L5 WBS if needed (L5 WBS is NOT mandatory)	Task name	Start Date (mm/dd/yyyy)	Finish Date (mm/dd/yyyy)	uration (work day	Material (enter "Yes" or "No	Travel ter "Yes" or "No")
6.2.X.5	**Staves Assembly and Testing**	**10/1/16**	**9/30/22**	1565		
6.2.X.5.1	**Fixtures and Tools**	**10/1/16**	**1/13/17**	**75**		
	Clean Room	10/1/16	10/1/16	0	No	No
	Bonding machine	10/1/16	10/1/16	0	Yes	No
	SurfX AtomFlo 400 Plasma Cleaner	10/1/16	10/1/16	0	Yes	No
	OGP SmartScope Flash 302	10/1/16	11/23/16	38	Yes	No
	Assembly frame prototype	10/1/16	10/1/16	0	Yes	No
	Assembly frame final version	10/1/16	10/18/16	12	Yes	No
	Testing/shipping/storing Frame Prototype	10/1/16	10/1/16	0	Yes	No
	Testing/shipping/storing frame final version	10/1/16	11/18/16	35	Yes	No
	Custom Pelican Case to ship to/from CERN	11/21/16	1/13/17	40	Yes	No
	Refrigerated box for testing staves	10/24/16	12/2/16	30	Yes	No
6.2.X.5.2	**Stave Assembly System**	10/1/16	**12/23/16**	**60**		
	AeroTech robotic arm: define specs, order and receive	10/1/16	10/1/16	0	Yes	No
	Purchase Granite Table and Stand	10/1/16	10/1/16	0	Yes	No
	Purchase Camera for Survey	10/3/16	10/28/16	20	Yes	No
	Purchase Glue Dispenser	10/1/16	10/28/16	20	Yes	No
	Purchase Interlocks/Light Curtain material	10/1/16	10/28/16	20	Yes	No
	Install Granite Table	10/1/16	10/1/16	0	Yes	No
	Install and Test AeroTech robotic arm	10/3/16	11/25/16	40	Yes	No
	Install and test Camera for Survey	11/28/16	12/23/16	20	Yes	No
	Install and test Glue Dispenser	11/28/16	12/23/16	20	Yes	No
	Install and test Interlocks/Light Curtain	11/28/16	12/23/16	20	Yes	No
	"Horizontal Arms + vacuum system"	10/1/16	12/21/16	58	Yes	No
6.2.X.5.3	**TM Prototype**	**10/3/16**	**12/21/16**	**58**		
	Receive and Inspect Stave Core	10/3/16	10/3/16	1	No	No
	Fit core in assembly frame, frame on machine, metrology	10/4/16	10/24/16	15	No	No
	Receive TM modules - batch 1 (4+4+4)	10/3/16	10/3/16	1	No	No
	Mount modues on frame	10/3/16	10/18/16	12	No	No
	Test TM staves (thermal studies)	10/19/16	10/26/16	6	No	yes
	Receive and mount batch 2	10/26/16	11/9/16	11	No	No
	Test TM staves (thermal studies)	11/9/16	11/16/16	6	No	Yes
	Receive and mount batch 3	11/16/16	11/30/16	11	No	No
	Test TM staves (thermal studies)	11/30/16	12/21/16	16	No	Yes
6.2.X.5.4	**Prototype production (1 or 2 staves)**	**4/17/17**	**1/24/18**	203		
	Receive and Inspect Stave Core	4/17/17	4/19/17	3	No	No
	Fit core in assembly frame, frame on machine, metrology tests	4/20/17	4/28/17	7	No	No
	Receive preproduction-1 modules (first batch)	9/6/17	9/6/17	1	No	No
	Mount modues on stave	9/6/17	9/22/17	13	No	No
	Test preproduction-1 stave prototype	9/22/17	11/2/17	30	No	Yes
	Receive modules from batch 2	11/6/17	11/6/17	1	No	No
	Mount new modules on the stave	11/7/17	12/4/17	20	No	No
	Test stave	12/5/17	12/25/17	15	No	Yes
	Receive modules from batch 3	12/6/17	12/6/17	1	No	No
	Mount new modules on the stave	12/7/17	1/3/18	20	No	No
	Test stave	1/4/18	1/24/18	15	No	Yes
6.2.1.5.5	Preproduction-1 (1 or 2 staves)	1/4/18	7/25/18	**145**		
	Receive and Inspect first Stave Core	1/4/18	1/8/18	3	No	No
	Fit core in assembly frame, metrology test	1/9/18	1/17/18	7	No	No
	Receive preproduction-2 modules	2/5/18	2/5/18	1	No	No
	Mount modues on stave	2/5/18	2/16/18	10	No	No
	Test preproduction-1 stave 1	2/19/18	3/6/18	12	No	Yes
	Receive more modules	4/4/18	4/4/18	1	No	No
	Mount modules on stave 2	4/5/18	4/11/18	5	No	No
	Test stave 2	4/12/18	4/25/18	10	No	Yes
	Receive more modules (all 6 batches in hand)	7/4/18	7/4/18	1	No	No
	Mount modules on staves	7/5/18	7/11/18	5	No	No
	Test staves	7/12/18	7/25/18	10	No	Yes
6.2.1.5.6	**Preproduction-2 (5 staves)**	**7/2/18**	**1/16/19**	**143**		
	Receive and Inspect Stave Cores	7/2/18	7/4/18	3	No	No
	Fit core in assembly machine + metrology	7/5/18	7/12/18	6	No	No
	Receive preproduction-3 modules (batch 1)	8/3/18	8/3/18	1	No	No
	Mount modues and perform metrology	8/3/18	8/10/18	6	No	No
	Test preproduction-1 stave 1 (24 modules)	8/10/18	8/31/18	16	No	Yes
	Receive preproduction-3 modules (batch 2)	9/3/18	9/3/18	1	No	No
	Mount modules on staves + metrology	9/3/18	9/11/18	7	No	No
	Test stave 2 (only 24 modules - incomplete)	9/3/18	9/17/18	11	No	Yes
	Receive modules (batch 3+4)	10/29/18	10/29/18	1	No	No
	Mount modules on staves 3, complete staves 1+2, metrology	10/30/18	11/12/18	10	No	No
	Test stave 3 and again 1 and 2	11/13/18	12/3/18	15	No	Yes
	Receive modules (batch 5-6)	12/19/18	12/19/18	1	No	No
	Mount Modules on staves 3, 4 and 5	12/20/18	1/9/19	15	No	No
	Test 3 staves	12/27/18	1/16/19	15	No	Yes
	Ship 5 staves to CERN	3/25/19	3/28/19	4	Yes	No
	* Receive and test 5 staves at CERN	4/1/19	4/5/19	5	No	Yes
6.2.1.5.7	**Production = 220 staves (last 20 are spares)**	2/6/19	12/26/22	**1014**		
	CY19 Assemble, Test and Ship 1 stave	2/6/19	3/21/19	32	No	Yes
	CY19 Assemble, Test and Ship 2 stave	3/1/19	4/11/19	30	No	Yes
	Ship 3 staves to CERN	3/25/19	3/28/19	4	Yes	No
	* Receive and test 3 staves at CERN	4/1/19	4/5/19	5	No	Yes
	FY19 Assemble, test and ship 2 staves	4/3/19	5/7/19	25	No	Yes
	CY19 Assemble, test and ship 2 staves	5/1/19	6/4/19	25	No	Yes
	Ship 4 staves to CERN	3/25/19	3/28/19	4	Yes	No
	* Receive and test 4 staves at CERN	4/1/19	4/5/19	5	No	Yes
	CY19 Assemble, test and ship 3 staves	7/3/19	8/27/19	40	No	Yes
	CY19 Assemble, test and ship 6 staves	9/4/19	10/29/19	40	No	Yes
	CY19 Assemble, test and ship 9 staves	11/5/19	12/30/19	40	No	Yes
	CY19 Assemble, test and ship 7 staves	12/4/19	12/31/19	20	No	Yes
	CY20 Assemble, test and ship 14 staves	1/3/20	3/20/20	56	No	Yes
	CY20 Assemble, test and ship 12 staves	4/2/20	6/3/20	45	No	Yes
	CY20 Assemble, test and ship 12 staves	6/3/20	8/4/20	45	No	Yes
	CY20 Assemble, test and ship 12 staves	8/4/20	10/5/20	45	No	Yes
	CY20 Assemble, test and ship 15 staves	10/5/20	12/25/20	60	No	Yes
	CY21 Assemble, test and ship 11 staves	3/1/21	4/23/21	40	No	Yes
	CY21 Assemble, test and ship 10 staves	11/1/21	12/24/21	40	No	Yes
	CY21 Assemble, test and ship 11 staves	9/1/21	10/26/21	40	No	Yes
	CY21 Assemble, test and ship 11 staves	7/1/21	8/25/21	40	No	Yes
	CY21 Assemble, test and ship 11 staves	5/3/21	6/25/21	40	No	Yes
	CY21 Assemble, test and ship 11 staves	1/4/21	2/26/21	40	No	Yes
	FY22 Assemble, test and ship 11 staves	3/1/22	4/25/22	40	No	Yes
	FY22 Assemble, test and ship 11 staves	1/4/22	2/28/22	40	No	Yes
	FY22 Assemble, test and ship 11 staves	5/3/22	6/27/22	40	No	Yes
	FY22 Assemble, test and ship 11 staves	7/1/22	8/25/22	40	No	Yes
	FY22 Assemble, test and ship 11 staves (spares)	9/1/22	10/26/22	40	No	Yes
	FY22 Assemble, test and ship 10 staves (spares)	11/1/22	12/26/22	40	No	Yes