1.2.4	39KC02	2C,3C	
243								X		SERVICE & DISTRIBUTION	N.1.5.1.1.2.4.1	39KC02	2C,3C	
244								X		LIGHTING & POWER	N.1.5.1.1.2.4.2	39KC02	2C,3C	
245								X		SPECIAL SYSTEMS	N.1.5.1.1.2.4.3	39KC02	2C,3C	
246							X			GENERAL	N.1.5.1.1.2.5	39KC02	2C,3C	
247							X			CIVIL	N.1.5.1.1.2.6	39KC02	2C,3C	
248						X				TITLE III DOCUMENTS	N.1.5.1.1.3	39KC02	2C,3C	
249							X			STRUCTURAL	N.1.5.1.1.3.1	39KC02	2C,3C	
250								X		FOUNDATIONS	N.1.5.1.1.3.1.1	39KC02	2C,3C	
251								X		SUBSTRUCTURE	N.1.5.1.1.3.1.2	39KC02	2C,3C	
252								X		SUPERSTRUCTURE	N.1.5.1.1.3.1.3	39KC02	2C,3C	
253							X			ARCHITECTURAL	N.1.5.1.1.3.2	39KC02	2C,3C	
254								X		EXTERIOR CLOSURE	N.1.5.1.1.3.2.1	39KC02	2C,3C	
255								X		ROOFING	N.1.5.1.1.3.2.2	39KC02	2C,3C	
256								X		INTERIOR CLOSURE	N.1.5.1.1.3.2.3	39KC02	2C,3C	
257								X		EQUIPMENT	N.1.5.1.1.3.2.4	39KC02	2C,3C	
258							X			MECHANICAL	N.1.5.1.1.3.3	39KC02	2C,3C	
259								X		PLUMBING	N.1.5.1.1.3.3.1	39KC02	2C,3C	
260								X		HVAC	N.1.5.1.1.3.3.2	39KC02	2C,3C	
261								X		FIRE PROTECTION	N.1.5.1.1.3.3.3	39KC02	2C,3C	
262								X		PROCESS PLUMBING	N.1.5.1.1.3.3.4	39KC02	2C,3C	
263							X			ELECTRICAL	N.1.5.1.1.3.4	39KC02	2C,3C	
264								X		SERVICE & DISTRIBTUION	N.1.5.1.1.3.4.1	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
265								X		LIGHTING & POWER	N.1.5.1.1.3.4.2	39KC02	2C,3C	
266								X		SPECIAL SYSTEMS	N.1.5.1.1.3.4.3	39KC02	2C,3C	
267							X			GENERAL	N.1.5.1.1.3.5	39KC02	2C,3C	
268							X			CIVIL	N.1.5.1.1.3.6	39KC02	2C,3C	
269					X					ANL DESIGN OVERSIGHT	N.1.5.1.2	39KC02	2C,3C	
270				X						CONSTRUCTION MANAGEMENT SERVICE	N.1.5.2	39KC02	2C,3C	
271					X					CONSTRUCTION MGMT DURING T1 AND T11	N.1.5.2.1	39KC02	2C,3C	
272					X					CONSTRUCTION MGMT TITLE 111 SERVICES	N.1.5.2.2	39KC02	2C,3C	
273				X						PROJECT MANAGEMENT AND INTEGRATION SUPPORT	N.1.5.3	39KC02	2C,3C	
274					X					CONSTRUCTION MANAGEMENT	N.1.5.3.1	39KC02	2C,3C	
275					X					CONSTRUCTION ESH DOCUMENTS	N.1.5.3.2	39KC02	2C,3C	
276				X						CONVENTIONAL FACILITIES CONSTRUCTION	N.1.5.4	39KC02	2C,3C	
277					X					OWNER-PURCHASED EQUIPMENT	N.1.5.4.1	39KC02	2C,3C	
278					X					TITLE III CONSTRUCTION SITE SERVICES	N.1.5.4.2	39KC02	2C,3C	
279					X					PHASE I CONSTRUCTION	N.1.5.4.3	39KC02	2C,3C	
280					X					PHASE II CONSTRUCTION	N.1.5.4.4	39KC02	2C,3C	
281			X							CONVENTIONAL FACILITIES	N.1.6	39KC02	2C,3C	
282				X						ENGINEERING DESIGN	N.1.6.1	39KC02	2C,3C	
283					X					A/E DESIGNTI,TII, AND TIII	N.1.6.1.1	39KC02	2C,3C	
284						X				TITLE I DOCUMENTS	N.1.6.1.1.1	39KC02	2C,3C	
285						X				TITLE II DOCUMENTS	N.1.6.1.1.2	39KC02	2C,3C	
286							X			STRUCTURAL	N.1.6.1.1.2.1	39KC02	2C,3C	
287								X		FOUNDATIONS	N.1.6.1.1.2.1.1	39KC02	2C,3C	
288								X		SUBSTRUCTURE	N.1.6.1.1.2.1.2	39KC02	2C,3C	
289								X		SUPERSTRUCTURE	N.1.6.1.1.2.1.3	39KC02	2C,3C	
290							X			ARCHITECTUAL	N.1.6.1.1.2.2	39KC02	2C,3C	
291								X		EXTERIOR ENCLOSURE	N.1.6.1.1.2.2.1	39KC02	2C,3C	
292								X		ROOFING	N.1.6.1.1.2.2.2	39KC02	2C,3C	
293								X		INTERIOR ENCLOSURE	N.1.6.1.1.2.2.3	39KC02	2C,3C	
294								X		EQUIPMENT	N.1.6.1.1.2.2.4	39KC02	2C,3C	
295							X			MECHANICAL	N.1.6.1.1.2.3	39KC02	2C,3C	
296								X		PLUMBING	N.1.6.1.1.2.3.1	39KC02	2C,3C	
297								X		HVAC	N.1.6.1.1.2.3.2	39KC02	2C,3C	
298								X		FIRE PROTECTION	N.1.6.1.1.2.3.3	39KC02	2C,3C	
299							X			ELECTRICAL	N.1.6.1.1.2.4	39KC02	2C,3C	
300								X		SERVICE & DISTRIBUTION	N.1.6.1.1.2.4.1	39KC02	2C,3C	
301								X		LIGHTING & POWER	N.1.6.1.1.2.4.2	39KC02	2C,3C	
302								X		SPECIAL SYSTEMS	N.1.6.1.1.2.4.3	39KC02	2C,3C	
303							X			GENERAL	N.1.6.1.1.2.5	39KC02	2C,3C	
304							X			CIVIL	N.1.6.1.1.2.6	39KC02	2C,3C	

* 2=Advanced Development, 3=Engineering, C=Construction

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
	INDENTURE LEVEL											BUDGET AND		O
Line No.	1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	Reporting NO.	PHASE *	T H ER
1	X									APS PROJECT	X	39KC02	2C,3C	
2		X								LCLS PROJECT-PED& CONSTRUCTION	L.1	39KC02	2C,3C	
3						X				BUSINESS SERVICES	L.1.1.2.1.4	39KC02	2C,3C	
4						X				COMPUTER SERVICES	L.1.1.2.1.5	39KC02	2C,3C	
5					X					ANL PROJECT SUPPORT	L.1.1.2.2	39KC02	2C,3C	
6					X					LLNL PROJECT SUPPORT	L.1.1.2.3	39KC02	2C,3C	
7				X						LCLS DIVISION SUPPORT	L.1.1.5	39KC02	2C,3C	
8					X					BUDGET/ PROCUREMENT/PAYROLL SUPPORT	L.1.1.5.1	39KC02	2C,3C	
9					X					LCLS DIVISION OVERHEAD	L.1.1.5.2	39KC02	2C,3C	
10					X					BUILDING REFURB/REMODEL SLAC	L.1.1.5.3	39KC02	2C,3C	
11					X					RECRUITING/RELOCATION SUPPORT	L.1.1.5.4	39KC02	2C,3C	
12					X					COMMUNICATIONS	L.1.1.5.6	39KC02	2C,3C	
13					X					PHYSICS WORKSHOP SUPPORT	L.1.1.5.7	39KC02	2C,3C	
14					X					REVIEW COMMITTEE SUPPORT	L.1.1.5.8	39KC02	2C,3C	
15						X				INJECTOR SYSTEM	L.1.2.7.4.1	39KC02	2C,3C	
16			X							UNDULATOR SYSTEM	L.1.4	39KC02	2C,3C	
17				X						UNDULATOR SYSTEM MANAGEMENT & INTEGRATION	L.1.4.1	39KC02	2C,3C	
18					X					UNDULATOR SYSTEM MANAGEMENT	L.1.4.1.1	39KC02	2C,3C	
19					X					UNDULATOR SYSTEM MATERIALS & SUPPLIES	L.1.4.1.2	39KC02	2C,3C	
20						X				UNDULATOR SYSTEM M&S - GENERAL	L.1.4.1.2.1	39KC02	2C,3C	
21						X				UNDULATOR SYSTEM TRAVEL	L.1.4.1.2.2	39KC02	2C,3C	
22						X				MACROSCOPIC MOTION	L.1.4.1.2.2.7	39KC02	2C,3C	
23							X			CABLING	L.1.4.1.2.2.8.4	39KC02	2C,3C	
24							X			INTEGRATE COMPONENTS	L.1.4.1.2.2.8.5	39KC02	2C,3C	
25							X			MOTOR INTERFACE	L.1.4.1.2.2.12.1	39KC02	2C,3C	
26							X			MOTOR DRIVER	L.1.4.1.2.2.19.3	39KC02	2C,3C	
27					X					UNDULATOR SYSTEM REVIEWS & WORKSHOPS	L.1.4.1.3	39KC02	2C,3C	
28				X						CONTROLS	L.1.4.2	39KC02	2C,3C	
29					X					CONTROLS MANAGEMENT & INTEGRATION	L.1.4.2.1	39KC02	2C,3C	
30						X				TIMING INTERFACE WITH SLAC	L.1.4.2.1.1	39KC02	2C,3C	
31						X				MPS INTERFACE WITH SLAC	L.1.4.2.1.2	39KC02	2C,3C	
32						X				SOFTWARE INTERFACE WITH SLAC	L.1.4.2.1.3	39KC02	2C,3C	
33						X				GLOBAL SOFTWARE DESIGN	L.1.4.2.1.4	39KC02	2C,3C	
34							X			CONTROL SYSTEM TOOLS	L.1.4.2.1.4.1	39KC02	2C,3C	
35							X			RESERVED	L.1.4.2.1.4.2	39KC02	2C,3C	
36							X			RESERVED	L.1.4.2.1.4.3	39KC02	2C,3C	
37						X				CONVENTIONAL FACILITIES - ELECTRICAL	L.1.4.2.1.5	39KC02	2C,3C	
38						X				CONVENTIONAL FACILITIES-MECHANICAL	L.1.4.2.1.6	39KC02	2C,3C	
39						X				CONVENTIONAL FACILITIES- ENVIRONMENTAL	L.1.4.2.1.7	39KC02	2C,3C	
40					X					MOTION	L.1.4.2.2	39KC02	2C,3C	
41						X				FINE MOTION	L.1.4.2.2.1	39KC02	2C,3C	
42							X			MOTOR INTERFACE	L.1.4.2.2.1.1	39KC02	2C,3C	
43							X			ENCODER INTERFACE	L.1.4.2.2.1.2	39KC02	2C,3C	
44							X			MOTOR DRIVER	L.1.4.2.2.1.3	39KC02	2C,3C	
45							X			CABLING	L.1.4.2.2.1.4	39KC02	2C,3C	
46							X			INTEGRATE COMPONENTS	L.1.4.2.2.1.5	39KC02	2C,3C	
47						X				PHASE CORRECTOR MOTION	L.1.4.2.2.2	39KC02	2C,3C	
48							X			ENCODER INTERFACE	L.1.4.2.2.2.2	39KC02	2C,3C	
49							X			MOTOR DRIVER	L.1.4.2.2.2.3	39KC02	2C,3C	
50							X			CABLING	L.1.4.2.2.2.4	39KC02	2C,3C	
51							X			INTERGRATE COMPONENTS	L.1.4.2.2.2.5	39KC02	2C,3C	
52						X				MIRRORS	L.1.4.2.2.5	39KC02	2C,3C	
53							X			MOTOR INTERFACE	L.1.4.2.2.5.1	39KC02	2C,3C	
54							X			ENCODER INTERFACE	L.1.4.2.2.5.2	39KC02	2C,3C	
55							X			MOTOR DRIVER	L.1.4.2.2.5.3	39KC02	2C,3C	
56							X			CABLING	L.1.4.2.2.5.4	39KC02	2C,3C	
57							X			INTEGRATE COMPONENTS	L.1.4.2.2.5.5	39KC02	2C,3C	
58						X				SCANNING WIRE MOTION	L.1.4.2.2.6	39KC02	2C,3C	
59							X			MOTOR INTERFACE	L.1.4.2.2.6.1	39KC02	2C,3C	
60							X			ENCODER INTERFACE	L.1.4.2.2.6.2	39KC02	2C,3C	
61							X			MOTOR DRIVER	L.1.4.2.2.6.3	39KC02	2C,3C	
62							X			CABLING	L.1.4.2.2.6.4	39KC02	2C,3C	
63							X			INTEGRATE COMPONENTS	L.1.4.2.2.6.5	39KC02	2C,3C	
64						X				MACROSCOPIC MOTION	L.1.4.2.2.7	39KC02	2C,3C	
65							X			MOTOR INTERFACE	L.1.4.2.2.7.1	39KC02	2C,3C	
66							X			ENCODER INTERFACE	L.1.4.2.2.7.2	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
67							X			MOTOR DRIVER	L.1.4.2.2.7.3	39KC02	2C,3C	
68							X			CABLING	L.1.4.2.2.7.4	39KC02	2C,3C	
69							X			INTEGRATE COMPONENTS	L.1.4.2.2.7.5	39KC02	2C,3C	
70						X				LPD-XRID (X-RAY IMAGING)	L.1.4.2.2.8	39KC02	2C,3C	
71							X			MOTOR INTERFACE	L.1.4.2.2.8.1	39KC02	2C,3C	
72							X			ENCODER INTERFACE	L.1.4.2.2.8.2	39KC02	2C,3C	
73							X			MOTOR DRIVER	L.1.4.2.2.8.3	39KC02	2C,3C	
74							X			CABLING	L.1.4.2.2.8.4	39KC02	2C,3C	
75						X				LPD-XRM (X-RAY MONOCHROMETER)	L.1.4.2.2.9	39KC02	2C,3C	
76							X			MOTOR INTERFACE	L.1.4.2.2.9.1	39KC02	2C,3C	
77							X			ENCODER INTERFACE	L.1.4.2.2.9.2	39KC02	2C,3C	
78							X			MOTOR DRIVER	L.1.4.2.2.9.3	39KC02	2C,3C	
79							X			CABLING	L.1.4.2.2.9.4	39KC02	2C,3C	
80							X			INTEGRATE COMPONENTS	L.1.4.2.2.9.5	39KC02	2C,3C	
81						X				LPD-IMG (IMAGING DETECTOR)	L.1.4.2.2.10	39KC02	2C,3C	
82							X			MOTOR INTERFACE	L.1.4.2.2.10.1	39KC02	2C,3C	
83							X			ENCODER INTERFACE	L.1.4.2.2.10.2	39KC02	2C,3C	
84							X			MOTOR DRIVER	L.1.4.2.2.10.3	39KC02	2C,3C	
85							X			CABLING	L.1.4.2.2.10.4	39KC02	2C,3C	
86							X			INTEGRATE COMPONENTS	L.1.4.2.2.10.5	39KC02	2C,3C	
87						X				LPD-POSITIONING AND OBSERVATION	L.1.4.2.2.11	39KC02	2C,3C	
88							X			MOTOR INTERFACE	L.1.4.2.2.11.1	39KC02	2C,3C	
89							X			ENCODER INTERFACE	L.1.4.2.2.11.2	39KC02	2C,3C	
90							X			MOTOR DRIVER	L.1.4.2.2.11.3	39KC02	2C,3C	
91							X			CABLING	L.1.4.2.2.11.4	39KC02	2C,3C	
92							X			INTEGRATE COMPONENTS	L.1.4.2.2.11.5	39KC02	2C,3C	
93						X				HPD-POSITIONING	L.1.4.2.2.12	39KC02	2C,3C	
94						X				MOTOR INTERFACE	L.1.4.2.2.12.1	39KC02	2C,3C	
95							X			ENCODER INTERFACE	L.1.4.2.2.12.2	39KC02	2C,3C	
96							X			MOTOR DRIVER	L.1.4.2.2.12.3	39KC02	2C,3C	
97							X			CABLING	L.1.4.2.2.12.4	39KC02	2C,3C	
98							X			INTEGRATE COMPONENTS	L.1.4.2.2.12.5	39KC02	2C,3C	
99						X				HPD-OTR	L.1.4.2.2.13	39KC02	2C,3C	
100							X			MOTOR INTERFACE	L.1.4.2.2.13.1	39KC02	2C,3C	
101							X			ENCODER INTERFACE	L.1.4.2.2.13.2	39KC02	2C,3C	
102							X			MOTOR DRIVER	L.1.4.2.2.13.3	39KC02	2C,3C	
103							X			CABLING	L.1.4.2.2.13.4	39KC02	2C,3C	
104							X			INTEGRATE COMPONENTS	L.1.4.2.2.13.5	39KC02	2C,3C	
105						X				HPD-GAS JET/ION CHAMBER/LASER	L.1.4.2.2.14	39KC02	2C,3C	
106							X			MOTOR INTERFACE	L.1.4.2.2.14.1	39KC02	2C,3C	
107							X			ENCODER INTERFACE	L.1.4.2.2.14.2	39KC02	2C,3C	
108							X			MOTOR DRIVER	L.1.4.2.2.14.3	39KC02	2C,3C	
109							X			CABLING	L.1.4.2.2.14.4	39KC02	2C,3C	
110							X			INTEGRATE COMPONENTS	L.1.4.2.2.14.5	39KC02	2C,3C	
111						X				EOU-BLM (BEAM LENGTH MONITOR)	L.1.4.2.2.15	39KC02	2C,3C	
112							X			MOTOR INTERFACE	L.1.4.2.2.15.1	39KC02	2C,3C	
113							X			ENCODER INTERFACE	L.1.4.2.2.15.2	39KC02	2C,3C	
114							X			MOTOR DRIVER	L.1.4.2.2.15.3	39KC02	2C,3C	
115							X			CABLING	L.1.4.2.2.15.4	39KC02	2C,3C	
116							X			INTEGRATE COMPONENTS	L.1.4.2.2.15.5	39KC02	2C,3C	
117						X				EOU-OTR	L.1.4.2.2.16	39KC02	2C,3C	
118							X			MOTOR INTERFACE	L.1.4.2.2.16.1	39KC02	2C,3C	
119							X			ENCODER INTERFACE	L.1.4.2.2.16.2	39KC02	2C,3C	
120							X			MOTOR DRIVER	L.1.4.2.2.16.3	39KC02	2C,3C	
121							X			CABLING	L.1.4.2.2.16.4	39KC02	2C,3C	
122							X			INTEGRATE COMPONENTS	L.1.4.2.2.16.5	39KC02	2C,3C	
123						X				EOU-XRM	L.1.4.2.2.17	39KC02	2C,3C	
124							X			MOTOR INTERFACE	L.1.4.2.2.17.1	39KC02	2C,3C	
125							X			ENCODER INTERFACE	L.1.4.2.2.17.2	39KC02	2C,3C	
126							X			MOTOR DRIVER	L.1.4.2.2.17.3	39KC02	2C,3C	
127							X			CABLING	L.1.4.2.2.17.4	39KC02	2C,3C	
128							X			INTEGRATE COMPONENTS	L.1.4.2.2.17.5	39KC02	2C,3C	
129						X				EOU-XRID	L.1.4.2.2.18	39KC02	2C,3C	
130							X			MOTOR INTERFACE	L.1.4.2.2.18.1	39KC02	2C,3C	
131							X			ENCODER INTERFACE	L.1.4.2.2.18.2	39KC02	2C,3C	
132							X			MOTOR DRIVER	L.1.4.2.2.18.3	39KC02	2C,3C	

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1. PROJECT TITLE/PARTICIPANT	2. DATE	3. IDENTIFICATION NUMBER
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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
133							X			CABLING	L.1.4.2.2.18.4	39KC02	2C,3C	
134							X			INTEGRATE COMPONENTS	L.1.4.2.2.18.5	39KC02	2C,3C	
135							X			EOU-OBSERVATION	L.1.4.2.2.19	39KC02	2C,3C	
136							X			MOTOR INTERFACE	L.1.4.2.2.19.1	39KC02	2C,3C	
137							X			ENCODER INTERFACE	L.1.4.2.2.19.2	39KC02	2C,3C	
138							X			MOTOR DRIVER	L.1.4.2.2.19.3	39KC02	2C,3C	
139							X			CABLING	L.1.4.2.2.19.4	39KC02	2C,3C	
140							X			INTEGRATE COMPONENTS	L.1.4.2.2.19.5	39KC02	2C,3C	
141					X					SIGNAL ANALYSIS	L.1.4.2.3	39KC02	2C,3C	
142						X				RFBPM@	L.1.4.2.3.1	39KC02	2C,3C	
143							X			SIGNAL CONDITIONING	L.1.4.2.3.1.1	39KC02	2C,3C	
144							X			SIGNAL ACQUISITION	L.1.4.2.3.1.2	39KC02	2C,3C	
145							X			TIMING INTERFACE	L.1.4.2.3.1.3	39KC02	2C,3C	
146							X			CABLING	L.1.4.2.3.1.4	39KC02	2C,3C	
147							X			INTEGRATE COMPONENTS	L.1.4.2.3.1.5	39KC02	2C,3C	
148						X				CHARGE MONITOR	L.1.4.2.3.2	39KC02	2C,3C	
149							X			ICT INTERFACE	L.1.4.2.3.2.1	39KC02	2C,3C	
150							X			CABLING	L.1.4.2.3.2.2	39KC02	2C,3C	
151							X			INTEGRATE COMPONENTS	L.1.4.2.3.2.3	39KC02	2C,3C	
152						X				SCANNING WIRE	L.1.4.2.3.3	39KC02	2C,3C	
153							X			DC CONTROL	L.1.4.2.3.3.1	39KC02	2C,3C	
154							X			SIGNAL CONDITIONING	L.1.4.2.3.3.2	39KC02	2C,3C	
155							X			SIGNAL ACQUISITION	L.1.4.2.3.3.3	39KC02	2C,3C	
156							X			TIMING INTERFACE	L.1.4.2.3.3.4	39KC02	2C,3C	
157							X			CABLING	L.1.4.2.3.3.5	39KC02	2C,3C	
158							X			INTEGRATE COMPONENTS	L.1.4.2.3.3.6	39KC02	2C,3C	
159						X				OPTICAL TRANSITION RADIATION IMAGING (OTR)	L.1.4.2.3.4	39KC02	2C,3C	
160							X			SIGNAL CONDITIONING	L.1.4.2.3.4.1	39KC02	2C,3C	
161							X			SIGNAL ACQUISITION	L.1.4.2.3.4.2	39KC02	2C,3C	
162							X			TIMING INTERFACE	L.1.4.2.3.4.3	39KC02	2C,3C	
163							X			CABLING	L.1.4.2.3.4.4	39KC02	2C,3C	
164							X			INTEGRATE COMPONENTS	L.1.4.2.3.4.5	39KC02	2C,3C	
165						X				X-RAY INTENSITY MONITOR (XRID)	L.1.4.2.3.5	39KC02	2C,3C	
166							X			DC CONTROL	L.1.4.2.3.5.1	39KC02	2C,3C	
167						X				LCLS OTR MONITOR	L.1.4.2.4.1	39KC02	2C,3C	
168							X			CAMERA	L.1.4.2.4.1.1	39KC02	2C,3C	
169							X			CHERENKOV DETECTOR	L.1.4.2.7.2	39KC02	2C,3C	
170					X					UNDULATOR CONTROL MODULE	L.1.4.2.10	39KC02	2C,3C	
171						X				UCMI PROTO H/W ASSEMBLY	L.1.4.2.10.4	39KC02	2C,3C	
172						X				PROCURE PRODUCTION UMCI	L.1.4.2.10.9	39KC02	2C,3C	
173					X					UNDULATOR BEAM LOSS MONITOR CONTROL MODULE	L.1.4.2.11	39KC02	2C,3C	
174				X						UNDULATOR MAGNET	L.1.4.3	39KC02	2C,3C	
175					X					UND MAGNET & SUPPORT- MGMT AND INTEGRATION	L.1.4.3.1	39KC02	2C,3C	
176					X					FIRST PROTOTYPE UNDULATOR & MFG PLAN	L.1.4.3.2	39KC02	2C,3C	
177					X					1ST ARTICLE UNDULATORS & LONG LEAD PROCUREMENTS	L.1.4.3.3	39KC02	2C,3C	
178						X				TI STRONGBACK (LLP)	L.1.4.3.3.1	39KC02	2C,3C	
179						X				MAGNET BLOCKS (LLP)	L.1.4.3.3.2	39KC02	2C,3C	
180						X				MAGNET POLES (LLP)	L.1.4.3.3.3	39KC02	2C,3C	
181						X				MAGNET ASSEMBLY & SUPPORTS - 1ST ARTICLES	L.1.4.3.3.4	39KC02	2C,3C	
182							X			UNDULATOR SUPPORT/MOVER SYSTEM	L.1.4.3.3.4.3	39KC02	2C,3C	
183						X				MAGNETIC MEASUREMENT (ANL OR SLAC)	L.1.4.3.3.5	39KC02	2C,3C	
184					X					PRODUCTION UNDULATOR	L.1.4.3.4	39KC02	2C,3C	
185						X				MAGNET ASSEMBLY & SUPPORTS	L.1.4.3.4.1	39KC02	2C,3C	
186						X				MAGNETIC MEASUREMENT (SLAC)	L.1.4.3.4.2	39KC02	2C,3C	
187					X					FOCUSING MAGNET	L.1.4.3.5	39KC02	2C,3C	
188						X				QUADRUPOLES	L.1.4.3.5.1	39KC02	2C,3C	
189					X					FIXED SUPPORTS	L.1.4.3.8	39KC02	2C,3C	
190						X				FIXED SUPPORT DESIGN	L.1.4.3.8.2	39KC02	2C,3C	
191						X				STABALIZED GIRDER ASSEMBLIES	L.1.4.3.8.3	39KC02	2C,3C	
192						X				KINEMATIC GIRDER SUPPORT	L.1.4.3.8.6	39KC02	2C,3C	
193						X				EARTHQUAKE BRACING	L.1.4.3.8.7	39KC02	2C,3C	
194				X						VACUUM SYSTEM	L.1.4.4	39KC02	2C,3C	
195					X					PROJECT OVERSIGHT	L.1.4.4.1	39KC02	2C,3C	
196						X				ENGINEERING OVERSIGHT	L.1.4.4.1.1	39KC02	2C,3C	
197						X				TRAVEL-UNDULATOR VACUUM SYSTEM	L.1.4.4.1.2	39KC02	2C,3C	
198					X					UNDULATOR VACUUM CHAMBER ASSEMBLY	L.1.4.4.2	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
199						X				PROTOTYPE CHAMBER WELDMENT	L.1.4.4.2.1	39KC02	2C,3C	
200						X				PRODUCTION CHAMBER WELDMENT	L.1.4.4.2.2	39KC02	2C,3C	
201						X				PROTOTYPE ALUMINUM CHAMBER	L.1.4.4.2.3	39KC02	2C,3C	
202					X					LCLS BELLOWS ASSEMBLY	L.1.4.4.3	39KC02	2C,3C	
203						X				PROTOTYPE BELLOWS MODULE	L.1.4.4.3.1	39KC02	2C,3C	
204						X				LCLS PRODUCTION BELLOWS MODULE	L.1.4.4.3.2	39KC02	2C,3C	
205					X					SINGLE UNDULATOR TEST VACUUM	L.1.4.4.4	39KC02	2C,3C	
206					X					SHORT DIAGNOSTIC BREAK (SDB) ASSEMBLY	L.1.4.4.5	39KC02	2C,3C	
207					X					LONG DIAGNOSTIC BREAK (LDB) ASSEMBLY	L.1.4.4.6	39KC02	2C,3C	
208					X					SINGLE UNDULATOR TEST VACUUM	L.1.4.4.10	39KC02	2C,3C	
209					X					UNDULATOR CAVITY BPM SYSTEM	L.1.4.5.1	39KC02	2C,3C	
210					X					LINE DIAGNOSTICS	L.1.4.5.2	39KC02	2C,3C	
211						X				EBXPD TEST	L.1.4.5.2.1	39KC02	2C,3C	
212						X				POSITIONING MECHANISM	L.1.4.5.2.3	39KC02	2C,3C	
213						X				SCANNING WIRE ASSEMBLY (EBXPD-SWA)	L.1.4.5.2.4	39KC02	2C,3C	
214						X				OPTICAL TRANSITION RADIATION IMAGING ASSEMBLY	L.1.4.5.2.5	39KC02	2C,3C	
215			X							RF BEAM POSITION	L.1.4.5.5	39KC02	2C,3C	
216						X				X-BAND CAVITY BPM DEVELOPMENT	L.1.4.5.5.1	39KC02	2C,3C	
217						X				X-BAND RFBPM PRODUCTION	L.1.4.5.5.3	39KC02	2C,3C	
218					X					BEAM FINDER WIRE	L.1.4.5.6	39KC02	2C,3C	
219					X					BEAM LOSS MONITOR	L.1.4.5.8	39KC02	2C,3C	
220					X					SINGLE UNDULATOR TEST DIAGNOSTICS	L.1.4.5.10	39KC02	2C,3C	
221					X					R&D STUDIES & PROTOTYPING	L.2.1.2.1	39KC02	2C,3C	
222					X					SAC-MAC PHYSICS	L.2.1.3.1	39KC02	2C,3C	
223					X					INJECTOR PHYSICS	L.2.1.3.2	39KC02	2C,3C	
224					X					LINAC PHYSICS	L.2.1.3.3	39KC02	2C,3C	
225					X					UNDULATOR PHYSICS	L.2.1.3.4	39KC02	2C,3C	
226					X					X-RAY TRANSPORT PHYSICS	L.2.1.3.5	39KC02	2C,3C	
227					X					X-RAY ENDSTATION PHYSICS	L.2.1.3.6	39KC02	2C,3C	
228					X					CONVENTIONAL FACILITIES PHYSICS	L.2.1.3.7	39KC02	2C,3C	
229					X					CONSULTING PHYSICS (COLLABORATION)	L.2.1.3.8	39KC02	2C,3C	
230					X					CONSULTING PHYSICS (SLAC)	L.2.1.3.9	39KC02	2C,3C	
231					X					GLOBAL CONTROLS PHYSICS LIAISON	L.2.1.3.10	39KC02	2C,3C	
232					X					PHYSICS COMMISSIONING SUPPORT-GENERAL	L.2.1.3.11	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
	INDENTURE LEVEL											BUDGET AND		
Line No.	1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	Reporting NO.	PHASE *	OTHER
1	X									APS PROJECT	X	39KC02	2C,3C	
2		X								APS UPGRADE PROJECT	U.1	39KC02	2C,3C	
3			X							PROJECT MANAGEMENT PLANNING & ADMINISTRATION	U.1.1	39KC02	2C,3C	
4				X						PROJECT OFFICE	U.1.1.1	39KC02	2C,3C	
5					X					PROJECT MANAGEMENT & ADMINISTRATION	U.1.1.1.1	39KC02	2C,3C	
6					X					FINANCE & COMMUNICATIONS	U.1.1.1.2	39KC02	2C,3C	
7					X					PROJECT CONTROLS/EV SUPPORT	U.1.1.1.3	39KC02	2C,3C	
8					X					PROCUREMENT	U.1.1.1.4	39KC02	2C,3C	
9					X					CONFIGURATION MANAGEMENT	U.1.1.1.5	39KC02	2C,3C	
10					X					DOCUMENT & RECORD CONTROL	U.1.1.1.6	39KC02	2C,3C	
11					X					INFORMATION TECHNOLOGY/INFORMATION SERVICES	U.1.1.1.7	39KC02	2C,3C	
12					X					HUMAN RESOURCES	U.1.1.1.8	39KC02	2C,3C	
13					X					PROJECT REVIEWS & COMMITTEES	U.1.1.1.9	39KC02	2C,3C	
14					X					OUTREACH & COMMUNICATIONS	U.1.1.1.10	39KC02	2C,3C	
15				X						ENVIRONMENTAL SAFETY & HEALTH	U.1.1.2	39KC02	2C,3C	
16				X						QUALITY ASSURANCE	U.1.1.3	39KC02	2C,3C	
17				X						RISK MANAGEMENT	U.1.1.4	39KC02	2C,3C	
18				X						CRITICAL DECISIONS DOCUMENTATION	U.1.1.5	39KC02	2C,3C	
19					X					CD-0 DELIVERABLES	U.1.1.5.1	39KC02	2C,3C	
20					X					CD-1 DELIVERABLES	U.1.1.5.2	39KC02	2C,3C	
21					X					CD-2 DELIVERABLES	U.1.1.5.3	39KC02	2C,3C	
22					X					CD-3 DELIVERABLES	U.1.1.5.4	39KC02	2C,3C	
23					X					CD-4 DELIVERABLES	U.1.1.5.5	39KC02	2C,3C	
24				X						SYSTEMS INTEGRATION & MANAGEMENT	U.1.1.6	39KC02	2C,3C	
25			X							RESEARCH & DEVELOPMENT (R&D)	U.1.2	39KC02	2C,3C	
26				X						ACCELERATOR SYSTEMS R&D	U.1.2.1	39KC02	2C,3C	
27					X					ACCELERATOR MANAGEMENT SUPPORT R&D	U.1.2.1.1	39KC02	2C,3C	
28						X				ACCELERATOR MANAGEMENT SUPPORT R&D	U.1.2.1.1.1	39KC02	2C,3C	
29						X				SPX MANAGEMENT SUPPORT R&D	U.1.2.1.1.2	39KC02	2C,3C	
30					X					SHORT PULSE X-RAY (SPX) R&D	U.1.2.1.3	39KC02	2C,3C	
31						X				HIGH LEVEL RF (HLRF) R&D	U.1.2.1.3.1	39KC02	2C,3C	
32							X			KLYSTRON	U.1.2.1.3.1.1	39KC02	2C,3C	
33							X			WAVEGUIDE	U.1.2.1.3.1.2	39KC02	2C,3C	
34							X			AMPLIFIER SYSTEM	U.1.2.1.3.1.3	39KC02	2C,3C	
35							X			FAST RF INTERLOCK SYSTEM	U.1.2.1.3.1.4	39KC02	2C,3C	
36							X			SLOW RF INTERLOCK SYSTEM	U.1.2.1.3.1.5	39KC02	2C,3C	
37							X			PERSONNEL SAFETY SYSTEM	U.1.2.1.3.1.6	39KC02	2C,3C	
38							X			ACIS RF INTERFACE	U.1.2.1.3.1.7	39KC02	2C,3C	
39						X				LOW LEVEL RF (LLRF) R&D	U.1.2.1.3.2	39KC02	2C,3C	
40							X			BENCH TOP DEMONSTRATION	U.1.2.1.3.2.1	39KC02	2C,3C	
41							X			CONTROLLER	U.1.2.1.3.2.2	39KC02	2C,3C	
42							X			ANALOG FRONT END (AFE)	U.1.2.1.3.2.3	39KC02	2C,3C	
43							X			CONTROL SYSTEM MODELING	U.1.2.1.3.2.4	39KC02	2C,3C	
44							X			CABLE PLANT	U.1.2.1.3.2.5	39KC02	2C,3C	
45							X			SLOW TUNER DRIVE ELECTRONICS	U.1.2.1.3.2.6	39KC02	2C,3C	
46							X			STORAGE RING 352MHZ RF PERFORMANCE IMPROVEMENTS	U.1.2.1.3.2.7	39KC02	2C,3C	
47							X			GENERAL LLRF R&D SYSTEM DESIGN	U.1.2.1.3.2.8	39KC02	2C,3C	
48							X			SUPPORT SPX R&D STORAGE RING TEST	U.1.2.1.3.2.9	39KC02	2C,3C	
49						X				TIMING & SYNCHRONIZATION R&D	U.1.2.1.3.3	39KC02	2C,3C	
50							X			STUDY & REPORT REQUIREMENTS	U.1.2.1.3.3.1	39KC02	2C,3C	
51							X			LBNL COLLABORATION - TIMING/SYNC PHASE II	U.1.2.1.3.3.2	39KC02	2C,3C	
52							X			LBNL COLLABORATION - TIMING/SYNC PHASE III	U.1.2.1.3.3.3	39KC02	2C,3C	
53							X			TRANSFER LBNL STABILIZER FIBER LINK TECHNOLOGY	U.1.2.1.3.3.4	39KC02	2C,3C	
54							X			MASTER OSCILLATOR	U.1.2.1.3.3.5	39KC02	2C,3C	
55							X			SYNCH HEADS (4)	U.1.2.1.3.3.6	39KC02	2C,3C	
56							X			LINK TRANSMITTER/SENDER	U.1.2.1.3.3.7	39KC02	2C,3C	
57							X			THREE CHANNEL PHASE REFERENCE SYSTEM	U.1.2.1.3.3.8	39KC02	2C,3C	
58							X			TIMING & SYNCHRONIZATION CABLE PLANT	U.1.2.1.3.3.9	39KC02	2C,3C	
59							X			GENERAL TIMING/SYNCHRONIZATION R&D DESIGN	U.1.2.1.3.3.10	39KC02	2C,3C	
60							X			SUPPORT SPX R&D IN-RING TESTING	U.1.2.1.3.3.11	39KC02	2C,3C	
61							X			LBNL COLLABORATION - TIMING/SYNC PHASE IV (IN-RI	U.1.2.1.3.3.12	39KC02	2C,3C	
62						X				CONTROLS R&D	U.1.2.1.3.4	39KC02	2C,3C	
63							X			SUPPORT R&D ACTIVITIES OF LLRF - TIMING & SYNCHR	U.1.2.1.3.4.1	39KC02	2C,3C	
64							X			DEMONSTRATE INTERSYSTEM COMMUNICATION REQUIREMEN	U.1.2.1.3.4.2	39KC02	2C,3C	
65							X			HIGH LEVEL SOFTWARE - EVALUATE TOOLS - IDENTIFY	U.1.2.1.3.4.3	39KC02	2C,3C	
66							X			SUPPORT R&D ACTIVITIES FOR OTHER MAJOR ASSEMBLIE	U.1.2.1.3.4.4	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
67						X				CRYOMODULE R&D	U.1.2.1.3.5	39KC02	2C,3C	
68							X			CRYOMODULE (JLAB #21351)	U.1.2.1.3.5.1	39KC02	2C,3C	
69							X			CAVITY ALIGNMENT (JLAB #21352)	U.1.2.1.3.5.2	39KC02	2C,3C	
70							X			SPX0 INSTALLATION & CHECKOUT	U.1.2.1.3.5.3	39KC02	2C,3C	
71						X				CRYOGENICS R&D	U.1.2.1.3.6	39KC02	2C,3C	
72							X			ANL/PHY SC CAVITY TEST AREAS (VERTICAL & HORIZON	U.1.2.1.3.6.1	39KC02	2C,3C	
73							X			CRYOGENICS FOR ANL/PHY SC CAVITY TEST	U.1.2.1.3.6.2	39KC02	2C,3C	
74							X			CRYOGENICS FOR STORAGE RING TEST	U.1.2.1.3.6.3	39KC02	2C,3C	
75						X				CAVITY/TUNER/DAMPER SYSTEM R&D	U.1.2.1.3.7	39KC02	2C,3C	
76							X			HOM/LOM DAMPERS	U.1.2.1.3.7.1	39KC02	2C,3C	
77							X			TUNER (JLAB #21372)	U.1.2.1.3.7.2	39KC02	2C,3C	
78							X			HOM/LOM/FPC WINDOWS & WAVEGUIDE	U.1.2.1.3.7.3	39KC02	2C,3C	
79							X			CAVITY DESIGN (JLAB #21374)	U.1.2.1.3.7.4	39KC02	2C,3C	
80							X			SR TEST THERMAL ISSUE RESOLUTION	U.1.2.1.3.7.5	39KC02	2C,3C	
81							X			HELIUM VESSEL (JLAB #21376)	U.1.2.1.3.7.6	39KC02	2C,3C	
82						X				SPX DIAGNOSTICS R&D	U.1.2.1.3.8	39KC02	2C,3C	
83							X			SPX TILT MONITOR - OPTICAL R&D	U.1.2.1.3.8.1	39KC02	2C,3C	
84							X			VERTICAL BEAM SIZE MONITOR R&D	U.1.2.1.3.8.2	39KC02	2C,3C	
85							X			SPX0 WIRE POSITION MONITOR R&D	U.1.2.1.3.8.3	39KC02	2C,3C	
86						X				CAVITY R&D	U.1.2.1.3.9	39KC02	2C,3C	
87							X			CAVITY R&D - QUALIFICATION AND DEVELOPMENT	U.1.2.1.3.9.1	39KC02	2C,3C	
88							X			CAVITY R&D QUALIFICATION	U.1.2.1.3.9.1.1	39KC02	2C,3C	
89							X			CAVITY R&D ALIGNMENT DEVELOPMENT	U.1.2.1.3.9.1.2	39KC02	2C,3C	
90							X			CAVITY R&D PERFORMANCE DEVELOPMENT	U.1.2.1.3.9.1.3	39KC02	2C,3C	
91							X			CAVITY R&D PROJECT MANAGEMENT	U.1.2.1.3.9.1.4	39KC02	2C,3C	
92							X			CAVITY R&D - COLLABORATION & TESTING	U.1.2.1.3.9.2	39KC02	2C,3C	
93						X				SRF TEST STANDS R&D	U.1.2.1.3.10	39KC02	2C,3C	
94							X			400A TEST STAND	U.1.2.1.3.10.1	39KC02	2C,3C	
95							X			275W TWT MOBILE RF SYSTEM - ATLAS	U.1.2.1.3.10.2	39KC02	2C,3C	
96							X			5KW KLY AMPLIFIER TEST AT ATLAS	U.1.2.1.3.10.3	39KC02	2C,3C	
97							X			400A-1 COMPLEX RF SYSTEMS FOR SPX0	U.1.2.1.3.10.4	39KC02	2C,3C	
98						X				MECHANICAL SYSTEMS INFRASTRUCTURE - INTEGRATION	U.1.2.1.3.11	39KC02	2C,3C	
99							X			DI WATER SYSTEMS	U.1.2.1.3.11.1	39KC02	2C,3C	
100							X			SPX0 MECHANICAL COMPONENTS	U.1.2.1.3.11.2	39KC02	2C,3C	
101						X				SAFETY INTERLOCK SYSTEM - SI/ACIS R&D	U.1.2.1.3.12	39KC02	2C,3C	
102						X				RESERVED	U.1.2.1.3.13	39KC02	2C,3C	
103						X				CRYOMODULE R&D	U.1.2.1.3.14	39KC02	2C,3C	
104							X			CRYOMODULE R&D - CRYOMODULE	U.1.2.1.3.14.1	39KC02	2C,3C	
105							X			CRYOMODULE R&D CAVITY STRING	U.1.2.1.3.14.1.1	39KC02	2C,3C	
106							X			CRYOMODULE R&D COLD MASS	U.1.2.1.3.14.1.2	39KC02	2C,3C	
107							X			CRYOMODULE R&D SPACEFRAME	U.1.2.1.3.14.1.3	39KC02	2C,3C	
108							X			CRYOMODULE R&D VACUUM VESSEL	U.1.2.1.3.14.1.4	39KC02	2C,3C	
109							X			CRYOMODULE R&D TESTING	U.1.2.1.3.14.1.5	39KC02	2C,3C	
110							X			CRYOMODULE R&D PROJECT MANAGEMENT	U.1.2.1.3.14.1.6	39KC02	2C,3C	
111							X			CRYOMODULE R&D - COLLABORATION & INSTALLATION	U.1.2.1.3.14.2	39KC02	2C,3C	
112				X						EXPERIMENTAL FACILITIES R&D	U.1.2.2	39KC02	2C,3C	
113					X					HIGH SPEED DETECTION DEVELOPMENT	U.1.2.2.1	39KC02	2C,3C	
114					X					RESONANT INELASTIC X-RAY SCATTERING OPTICS R&D	U.1.2.2.2	39KC02	2C,3C	
115					X					NANOFOCUSING OPTICS DEVELOPMENT	U.1.2.2.3	39KC02	2C,3C	
116						X				ZONE PLATES	U.1.2.2.3.1	39KC02	2C,3C	
117							X			LOW RESOLUTION ZONE PLATES	U.1.2.2.3.1.1	39KC02	2C,3C	
118							X			MEDIUM 1 RESOLUTION ZONE PLATES	U.1.2.2.3.1.2	39KC02	2C,3C	
119							X			MEDIUM 2 RESOLUTION ZONE PLATES	U.1.2.2.3.1.3	39KC02	2C,3C	
120							X			HIGH 1 RESOLUTION ZONE PLATES	U.1.2.2.3.1.4	39KC02	2C,3C	
121							X			HIGH 2 RESOLUTION ZONE PLATES	U.1.2.2.3.1.5	39KC02	2C,3C	
122						X				STACKING SYSTEM	U.1.2.2.3.2	39KC02	2C,3C	
123							X			MEDIUM 2 RESOLUTION STACKING SYSTEM	U.1.2.2.3.2.1	39KC02	2C,3C	
124							X			HIGH 1 RESOLUTION STACKING SYSTEM	U.1.2.2.3.2.2	39KC02	2C,3C	
125							X			HIGH 2 RESOLUTION STACKING SYSTEM	U.1.2.2.3.2.3	39KC02	2C,3C	
126				X						ALTERNATIVE CAVITY R&D	U.1.2.3	39KC02	2C,3C	
127			X							ACCELERATOR SYSTEMS	U.1.3	39KC02	2C,3C	
128				X						ACCELERATOR SYSTEMS MANAGEMENT	U.1.3.1	39KC02	2C,3C	
129					X					ACCELERATOR SYSTEMS MANAGEMENT SUPPORT	U.1.3.1.1	39KC02	2C,3C	
130					X					STORAGE RING TECHNICAL COMPONENTS MANAGEMENT SUP	U.1.3.1.2	39KC02	2C,3C	
131					X					SHORT PULSE X-RAY (SPX) MANAGEMENT SUPPORT	U.1.3.1.3	39KC02	2C,3C	
132					X					INSERTION DEVICES MANAGEMENT SUPPORT	U.1.3.1.4	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
133				X						STORAGE RING TECHNICAL COMPONENTS	U.1.3.2	39KC02	2C,3C	
134					X					LONG STRAIGHT SECTIONS (3)	U.1.3.2.1	39KC02	2C,3C	
135						X				LONG STRAIGHT SECTIONS	U.1.3.2.1.1	39KC02	2C,3C	
136							X			GIRDER 1 VACUUM/MECHANICAL COMPONENTS	U.1.3.2.1.1.1	39KC02	2C,3C	
137							X			GIRDER 5 VACUUM/MECHANICAL COMPONENTS	U.1.3.2.1.1.2	39KC02	2C,3C	
138							X			RESERVE	U.1.3.2.1.1.3	39KC02	2C,3C	
139							X			INTEGRATION & INSTALLATION - LSS	U.1.3.2.1.1.4	39KC02	2C,3C	
140					X					BEAM STABILITY	U.1.3.2.2	39KC02	2C,3C	
141						X				BPM ELECTRONICS (40)	U.1.3.2.2.1	39KC02	2C,3C	
142							X			ID RF BPM'S	U.1.3.2.2.1.1	39KC02	2C,3C	
143							X			BERGOZ UPGRADE	U.1.3.2.2.1.2	39KC02	2C,3C	
144							X			X-RAY BPM ELECTRONICS	U.1.3.2.2.1.3	39KC02	2C,3C	
145						X				REALTIME FEEDBACK UPGRADE (1)	U.1.3.2.2.2	39KC02	2C,3C	
146						X				BPM MECHANICAL MOTION SENSING (34)	U.1.3.2.2.3	39KC02	2C,3C	
147						X				INTEGRATION & INSTALLATION - BEAM STABILITY	U.1.3.2.2.4	39KC02	2C,3C	
148				X						SHORT PULSE X-RAY (SPX)	U.1.3.3	39KC02	2C,3C	
149					X					HIGH LEVEL RF (HLRF)	U.1.3.3.1	39KC02	2C,3C	
150						X				KLYSTRON	U.1.3.3.1.1	39KC02	2C,3C	
151						X				WAVEGUIDE	U.1.3.3.1.2	39KC02	2C,3C	
152						X				AMPLIFIER SYSTEM	U.1.3.3.1.3	39KC02	2C,3C	
153						X				FAST RF INTERLOCK SYSTEM	U.1.3.3.1.4	39KC02	2C,3C	
154							X			MASTER (AMPLIFIER)	U.1.3.3.1.4.1	39KC02	2C,3C	
155							X			SLAVE (CRYOMODULE)	U.1.3.3.1.4.2	39KC02	2C,3C	
156						X				SLOW RF INTERLOCK SYSTEM	U.1.3.3.1.5	39KC02	2C,3C	
157							X			MASTER (AMPLIFIER)	U.1.3.3.1.5.1	39KC02	2C,3C	
158							X			SLAVE (CRYOMODULE)	U.1.3.3.1.5.2	39KC02	2C,3C	
159						X				PERSONNEL SAFETY SYSTEM	U.1.3.3.1.6	39KC02	2C,3C	
160						X				ACIS RF INTERFACE	U.1.3.3.1.7	39KC02	2C,3C	
161						X				HIGH VOLTAGE POWER SUPPLY (HVPS)	U.1.3.3.1.8	39KC02	2C,3C	
162						X				GENERAL HLRF SYSTEM DESIGN	U.1.3.3.1.9	39KC02	2C,3C	
163						X				SUPPORT IN-RING TESTING	U.1.3.3.1.10	39KC02	2C,3C	
164					X					LOW LEVEL RF (LLRF)	U.1.3.3.2	39KC02	2C,3C	
165						X				LLRF CONTROLLER	U.1.3.3.2.1	39KC02	2C,3C	
166						X				ANALOG FRONT END	U.1.3.3.2.2	39KC02	2C,3C	
167						X				SLOW TUNER DRIVER	U.1.3.3.2.3	39KC02	2C,3C	
168						X				SYNCH HEAD - LLRF PORTION	U.1.3.3.2.4	39KC02	2C,3C	
169						X				CABLE PLANT	U.1.3.3.2.5	39KC02	2C,3C	
170						X				STORAGE RING PHASE SHIFTER	U.1.3.3.2.6	39KC02	2C,3C	
171						X				GENERAL LLRF PRODUCTION SYSTEM DESIGN	U.1.3.3.2.7	39KC02	2C,3C	
172						X				SUPPORT SPX STORAGE RING TEST	U.1.3.3.2.8	39KC02	2C,3C	
173					X					TIMING & SYNCHRONIZATION	U.1.3.3.3	39KC02	2C,3C	
174						X				SYNC HEADS FOR LLRF	U.1.3.3.3.1	39KC02	2C,3C	
175						X				SYNC HEAD FOR BEAM-LINE	U.1.3.3.3.2	39KC02	2C,3C	
176						X				PHASE STABILIZER FOR LLRF	U.1.3.3.3.3	39KC02	2C,3C	
177						X				LASER CONTROLLER/PHASE STABILIZER	U.1.3.3.3.4	39KC02	2C,3C	
178						X				PHASE STABILIZER FOR A014 TO SPX REFERENCE LINE	U.1.3.3.3.5	39KC02	2C,3C	
179						X				PHASE REFERENCE FOR DIAGNOSTICS	U.1.3.3.3.6	39KC02	2C,3C	
180						X				16 - CHANNEL LINK TRANSMITTER/SENDER	U.1.3.3.3.7	39KC02	2C,3C	
181						X				16 - CHANNEL PHASE REFERENCE SYSTEM	U.1.3.3.3.8	39KC02	2C,3C	
182						X				TIMING & SYNCHRONIZATION CABLE PLANT	U.1.3.3.3.9	39KC02	2C,3C	
183						X				GENERAL TIMING/SYNCHRONIZATION DESIGN	U.1.3.3.3.10	39KC02	2C,3C	
184						X				SUPPORT IN-RING TESTING	U.1.3.3.3.11	39KC02	2C,3C	
185						X				LBNL COLLABORATION - TIMING/SYNC (IN-RING SUPPOR	U.1.3.3.3.12	39KC02	2C,3C	
186						X				LBNL COLLABORATION - TIMING/SYNC (DESIGN SUPPORT	U.1.3.3.3.13	39KC02	2C,3C	
187					X					CONTROLS SYSTEM	U.1.3.3.4	39KC02	2C,3C	
188						X				CONTROLS SUPPORT FOR TEST STANDS & PROTOTYPES	U.1.3.3.4.1	39KC02	2C,3C	
189						X				CONTROL SYSTEM INFRASTRUCTURE & TOOLS	U.1.3.3.4.2	39KC02	2C,3C	
190						X				CONTROLS FOR PRODUCTION SUBSYSTEMS	U.1.3.3.4.3	39KC02	2C,3C	
191						X				DEFLECTION CONTROLS	U.1.3.3.4.4	39KC02	2C,3C	
192						X				SUPPORT IN-RING TESTING	U.1.3.3.4.5	39KC02	2C,3C	
193					X					CAVITY & CRYOMODULE - ANL	U.1.3.3.5	39KC02	2C,3C	
194						X				CAVITY DESIGN IMPROVEMENT - ANL	U.1.3.3.5.1	39KC02	2C,3C	
195						X				CRYOMODULE DESIGN IMPROVEMENT - ANL	U.1.3.3.5.2	39KC02	2C,3C	
196						X				INTER-CAVITY BELLOWS - ANL	U.1.3.3.5.3	39KC02	2C,3C	
197						X				CAVITY & CRYOMODULE QUALITY ASSURANCE	U.1.3.3.5.4	39KC02	2C,3C	
198						X				CAVITY & CRYOMODULE SUPPORT	U.1.3.3.5.5	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
199						X				CRYOMODULE INSTALLATION & FUNCTION VERIFICATION	U.1.3.3.5.6	39KC02	2C,3C	
200					X					RESERVED	U.1.3.3.6	39KC02	2C,3C	
201					X					DAMPERS & WINDOWS	U.1.3.3.7	39KC02	2C,3C	
202						X				HOM DAMPERS	U.1.3.3.7.1	39KC02	2C,3C	
203						X				WINDOWS	U.1.3.3.7.2	39KC02	2C,3C	
204						X				LOM DAMPERS	U.1.3.3.7.3	39KC02	2C,3C	
205						X				RF TESTING	U.1.3.3.7.4	39KC02	2C,3C	
206					X					SPX DIAGNOSTICS SYSTEM	U.1.3.3.8	39KC02	2C,3C	
207						X				VERTICAL BEAM SIZE MONITOR	U.1.3.3.8.1	39KC02	2C,3C	
208						X				WIRE POSITIONING MONITORS	U.1.3.3.8.2	39KC02	2C,3C	
209						X				BEAM ARRIVAL TIME MONITOR	U.1.3.3.8.3	39KC02	2C,3C	
210					X					RESERVED	U.1.3.3.9	39KC02	2C,3C	
211					X					MECHANICAL SYSTEMS INFRASTRUCTURE - INTEGRATION	U.1.3.3.10	39KC02	2C,3C	
212						X				400A INFRASTRUCTURE FOR CRYOMODULE TEST & PREPAR	U.1.3.3.10.1	39KC02	2C,3C	
213						X				DI WATER SYSTEMS	U.1.3.3.10.2	39KC02	2C,3C	
214						X				MECHANICAL COMPONENTS	U.1.3.3.10.3	39KC02	2C,3C	
215						X				CRYOPLANT	U.1.3.3.10.4	39KC02	2C,3C	
216						X				CRYOGENICS DISTRIBUTION	U.1.3.3.10.5	39KC02	2C,3C	
217						X				SUPPORT IN-RING TESTING	U.1.3.3.10.6	39KC02	2C,3C	
218					X					SAFETY INTERLOCK SYSTEM - SI/ACIS	U.1.3.3.11	39KC02	2C,3C	
219					X					CAVITY & CRYOMODULE - JLAB	U.1.3.3.12	39KC02	2C,3C	
220						X				CRYOMODULE DESIGN IMPROVEMENT - JLAB	U.1.3.3.12.1	39KC02	2C,3C	
221						X				CAVITY ALIGNMENT - JLAB	U.1.3.3.12.2	39KC02	2C,3C	
222						X				CRYOMODULE PRODUCTION - JLAB	U.1.3.3.12.3	39KC02	2C,3C	
223					X					SPX SYSTEMS ARCHITECTURE	U.1.3.3.13	39KC02	2C,3C	
224				X						INSERTION DEVICES	U.1.3.4	39KC02	2C,3C	
225					X					PLANAR UNDULATORS - EXISTING PERIOD (3)	U.1.3.4.1	39KC02	2C,3C	
226						X				MAGNETIC STRUCTURES	U.1.3.4.1.1	39KC02	2C,3C	
227						X				GAP SEPARATION MECHANISM	U.1.3.4.1.2	39KC02	2C,3C	
228						X				CONTROLS & CABLING	U.1.3.4.1.3	39KC02	2C,3C	
229						X				INTEGRATION & INSTALLATION - PLANAR UNDULATORS	U.1.3.4.1.4	39KC02	2C,3C	
230					X					POLARIZING UNDULATORS (3)	U.1.3.4.2	39KC02	2C,3C	
231						X				ELECTRO MAGNETIC VARIABLE POLARIZING UNDULATOR (	U.1.3.4.2.1	39KC02	2C,3C	
232							X			EMVPU DEVICE	U.1.3.4.2.1.1	39KC02	2C,3C	
233							X			END CORRECTORS WITH MAIN POWER SUPPLY - EMVPU	U.1.3.4.2.1.2	39KC02	2C,3C	
234							X			CONTROLS - HARDWARE & FIRMWARE - EMVPU	U.1.3.4.2.1.4	39KC02	2C,3C	
235							X			INTEGRATION & INSTALLATION - EMVPU	U.1.3.4.2.1.5	39KC02	2C,3C	
236						X				APPLE II - (2)	U.1.3.4.2.2	39KC02	2C,3C	
237							X			DEVICE - APPLE II - (2)	U.1.3.4.2.2.1	39KC02	2C,3C	
238							X			END CORRECTORS WITH MAIN POWER SUPPLIES - APPLE	U.1.3.4.2.2.2	39KC02	2C,3C	
239							X			CONTROLS - HARDWARE & FIRMWARE - APPLE II - (2)	U.1.3.4.2.2.3	39KC02	2C,3C	
240							X			INTEGRATION & INSTALLATION - APPLE II - (2)	U.1.3.4.2.2.4	39KC02	2C,3C	
241					X					SUPERCONDUCTING UNDULATORS (2)	U.1.3.4.3	39KC02	2C,3C	
242						X				SCU1 - 1.8-CM PERIOD 144-POLE 1-M MAGNETIC STRUC	U.1.3.4.3.1	39KC02	2C,3C	
243							X			SCU0 CRYOMODULE MODIFICATION - SCU1	U.1.3.4.3.1.1	39KC02	2C,3C	
244							X			MAGNETS - SCU1	U.1.3.4.3.1.2	39KC02	2C,3C	
245							X			MEASUREMENT SYSTEM MODIFICATIONS - SCU1	U.1.3.4.3.1.3	39KC02	2C,3C	
246							X			AREA PREPARATION - SCU1	U.1.3.4.3.1.4	39KC02	2C,3C	
247							X			INTEGRATION & INSTALLATION - SCU1	U.1.3.4.3.1.5	39KC02	2C,3C	
248						X				SCU2 - 1.8-CM PERIOD 2-M MAGNETIC STRUCTURE IN 3	U.1.3.4.3.2	39KC02	2C,3C	
249							X			ENGINEERING DEVELOPMENT UNIT - SCU2	U.1.3.4.3.2.1	39KC02	2C,3C	
250							X			CRYOMODULE - SCU2	U.1.3.4.3.2.2	39KC02	2C,3C	
251							X			MAGNETS - SCU2	U.1.3.4.3.2.3	39KC02	2C,3C	
252							X			POWER SUPPLIES & CONTROLS & CABLING - SCU2	U.1.3.4.3.2.4	39KC02	2C,3C	
253							X			AREA PREPARATION - SCU2	U.1.3.4.3.2.5	39KC02	2C,3C	
254							X			INTEGRATION & INSTALLATION - SCU2	U.1.3.4.3.2.6	39KC02	2C,3C	
255					X					REVOLVER UNDULATOR (5)	U.1.3.4.4	39KC02	2C,3C	
256						X				MAGNETIC STRUCTURES	U.1.3.4.4.1	39KC02	2C,3C	
257						X				REVOLVER SUPPORTS	U.1.3.4.4.2	39KC02	2C,3C	
258						X				CONTROLS & CABLING	U.1.3.4.4.3	39KC02	2C,3C	
259						X				INTEGRATION & INSTALLATION - REVOLVER UNDULATORS	U.1.3.4.4.4	39KC02	2C,3C	
260					X					CANTED SECTION - MAGNETS (8) AND CORRECTOR MAGNE	U.1.3.4.5	39KC02	2C,3C	
261						X				LAMINATIONS - (8X)	U.1.3.4.5.1	39KC02	2C,3C	
262						X				MAGNETS W/ STANDS - (8X)	U.1.3.4.5.2	39KC02	2C,3C	
263						X				POWER SUPPLIES & CONTROLS - (8X)	U.1.3.4.5.3	39KC02	2C,3C	
264						X				ELECTRICAL POWER (8X)	U.1.3.4.5.4	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
265						X				INTEGRATION & INSTALLATION - CANTED SECTION MAGN	U.1.3.4.5.5	39KC02	2C,3C	
266					X					ID VACUUM CHAMBERS (11)	U.1.3.4.7	39KC02	2C,3C	
267						X				STANDARD, CANTED, AND LONG STRAIGHT SECTION - (1	U.1.3.4.7.1	39KC02	2C,3C	
268						X				ELECTRO MAGNETIC VARIABLE POLARIZING UNDULATOR (	U.1.3.4.7.2	39KC02	2C,3C	
269						X				INTEGRATION & INSTALLATION - ID VACUUM CHAMBERS	U.1.3.4.7.3	39KC02	2C,3C	
270		X								EXPERIMENTAL FACILITIES	U.1.4	39KC02	2C,3C	
271			X							EXPERIMENTAL FACILITIES MANAGEMENT	U.1.4.1	39KC02	2C,3C	
272			X							BEAMLINES	U.1.4.2	39KC02	2C,3C	
273					X					BEAMLINE GLOBAL SUPPORT	U.1.4.2.1	39KC02	2C,3C	
274						X				BEAMLINE STANDARD COMPONENT DESIGN	U.1.4.2.1.1	39KC02	2C,3C	
275							X			BEAM DIAGNOSTICS	U.1.4.2.1.1.1	39KC02	2C,3C	
276							X			COLLIMATORS	U.1.4.2.1.1.2	39KC02	2C,3C	
277							X			ENCLOSURES/TRANSPORTS	U.1.4.2.1.1.3	39KC02	2C,3C	
278							X			FILTERS	U.1.4.2.1.1.4	39KC02	2C,3C	
279							X			MASKS	U.1.4.2.1.1.5	39KC02	2C,3C	
280							X			SHUTTERS	U.1.4.2.1.1.6	39KC02	2C,3C	
281							X			SLITS	U.1.4.2.1.1.7	39KC02	2C,3C	
282							X			STOPS	U.1.4.2.1.1.8	39KC02	2C,3C	
283							X			WINDOWS	U.1.4.2.1.1.9	39KC02	2C,3C	
284							X			MIRRORS	U.1.4.2.1.1.10	39KC02	2C,3C	
285							X			SUPPORTS	U.1.4.2.1.1.11	39KC02	2C,3C	
286							X			MONOCHROMATORS	U.1.4.2.1.1.12	39KC02	2C,3C	
287							X			VACUUM COMPONENTS	U.1.4.2.1.1.13	39KC02	2C,3C	
288					X					SHORT PULSE X-RAY SCATTERING & SPECTROSCOPY	U.1.4.2.2	39KC02	2C,3C	
289						X				BEAMLINE (SPXSS)	U.1.4.2.2.1	39KC02	2C,3C	
290						X				FOE & INFRASTRUCTURE	U.1.4.2.2.2	39KC02	2C,3C	
291							X			VACUUM COMPONENTS	U.1.4.2.2.2.1	39KC02	2C,3C	
292							X			WATER & AIR	U.1.4.2.2.2.2	39KC02	2C,3C	
293							X			ELECTRICAL UTILITIES	U.1.4.2.2.2.3	39KC02	2C,3C	
294							X			CONTROLS & COMPUTERS	U.1.4.2.2.2.4	39KC02	2C,3C	
295							X			SURVEY & ALIGNMENT	U.1.4.2.2.2.5	39KC02	2C,3C	
296							X			PSS	U.1.4.2.2.2.6	39KC02	2C,3C	
297							X			BLEPS	U.1.4.2.2.2.7	39KC02	2C,3C	
298							X			CONTROL ROOM	U.1.4.2.2.2.8	39KC02	2C,3C	
299							X			FURNITURE	U.1.4.2.2.2.9	39KC02	2C,3C	
300							X			STANDS	U.1.4.2.2.2.10	39KC02	2C,3C	
301							X			SLITS_WHITE	U.1.4.2.2.2.11	39KC02	2C,3C	
302							X			MIRROR_WHITE_CYLINDRICAL	U.1.4.2.2.2.12	39KC02	2C,3C	
303							X			BEAM DIAGNOSTICS	U.1.4.2.2.2.13	39KC02	2C,3C	
304							X			MONOCHROMATOR_DCM	U.1.4.2.2.2.14	39KC02	2C,3C	
305							X			MONOCHROMATOR_DMM	U.1.4.2.2.2.15	39KC02	2C,3C	
306							X			MIRROR_PINK	U.1.4.2.2.2.16	39KC02	2C,3C	
307							X			FILTER_PINK	U.1.4.2.2.2.17	39KC02	2C,3C	
308							X			WINDOW_WHITE_BE	U.1.4.2.2.2.18	39KC02	2C,3C	
309							X			HARDWARE_EXPERIMENTAL	U.1.4.2.2.2.19	39KC02	2C,3C	
310							X			STOP_WHITE	U.1.4.2.2.2.20	39KC02	2C,3C	
311							X			COLLIMATOR_W	U.1.4.2.2.2.21	39KC02	2C,3C	
312							X			SHUTTER_PINK	U.1.4.2.2.2.22	39KC02	2C,3C	
313							X			MASK_PINK	U.1.4.2.2.2.23	39KC02	2C,3C	
314						X				BRANCH 1	U.1.4.2.2.3	39KC02	2C,3C	
315							X			BPM_MONO	U.1.4.2.2.3.1	39KC02	2C,3C	
316							X			WINDOW_MONO_BE	U.1.4.2.2.3.2	39KC02	2C,3C	
317							X			CHOPPER_WHITE	U.1.4.2.2.3.3	39KC02	2C,3C	
318							X			MIRROR_MONO_K-B	U.1.4.2.2.3.4	39KC02	2C,3C	
319							X			DIFFRACTOMETER_6-CIRCLE_REFURBISH	U.1.4.2.2.3.5	39KC02	2C,3C	
320							X			STOP_PINK_MANUAL	U.1.4.2.2.3.6	39KC02	2C,3C	
321							X			RESERVE	U.1.4.2.2.3.7	39KC02	2C,3C	
322							X			DETECTOR AREA	U.1.4.2.2.3.8	39KC02	2C,3C	
323							X			STOP_PINK	U.1.4.2.2.3.9	39KC02	2C,3C	
324					X					SHORT PULSE X-RAY IMAGING & MICROSCOPY	U.1.4.2.3	39KC02	2C,3C	
325						X				BEAMLINE (SPXIM)	U.1.4.2.3.1	39KC02	2C,3C	
326						X				FOE & INFRASTRUCTURE	U.1.4.2.3.2	39KC02	2C,3C	
327							X			VACUUM COMPONENTS	U.1.4.2.3.2.1	39KC02	2C,3C	
328							X			WATER & AIR	U.1.4.2.3.2.2	39KC02	2C,3C	
329							X			ELECTRICAL UTILITIES	U.1.4.2.3.2.3	39KC02	2C,3C	
330							X			CONTROLS & COMPUTERS	U.1.4.2.3.2.4	39KC02	2C,3C	

* 2=Advanced Development, 3=Engineering, C=Construction

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7 GeV Advanced Photon Source / ANL	JULY , 2013	39-KC-02-89-R-402

4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
331							X			SURVEY & ALIGNMENT	U.1.4.2.3.2.5	39KC02	2C,3C	
332							X			PSS	U.1.4.2.3.2.6	39KC02	2C,3C	
333							X			BLEPS	U.1.4.2.3.2.7	39KC02	2C,3C	
334							X			CONTROL ROOM	U.1.4.2.3.2.8	39KC02	2C,3C	
335							X			FURNITURE	U.1.4.2.3.2.9	39KC02	2C,3C	
336							X			STANDS	U.1.4.2.3.2.10	39KC02	2C,3C	
337							X			SLITS_WHITE	U.1.4.2.3.2.11	39KC02	2C,3C	
338							X			MONOCHROMATOR_DCM_SIDE BOUNCE	U.1.4.2.3.2.12	39KC02	2C,3C	
339							X			BEAM DIAGNOSTICS	U.1.4.2.3.2.13	39KC02	2C,3C	
340							X			STOP_WHITE	U.1.4.2.3.2.14	39KC02	2C,3C	
341							X			COLLIMATOR_PB	U.1.4.2.3.2.15	39KC02	2C,3C	
342							X			SHUTTER_MONO	U.1.4.2.3.2.16	39KC02	2C,3C	
343							X			HARDWARE_EXPERIMENTAL	U.1.4.2.3.2.17	39KC02	2C,3C	
344						X				BRANCH 1	U.1.4.2.3.3	39KC02	2C,3C	
345							X			ENCLOSURE_MONO_MINI	U.1.4.2.3.3.1	39KC02	2C,3C	
346							X			TRANSPORT_MONO	U.1.4.2.3.3.2	39KC02	2C,3C	
347							X			BEAM DIAGNOSTICS	U.1.4.2.3.3.3	39KC02	2C,3C	
348							X			WINDOW_MONO_BE	U.1.4.2.3.3.4	39KC02	2C,3C	
349							X			MIRROR_MONO_K-B	U.1.4.2.3.3.5	39KC02	2C,3C	
350							X			X-RAY MICROSCOPE	U.1.4.2.3.3.6	39KC02	2C,3C	
351							X			DIFFRACTOMETER_6-CIRCLE	U.1.4.2.3.3.7	39KC02	2C,3C	
352							X			HARDWARE_EXPERIMENTAL	U.1.4.2.3.3.8	39KC02	2C,3C	
353						X				SPX LASER SYSTEM	U.1.4.2.3.4	39KC02	2C,3C	
354							X			LASER LABORATORY	U.1.4.2.3.4.1	39KC02	2C,3C	
355							X			LASERS_FS	U.1.4.2.3.4.2	39KC02	2C,3C	
356							X			LASER DIAGNOSTICS	U.1.4.2.3.4.3	39KC02	2C,3C	
357							X			LASER TRANSPORT	U.1.4.2.3.4.4	39KC02	2C,3C	
358							X			HARDWARE_EXPERIMENTAL	U.1.4.2.3.4.5	39KC02	2C,3C	
359							X			LASERS_FS_SYNCHRONIZATION	U.1.4.2.3.4.6	39KC02	2C,3C	
360					X					HIGH FLUX PUMP-PROBE	U.1.4.2.4	39KC02	2C,3C	
361						X				BEAMLINE (HFPP)	U.1.4.2.4.1	39KC02	2C,3C	
362						X				BRANCH 1 - HFPP INSTRUMENTATION & INFRASTRUCTURE	U.1.4.2.4.3	39KC02	2C,3C	
363							X			VACUUM COMPONENTS	U.1.4.2.4.3.1	39KC02	2C,3C	
364							X			WATER & AIR	U.1.4.2.4.3.2	39KC02	2C,3C	
365							X			ELECTRICAL UTILITIES	U.1.4.2.4.3.3	39KC02	2C,3C	
366							X			CONTROLS & COMPUTERS	U.1.4.2.4.3.4	39KC02	2C,3C	
367							X			SURVEY & ALIGNMENT	U.1.4.2.4.3.5	39KC02	2C,3C	
368							X			PSS	U.1.4.2.4.3.6	39KC02	2C,3C	
369							X			BLEPS	U.1.4.2.4.3.7	39KC02	2C,3C	
370							X			CONTROL ROOM	U.1.4.2.4.3.8	39KC02	2C,3C	
371							X			FURNITURE	U.1.4.2.4.3.9	39KC02	2C,3C	
372							X			STANDS	U.1.4.2.4.3.10	39KC02	2C,3C	
373							X			ENCLOSURE_WHITE	U.1.4.2.4.3.11	39KC02	2C,3C	
374							X			MIRROR_PINK_K-B	U.1.4.2.4.3.12	39KC02	2C,3C	
375							X			STOP_WHITE	U.1.4.2.4.3.13	39KC02	2C,3C	
376							X			HVAC	U.1.4.2.4.3.14	39KC02	2C,3C	
377							X			TABLES_EXPERIMENTAL	U.1.4.2.4.3.15	39KC02	2C,3C	
378							X			HARDWARE_EXPERIMENTAL	U.1.4.2.4.3.16	39KC02	2C,3C	
379					X					WIDE FIELD IMAGING	U.1.4.2.5	39KC02	2C,3C	
380						X				BEAMLINE (WFI)	U.1.4.2.5.1	39KC02	2C,3C	
381						X				FOE & INFRASTRUCTURE	U.1.4.2.5.2	39KC02	2C,3C	
382							X			VACUUM COMPONENTS	U.1.4.2.5.2.1	39KC02	2C,3C	
383							X			WATER & AIR	U.1.4.2.5.2.2	39KC02	2C,3C	
384							X			ELECTRICAL UTILITIES	U.1.4.2.5.2.3	39KC02	2C,3C	
385							X			CONTROLS & COMPUTERS	U.1.4.2.5.2.4	39KC02	2C,3C	
386							X			SURVEY & ALIGNMENT	U.1.4.2.5.2.5	39KC02	2C,3C	
387							X			PSS	U.1.4.2.5.2.6	39KC02	2C,3C	
388							X			BLEPS	U.1.4.2.5.2.7	39KC02	2C,3C	
389							X			CONTROL ROOM	U.1.4.2.5.2.8	39KC02	2C,3C	
390							X			FURNITURE	U.1.4.2.5.2.9	39KC02	2C,3C	
391							X			STANDS	U.1.4.2.5.2.10	39KC02	2C,3C	
392							X			ENCLOSURE_WHITE	U.1.4.2.5.2.11	39KC02	2C,3C	
393							X			FILTER_WHITE	U.1.4.2.5.2.12	39KC02	2C,3C	
394							X			SLITS_ID_CU	U.1.4.2.5.2.13	39KC02	2C,3C	
395							X			MONOCHROMATOR_DCM	U.1.4.2.5.2.14	39KC02	2C,3C	
396							X			PUMP_LN2	U.1.4.2.5.2.15	39KC02	2C,3C	

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1. PROJECT TITLE/PARTICIPANT	2. DATE	3. IDENTIFICATION NUMBER
7 GeV Advanced Photon Source / ANL	JULY , 2013	39-KC-02-89-R-402

4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
397							X			MONOCHROMATOR_DMM	U.1.4.2.5.2.16	39KC02	2C,3C	
398							X			MASK_WHITE	U.1.4.2.5.2.17	39KC02	2C,3C	
399							X			COLLIMATOR_PB	U.1.4.2.5.2.18	39KC02	2C,3C	
400							X			SHUTTER_INTEGRAL	U.1.4.2.5.2.19	39KC02	2C,3C	
401							X			WINDOW_BE	U.1.4.2.5.2.20	39KC02	2C,3C	
402							X			HARDWARE_EXPERIMENTAL	U.1.4.2.5.2.21	39KC02	2C,3C	
403						X				INTERIOR BEAMLINE	U.1.4.2.5.3	39KC02	2C,3C	
404							X			ENCLOSURE_WHITE_B	U.1.4.2.5.3.1	39KC02	2C,3C	
405							X			TRANSPORT_WHITE_B_C	U.1.4.2.5.3.2	39KC02	2C,3C	
406							X			ENCLOSURE_WHITE_C	U.1.4.2.5.3.3	39KC02	2C,3C	
407							X			TABLES_EXPERIMENTAL	U.1.4.2.5.3.4	39KC02	2C,3C	
408							X			INSTRUMENTATION_SAMPLE_B	U.1.4.2.5.3.5	39KC02	2C,3C	
409							X			CHOPPER_WHITE	U.1.4.2.5.3.6	39KC02	2C,3C	
410							X			INSTRUMENTATION_SAMPLE_C	U.1.4.2.5.3.7	39KC02	2C,3C	
411							X			WINDOW_WHITE_BE	U.1.4.2.5.3.8	39KC02	2C,3C	
412							X			CAMERA	U.1.4.2.5.3.9	39KC02	2C,3C	
413							X			BEAM DIAGNOSTICS	U.1.4.2.5.3.10	39KC02	2C,3C	
414							X			STOP_WHITE_MANUAL	U.1.4.2.5.3.11	39KC02	2C,3C	
415							X			MASK_WHITE	U.1.4.2.5.3.12	39KC02	2C,3C	
416							X			COLLIMATOR_W	U.1.4.2.5.3.13	39KC02	2C,3C	
417							X			HARDWARE_EXPERIMENTAL	U.1.4.2.5.3.14	39KC02	2C,3C	
418							X			INSTRUMENTATION_STEREO	U.1.4.2.5.3.15	39KC02	2C,3C	
419						X				EXTERIOR BEAMLINE & INFRASTRUCTURE	U.1.4.2.5.4	39KC02	2C,3C	
420							X			VACUUM COMPONENTS	U.1.4.2.5.4.1	39KC02	2C,3C	
421							X			WATER & AIR	U.1.4.2.5.4.2	39KC02	2C,3C	
422							X			ELECTRICAL UTILITIES	U.1.4.2.5.4.3	39KC02	2C,3C	
423							X			CONTROLS & COMPUTERS	U.1.4.2.5.4.4	39KC02	2C,3C	
424							X			SURVEY & ALIGNMENT	U.1.4.2.5.4.5	39KC02	2C,3C	
425							X			RESERVE	U.1.4.2.5.4.6	39KC02	2C,3C	
426							X			RESERVE	U.1.4.2.5.4.7	39KC02	2C,3C	
427							X			CONTROL ROOM	U.1.4.2.5.4.8	39KC02	2C,3C	
428							X			FURNITURE	U.1.4.2.5.4.9	39KC02	2C,3C	
429							X			STANDS	U.1.4.2.5.4.10	39KC02	2C,3C	
430							X			ENCLOSURE_WHITE_D	U.1.4.2.5.4.11	39KC02	2C,3C	
431							X			TRANSPORT_WHITE_C_D	U.1.4.2.5.4.12	39KC02	2C,3C	
432							X			ENCLOSURE_WHITE_E	U.1.4.2.5.4.13	39KC02	2C,3C	
433							X			TABLES_EXPERIMENTAL	U.1.4.2.5.4.14	39KC02	2C,3C	
434							X			BEAM DIAGNOSTICS	U.1.4.2.5.4.15	39KC02	2C,3C	
435							X			SLITS_WHITE	U.1.4.2.5.4.16	39KC02	2C,3C	
436							X			MONOCHROMATOR_DCM	U.1.4.2.5.4.17	39KC02	2C,3C	
437							X			SHUTTER_INTEGRAL	U.1.4.2.5.4.18	39KC02	2C,3C	
438							X			CAMERA	U.1.4.2.5.4.19	39KC02	2C,3C	
439							X			CAMERA_HIGH SPEED	U.1.4.2.5.4.20	39KC02	2C,3C	
440							X			INSTRUMENTATION_SAMPLE	U.1.4.2.5.4.21	39KC02	2C,3C	
441							X			INSTRUMENTATION_WFI	U.1.4.2.5.4.22	39KC02	2C,3C	
442							X			STOP_WHITE	U.1.4.2.5.4.23	39KC02	2C,3C	
443							X			WINDOW_CVD	U.1.4.2.5.4.24	39KC02	2C,3C	
444							X			MASK_WHITE	U.1.4.2.5.4.25	39KC02	2C,3C	
445							X			COLLIMATOR_PB	U.1.4.2.5.4.26	39KC02	2C,3C	
446							X			HARDWARE_EXPERIMENTAL	U.1.4.2.5.4.27	39KC02	2C,3C	
447					X					HIGH ENERGY X-RAY TOMOGRAPHY	U.1.4.2.6	39KC02	2C,3C	
448						X				BEAMLINE (HEXT)	U.1.4.2.6.1	39KC02	2C,3C	
449						X				FOE & INFRASTRUCTURE	U.1.4.2.6.2	39KC02	2C,3C	
450							X			VACUUM COMPONENTS	U.1.4.2.6.2.1	39KC02	2C,3C	
451							X			WATER & AIR	U.1.4.2.6.2.2	39KC02	2C,3C	
452							X			ELECTRICAL UTILITIES	U.1.4.2.6.2.3	39KC02	2C,3C	
453							X			CONTROLS & COMPUTERS	U.1.4.2.6.2.4	39KC02	2C,3C	
454							X			SURVEY & ALIGNMENT	U.1.4.2.6.2.5	39KC02	2C,3C	
455							X			PSS	U.1.4.2.6.2.6	39KC02	2C,3C	
456							X			BLEPS	U.1.4.2.6.2.7	39KC02	2C,3C	
457							X			CONTROL ROOM	U.1.4.2.6.2.8	39KC02	2C,3C	
458							X			FURNITURE	U.1.4.2.6.2.9	39KC02	2C,3C	
459							X			STANDS	U.1.4.2.6.2.10	39KC02	2C,3C	
460							X			ENCLOSURE_WHITE	U.1.4.2.6.2.11	39KC02	2C,3C	
461							X			FILTER_WHITE	U.1.4.2.6.2.12	39KC02	2C,3C	
462							X			SLITS_WHITE	U.1.4.2.6.2.13	39KC02	2C,3C	

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1. PROJECT TITLE/PARTICIPANT	2. DATE	3. IDENTIFICATION NUMBER
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4.	5. WBS ELEMENTS										6.	7.	8.	9.
	INDENTURE LEVEL											BUDGET AND		
Line No.	1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	Reporting NO.	PHASE *	OTHER
463							X			BEAM DIAGNOSTICS	U.1.4.2.6.2.14	39KC02	2C,3C	
464							X			MONOCHROMATOR_DMM	U.1.4.2.6.2.15	39KC02	2C,3C	
465							X			MONOCHROMATOR_DCM	U.1.4.2.6.2.16	39KC02	2C,3C	
466							X			SHUTTER	U.1.4.2.6.2.17	39KC02	2C,3C	
467							X			COLLIMATOR	U.1.4.2.6.2.18	39KC02	2C,3C	
468							X			HARDWARE_EXPERIMENTAL	U.1.4.2.6.2.19	39KC02	2C,3C	
469						X				BRANCH 1 - BM-B & C	U.1.4.2.6.3	39KC02	2C,3C	
470							X			ENCLOSURE_B	U.1.4.2.6.3.1	39KC02	2C,3C	
471							X			ENCLOSURE_C	U.1.4.2.6.3.2	39KC02	2C,3C	
472							X			TRANSPORT_WHITE	U.1.4.2.6.3.3	39KC02	2C,3C	
473							X			WINDOW_BE	U.1.4.2.6.3.4	39KC02	2C,3C	
474							X			TABLES_EXPERIMENTAL_B	U.1.4.2.6.3.5	39KC02	2C,3C	
475							X			INSTRUMENTATION_B	U.1.4.2.6.3.6	39KC02	2C,3C	
476							X			CAMERA_B	U.1.4.2.6.3.7	39KC02	2C,3C	
477							X			MASK	U.1.4.2.6.3.8	39KC02	2C,3C	
478							X			STOP_WHITE_MANUAL	U.1.4.2.6.3.9	39KC02	2C,3C	
479							X			SLITS_WHITE	U.1.4.2.6.3.10	39KC02	2C,3C	
480							X			TABLES_EXPERIMENTAL_C1	U.1.4.2.6.3.11	39KC02	2C,3C	
481							X			INSTRUMENTATION_C1	U.1.4.2.6.3.12	39KC02	2C,3C	
482							X			CAMERA_C1	U.1.4.2.6.3.13	39KC02	2C,3C	
483							X			INTERFEROMETER	U.1.4.2.6.3.14	39KC02	2C,3C	
484							X			TABLES_EXPERIMENTAL_C2	U.1.4.2.6.3.15	39KC02	2C,3C	
485							X			INSTRUMENTATION_C2	U.1.4.2.6.3.16	39KC02	2C,3C	
486							X			CAMERA_C2	U.1.4.2.6.3.17	39KC02	2C,3C	
487							X			STOP_WHITE	U.1.4.2.6.3.18	39KC02	2C,3C	
488							X			HARDWARE_EXPERIMENTAL	U.1.4.2.6.3.19	39KC02	2C,3C	
489					X					IN-SITU NANOPROBE	U.1.4.2.7	39KC02	2C,3C	
490						X				BEAMLINE (ISN)	U.1.4.2.7.1	39KC02	2C,3C	
491						X				FOE & INFRASTRUCTURE	U.1.4.2.7.2	39KC02	2C,3C	
492							X			VACUUM COMPONENTS	U.1.4.2.7.2.1	39KC02	2C,3C	
493							X			WATER & AIR	U.1.4.2.7.2.2	39KC02	2C,3C	
494							X			ELECTRICAL UTILITIES	U.1.4.2.7.2.3	39KC02	2C,3C	
495							X			CONTROLS & COMPUTERS	U.1.4.2.7.2.4	39KC02	2C,3C	
496							X			SURVEY & ALIGNMENT	U.1.4.2.7.2.5	39KC02	2C,3C	
497							X			PSS	U.1.4.2.7.2.6	39KC02	2C,3C	
498							X			BLEPS	U.1.4.2.7.2.7	39KC02	2C,3C	
499							X			CONTROL ROOM	U.1.4.2.7.2.8	39KC02	2C,3C	
500							X			FURNITURE	U.1.4.2.7.2.9	39KC02	2C,3C	
501							X			STANDS	U.1.4.2.7.2.10	39KC02	2C,3C	
502							X			ENCLOSURE_WHITE_MODIFY	U.1.4.2.7.2.11	39KC02	2C,3C	
503							X			RESERVE	U.1.4.2.7.2.12	39KC02	2C,3C	
504							X			MASK_WHITE	U.1.4.2.7.2.13	39KC02	2C,3C	
505							X			COLLIMATOR_PB	U.1.4.2.7.2.14	39KC02	2C,3C	
506							X			STOP_WHITE_CU	U.1.4.2.7.2.15	39KC02	2C,3C	
507							X			COLLIMATOR_PB_CU	U.1.4.2.7.2.16	39KC02	2C,3C	
508							X			COLLIMATOR_W_CU	U.1.4.2.7.2.17	39KC02	2C,3C	
509							X			HARDWARE_EXPERIMENTAL	U.1.4.2.7.2.18	39KC02	2C,3C	
510						X				ISN BRANCH	U.1.4.2.7.3	39KC02	2C,3C	
511							X			ENCLOSURE_WHITE	U.1.4.2.7.3.1	39KC02	2C,3C	
512							X			SLITS_WHITE_CU	U.1.4.2.7.3.2	39KC02	2C,3C	
513							X			MIRROR_WHITE_PLANE	U.1.4.2.7.3.3	39KC02	2C,3C	
514							X			MIRROR_PINK_CYLINDRICAL	U.1.4.2.7.3.4	39KC02	2C,3C	
515							X			SLITS_PINK	U.1.4.2.7.3.5	39KC02	2C,3C	
516							X			MONOCHROMATOR_DMM	U.1.4.2.7.3.6	39KC02	2C,3C	
517							X			MONOCHROMATOR_DCM	U.1.4.2.7.3.7	39KC02	2C,3C	
518							X			PUMP_LN2	U.1.4.2.7.3.8	39KC02	2C,3C	
519							X			SHUTTER_MONO	U.1.4.2.7.3.9	39KC02	2C,3C	
520							X			BEAM DIAGNOSTICS_IMAGING	U.1.4.2.7.3.10	39KC02	2C,3C	
521							X			BEAM DIAGNOSTICS_COUNTING	U.1.4.2.7.3.11	39KC02	2C,3C	
522							X			WINDOW_EXIT ASSEMBLY	U.1.4.2.7.3.12	39KC02	2C,3C	
523							X			HVAC	U.1.4.2.7.3.13	39KC02	2C,3C	
524							X			HARDWARE_EXPERIMENTAL	U.1.4.2.7.3.14	39KC02	2C,3C	
525						X				IN-SITU NANOPROBE INSTRUMENT	U.1.4.2.7.4	39KC02	2C,3C	
526							X			SCANNING NANOPROBE	U.1.4.2.7.4.1	39KC02	2C,3C	
527							X			NANOPOSITIONING SYSTEM	U.1.4.2.7.4.2	39KC02	2C,3C	
528							X			INSTRUMENTATION_SAMPLE	U.1.4.2.7.4.3	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
529							X			OPTICS_NANOFOCUSING	U.1.4.2.7.4.4	39KC02	2C,3C	
530							X			RESERVE	U.1.4.2.7.4.5	39KC02	2C,3C	
531							X			CONTROLS & COMPUTERS	U.1.4.2.7.4.6	39KC02	2C,3C	
532							X			DETECTOR_FLUORESCENCE	U.1.4.2.7.4.7	39KC02	2C,3C	
533							X			DETECTOR_TRANSMISSION	U.1.4.2.7.4.8	39KC02	2C,3C	
534							X			HARDWARE_EXPERIMENTAL	U.1.4.2.7.4.9	39KC02	2C,3C	
535						X				TXM BRANCH	U.1.4.2.7.5	39KC02	2C,3C	
536							X			ENCLOSURE_WHITE	U.1.4.2.7.5.1	39KC02	2C,3C	
537							X			TRANSPORT_DISMANTLE	U.1.4.2.7.5.2	39KC02	2C,3C	
538							X			STAND_DISMANTLE	U.1.4.2.7.5.3	39KC02	2C,3C	
539							X			SLITS_WHITE_BRANCH	U.1.4.2.7.5.4	39KC02	2C,3C	
540							X			MIRROR SYSTEM	U.1.4.2.7.5.5	39KC02	2C,3C	
541							X			MIRROR_WHITE_PLANE	U.1.4.2.7.5.6	39KC02	2C,3C	
542							X			STOP_WHITE_BRANCH	U.1.4.2.7.5.7	39KC02	2C,3C	
543							X			RESERVE	U.1.4.2.7.5.8	39KC02	2C,3C	
544							X			RESERVE	U.1.4.2.7.5.9	39KC02	2C,3C	
545							X			MONOCHROMATOR_DCM	U.1.4.2.7.5.10	39KC02	2C,3C	
546							X			RESERVE	U.1.4.2.7.5.11	39KC02	2C,3C	
547							X			SHUTTER_MONO	U.1.4.2.7.5.12	39KC02	2C,3C	
548							X			RESERVE	U.1.4.2.7.5.13	39KC02	2C,3C	
549							X			INSTRUMENTATION_END STATION	U.1.4.2.7.5.14	39KC02	2C,3C	
550							X			INSTRUMENTATION_DISMANTLE	U.1.4.2.7.5.15	39KC02	2C,3C	
551							X			UTILITIES_DISMANTLE	U.1.4.2.7.5.16	39KC02	2C,3C	
552							X			HARDWARE_EXPERIMENTAL	U.1.4.2.7.5.17	39KC02	2C,3C	
553					X					RESONANT INELASTIC X-RAY SCATTERING	U.1.4.2.8	39KC02	2C,3C	
554						X				BEAMLINE (RIXS)	U.1.4.2.8.1	39KC02	2C,3C	
555						X				FOE & INFRASTRUCTURE	U.1.4.2.8.2	39KC02	2C,3C	
556							X			VACUUM COMPONENTS	U.1.4.2.8.2.1	39KC02	2C,3C	
557							X			WATER & AIR	U.1.4.2.8.2.2	39KC02	2C,3C	
558							X			ELECTRICAL UTILITIES	U.1.4.2.8.2.3	39KC02	2C,3C	
559							X			CONTROLS & COMPUTERS	U.1.4.2.8.2.4	39KC02	2C,3C	
560							X			SURVEY & ALIGNMENT	U.1.4.2.8.2.5	39KC02	2C,3C	
561							X			PSS	U.1.4.2.8.2.6	39KC02	2C,3C	
562							X			BLEPS	U.1.4.2.8.2.7	39KC02	2C,3C	
563							X			CONTROL ROOM	U.1.4.2.8.2.8	39KC02	2C,3C	
564							X			FURNITURE	U.1.4.2.8.2.9	39KC02	2C,3C	
565							X			STANDS	U.1.4.2.8.2.10	39KC02	2C,3C	
566							X			ENCLOSURE_WHITE	U.1.4.2.8.2.11	39KC02	2C,3C	
567							X			SLITS_WHITE_ID	U.1.4.2.8.2.12	39KC02	2C,3C	
568							X			MONOCHROMATOR	U.1.4.2.8.2.13	39KC02	2C,3C	
569							X			MONOCHROMATOR - VACUUM CHAMBER / MECHANICS	U.1.4.2.8.2.13.1	39KC02	2C,3C	
570							X			MONOCHROMATOR - COOLING	U.1.4.2.8.2.13.2	39KC02	2C,3C	
571							X			MONOCHROMATOR - DIAMONDS	U.1.4.2.8.2.13.3	39KC02	2C,3C	
572							X			SHUTTER_INTEGRAL	U.1.4.2.8.2.14	39KC02	2C,3C	
573							X			COLLIMATOR	U.1.4.2.8.2.15	39KC02	2C,3C	
574							X			BEAM DIAGNOSTICS	U.1.4.2.8.2.16	39KC02	2C,3C	
575							X			HARDWARE_EXPERIMENTAL	U.1.4.2.8.2.17	39KC02	2C,3C	
576						X				BRANCH 1 - RIXS	U.1.4.2.8.3	39KC02	2C,3C	
577							X			ENCLOSURE_MONO	U.1.4.2.8.3.1	39KC02	2C,3C	
578							X			MONOCHROMATOR_HIGH RESOLUTION	U.1.4.2.8.3.2	39KC02	2C,3C	
579							X			MONOCHROMATOR_HIGH RESOLUTION - RELOCATION	U.1.4.2.8.3.2.1	39KC02	2C,3C	
580							X			MONOCHROMATOR_HIGH RESOLUTION - UPGRADE	U.1.4.2.8.3.2.2	39KC02	2C,3C	
581							X			MIRROR_MONO_K-B	U.1.4.2.8.3.3	39KC02	2C,3C	
582							X			SPECTROMETER_RIXS	U.1.4.2.8.3.4	39KC02	2C,3C	
583							X			SPECTROMETER_RELOCATION	U.1.4.2.8.3.4.1	39KC02	2C,3C	
584							X			SPECTROMETER_UPGRADE	U.1.4.2.8.3.4.2	39KC02	2C,3C	
585							X			ANALYZER_SPHERICAL	U.1.4.2.8.3.5	39KC02	2C,3C	
586							X			ANALYZER_MULTI-CRYSTAL SYSTEM	U.1.4.2.8.3.6	39KC02	2C,3C	
587							X			SAMPLE ENVIRONMENTS	U.1.4.2.8.3.7	39KC02	2C,3C	
588							X			POLARIZATION ANALYSIS SYSTEM	U.1.4.2.8.3.8	39KC02	2C,3C	
589							X			ANALYZER_HIGH RESOLUTION SYSTEM	U.1.4.2.8.3.9	39KC02	2C,3C	
590					X					MAGNETIC SPECTROSCOPY - HARD	U.1.4.2.9	39KC02	2C,3C	
591						X				BEAMLINE (MS-H)	U.1.4.2.9.1	39KC02	2C,3C	
592						X				FOE & INFRASTRUCTURE	U.1.4.2.9.2	39KC02	2C,3C	
593							X			VACUUM COMPONENTS	U.1.4.2.9.2.1	39KC02	2C,3C	
594							X			WATER & AIR	U.1.4.2.9.2.2	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
	INDENTURE LEVEL											BUDGET		
Line No.	1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	AND Reporting NO.	PHASE *	OTHER
595							X			ELECTRICAL UTILITIES	U.1.4.2.9.2.3	39KC02	2C,3C	
596							X			CONTROLS & COMPUTERS	U.1.4.2.9.2.4	39KC02	2C,3C	
597							X			SURVEY & ALIGNMENT	U.1.4.2.9.2.5	39KC02	2C,3C	
598							X			PSS	U.1.4.2.9.2.6	39KC02	2C,3C	
599							X			BLEPS	U.1.4.2.9.2.7	39KC02	2C,3C	
600							X			CONTROL ROOM	U.1.4.2.9.2.8	39KC02	2C,3C	
601							X			FURNITURE	U.1.4.2.9.2.9	39KC02	2C,3C	
602							X			RESERVE	U.1.4.2.9.2.10	39KC02	2C,3C	
603							X			GUILLOTINES	U.1.4.2.9.2.11	39KC02	2C,3C	
604							X			HARDWARE_EXPERIMENTAL	U.1.4.2.9.2.12	39KC02	2C,3C	
605						X				BRANCH 1 - HARD X-RAY	U.1.4.2.9.3	39KC02	2C,3C	
606							X			ENCLOSURE_WHITE_D	U.1.4.2.9.3.1	39KC02	2C,3C	
607							X			MASK	U.1.4.2.9.3.2	39KC02	2C,3C	
608							X			COLLIMATOR	U.1.4.2.9.3.3	39KC02	2C,3C	
609							X			BEAM DIAGNOSTICS	U.1.4.2.9.3.4	39KC02	2C,3C	
610							X			SURVEY & ALIGNMENT	U.1.4.2.9.3.5	39KC02	2C,3C	
611							X			MONOCHROMATOR_RETROFIT	U.1.4.2.9.3.6	39KC02	2C,3C	
612							X			TRANSPORT_WHITE	U.1.4.2.9.3.7	39KC02	2C,3C	
613							X			MIRROR_MONO_K-B	U.1.4.2.9.3.8	39KC02	2C,3C	
614							X			TABLES_EXPERIMENTAL	U.1.4.2.9.3.9	39KC02	2C,3C	
615							X			INSTRUMENTATION_HIGH FIELD SPECTROSCOPY	U.1.4.2.9.3.10	39KC02	2C,3C	
616							X			MIRROR_TORROIDAL	U.1.4.2.9.3.11	39KC02	2C,3C	
617					X					HIGH ENERGY X-RAY DIFFRACTION	U.1.4.2.10	39KC02	2C,3C	
618						X				BEAMLINE (HEXD)	U.1.4.2.10.1	39KC02	2C,3C	
619						X				FOE & INFRASTRUCTURE	U.1.4.2.10.2	39KC02	2C,3C	
620							X			VACUUM COMPONENTS	U.1.4.2.10.2.1	39KC02	2C,3C	
621							X			WATER & AIR	U.1.4.2.10.2.2	39KC02	2C,3C	
622							X			ELECTRICAL UTILITIES	U.1.4.2.10.2.3	39KC02	2C,3C	
623							X			CONTROLS & COMPUTERS	U.1.4.2.10.2.4	39KC02	2C,3C	
624							X			SURVEY & ALIGNMENT	U.1.4.2.10.2.5	39KC02	2C,3C	
625							X			PSS	U.1.4.2.10.2.6	39KC02	2C,3C	
626							X			BLEPS	U.1.4.2.10.2.7	39KC02	2C,3C	
627							X			CONTROL ROOM	U.1.4.2.10.2.8	39KC02	2C,3C	
628							X			FURNITURE	U.1.4.2.10.2.9	39KC02	2C,3C	
629							X			STANDS	U.1.4.2.10.2.10	39KC02	2C,3C	
630							X			GAS DISTRIBUTION SYSTEM	U.1.4.2.10.2.11	39KC02	2C,3C	
631							X			ENCLOSURE_WHITE_MODIFY	U.1.4.2.10.2.12	39KC02	2C,3C	
632							X			FILTER_WHITE	U.1.4.2.10.2.13	39KC02	2C,3C	
633							X			SLITS_WHITE_CU	U.1.4.2.10.2.14	39KC02	2C,3C	
634							X			FILTER_WHITE_CU	U.1.4.2.10.2.15	39KC02	2C,3C	
635							X			MONOCHROMATOR SYSTEM	U.1.4.2.10.2.16	39KC02	2C,3C	
636							X			HARDWARE_EXPERIMENTAL	U.1.4.2.10.2.17	39KC02	2C,3C	
637						X				INLINE BRANCH	U.1.4.2.10.3	39KC02	2C,3C	
638							X			VACUUM COMPONENTS	U.1.4.2.10.3.1	39KC02	2C,3C	
639							X			MASK_WHITE	U.1.4.2.10.3.2	39KC02	2C,3C	
640							X			COLLIMATOR	U.1.4.2.10.3.3	39KC02	2C,3C	
641							X			MONOCHROMATOR_HIGH RESOLUTION	U.1.4.2.10.3.4	39KC02	2C,3C	
642							X			OPTICS_FOCUSING	U.1.4.2.10.3.5	39KC02	2C,3C	
643							X			SHUTTER_WHITE	U.1.4.2.10.3.6	39KC02	2C,3C	
644							X			TRANSPORT_WHITE	U.1.4.2.10.3.7	39KC02	2C,3C	
645							X			WINDOW_WHITE	U.1.4.2.10.3.8	39KC02	2C,3C	
646							X			ENCLOSURE_WHITE_D	U.1.4.2.10.3.9	39KC02	2C,3C	
647							X			ENCLOSURE_WHITE_E	U.1.4.2.10.3.10	39KC02	2C,3C	
648							X			STOP_MANUAL	U.1.4.2.10.3.11	39KC02	2C,3C	
649							X			STOP_WHITE	U.1.4.2.10.3.12	39KC02	2C,3C	
650							X			TABLES_EXPERIMENTAL	U.1.4.2.10.3.13	39KC02	2C,3C	
651							X			BEAM CONDITIONING_D	U.1.4.2.10.3.14	39KC02	2C,3C	
652							X			BEAM CONDITIONING_E	U.1.4.2.10.3.15	39KC02	2C,3C	
653							X			INSTRUMENTATION_D	U.1.4.2.10.3.16	39KC02	2C,3C	
654							X			INSTRUMENTATION_E	U.1.4.2.10.3.17	39KC02	2C,3C	
655							X			DETECTOR	U.1.4.2.10.3.18	39KC02	2C,3C	
656							X			HARDWARE_EXPERIMENTAL	U.1.4.2.10.3.19	39KC02	2C,3C	
657						X				SIDE BRANCH	U.1.4.2.10.4	39KC02	2C,3C	
658							X			VACUUM COMPONENTS	U.1.4.2.10.4.1	39KC02	2C,3C	
659							X			RESERVE	U.1.4.2.10.4.2	39KC02	2C,3C	
660							X			OPTICS_FOCUSING	U.1.4.2.10.4.3	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
661							X			SHUTTER_MONO	U.1.4.2.10.4.4	39KC02	2C,3C	
662							X			TRANSPORT_MONO	U.1.4.2.10.4.5	39KC02	2C,3C	
663							X			WINDOW_MONO	U.1.4.2.10.4.6	39KC02	2C,3C	
664							X			ENCLOSURE_MONO_F	U.1.4.2.10.4.7	39KC02	2C,3C	
665							X			ENCLOSURE_MONO_G	U.1.4.2.10.4.8	39KC02	2C,3C	
666							X			STOP_MONO_MANUAL	U.1.4.2.10.4.9	39KC02	2C,3C	
667							X			TABLES_EXPERIMENTAL	U.1.4.2.10.4.10	39KC02	2C,3C	
668							X			BEAM CONDITIONING_F	U.1.4.2.10.4.11	39KC02	2C,3C	
669							X			BEAM CONDITIONING_G	U.1.4.2.10.4.12	39KC02	2C,3C	
670							X			INSTRUMENTATION_F	U.1.4.2.10.4.13	39KC02	2C,3C	
671							X			INSTRUMENTATION_G	U.1.4.2.10.4.14	39KC02	2C,3C	
672							X			DETECTOR	U.1.4.2.10.4.15	39KC02	2C,3C	
673							X			HARDWARE_EXPERIMENTAL	U.1.4.2.10.4.16	39KC02	2C,3C	
674					X					X-RAY INTERFACE SCIENCE	U.1.4.2.11	39KC02	2C,3C	
675						X				BEAMLINE (XIS)	U.1.4.2.11.1	39KC02	2C,3C	
676						X				FOE & INFRASTRUCTURE	U.1.4.2.11.2	39KC02	2C,3C	
677							X			VACUUM COMPONENTS	U.1.4.2.11.2.1	39KC02	2C,3C	
678							X			WATER & AIR	U.1.4.2.11.2.2	39KC02	2C,3C	
679							X			ELECTRICAL UTILITIES	U.1.4.2.11.2.3	39KC02	2C,3C	
680							X			CONTROLS & COMPUTERS	U.1.4.2.11.2.4	39KC02	2C,3C	
681							X			SURVEY & ALIGNMENT	U.1.4.2.11.2.5	39KC02	2C,3C	
682							X			PSS	U.1.4.2.11.2.6	39KC02	2C,3C	
683							X			BLEPS	U.1.4.2.11.2.7	39KC02	2C,3C	
684							X			CONTROL ROOM	U.1.4.2.11.2.8	39KC02	2C,3C	
685							X			FURNITURE	U.1.4.2.11.2.9	39KC02	2C,3C	
686							X			STANDS	U.1.4.2.11.2.10	39KC02	2C,3C	
687							X			ENCLOSURE_WHITE_A	U.1.4.2.11.2.11	39KC02	2C,3C	
688							X			SLITS_WHITE_CU	U.1.4.2.11.2.12	39KC02	2C,3C	
689							X			MONOCHROMATOR_DMM	U.1.4.2.11.2.13	39KC02	2C,3C	
690							X			MONOCHROMATOR_DCM	U.1.4.2.11.2.14	39KC02	2C,3C	
691							X			PUMP_LN2	U.1.4.2.11.2.15	39KC02	2C,3C	
692							X			STOP_WHITE_CU	U.1.4.2.11.2.16	39KC02	2C,3C	
693							X			BEAM DIAGNOSTICS	U.1.4.2.11.2.17	39KC02	2C,3C	
694							X			MASK_WHITE	U.1.4.2.11.2.18	39KC02	2C,3C	
695							X			SLITS_MONO	U.1.4.2.11.2.19	39KC02	2C,3C	
696							X			SHUTTER_MONO	U.1.4.2.11.2.20	39KC02	2C,3C	
697							X			HARDWARE_EXPERIMENTAL	U.1.4.2.11.2.21	39KC02	2C,3C	
698						X				TUNABLE LINE	U.1.4.2.11.3	39KC02	2C,3C	
699							X			ENCLOSURE_MONO_SOE_B	U.1.4.2.11.3.1	39KC02	2C,3C	
700							X			ENCLOSURE_MONO_C	U.1.4.2.11.3.2	39KC02	2C,3C	
701							X			ENCLOSURE_MONO_D	U.1.4.2.11.3.3	39KC02	2C,3C	
702							X			ENCLOSURE_MONO_E	U.1.4.2.11.3.4	39KC02	2C,3C	
703							X			MIRROR SYSTEM	U.1.4.2.11.3.5	39KC02	2C,3C	
704							X			SLITS_MONO	U.1.4.2.11.3.6	39KC02	2C,3C	
705							X			TRANSPORT_MONO	U.1.4.2.11.3.7	39KC02	2C,3C	
706							X			HVAC_TOXIC GAS EXHAUST	U.1.4.2.11.3.8	39KC02	2C,3C	
707							X			BEAM DIAGNOSTICS	U.1.4.2.11.3.9	39KC02	2C,3C	
708							X			MIRROR_MONO_K-B	U.1.4.2.11.3.10	39KC02	2C,3C	
709							X			RESERVE	U.1.4.2.11.3.11	39KC02	2C,3C	
710							X			DIFFRACTOMETER	U.1.4.2.11.3.12	39KC02	2C,3C	
711							X			CHAMBER_GROWTH	U.1.4.2.11.3.13	39KC02	2C,3C	
712							X			STOP_MONO_MANUAL	U.1.4.2.11.3.14	39KC02	2C,3C	
713							X			SURVEY & ALIGNMENT	U.1.4.2.11.3.15	39KC02	2C,3C	
714							X			HARDWARE_EXPERIMENTAL	U.1.4.2.11.3.16	39KC02	2C,3C	
715						X				FIXED ANGLE LINE 1	U.1.4.2.11.4	39KC02	2C,3C	
716							X			RESERVE	U.1.4.2.11.4.1	39KC02	2C,3C	
717							X			ENCLOSURE_MONO_F	U.1.4.2.11.4.2	39KC02	2C,3C	
718							X			ENCLOSURE_MONO_G	U.1.4.2.11.4.3	39KC02	2C,3C	
719							X			HVAC_TOXIC GAS EXHAUST	U.1.4.2.11.4.4	39KC02	2C,3C	
720							X			MONOCHROMATOR_SIDE BOUNCE_1	U.1.4.2.11.4.5	39KC02	2C,3C	
721							X			OPTICS_MONO_CRL	U.1.4.2.11.4.6	39KC02	2C,3C	
722							X			SLITS_MONO	U.1.4.2.11.4.7	39KC02	2C,3C	
723							X			BPM	U.1.4.2.11.4.8	39KC02	2C,3C	
724							X			SHUTTER_MONO_ID	U.1.4.2.11.4.9	39KC02	2C,3C	
725							X			TRANSPORT_MONO	U.1.4.2.11.4.10	39KC02	2C,3C	
726							X			WINDOW_MONO_BE	U.1.4.2.11.4.11	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
727							X			BEAM DIAGNOSTICS	U.1.4.2.11.4.12	39KC02	2C,3C	
728							X			MIRROR_MONO_K-B	U.1.4.2.11.4.13	39KC02	2C,3C	
729							X			DIFFRACTOMETER	U.1.4.2.11.4.14	39KC02	2C,3C	
730							X			STOP_MONO_MANUAL	U.1.4.2.11.4.15	39KC02	2C,3C	
731							X			CHAMBER_EXPERIMENTAL	U.1.4.2.11.4.16	39KC02	2C,3C	
732							X			CONTROL ROOM_F & G	U.1.4.2.11.4.17	39KC02	2C,3C	
733							X			SURVEY & ALIGNMENT	U.1.4.2.11.4.18	39KC02	2C,3C	
734							X			HARDWARE_EXPERIMENTAL	U.1.4.2.11.4.19	39KC02	2C,3C	
735							X			SPECTROMETER_LSS RELOCATION	U.1.4.2.11.4.20	39KC02	2C,3C	
736						X				FIXED ANGLE LINE 2	U.1.4.2.11.5	39KC02	2C,3C	
737							X			SITE PREPARATION	U.1.4.2.11.5.1	39KC02	2C,3C	
738							X			ENCLOSURE_MONO_H	U.1.4.2.11.5.2	39KC02	2C,3C	
739							X			ENCLOSURE_MONO_I	U.1.4.2.11.5.3	39KC02	2C,3C	
740							X			COLLIMATOR_W_ID	U.1.4.2.11.5.4	39KC02	2C,3C	
741							X			MONOCHROMATOR_SIDE BOUNCE_2	U.1.4.2.11.5.5	39KC02	2C,3C	
742							X			OPTICS_MONO_CRL	U.1.4.2.11.5.6	39KC02	2C,3C	
743							X			SLITS_MONO	U.1.4.2.11.5.7	39KC02	2C,3C	
744							X			BPM_MONO	U.1.4.2.11.5.8	39KC02	2C,3C	
745							X			SHUTTER_MONO	U.1.4.2.11.5.9	39KC02	2C,3C	
746							X			TRANSPORT_MONO	U.1.4.2.11.5.10	39KC02	2C,3C	
747							X			WINDOW_MONO_BE	U.1.4.2.11.5.11	39KC02	2C,3C	
748							X			BEAM DIAGNOSTICS	U.1.4.2.11.5.12	39KC02	2C,3C	
749							X			MIRROR_MONO_K-B	U.1.4.2.11.5.13	39KC02	2C,3C	
750							X			DIFFRACTOMETER	U.1.4.2.11.5.14	39KC02	2C,3C	
751							X			STOP_MONO_MANUAL	U.1.4.2.11.5.15	39KC02	2C,3C	
752							X			CONTROL ROOM_H & I	U.1.4.2.11.5.16	39KC02	2C,3C	
753							X			CHAMBER_EXPERIMENTAL	U.1.4.2.11.5.17	39KC02	2C,3C	
754							X			SURVEY & ALIGNMENT	U.1.4.2.11.5.18	39KC02	2C,3C	
755							X			HARDWARE_EXPERIMENTAL	U.1.4.2.11.5.19	39KC02	2C,3C	
756						X				FIXED ANGLE LINE 3	U.1.4.2.11.6	39KC02	2C,3C	
757							X			SITE PREPARATION	U.1.4.2.11.6.1	39KC02	2C,3C	
758							X			ENCLOSURE_MONO_SOE_J	U.1.4.2.11.6.2	39KC02	2C,3C	
759							X			ENCLOSURE_MONO_K	U.1.4.2.11.6.3	39KC02	2C,3C	
760							X			ENCLOSURE_MONO_L	U.1.4.2.11.6.4	39KC02	2C,3C	
761							X			HVAC_TOXIC GAS EXHAUST	U.1.4.2.11.6.5	39KC02	2C,3C	
762							X			MONOCHROMATOR_SIDE BOUNCE_3	U.1.4.2.11.6.6	39KC02	2C,3C	
763							X			PUMP_LN2	U.1.4.2.11.6.7	39KC02	2C,3C	
764							X			WINDOW_MONO_BE	U.1.4.2.11.6.8	39KC02	2C,3C	
765							X			SLITS_MONO	U.1.4.2.11.6.9	39KC02	2C,3C	
766							X			BPM	U.1.4.2.11.6.10	39KC02	2C,3C	
767							X			SHUTTER_MONO	U.1.4.2.11.6.11	39KC02	2C,3C	
768							X			MIRROR SYSTEM	U.1.4.2.11.6.12	39KC02	2C,3C	
769							X			TRANSPORT_MONO	U.1.4.2.11.6.13	39KC02	2C,3C	
770							X			BEAM DIAGNOSTICS	U.1.4.2.11.6.14	39KC02	2C,3C	
771							X			MIRROR_MONO_K-B	U.1.4.2.11.6.15	39KC02	2C,3C	
772							X			DIFFRACTOMETER	U.1.4.2.11.6.16	39KC02	2C,3C	
773							X			STOP_MONO_MANUAL	U.1.4.2.11.6.17	39KC02	2C,3C	
774							X			CONTROL ROOM_K & L	U.1.4.2.11.6.18	39KC02	2C,3C	
775							X			CHAMBER_EXPERIMENTAL	U.1.4.2.11.6.19	39KC02	2C,3C	
776							X			SURVEY & ALIGNMENT	U.1.4.2.11.6.20	39KC02	2C,3C	
777							X			HARDWARE_EXPERIMENTAL	U.1.4.2.11.6.21	39KC02	2C,3C	
778					X					SUB-MICRON 3D DIFFRACTION	U.1.4.2.12	39KC02	2C,3C	
779						X				BEAMLINE (S3DD)	U.1.4.2.12.1	39KC02	2C,3C	
780						X				FOE & INFRASTRUCTURE	U.1.4.2.12.2	39KC02	2C,3C	
781							X			VACUUM COMPONENTS	U.1.4.2.12.2.1	39KC02	2C,3C	
782							X			WATER & AIR	U.1.4.2.12.2.2	39KC02	2C,3C	
783							X			RESERVE	U.1.4.2.12.2.3	39KC02	2C,3C	
784							X			CONTROLS & COMPUTERS	U.1.4.2.12.2.4	39KC02	2C,3C	
785							X			SURVEY & ALIGNMENT	U.1.4.2.12.2.5	39KC02	2C,3C	
786							X			PSS	U.1.4.2.12.2.6	39KC02	2C,3C	
787							X			BLEPS	U.1.4.2.12.2.7	39KC02	2C,3C	
788							X			CONTROL ROOM	U.1.4.2.12.2.8	39KC02	2C,3C	
789							X			FURNITURE	U.1.4.2.12.2.9	39KC02	2C,3C	
790							X			STANDS	U.1.4.2.12.2.10	39KC02	2C,3C	
791							X			MASK_WHITE_1	U.1.4.2.12.2.11	39KC02	2C,3C	
792							X			MASK_WHITE_2	U.1.4.2.12.2.12	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
793							X			HARDWARE_EXPERIMENTAL	U.1.4.2.12.2.13	39KC02	2C,3C	
794						X				MICRODIFFRACTION BEAMLINE	U.1.4.2.12.3	39KC02	2C,3C	
795							X			MIRROR_WHITE	U.1.4.2.12.3.1	39KC02	2C,3C	
796							X			TRANSPORT_PINK	U.1.4.2.12.3.2	39KC02	2C,3C	
797							X			MONOCHROMATOR	U.1.4.2.12.3.3	39KC02	2C,3C	
798							X			SLITS_MONO	U.1.4.2.12.3.4	39KC02	2C,3C	
799							X			MIRROR_K-B	U.1.4.2.12.3.5	39KC02	2C,3C	
800							X			DETECTOR AREA	U.1.4.2.12.3.6	39KC02	2C,3C	
801							X			INSTRUMENTATION_MICRODIFFRACTION	U.1.4.2.12.3.7	39KC02	2C,3C	
802							X			HVAC	U.1.4.2.12.3.8	39KC02	2C,3C	
803							X			SURVEY & ALIGNMENT	U.1.4.2.12.3.9	39KC02	2C,3C	
804							X			HARDWARE_EXPERIMENTAL	U.1.4.2.12.3.10	39KC02	2C,3C	
805						X				NANODIFFRACTION BEAMLINE	U.1.4.2.12.4	39KC02	2C,3C	
806							X			MIRROR_WHITE	U.1.4.2.12.4.1	39KC02	2C,3C	
807							X			ENCLOSURE_PINK_TOE	U.1.4.2.12.4.2	39KC02	2C,3C	
808							X			MONOCHROMATOR	U.1.4.2.12.4.3	39KC02	2C,3C	
809							X			MONOCHROMATOR_MODIFY	U.1.4.2.12.4.4	39KC02	2C,3C	
810							X			SHUTTER_PINK	U.1.4.2.12.4.5	39KC02	2C,3C	
811							X			ENCLOSURE_PINK	U.1.4.2.12.4.6	39KC02	2C,3C	
812							X			HVAC	U.1.4.2.12.4.7	39KC02	2C,3C	
813							X			SURVEY & ALIGNMENT	U.1.4.2.12.4.8	39KC02	2C,3C	
814							X			TABLES_EXPERIMENTAL	U.1.4.2.12.4.9	39KC02	2C,3C	
815							X			MIRROR_K-B_NANO-FOCUSING	U.1.4.2.12.4.10	39KC02	2C,3C	
816							X			INSTRUMENTATION_NANODIFFRACTION	U.1.4.2.12.4.11	39KC02	2C,3C	
817							X			DETECTOR AREA	U.1.4.2.12.4.12	39KC02	2C,3C	
818							X			DETECTOR_SOLID STATE	U.1.4.2.12.4.13	39KC02	2C,3C	
819							X			NANO-FOCUSING ZONE PLATE SYSTEM	U.1.4.2.12.4.14	39KC02	2C,3C	
820							X			INSTRUMENTATION_NANOPROBE	U.1.4.2.12.4.15	39KC02	2C,3C	
821					X					ADVANCED SPECTROSCOPY & LERIX	U.1.4.2.13	39KC02	2C,3C	
822						X				BEAMLINE (ASL)	U.1.4.2.13.1	39KC02	2C,3C	
823						X				FOE & INFRASTRUCTURE (ASL)	U.1.4.2.13.2	39KC02	2C,3C	
824							X			VACUUM COMPONENTS	U.1.4.2.13.2.1	39KC02	2C,3C	
825							X			WATER & AIR	U.1.4.2.13.2.2	39KC02	2C,3C	
826							X			ELECTRICAL UTILITIES	U.1.4.2.13.2.3	39KC02	2C,3C	
827							X			CONTROLS & COMPUTERS	U.1.4.2.13.2.4	39KC02	2C,3C	
828							X			SURVEY & ALIGNMENT	U.1.4.2.13.2.5	39KC02	2C,3C	
829							X			PSS	U.1.4.2.13.2.6	39KC02	2C,3C	
830							X			BLEPS	U.1.4.2.13.2.7	39KC02	2C,3C	
831							X			CONTROL ROOM	U.1.4.2.13.2.8	39KC02	2C,3C	
832							X			FURNITURE	U.1.4.2.13.2.9	39KC02	2C,3C	
833							X			STANDS	U.1.4.2.13.2.10	39KC02	2C,3C	
834							X			ENCLOSURE_WHITE	U.1.4.2.13.2.11	39KC02	2C,3C	
835							X			ENCLOSURE_PINK	U.1.4.2.13.2.12	39KC02	2C,3C	
836							X			MASK_WHITE_ID	U.1.4.2.13.2.13	39KC02	2C,3C	
837							X			COLLIMATOR_W_1	U.1.4.2.13.2.14	39KC02	2C,3C	
838							X			RESERVE	U.1.4.2.13.2.15	39KC02	2C,3C	
839							X			TRANSPORT_PINK	U.1.4.2.13.2.16	39KC02	2C,3C	
840							X			RESERVE	U.1.4.2.13.2.17	39KC02	2C,3C	
841							X			COLLIMATOR_W_2	U.1.4.2.13.2.18	39KC02	2C,3C	
842							X			HARDWARE_EXPERIMENTAL	U.1.4.2.13.2.19	39KC02	2C,3C	
843						X				BRANCH 1 - LERIX - 2 (ASL)	U.1.4.2.13.3	39KC02	2C,3C	
844							X			ENCLOSURE_MONO_LERIX 1	U.1.4.2.13.3.1	39KC02	2C,3C	
845							X			ENCLOSURE_MONO_LERIX 2	U.1.4.2.13.3.2	39KC02	2C,3C	
846							X			AIR FILTRATION SYSTEM	U.1.4.2.13.3.3	39KC02	2C,3C	
847							X			MASK_WHITE	U.1.4.2.13.3.4	39KC02	2C,3C	
848							X			MIRROR_WHITE	U.1.4.2.13.3.5	39KC02	2C,3C	
849							X			MASK_PINK	U.1.4.2.13.3.6	39KC02	2C,3C	
850							X			MONOCHROMATOR	U.1.4.2.13.3.7	39KC02	2C,3C	
851							X			PUMP_LN2	U.1.4.2.13.3.8	39KC02	2C,3C	
852							X			STOP_PINK	U.1.4.2.13.3.9	39KC02	2C,3C	
853							X			SHUTTER_MONO	U.1.4.2.13.3.10	39KC02	2C,3C	
854							X			TRANSPORT_MONO	U.1.4.2.13.3.11	39KC02	2C,3C	
855							X			SLITS_MONO	U.1.4.2.13.3.12	39KC02	2C,3C	
856							X			MONOCHROMATOR_LERIX SECONDARY	U.1.4.2.13.3.13	39KC02	2C,3C	
857							X			MIRROR_MONO_K-B	U.1.4.2.13.3.14	39KC02	2C,3C	
858							X			INSTRUMENTATION_BEAM CONDITIONING	U.1.4.2.13.3.15	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
859							X			SPECTROMETER_LERIX - 2	U.1.4.2.13.3.16	39KC02	2C,3C	
860							X			INSTRUMENTATION_LERIX - 2	U.1.4.2.13.3.17	39KC02	2C,3C	
861							X			DETECTOR	U.1.4.2.13.3.18	39KC02	2C,3C	
862							X			HARDWARE_EXPERIMENTAL	U.1.4.2.13.3.19	39KC02	2C,3C	
863						X				BRANCH 2 - MICROPROBE (ASL)	U.1.4.2.13.4	39KC02	2C,3C	
864							X			ENCLOSURE_MONO	U.1.4.2.13.4.1	39KC02	2C,3C	
865							X			MASK_PINK_1	U.1.4.2.13.4.2	39KC02	2C,3C	
866							X			MIRROR_WHITE	U.1.4.2.13.4.3	39KC02	2C,3C	
867							X			MASK_PINK_2	U.1.4.2.13.4.4	39KC02	2C,3C	
868							X			MONOCHROMATOR	U.1.4.2.13.4.5	39KC02	2C,3C	
869							X			STOP_PINK	U.1.4.2.13.4.6	39KC02	2C,3C	
870							X			SLITS_MONO	U.1.4.2.13.4.7	39KC02	2C,3C	
871							X			SHUTTER_MONO	U.1.4.2.13.4.8	39KC02	2C,3C	
872							X			MIRROR_MONO_K-B	U.1.4.2.13.4.9	39KC02	2C,3C	
873							X			HVAC	U.1.4.2.13.4.10	39KC02	2C,3C	
874							X			TABLES_EXPERIMENTAL	U.1.4.2.13.4.11	39KC02	2C,3C	
875							X			INSTRUMENTATION_BEAM CONDITIONING	U.1.4.2.13.4.12	39KC02	2C,3C	
876							X			SPECTROMETER_MINIXS	U.1.4.2.13.4.13	39KC02	2C,3C	
877							X			DETECTOR_PILATUS	U.1.4.2.13.4.14	39KC02	2C,3C	
878							X			DETECTOR_FLUORESCENCE	U.1.4.2.13.4.15	39KC02	2C,3C	
879							X			DETECTOR_SI DRIFT	U.1.4.2.13.4.16	39KC02	2C,3C	
880					X					SHORT PULSE SOFT X-RAY SPECTROSCOPY	U.1.4.2.15	39KC02	2C,3C	
881						X				BEAMLINE (SPSXS)	U.1.4.2.15.1	39KC02	2C,3C	
882						X				FOE & INFRASTRUCTURE	U.1.4.2.15.2	39KC02	2C,3C	
883							X			VACUUM COMPONENTS	U.1.4.2.15.2.1	39KC02	2C,3C	
884							X			WATER & AIR	U.1.4.2.15.2.2	39KC02	2C,3C	
885							X			ELECTRICAL UTILITIES	U.1.4.2.15.2.3	39KC02	2C,3C	
886							X			CONTROLS & COMPUTERS	U.1.4.2.15.2.4	39KC02	2C,3C	
887							X			SURVEY & ALIGNMENT	U.1.4.2.15.2.5	39KC02	2C,3C	
888							X			PSS	U.1.4.2.15.2.6	39KC02	2C,3C	
889							X			BLEPS	U.1.4.2.15.2.7	39KC02	2C,3C	
890							X			CONTROL ROOM	U.1.4.2.15.2.8	39KC02	2C,3C	
891							X			FURNITURE	U.1.4.2.15.2.9	39KC02	2C,3C	
892							X			STANDS	U.1.4.2.15.2.10	39KC02	2C,3C	
893							X			COLLIMATOR_PB	U.1.4.2.15.2.11	39KC02	2C,3C	
894							X			SLITS_WHITE	U.1.4.2.15.2.12	39KC02	2C,3C	
895							X			MIRROR_WHITE	U.1.4.2.15.2.13	39KC02	2C,3C	
896							X			MIRROR_PINK_FOCUSING	U.1.4.2.15.2.14	39KC02	2C,3C	
897							X			MIRROR_PINK_PLANE	U.1.4.2.15.2.15	39KC02	2C,3C	
898							X			CHOPPER_PINK_BM	U.1.4.2.15.2.16	39KC02	2C,3C	
899							X			SLITS_PINK	U.1.4.2.15.2.17	39KC02	2C,3C	
900							X			INSTRUMENTATION_TRANSMISSION SPECTROSCOPY	U.1.4.2.15.2.18	39KC02	2C,3C	
901							X			MIRROR_PINK_COLLIMATING	U.1.4.2.15.2.19	39KC02	2C,3C	
902							X			MONOCHROMATOR_GRATING	U.1.4.2.15.2.20	39KC02	2C,3C	
903							X			GRATING SUBSTRATES	U.1.4.2.15.2.21	39KC02	2C,3C	
904							X			GRATING RULING	U.1.4.2.15.2.22	39KC02	2C,3C	
905							X			SHUTTER_MONO	U.1.4.2.15.2.23	39KC02	2C,3C	
906							X			HARDWARE_EXPERIMENTAL	U.1.4.2.15.2.24	39KC02	2C,3C	
907						X				SPSXS BEAMLINE	U.1.4.2.15.3	39KC02	2C,3C	
908							X			SLITS_MONO	U.1.4.2.15.3.1	39KC02	2C,3C	
909							X			DETECTOR AREA	U.1.4.2.15.3.2	39KC02	2C,3C	
910							X			MIRROR_MONO_K-B	U.1.4.2.15.3.3	39KC02	2C,3C	
911							X			BEAM DIAGNOSTICS	U.1.4.2.15.3.4	39KC02	2C,3C	
912							X			INSTRUMENTATION_REFLECTIVITY & SPECTROSCOPY	U.1.4.2.15.3.5	39KC02	2C,3C	
913							X			SURVEY & ALIGNMENT	U.1.4.2.15.3.6	39KC02	2C,3C	
914							X			INSTRUMENTATION_SAMPLE PREPARATION	U.1.4.2.15.3.7	39KC02	2C,3C	
915							X			HARDWARE_EXPERIMENTAL	U.1.4.2.15.3.8	39KC02	2C,3C	
916					X					MAGNETIC SPECTROSCOPY - SOFT	U.1.4.2.16	39KC02	2C,3C	
917						X				BEAMLINE (MS-S)	U.1.4.2.16.1	39KC02	2C,3C	
918						X				FOE & INFRASTRUCTURE	U.1.4.2.16.2	39KC02	2C,3C	
919							X			VACUUM COMPONENTS	U.1.4.2.16.2.1	39KC02	2C,3C	
920							X			RESERVE	U.1.4.2.16.2.2	39KC02	2C,3C	
921							X			ELECTRICAL UTILITIES	U.1.4.2.16.2.3	39KC02	2C,3C	
922							X			CONTROLS & COMPUTERS	U.1.4.2.16.2.4	39KC02	2C,3C	
923							X			SURVEY & ALIGNMENT	U.1.4.2.16.2.5	39KC02	2C,3C	
924							X			RESERVE	U.1.4.2.16.2.6	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
925							X			RESERVE	U.1.4.2.16.2.7	39KC02	2C,3C	
926							X			CONTROL ROOM	U.1.4.2.16.2.8	39KC02	2C,3C	
927							X			FURNITURE	U.1.4.2.16.2.9	39KC02	2C,3C	
928							X			STANDS	U.1.4.2.16.2.10	39KC02	2C,3C	
929							X			GUILLOTINES	U.1.4.2.16.2.11	39KC02	2C,3C	
930							X			HARDWARE_EXPERIMENTAL	U.1.4.2.16.2.12	39KC02	2C,3C	
931						X				BRANCH 1 - SOFT X-RAY	U.1.4.2.16.3	39KC02	2C,3C	
932							X			MIRROR_WHITE	U.1.4.2.16.3.1	39KC02	2C,3C	
933							X			MIRROR_PINK	U.1.4.2.16.3.2	39KC02	2C,3C	
934							X			STOP_WHITE	U.1.4.2.16.3.3	39KC02	2C,3C	
935							X			COLLIMATOR	U.1.4.2.16.3.4	39KC02	2C,3C	
936							X			SURVEY & ALIGNMENT	U.1.4.2.16.3.5	39KC02	2C,3C	
937							X			SHUTTER_PINK	U.1.4.2.16.3.6	39KC02	2C,3C	
938							X			SLITS_PINK	U.1.4.2.16.3.7	39KC02	2C,3C	
939							X			MONOCHROMATOR	U.1.4.2.16.3.8	39KC02	2C,3C	
940							X			SLITS_MONO	U.1.4.2.16.3.9	39KC02	2C,3C	
941							X			MIRROR_K-B	U.1.4.2.16.3.10	39KC02	2C,3C	
942							X			TABLES_RETROFIT	U.1.4.2.16.3.11	39KC02	2C,3C	
943							X			INSTRUMENTATION_HIGH FIELD SPECTROSCOPY	U.1.4.2.16.3.12	39KC02	2C,3C	
944					X					MAGNETIC DIFFRACTION	U.1.4.2.17	39KC02	2C,3C	
945						X				BEAMLINE (MD)	U.1.4.2.17.1	39KC02	2C,3C	
946						X				FOE & INFRASTRUCTURE	U.1.4.2.17.2	39KC02	2C,3C	
947							X			VACUUM COMPONENTS	U.1.4.2.17.2.1	39KC02	2C,3C	
948							X			WATER & AIR	U.1.4.2.17.2.2	39KC02	2C,3C	
949							X			ELECTRICAL UTILITIES	U.1.4.2.17.2.3	39KC02	2C,3C	
950							X			CONTROLS & COMPUTERS	U.1.4.2.17.2.4	39KC02	2C,3C	
951							X			SURVEY & ALIGNMENT	U.1.4.2.17.2.5	39KC02	2C,3C	
952							X			PSS	U.1.4.2.17.2.6	39KC02	2C,3C	
953							X			BLEPS	U.1.4.2.17.2.7	39KC02	2C,3C	
954							X			CONTROL ROOM	U.1.4.2.17.2.8	39KC02	2C,3C	
955							X			FURNITURE	U.1.4.2.17.2.9	39KC02	2C,3C	
956							X			STANDS	U.1.4.2.17.2.10	39KC02	2C,3C	
957							X			ENCLOSURE_WHITE	U.1.4.2.17.2.11	39KC02	2C,3C	
958							X			COLLIMATOR	U.1.4.2.17.2.12	39KC02	2C,3C	
959							X			DIAGNOSTIC SCREEN	U.1.4.2.17.2.13	39KC02	2C,3C	
960							X			HARDWARE_EXPERIMENTAL	U.1.4.2.17.2.14	39KC02	2C,3C	
961						X				BRANCH 1 - MD	U.1.4.2.17.3	39KC02	2C,3C	
962							X			SHUTTER_WHITE	U.1.4.2.17.3.1	39KC02	2C,3C	
963							X			TRANSPORT_WHITE	U.1.4.2.17.3.2	39KC02	2C,3C	
964							X			ENCLOSURE_WHITE_SOE	U.1.4.2.17.3.3	39KC02	2C,3C	
965							X			MASK_WHITE	U.1.4.2.17.3.4	39KC02	2C,3C	
966							X			BPM	U.1.4.2.17.3.5	39KC02	2C,3C	
967							X			COLLIMATOR	U.1.4.2.17.3.6	39KC02	2C,3C	
968							X			MONOCHROMATOR	U.1.4.2.17.3.7	39KC02	2C,3C	
969							X			STOP_WHITE	U.1.4.2.17.3.8	39KC02	2C,3C	
970							X			SLITS_MONO	U.1.4.2.17.3.9	39KC02	2C,3C	
971							X			BEAM DIAGNOSTICS	U.1.4.2.17.3.10	39KC02	2C,3C	
972							X			MIRROR_MONO_TORROIDAL	U.1.4.2.17.3.11	39KC02	2C,3C	
973							X			MIRROR_MONO_FLAT	U.1.4.2.17.3.12	39KC02	2C,3C	
974							X			TABLES_EXPERIMENTAL	U.1.4.2.17.3.13	39KC02	2C,3C	
975							X			SHUTTER_MONO	U.1.4.2.17.3.14	39KC02	2C,3C	
976							X			TRANSPORT_MONO	U.1.4.2.17.3.15	39KC02	2C,3C	
977							X			ENCLOSURE_MONO	U.1.4.2.17.3.16	39KC02	2C,3C	
978							X			EXPERIMENTAL EQUIPMENT RELOCATION	U.1.4.2.17.3.17	39KC02	2C,3C	
979							X			HARDWARE_EXPERIMENTAL	U.1.4.2.17.3.18	39KC02	2C,3C	
980					X					FUEL SPRAY DYNAMICS	U.1.4.2.18	39KC02	2C,3C	
981						X				BEAMLINE (FSD)	U.1.4.2.18.1	39KC02	2C,3C	
982						X				FOE & INFRASTRUCTURE	U.1.4.2.18.2	39KC02	2C,3C	
983							X			VACUUM COMPONENTS	U.1.4.2.18.2.1	39KC02	2C,3C	
984							X			WATER & AIR	U.1.4.2.18.2.2	39KC02	2C,3C	
985							X			ELECTRICAL UTILITIES	U.1.4.2.18.2.3	39KC02	2C,3C	
986							X			CONTROLS & COMPUTERS	U.1.4.2.18.2.4	39KC02	2C,3C	
987							X			SURVEY & ALIGNMENT	U.1.4.2.18.2.5	39KC02	2C,3C	
988							X			PSS	U.1.4.2.18.2.6	39KC02	2C,3C	
989							X			BLEPS	U.1.4.2.18.2.7	39KC02	2C,3C	
990							X			CONTROL ROOM	U.1.4.2.18.2.8	39KC02	2C,3C	

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1. PROJECT TITLE/PARTICIPANT	2. DATE	3. IDENTIFICATION NUMBER
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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
991							X			FURNITURE	U.1.4.2.18.2.9	39KC02	2C,3C	
992							X			STANDS	U.1.4.2.18.2.10	39KC02	2C,3C	
993							X			ENCLOSURE_WHITE	U.1.4.2.18.2.11	39KC02	2C,3C	
994							X			RESERVE	U.1.4.2.18.2.12	39KC02	2C,3C	
995							X			SLITS_WHITE	U.1.4.2.18.2.13	39KC02	2C,3C	
996							X			BEAM DIAGNOSTICS	U.1.4.2.18.2.14	39KC02	2C,3C	
997							X			COLLIMATOR_BM	U.1.4.2.18.2.15	39KC02	2C,3C	
998							X			MONOCHROMATOR_DMM	U.1.4.2.18.2.16	39KC02	2C,3C	
999							X			MASK_WHITE	U.1.4.2.18.2.17	39KC02	2C,3C	
1000							X			RESERVE	U.1.4.2.18.2.18	39KC02	2C,3C	
1001							X			RESERVE	U.1.4.2.18.2.19	39KC02	2C,3C	
1002							X			SHUTTER_MONO	U.1.4.2.18.2.20	39KC02	2C,3C	
1003							X			COLLIMATOR_W	U.1.4.2.18.2.21	39KC02	2C,3C	
1004							X			TRANSPORT_MONO	U.1.4.2.18.2.22	39KC02	2C,3C	
1005							X			WINDOW_BE	U.1.4.2.18.2.23	39KC02	2C,3C	
1006							X			HARDWARE_EXPERIMENTAL	U.1.4.2.18.2.24	39KC02	2C,3C	
1007						X				STATION B	U.1.4.2.18.3	39KC02	2C,3C	
1008							X			ENCLOSURE_MONO_B	U.1.4.2.18.3.1	39KC02	2C,3C	
1009							X			SLITS_MONO	U.1.4.2.18.3.2	39KC02	2C,3C	
1010							X			MIRROR_MONO	U.1.4.2.18.3.3	39KC02	2C,3C	
1011							X			RESERVE	U.1.4.2.18.3.4	39KC02	2C,3C	
1012							X			RESERVE	U.1.4.2.18.3.5	39KC02	2C,3C	
1013							X			MIRROR_MONO_KB	U.1.4.2.18.3.6	39KC02	2C,3C	
1014							X			TABLES_EXPERIMENTAL	U.1.4.2.18.3.7	39KC02	2C,3C	
1015							X			EXHAUST SYSTEM	U.1.4.2.18.3.8	39KC02	2C,3C	
1016							X			GAS LINES HIGH PRESSURE	U.1.4.2.18.3.9	39KC02	2C,3C	
1017							X			INSTRUMENTATION_FUEL SPRAY	U.1.4.2.18.3.10	39KC02	2C,3C	
1018				X						BRAGG COHERENT DIFFRACTIVE IMAGING	U.1.4.2.19	39KC02	2C,3C	
1019					X					BEAMLINE (BCDI)	U.1.4.2.19.1	39KC02	2C,3C	
1020					X					FOE & INFRASTRUCTURE	U.1.4.2.19.2	39KC02	2C,3C	
1021							X			VACUUM COMPONENTS	U.1.4.2.19.2.1	39KC02	2C,3C	
1022							X			RESERVE	U.1.4.2.19.2.2	39KC02	2C,3C	
1023							X			ELECTRICAL UTILITIES	U.1.4.2.19.2.3	39KC02	2C,3C	
1024							X			CONTROLS & COMPUTERS	U.1.4.2.19.2.4	39KC02	2C,3C	
1025							X			SURVEY & ALIGNMENT	U.1.4.2.19.2.5	39KC02	2C,3C	
1026							X			RESERVE	U.1.4.2.19.2.6	39KC02	2C,3C	
1027							X			RESERVE	U.1.4.2.19.2.7	39KC02	2C,3C	
1028							X			CONTROL ROOM	U.1.4.2.19.2.8	39KC02	2C,3C	
1029							X			FURNITURE	U.1.4.2.19.2.9	39KC02	2C,3C	
1030							X			STANDS	U.1.4.2.19.2.10	39KC02	2C,3C	
1031							X			ENCLOSURE_WHITE_MODIFY	U.1.4.2.19.2.11	39KC02	2C,3C	
1032							X			SLITS_WHITE	U.1.4.2.19.2.12	39KC02	2C,3C	
1033							X			MIRROR_WHITE_PLANE & CYLINDRICAL (2)	U.1.4.2.19.2.13	39KC02	2C,3C	
1034							X			BEAM DIAGNOSTICS	U.1.4.2.19.2.14	39KC02	2C,3C	
1035							X			SLITS_PINK	U.1.4.2.19.2.15	39KC02	2C,3C	
1036							X			MASK_PINK	U.1.4.2.19.2.16	39KC02	2C,3C	
1037							X			TRANSPORT_PINK	U.1.4.2.19.2.17	39KC02	2C,3C	
1038							X			HARDWARE_EXPERIMENTAL	U.1.4.2.19.2.18	39KC02	2C,3C	
1039						X				BRANCH 1	U.1.4.2.19.3	39KC02	2C,3C	
1040							X			ENCLOSURE_PINK	U.1.4.2.19.3.1	39KC02	2C,3C	
1041							X			ENCLOSURE_PINK_MODIFY	U.1.4.2.19.3.2	39KC02	2C,3C	
1042							X			SLITS_PINK_MINI ENCLOSURE	U.1.4.2.19.3.3	39KC02	2C,3C	
1043							X			BEAM DIAGNOSTICS	U.1.4.2.19.3.4	39KC02	2C,3C	
1044							X			MONOCHROMATOR_DCM	U.1.4.2.19.3.5	39KC02	2C,3C	
1045							X			SHUTTER_PINK	U.1.4.2.19.3.6	39KC02	2C,3C	
1046							X			TRANSPORT_PINK	U.1.4.2.19.3.7	39KC02	2C,3C	
1047							X			SLITS_PINK_RELOCATION	U.1.4.2.19.3.8	39KC02	2C,3C	
1048							X			WINDOW_BE	U.1.4.2.19.3.9	39KC02	2C,3C	
1049							X			HVAC	U.1.4.2.19.3.10	39KC02	2C,3C	
1050							X			TABLES_EXPERIMENTAL_RELOCATE	U.1.4.2.19.3.11	39KC02	2C,3C	
1051							X			INSTRUMENTATION_BCDI_RELOCATE	U.1.4.2.19.3.12	39KC02	2C,3C	
1052							X			HARDWARE_EXPERIMENTAL	U.1.4.2.19.3.13	39KC02	2C,3C	
1053				X						FLUORESCENCE MICROPROBES (MFLUOR)	U.1.4.2.20	39KC02	2C,3C	
1054					X					BEAMLINE (MFLUOR)	U.1.4.2.20.1	39KC02	2C,3C	
1055					X					FOE & INFRASTRUCTURE	U.1.4.2.20.2	39KC02	2C,3C	
1056							X			VACUUM COMPONENTS	U.1.4.2.20.2.1	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1057							X			WATER & AIR	U.1.4.2.20.2.2	39KC02	2C,3C	
1058							X			ELECTRICAL UTILITIES	U.1.4.2.20.2.3	39KC02	2C,3C	
1059							X			CONTROLS & COMPUTERS	U.1.4.2.20.2.4	39KC02	2C,3C	
1060							X			SURVEY & ALIGNMENT	U.1.4.2.20.2.5	39KC02	2C,3C	
1061							X			PSS	U.1.4.2.20.2.6	39KC02	2C,3C	
1062							X			BLEPS	U.1.4.2.20.2.7	39KC02	2C,3C	
1063							X			CONTROL ROOM	U.1.4.2.20.2.8	39KC02	2C,3C	
1064							X			FURNITURE	U.1.4.2.20.2.9	39KC02	2C,3C	
1065							X			STANDS	U.1.4.2.20.2.10	39KC02	2C,3C	
1066							X			ENCLOSURE_WHITE_MODIFY	U.1.4.2.20.2.11	39KC02	2C,3C	
1067							X			SLITS_WHITE	U.1.4.2.20.2.12	39KC02	2C,3C	
1068							X			COLLIMATOR_W	U.1.4.2.20.2.13	39KC02	2C,3C	
1069							X			MASK_WHITE	U.1.4.2.20.2.14	39KC02	2C,3C	
1070							X			MIRROR_WHITE_PLANE	U.1.4.2.20.2.15	39KC02	2C,3C	
1071							X			MASK_PINK	U.1.4.2.20.2.16	39KC02	2C,3C	
1072							X			STOP_WHITE	U.1.4.2.20.2.17	39KC02	2C,3C	
1073							X			COLLIMATOR_PB	U.1.4.2.20.2.18	39KC02	2C,3C	
1074							X			BEAM DIAGNOSTICS	U.1.4.2.20.2.19	39KC02	2C,3C	
1075							X			SHUTTER_PINK	U.1.4.2.20.2.20	39KC02	2C,3C	
1076							X			TRANSPORT_PINK	U.1.4.2.20.2.21	39KC02	2C,3C	
1077							X			HARDWARE_EXPERIMENTAL	U.1.4.2.20.2.22	39KC02	2C,3C	
1078						X				SOE ENCLOSURE	U.1.4.2.20.3	39KC02	2C,3C	
1079							X			ENCLOSURE_PINK	U.1.4.2.20.3.1	39KC02	2C,3C	
1080							X			SHUTTER_PINK_1	U.1.4.2.20.3.2	39KC02	2C,3C	
1081							X			SHUTTER_PINK_2	U.1.4.2.20.3.3	39KC02	2C,3C	
1082							X			SLITS_PINK	U.1.4.2.20.3.4	39KC02	2C,3C	
1083							X			MONOCHROMATOR_SIDE DEFLECTING	U.1.4.2.20.3.5	39KC02	2C,3C	
1084							X			MONOCHROMATOR_DMM	U.1.4.2.20.3.6	39KC02	2C,3C	
1085							X			MONOCHROMATOR_DCM	U.1.4.2.20.3.7	39KC02	2C,3C	
1086							X			TRANSPORT_PINK	U.1.4.2.20.3.8	39KC02	2C,3C	
1087							X			BEAM DIAGNOSTICS	U.1.4.2.20.3.9	39KC02	2C,3C	
1088						X				BRANCH 1	U.1.4.2.20.4	39KC02	2C,3C	
1089							X			ENCLOSURE_PINK	U.1.4.2.20.4.1	39KC02	2C,3C	
1090							X			WINDOW_BE	U.1.4.2.20.4.2	39KC02	2C,3C	
1091							X			HVAC	U.1.4.2.20.4.3	39KC02	2C,3C	
1092							X			TABLES_EXPERIMENTAL	U.1.4.2.20.4.4	39KC02	2C,3C	
1093							X			INSTRUMENTATION_MICROPROBE	U.1.4.2.20.4.5	39KC02	2C,3C	
1094						X				BRANCH 2	U.1.4.2.20.5	39KC02	2C,3C	
1095							X			ENCLOSURE_PINK	U.1.4.2.20.5.1	39KC02	2C,3C	
1096							X			WINDOW_BE	U.1.4.2.20.5.2	39KC02	2C,3C	
1097							X			RESERVE	U.1.4.2.20.5.3	39KC02	2C,3C	
1098							X			TABLES_EXPERIMENTAL	U.1.4.2.20.5.4	39KC02	2C,3C	
1099							X			INSTRUMENTATION_MICROPROBE	U.1.4.2.20.5.5	39KC02	2C,3C	
1100					X					LIQUID SURFACE SCATTERING	U.1.4.2.21	39KC02	2C,3C	
1101						X				BEAMLINE (LSS)	U.1.4.2.21.1	39KC02	2C,3C	
1102						X				FOE & INFRASTRUCTURE	U.1.4.2.21.2	39KC02	2C,3C	
1103							X			VACUUM COMPONENTS	U.1.4.2.21.2.1	39KC02	2C,3C	
1104							X			WATER & AIR	U.1.4.2.21.2.2	39KC02	2C,3C	
1105							X			ELECTRICAL UTILITIES	U.1.4.2.21.2.3	39KC02	2C,3C	
1106							X			CONTROLS & COMPUTERS	U.1.4.2.21.2.4	39KC02	2C,3C	
1107							X			SURVEY & ALIGNMENT	U.1.4.2.21.2.5	39KC02	2C,3C	
1108							X			PSS	U.1.4.2.21.2.6	39KC02	2C,3C	
1109							X			BLEPS	U.1.4.2.21.2.7	39KC02	2C,3C	
1110							X			CONTROL ROOM	U.1.4.2.21.2.8	39KC02	2C,3C	
1111							X			FURNITURE	U.1.4.2.21.2.9	39KC02	2C,3C	
1112							X			STANDS	U.1.4.2.21.2.10	39KC02	2C,3C	
1113							X			ENCLOSURE_WHITE	U.1.4.2.21.2.11	39KC02	2C,3C	
1114							X			OPTICS_CRL	U.1.4.2.21.2.12	39KC02	2C,3C	
1115							X			MONITOR_BEAM POSITION	U.1.4.2.21.2.13	39KC02	2C,3C	
1116							X			SLITS_MONO	U.1.4.2.21.2.14	39KC02	2C,3C	
1117							X			HARDWARE_EXPERIMENTAL	U.1.4.2.21.2.15	39KC02	2C,3C	
1118						X				BRANCH 1	U.1.4.2.21.3	39KC02	2C,3C	
1119							X			ENCLOSURE_MONO	U.1.4.2.21.3.1	39KC02	2C,3C	
1120							X			TRANSPORT_MONO	U.1.4.2.21.3.2	39KC02	2C,3C	
1121							X			SHUTTER_MONO_ID	U.1.4.2.21.3.3	39KC02	2C,3C	
1122							X			SPECTROMETER_SURFACE SCATTERING_RELOCATION	U.1.4.2.21.3.4	39KC02	2C,3C	

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1. PROJECT TITLE/PARTICIPANT	2. DATE	3. IDENTIFICATION NUMBER
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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1123				X						BEAMLINE RELOCATIONS (CLOSED)	U.1.4.3	39KC02	2C,3C	
1124					X					RELOCATION OF MAGNETIC DIFFRACTION (CLOSED)	U.1.4.3.1	39KC02	2C,3C	
1125					X					RELOCATION DUE TO WIDE FIELD IMAGING (CLOSED)	U.1.4.3.2	39KC02	2C,3C	
1126					X					RELOCATION OF LIQUID SURFACE SCATTERING (CLOSED)	U.1.4.3.3	39KC02	2C,3C	
1127				X						GENERAL BEAMLINE UPGRADES	U.1.4.4	39KC02	2C,3C	
1128					X					HIGH HEAT LOAD OPTICS	U.1.4.4.1	39KC02	2C,3C	
1129					X					HIGH HEAT LOAD COMPONENTS	U.1.4.4.2	39KC02	2C,3C	
1130					X					DETECTORS	U.1.4.4.3	39KC02	2C,3C	
1131						X				INFRASTRUCTURE DEVELOPMENT	U.1.4.4.3.1	39KC02	2C,3C	
1132						X				AGIPD (500X125) DETECTOR PROTOTYPE	U.1.4.4.3.2	39KC02	2C,3C	
1133						X				AGIPD (500X125) DETECTOR	U.1.4.4.3.3	39KC02	2C,3C	
1134						X				AGIPD (1000X1000) DETECTOR	U.1.4.4.3.4	39KC02	2C,3C	
1135			X							INFRASTRUCTURE & ENABLING TECHNOLOGIES	U.1.5	39KC02	2C,3C	
1136				X						SUPPORT SERVICES MANAGEMENT	U.1.5.1	39KC02	2C,3C	
1137				X						FRONT END UPGRADES	U.1.5.2	39KC02	2C,3C	
1138					X					FRONT END ASSEMBLY & TEST FACILITY	U.1.5.2.1	39KC02	2C,3C	
1139					X					FRONT END FOR HIGH HEAT LOAD INLINE UNDULATORS (	U.1.5.2.2	39KC02	2C,3C	
1140						X				FRONT END DESIGN - HHLFE	U.1.5.2.2.1	39KC02	2C,3C	
1141						X				MASKS - HHLFE	U.1.5.2.2.2	39KC02	2C,3C	
1142						X				PHOTON SHUTTERS - HHLFE	U.1.5.2.2.3	39KC02	2C,3C	
1143						X				SAFETY SHUTTERS - HHLFE	U.1.5.2.2.4	39KC02	2C,3C	
1144						X				COLLIMATORS - HHLFE	U.1.5.2.2.5	39KC02	2C,3C	
1145						X				BELLOWS & SPOOL PIECES - HHLFE	U.1.5.2.2.6	39KC02	2C,3C	
1146						X				STANDARD VACUUM COMPONENTS - HHLFE	U.1.5.2.2.7	39KC02	2C,3C	
1147						X				SUPPORTING TABLES & STRUCTURE - HHLFE	U.1.5.2.2.8	39KC02	2C,3C	
1148						X				FRONT END WINDOW - HHLFE	U.1.5.2.2.9	39KC02	2C,3C	
1149						X				TRADITIONAL X-RAY BPM SYSTEM - HHLFE	U.1.5.2.2.10	39KC02	2C,3C	
1150						X				FRONT END INTEGRATED ASSEMBLY & TEST - HHLFE	U.1.5.2.2.11	39KC02	2C,3C	
1151					X					FRONT END FOR CANTED UNDULATORS (CUFE)	U.1.5.2.3	39KC02	2C,3C	
1152						X				FRONT END DESIGN - CUFE	U.1.5.2.3.1	39KC02	2C,3C	
1153						X				MASKS - CUFE	U.1.5.2.3.2	39KC02	2C,3C	
1154						X				PHOTON SHUTTERS - CUFE	U.1.5.2.3.3	39KC02	2C,3C	
1155						X				SAFETY SHUTTERS - CUFE	U.1.5.2.3.4	39KC02	2C,3C	
1156						X				COLLIMATORS - CUFE	U.1.5.2.3.5	39KC02	2C,3C	
1157						X				BELLOWS & SPOOL PIECES - CUFE	U.1.5.2.3.6	39KC02	2C,3C	
1158						X				STANDARD VACUUM COMPONENTS - CUFE	U.1.5.2.3.7	39KC02	2C,3C	
1159						X				SUPPORTING TABLES & STRUCTURE - CUFE	U.1.5.2.3.8	39KC02	2C,3C	
1160						X				FRONT END WINDOW - CUFE	U.1.5.2.3.9	39KC02	2C,3C	
1161						X				TRADITIONAL X-RAY BPM SYSTEM - CUFE	U.1.5.2.3.10	39KC02	2C,3C	
1162						X				FRONT END INTEGRATED ASSEMBLY & TEST - CUFE	U.1.5.2.3.11	39KC02	2C,3C	
1163					X					FRONT END FOR LONG STRAIGHT SECTION CANTED UNDUL	U.1.5.2.4	39KC02	2C,3C	
1164						X				FRONT END DESIGN - LSSCUFE	U.1.5.2.4.1	39KC02	2C,3C	
1165						X				MASKS - LSSCUFE	U.1.5.2.4.2	39KC02	2C,3C	
1166						X				PHOTON SHUTTERS - LSSCUFE	U.1.5.2.4.3	39KC02	2C,3C	
1167						X				SAFETY SHUTTERS - LSSCUFE	U.1.5.2.4.4	39KC02	2C,3C	
1168						X				COLLIMATORS - LSSCUFE	U.1.5.2.4.5	39KC02	2C,3C	
1169						X				BELLOWS & SPOOL PIECES - LSSCUFE	U.1.5.2.4.6	39KC02	2C,3C	
1170						X				STANDARD VACUUM COMPONENTS - LSSCUFE	U.1.5.2.4.7	39KC02	2C,3C	
1171						X				SUPPORTING TABLES & STRUCTURE - LSSCUFE	U.1.5.2.4.8	39KC02	2C,3C	
1172						X				FRONT END WINDOW - LSSCUFE	U.1.5.2.4.9	39KC02	2C,3C	
1173						X				TRADITIONAL X-RAY BPM SYSTEM - LSSCUFE	U.1.5.2.4.10	39KC02	2C,3C	
1174						X				FRONT END INTEGRATED ASSEMBLY & TEST - LSSCUFE	U.1.5.2.4.11	39KC02	2C,3C	
1175					X					FRONT END V1.2 RETROFIT	U.1.5.2.6	39KC02	2C,3C	
1176						X				FRONT END DESIGN - V1.2 RETROFIT	U.1.5.2.6.1	39KC02	2C,3C	
1177						X				MASKS - V1.2 RETROFIT	U.1.5.2.6.2	39KC02	2C,3C	
1178						X				PHOTON SHUTTERS - V1.2 RETROFIT	U.1.5.2.6.3	39KC02	2C,3C	
1179						X				SAFETY SHUTTERS - V1.2 RETROFIT	U.1.5.2.6.4	39KC02	2C,3C	
1180						X				COLLIMATORS - V1.2 RETROFIT	U.1.5.2.6.5	39KC02	2C,3C	
1181						X				BELLOWS & SPOOL PIECES - V1.2 RETROFIT	U.1.5.2.6.6	39KC02	2C,3C	
1182						X				STANDARD VACUUM COMPONENTS - V1.2 RETROFIT	U.1.5.2.6.7	39KC02	2C,3C	
1183						X				SUPPORTING TABLES & STRUCTURE - V1.2 RETROFIT	U.1.5.2.6.8	39KC02	2C,3C	
1184						X				FRONT END WINDOW - V1.2 RETROFIT	U.1.5.2.6.9	39KC02	2C,3C	
1185						X				TRADITIONAL X-RAY BPM SYSTEM - V1.2 RETROFIT	U.1.5.2.6.10	39KC02	2C,3C	
1186						X				FRONT END INTEGRATED ASSEMBLY & TEST - V1.2 RETR	U.1.5.2.6.11	39KC02	2C,3C	
1187					X					RESERVED	U.1.5.2.7	39KC02	2C,3C	
1188					X					FRONT END FOR SPX CANTED UNDULATORS (SPXCUFE)	U.1.5.2.8	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1189						X				FRONT END DESIGN - SPXCUFE	U.1.5.2.8.1	39KC02	2C,3C	
1190						X				MASKS - SPXCUFE	U.1.5.2.8.2	39KC02	2C,3C	
1191						X				PHOTON SHUTTERS - SPXCUFE	U.1.5.2.8.3	39KC02	2C,3C	
1192						X				SAFETY SHUTTERS - SPXCUFE	U.1.5.2.8.4	39KC02	2C,3C	
1193						X				COLLIMATORS - SPXCUFE	U.1.5.2.8.5	39KC02	2C,3C	
1194						X				BELLOWS & SPOOL PIECES - SPXCUFE	U.1.5.2.8.6	39KC02	2C,3C	
1195						X				STANDARD VACUUM COMPONENTS - SPXCUFE	U.1.5.2.8.7	39KC02	2C,3C	
1196						X				SUPPORTING TABLES & STRUCTURE - SPXCUFE	U.1.5.2.8.8	39KC02	2C,3C	
1197						X				FRONT END WINDOW - SPXCUFE	U.1.5.2.8.9	39KC02	2C,3C	
1198						X				TRADITIONAL X-RAY BPM SYSTEM - SPXCUFE	U.1.5.2.8.10	39KC02	2C,3C	
1199						X				FRONT END INTEGRATED ASSEMBLY & TEST - SPXCUFE	U.1.5.2.8.11	39KC02	2C,3C	
1200					X					NEXT GENERATION X-RAY BPM SYSTEM (CLOSED)	U.1.5.2.9	39KC02	2C,3C	
1201						X				NEXT GENERATION X-RAY BPM SYSTEM FOR HHL (CLOSED	U.1.5.2.9.1	39KC02	2C,3C	
1202							X			GRID X-RAY BPM - HHL (CLOSED)	U.1.5.2.9.1.1	39KC02	2C,3C	
1203						X				NEXT GENERATION X-RAY BPM SYSTEM CU (CLOSED)	U.1.5.2.9.2	39KC02	2C,3C	
1204							X			GRID X-RAY BPM - CU (CLOSED)	U.1.5.2.9.2.1	39KC02	2C,3C	
1205					X					RESERVED	U.1.5.2.10	39KC02	2C,3C	
1206					X					NEXT GENERATION X-RAY BPM SYSTEM FOR HHL	U.1.5.2.11	39KC02	2C,3C	
1207						X				NEXT GENERATION X-RAY BPM DESIGN - HHL	U.1.5.2.11.1	39KC02	2C,3C	
1208						X				GRID X-RAY BPM - HHL	U.1.5.2.11.2	39KC02	2C,3C	
1209						X				INTENSITY MONITORS - HHL	U.1.5.2.11.3	39KC02	2C,3C	
1210						X				2ND X-RAY BPM - HHL	U.1.5.2.11.4	39KC02	2C,3C	
1211						X				TEST & EVALUATE OFFLINE - HHL	U.1.5.2.11.5	39KC02	2C,3C	
1212					X					NEXT GENERATION X-RAY BPM SYSTEM FOR CU	U.1.5.2.12	39KC02	2C,3C	
1213						X				NEXT GENERATION X-RAY BPM DESIGN - CU	U.1.5.2.12.1	39KC02	2C,3C	
1214						X				GRID X-RAY BPM - CU	U.1.5.2.12.2	39KC02	2C,3C	
1215						X				INTENSITY MONITORS - CU	U.1.5.2.12.3	39KC02	2C,3C	
1216						X				2ND X-RAY BPM - CU	U.1.5.2.12.4	39KC02	2C,3C	
1217						X				TEST & EVALUATE OFFLINE - CU	U.1.5.2.12.5	39KC02	2C,3C	
1218					X					NEXT GENERATION X-RAY BPM SYSTEM FOR LSSCU	U.1.5.2.13	39KC02	2C,3C	
1219						X				NEXT GENERATION X-RAY BPM DESIGN - LSSCU	U.1.5.2.13.1	39KC02	2C,3C	
1220						X				GRID X-RAY BPM - LSSCU	U.1.5.2.13.2	39KC02	2C,3C	
1221						X				INTENSITY MONITORS - LSSCU	U.1.5.2.13.3	39KC02	2C,3C	
1222						X				2ND X-RAY BPM - LSSCU	U.1.5.2.13.4	39KC02	2C,3C	
1223						X				TEST & EVALUATE OFFLINE - LSSCU	U.1.5.2.13.5	39KC02	2C,3C	
1224					X					NEXT GENERATION X-RAY BPM SYSTEM FOR SPXCU	U.1.5.2.15	39KC02	2C,3C	
1225						X				NEXT GENERATION X-RAY BPM DESIGN - SPXCU	U.1.5.2.15.1	39KC02	2C,3C	
1226						X				GRID X-RAY BPM - SPXCU	U.1.5.2.15.2	39KC02	2C,3C	
1227						X				INTENSITY MONITORS - SPXCU	U.1.5.2.15.3	39KC02	2C,3C	
1228						X				2ND X-RAY BPM - SPXCU	U.1.5.2.15.4	39KC02	2C,3C	
1229						X				TEST & EVALUATE OFFLINE - SPXCU	U.1.5.2.15.5	39KC02	2C,3C	
1230					X					FRONT END INSTALLATION	U.1.5.2.20	39KC02	2C,3C	
1231						X				HHL FRONT END INSTALLATION - (GREEN FIELD)	U.1.5.2.20.1	39KC02	2C,3C	
1232							X			SITE PREPARATION - HHL (GREEN FIELD)	U.1.5.2.20.1.1	39KC02	2C,3C	
1233							X			FRONT END UTILITIES & CONTROLS - HHL (GREEN FIEL	U.1.5.2.20.1.2	39KC02	2C,3C	
1234							X			FRONT END INSTALLATION & CHECKOUT - HHL (GREEN F	U.1.5.2.20.1.3	39KC02	2C,3C	
1235						X				HHL FRONT END INSTALLATION - (RETROFIT)	U.1.5.2.20.2	39KC02	2C,3C	
1236							X			SITE PREPARATION - HHL (RETROFIT)	U.1.5.2.20.2.1	39KC02	2C,3C	
1237							X			FRONT END UTILITIES & CONTROLS - HHL (RETROFIT)	U.1.5.2.20.2.2	39KC02	2C,3C	
1238							X			FRONT END INSTALLATION & CHECKOUT - HHL (RETROFI	U.1.5.2.20.2.3	39KC02	2C,3C	
1239						X				CUFE FRONT END INSTALLATION - (GREEN FIELD)	U.1.5.2.20.3	39KC02	2C,3C	
1240							X			SITE PREPARATION - CUFE (GREEN FIELD)	U.1.5.2.20.3.1	39KC02	2C,3C	
1241							X			FRONT END UTILITIES & CONTROLS - CUFE (GREEN FIE	U.1.5.2.20.3.2	39KC02	2C,3C	
1242							X			FRONT END INSTALLATION & CHECKOUT - CUFE (GREEN	U.1.5.2.20.3.3	39KC02	2C,3C	
1243						X				CUFE FRONT END INSTALLATION - (RETROFIT)	U.1.5.2.20.4	39KC02	2C,3C	
1244							X			SITE PREPARATION - CUFE (RETROFIT)	U.1.5.2.20.4.1	39KC02	2C,3C	
1245							X			FRONT END UTILITIES & CONTROLS - CUFE (RETROFIT)	U.1.5.2.20.4.2	39KC02	2C,3C	
1246							X			FRONT END INSTALLATION & CHECKOUT - CUFE (RETROF	U.1.5.2.20.4.3	39KC02	2C,3C	
1247						X				LSSCUFE FRONT END INSTALLATION - (RETROFIT)	U.1.5.2.20.5	39KC02	2C,3C	
1248							X			SITE PREPARATION - LSSCUFE (RETROFIT)	U.1.5.2.20.5.1	39KC02	2C,3C	
1249							X			FRONT END UTILITIES & CONTROLS - LSSCUFE (RETROF	U.1.5.2.20.5.2	39KC02	2C,3C	
1250							X			FRONT END INSTALLATION & CHECKOUT - LSSCUFE (RET	U.1.5.2.20.5.3	39KC02	2C,3C	
1251						X				SPXCUFE FRONT END INSTALLATION - (RETROFIT)	U.1.5.2.20.7	39KC02	2C,3C	
1252							X			SITE PREPARATION - SPXCUFE (RETROFIT)	U.1.5.2.20.7.1	39KC02	2C,3C	
1253							X			FRONT END UTILITIES & CONTROLS - SPXCUFE (RETROF	U.1.5.2.20.7.2	39KC02	2C,3C	
1254							X			FRONT END INSTALLATION & CHECKOUT - SPXCUFE (RET	U.1.5.2.20.7.3	39KC02	2C,3C	

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7 GeV Advanced Photon Source / ANL	JULY , 2013	39-KC-02-89-R-402

4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
1255						X				FE V1.2 FRONT END INSTALLATION - (RETROFIT)	U.1.5.2.20.8	39KC02	2C,3C	
1256							X			SITE PREPARATION - FE V1.2 (RETROFIT)	U.1.5.2.20.8.1	39KC02	2C,3C	
1257							X			FRONT END UTILITIES & CONTROLS - FE V1.2 (RETROF	U.1.5.2.20.8.2	39KC02	2C,3C	
1258							X			FRONT END INSTALLATION & CHECKOUT - FE V1.2 (RET	U.1.5.2.20.8.3	39KC02	2C,3C	
1259						X				BM RELOCATION FRONT END INSTALLATION - (GREEN FI	U.1.5.2.20.11	39KC02	2C,3C	
1260							X			SITE PREPARATION - BM RELOCATION (GREEN FIELD)	U.1.5.2.20.11.1	39KC02	2C,3C	
1261							X			FRONT END UTILITIES & CONTROLS - BM RELOCATION (	U.1.5.2.20.11.2	39KC02	2C,3C	
1262							X			FRONT END INSTALLATION & CHECKOUT - BM RELOCATIO	U.1.5.2.20.11.3	39KC02	2C,3C	
1263				X						SITE SERVICES & UTILITIES	U.1.5.3	39KC02	2C,3C	
1264					X					WIDE FIELD IMAGING BEAMLINE FACILITY	U.1.5.3.1	39KC02	2C,3C	
1265						X				TITLE 1 DESIGN - WFI-BL FACILITY	U.1.5.3.1.1	39KC02	2C,3C	
1266						X				TITLE 2 DESIGN - WFI-BL FACILITY	U.1.5.3.1.2	39KC02	2C,3C	
1267						X				TITLE 3 BUILD - WFI-BL FACILITY	U.1.5.3.1.3	39KC02	2C,3C	
1268					X					RESERVED	U.1.5.3.2	39KC02	2C,3C	
1269					X					RESERVED	U.1.5.3.3	39KC02	2C,3C	
1270					X					FACILITY ENHANCEMENT FOR HIGH FLUX PUMP-PROBE (S	U.1.5.3.4	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
	INDENTURE LEVEL											BUDGET AND		OTHER
Line No.	1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	Reporting NO.	PHASE *	
1	X									APS PROJECT	X	39KC02	2C,3C	
2		X								DYNAMIC COMPRESSION SECTOR	D.1	39KC02	2C,3C	
3			X							PROJECT MANAGEMENT	D.1.1	39KC02	2C,3C	
4				X						PROJECT OFFICE	D.1.1.1	39KC02	2C,3C	
5					X					PROJECT MANAGEMENT & ADMINISTRATION	D.1.1.1.1	39KC02	2C,3C	
6					X					FINANCE & COMMUNICATIONS	D.1.1.1.2	39KC02	2C,3C	
7					X					PROJECT CONTROLS/EV SUPPORT	D.1.1.1.3	39KC02	2C,3C	
8					X					DOCUMENT & RECORD CONTROL	D.1.1.1.4	39KC02	2C,3C	
9					X					PROJECT REVIEWS & COMMITTEES	D.1.1.1.5	39KC02	2C,3C	
10				X						ENVIRONMENTAL SAFETY & HEALTH/QUALITY ASSURANCE	D.1.1.2	39KC02	2C,3C	
11				X						RISK MANAGEMENT	D.1.1.3	39KC02	2C,3C	
12				X						CD 0-4 DOCUMENTATION	D.1.1.4	39KC02	2C,3C	
13					X					CD2 DELIVERABLES	D.1.1.4.1	39KC02	2C,3C	
14					X					CD3 DELIVERABLES	D.1.1.4.2	39KC02	2C,3C	
15				X						SYSTEMS INTEGRATION & MANAGEMENT	D.1.1.5	39KC02	2C,3C	
16				X						PM MILESTONES	D.1.1.6	39KC02	2C,3C	
17			X							FRONT END	D.1.2	39KC02	2C,3C	
18				X						HIGH HEAT LOAD FRONT END	D.1.2.1	39KC02	2C,3C	
19					X					MASKS - HHLFE	D.1.2.1.1	39KC02	2C,3C	
20					X					PHOTON SHUTTERS - HHLFE	D.1.2.1.2	39KC02	2C,3C	
21					X					SAFETY SHUTTERS - HHLFE	D.1.2.1.3	39KC02	2C,3C	
22					X					COLLIMATORS - HHLFE	D.1.2.1.4	39KC02	2C,3C	
23					X					BELLOWS AND SPOOL PIECES - HHLFE	D.1.2.1.5	39KC02	2C,3C	
24					X					STANDARD VACUUM COMPONENTS - HHLFE	D.1.2.1.6	39KC02	2C,3C	
25					X					SUPPORTING TABLES & STRUCTURES - HHLFE	D.1.2.1.7	39KC02	2C,3C	
26					X					FRONT END WINDOWS - HHLFE	D.1.2.1.8	39KC02	2C,3C	
27					X					FRONT END INTEGRATED ASSEMBLY & TEST - HHLFE	D.1.2.1.9	39KC02	2C,3C	
28				X						NEXT GENERATION X-RAY BPM SYSTEM FOR HHL	D.1.2.2	39KC02	2C,3C	
29					X					GRID XBPM - HHL	D.1.2.2.1	39KC02	2C,3C	
30					X					INTENSITY MONITORS - HHL	D.1.2.2.2	39KC02	2C,3C	
31					X					2ND X-RAY BPM - HHL	D.1.2.2.3	39KC02	2C,3C	
32					X					TEST & EVALUATE OFFLINE - NEXT GEN X-RAY BPM FOR	D.1.2.2.4	39KC02	2C,3C	
33				X						FRONT END INSTALLATION	D.1.2.3	39KC02	2C,3C	
34					X					FRONT END INSTALLATION - HHL RETROFIT	D.1.2.3.1	39KC02	2C,3C	
35						X				SITE PREPARATION - HHL RETROFIT	D.1.2.3.1.1	39KC02	2C,3C	
36						X				FRONT END UTILITIES & CONTROLS - HHL RETROFIT	D.1.2.3.1.2	39KC02	2C,3C	
37						X				FRONT END INSTALLATION & CHECKOUT - HHL RETROFIT	D.1.2.3.1.3	39KC02	2C,3C	
38			X							INSERTION DEVICES	D.1.3	39KC02	2C,3C	
39				X						ID VACUUM CHAMBER INTEGRATION & INSTALLATION	D.1.3.1	39KC02	2C,3C	
40				X						REVOLVER UNDULATOR	D.1.3.2	39KC02	2C,3C	
41					X					MAGNETIC STRUCTURE	D.1.3.2.1	39KC02	2C,3C	
42					X					REVOLVER SUPPORT	D.1.3.2.2	39KC02	2C,3C	
43					X					CONTROLS & CABLING	D.1.3.2.3	39KC02	2C,3C	
44					X					INTEGRATION & INSTALLATION - REVOLVER UNDULATOR	D.1.3.2.4	39KC02	2C,3C	
45			X							BEAMLINE	D.1.4	39KC02	2C,3C	
46				X						BEAMLINE DESIGN/ INSTALLATION/ INTEGRATION	D.1.4.1	39KC02	2C,3C	
47				X						BEAM DIAGNOSTICS / OPTICS COMPONENTS	D.1.4.7	39KC02	2C,3C	
48					X					SLIT WHITE	D.1.4.7.1	39KC02	2C,3C	
49					X					SLIT PINK	D.1.4.7.2	39KC02	2C,3C	
50					X					CHOPPER WHITE HIGH HEAT LOAD	D.1.4.7.3	39KC02	2C,3C	
51					X					BEAM MONITORS	D.1.4.7.4	39KC02	2C,3C	
52					X					FILTERS	D.1.4.7.5	39KC02	2C,3C	
53					X					SHUTTER FAST	D.1.4.7.6	39KC02	2C,3C	
54				X						VACUUM COMPONENTS / SUPPORTS	D.1.4.8	39KC02	2C,3C	
55					X					VACUUM SYSTEMS	D.1.4.8.1	39KC02	2C,3C	
56					X					WINDOWS BE	D.1.4.8.2	39KC02	2C,3C	
57					X					SUPPORT STRUCTURES	D.1.4.8.3	39KC02	2C,3C	
58				X						CONTROLS & COMPUTERS	D.1.4.9	39KC02	2C,3C	
59					X					CONTROL & COMPUTERS ID-A-B-D-E	D.1.4.9.1	39KC02	2C,3C	
60				X						END STATION SYSTEMS	D.1.4.10	39KC02	2C,3C	
61					X					END STATION SYSTEMS ID-E	D.1.4.10.3	39KC02	2C,3C	
62					X					END STATION SYSTEMS ID-B	D.1.4.10.1	39KC02	2C,3C	
63						X				IN-HUTCH EQUIPMENT ID-B	D.1.4.10.1.1	39KC02	2C,3C	
64						X				DETECTORS ID-B	D.1.4.10.1.2	39KC02	2C,3C	
65					X					END STATION SYSTEMS ID-D	D.1.4.10.2	39KC02	2C,3C	
66						X				IN-HUTCH EQUIPMENT ID-D	D.1.4.10.2.1	39KC02	2C,3C	

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4.	5. WBS ELEMENTS										6.	7.	8.	9.
Line No.	INDENTURE LEVEL 1	2	3	4	5	6	7	8	9	TITLE	PARTICIPANT WBS ELEMENT CODE	BUDGET AND Reporting NO.	PHASE *	OTHER
67						X				DETECTORS ID-D	D.1.4.10.2.2	39KC02	2C,3C	
68						X				IN-HUTCH EQUIPMENT ID-E	D.1.4.10.3.1	39KC02	2C,3C	
69						X				DETECTORS ID-E	D.1.4.10.3.2	39KC02	2C,3C	
70						X				GUN MOTION SYSTEMS	D.1.4.10.3.3	39KC02	2C,3C	
71				X						CONTROL AREAS	D.1.4.11	39KC02	2C,3C	
72					X					ID-BC CONTROL AREA	D.1.4.11.1	39KC02	2C,3C	
73					X					ID-DE CONTROL AREA	D.1.4.11.2	39KC02	2C,3C	
74				X						UTILITY SYSTEMS	D.1.4.12	39KC02	2C,3C	
75					X					UTILITY INSTALLATION - COMMON	D.1.4.12.1	39KC02	2C,3C	
76						X				DI WATER/AIR	D.1.4.12.1.1	39KC02	2C,3C	
77						X				ELECTRICAL	D.1.4.12.1.2	39KC02	2C,3C	
78						X				HVAC	D.1.4.12.1.3	39KC02	2C,3C	
79					X					LIQUID NITROGREN	D.1.4.12.2	39KC02	2C,3C	
80					X					ROUGH VACUUM	D.1.4.12.3	39KC02	2C,3C	
81				X						SITE PREP	D.1.4.13	39KC02	2C,3C	
82				X						ENCLOSURES / TRANSPORT	D.1.4.2	39KC02	2C,3C	
83					X					ENCLOSURE DESIGN	D.1.4.2.1	39KC02	2C,3C	
84					X					ENCLOSURE ID-A	D.1.4.2.2	39KC02	2C,3C	
85					X					ENCLOSURE ID-B	D.1.4.2.3	39KC02	2C,3C	
86					X					ENCLOSURE ID-D	D.1.4.2.4	39KC02	2C,3C	
87					X					ENCLOSURE ID-E	D.1.4.2.5	39KC02	2C,3C	
88					X					TRANSPORT WHITE	D.1.4.2.6	39KC02	2C,3C	
89					X					ENCLOSURE ID-C	D.1.4.2.7	39KC02	2C,3C	
90				X						RSS COMPONENTS	D.1.4.3	39KC02	2C,3C	
91					X					MASKS	D.1.4.3.1	39KC02	2C,3C	
92					X					COLLIMATOR W	D.1.4.3.2	39KC02	2C,3C	
93					X					COLLIMATOR SECONDARY	D.1.4.3.3	39KC02	2C,3C	
94					X					SHUTTER PHOTON PS	D.1.4.3.4	39KC02	2C,3C	
95					X					SHUTTER SAFETY SS	D.1.4.3.5	39KC02	2C,3C	
96					X					STOP PINK MOVABLE	D.1.4.3.6	39KC02	2C,3C	
97					X					STOP PINK	D.1.4.3.7	39KC02	2C,3C	
98					X					STOP WHITE MOVABLE	D.1.4.3.8	39KC02	2C,3C	
99					X					STOP WHITE	D.1.4.3.9	39KC02	2C,3C	
100					X					STOP PB MOVABLE	D.1.4.3.10	39KC02	2C,3C	
101				X						MONOCHROMATOR SYSTEMS	D.1.4.4	39KC02	2C,3C	
102					X					MONOCHROMATOR DCM LN2	D.1.4.4.1	39KC02	2C,3C	
103					X					MONOCHROMATOR CHANNEL CUT	D.1.4.4.2	39KC02	2C,3C	
104					X					PUMP LN2	D.1.4.4.3	39KC02	2C,3C	
105				X						MIRROR SYSTEMS	D.1.4.5	39KC02	2C,3C	
106					X					MIRROR WHITE FOCUSING HORIZONTAL HM1	D.1.4.5.1	39KC02	2C,3C	
107					X					MIRROR PINK FOCUSING VERTICAL VM1	D.1.4.5.2	39KC02	2C,3C	
108					X					MIRROR K-B	D.1.4.5.3	39KC02	2C,3C	
109				X						PROTECTION SYSTEMS	D.1.4.6	39KC02	2C,3C	
110					X					PSS - A-E	D.1.4.6.1	39KC02	2C,3C	
111					X					BLEPS	D.1.4.6.2	39KC02	2C,3C	
112			X							INFRASTRUCTURE	D.1.5	39KC02	2C,3C	
113				X						BUILDING MODIFICATIONS	D.1.5.1	39KC02	2C,3C	
114				X						FIXTURES	D.1.5.2	39KC02	2C,3C	
115					X					OFFICE SPACE	D.1.5.2.1	39KC02	2C,3C	
116					X					LAB SPACE	D.1.5.2.2	39KC02	2C,3C	
117				X						IT INFRASTRUCTURE	D.1.5.3	39KC02	2C,3C	

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