

# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 12/3	January 11/7	February 11/23	March 21/18	April 4/22	May 5/27	June 7/1	July 8/5	August 9/9	September 10/14	October 11/18	November 12/23	December 1/27	January 3/3	February 4/7	March 5/12	April 6/16	
1	<b>WEST CONTROL BUILDING</b>	194 days	2/20/18	11/15/18																			
2	Server Configuration	5 days	2/20/18	2/26/18					0%														
3	Server-DCS Communications	4 days	2/27/18	3/2/18	2				0%														
4	Global Testing of Load Shed / Start Block Testing	10 days	11/2/18	11/15/18	906,982,1050,11											0%							
5	<b>995-SS-01 Main 69kV Substation</b>	35 days	2/23/18	4/12/18																			
6	<b>MS-1 Construction Completion Works</b>	0 days	2/23/18	2/23/18					2/23														
7	Fiber Network Pull, Term and Test	0 days	2/23/18	2/23/18					2/23														
8	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	29 days	3/5/18	4/12/18																			
9	Fiber Network/Controller Commissioning	5 days	3/5/18	3/9/18	7,3,465				0%														
10	DCS Interface - PMS/Distribution Network & RIO	18 days	3/12/18	4/4/18	9				0%														
11	PMS Interface - PMS/Distribution Network & RIO	18 days	3/13/18	4/5/18	9,467				0%														
12	ICSS Interface - Interim Turnover	5 days	4/5/18	4/11/18	10				0%														
13	PMS Interface - Interim Turnover	5 days	4/6/18	4/12/18	11				0%														
14	<b>095-SS-13 North UO&amp;I @ Boiler Area (Critical Power)</b>	90.5 days?	2/6/18	6/12/18																			
15	<b>Turnover Documentation</b>	75.5 days	2/6/18	5/22/18																			
16	Issue Substation PWP, Matrix & ITRs	5 days	2/6/18	2/13/18	25SF-2 wks				0%														
17	Issue STG PWP, Matrix & ITRs	10 days	2/8/18	2/21/18	1325,935,859				0%														
18	Receive completed QVDs from WC and status MCPlus	5 days	3/2/18	3/8/18	25				0%														
19	Verify WC upload of QVDs to POL	1 day	3/2/18	3/2/18	25				0%														
20	Receive completed ITRs from WC and status MCPlus	5 days	5/16/18	5/22/18	32					0%													
21	Verify WC upload of ITRs to POL	1 day	5/16/18	5/16/18	32					0%													
22	<b>Vendor Support Call Out</b>	27 days	2/9/18	3/19/18	457																		
23	GE - 6 week lead time	0 days	2/9/18	2/9/18	30SF-6 wks				2/9														
24	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	3/19/18	3/19/18	464SF-6 wks,447					3/19													
25	<b>MS-1 Construction Completion Works</b>	0 days	3/2/18	3/2/18					3/2														
26	15kV Critical incomer Dress, Acceptance Test & Term	0 days	3/2/18	3/2/18					3/2														
27	69kV Incomers Dress, Acceptance Test & Term	0 days	3/2/18	3/2/18					3/2														
28	Commissioning power for building HVAC/UPS	0 days	3/2/18	3/2/18					3/2														
29	Fiber Network Pull, Term and Test	0 days	3/2/18	3/2/18					3/2														
30	Substation Installation Test	0 days	3/2/18	3/2/18					3/2														
31	Transformers Static Test	0 days	3/2/18	3/2/18					3/2														
32	<b>MS-2 Precomm. &amp; Bus Energization</b>	53 days?	3/2/18	5/15/18																			
33	13.8kV Transformer-Switchgear Functional Tests	43 days	3/2/18	5/1/18	37FF,25				0%														
34	480V Transformer-Switchgear & MCC Bus Functional	43 days	3/2/18	5/1/18	25				0%														
35	Substation Building and Yard Acceptance & Turnover	10 days	3/2/18	3/15/18	25				0%														
36	Transformers Functional Test	8 days	3/2/18	3/13/18	31				0%														
37	Generator & ATS Precomm Tests	10 days?	3/16/18	3/29/18	35				0%														
38	HVAC Functional & Performance Tests	15 days?	3/16/18	4/5/18	35				0%														

█ Critical Task    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Timeline																			
						Dec 12/3	Jan 11 1/7	Jan 11 2/11	Mar 21 3/18	Mar 21 4/22	June 1 5/27	7/1	August 11 8/5	9/9	October 21 10/14	11/18	January 1 12/23	1/27	March 11 3/3	4/7	May 21 5/12	6/16			
39	UPS Functional & Performance Tests	10 days	3/16/18	3/29/18	35				0%																
40	Generator & ATS Turnover	10 days?	3/30/18	4/12/18	37				0%																
41	HVAC and UPS Turnover	15 days?	4/6/18	4/26/18	38,39				0%																
42	13.8kV Switchgear & Transf. System Turnover	10 days	5/2/18	5/15/18	33					0%															
43	480V Switchgear, Transf. & MCC Bus System Turnover	10 days	5/2/18	5/15/18	34					0%															
44	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>53 days?</b>	<b>3/2/18</b>	<b>5/15/18</b>																					
45	Fiber Network/Controller Commissioning	5 days	3/2/18	3/8/18	29				0%																
46	PMS Interface - PMS/Distribution Network & RIO, 30	23 days	3/30/18	5/1/18	33FF					0%															
47	DCS Interface - PMS/Distribution Network & RIO	20 days	4/4/18	5/1/18	33FF					0%															
48	ICSS Interface - Interim Turnover	3 days?	5/2/18	5/4/18	47					0%															
49	PMS Interface - Interim Turnover	10 days	5/2/18	5/15/18	46					0%															
50	<b>MS-4 Motor Controls and Solo Runs</b>	<b>45.25 days</b>	<b>4/10/18</b>	<b>6/12/18</b>																					
51	MCC Cubicle Local and DCS Control/Status Tests	26 days	4/10/18	5/16/18	56FF-1 wk					0%															
52	DCS Interface - Motors - Network & RIO	16 days	4/24/18	5/16/18	56FF-1 wk					0%															
53	Perform Process Motor Bumps / Solo Runs	13 days	5/25/18	6/12/18	56						0%														
54	Ready for Energization - SNA Forecast	0 days	4/22/18	4/22/18							4/22														
55	Ready for Energization	0 days	5/15/18	5/15/18	32,49							5/15													
56	Check, Energize and ready to distribute	7 days	5/16/18	5/24/18	55						0%														
57	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>7 days</b>	<b>5/25/18</b>	<b>6/4/18</b>																					
58	8000 Area Lighting Transformers/Panels Energization	7 days	5/25/18	6/4/18	56						0%														
59	<b>053 - Steam Unit - Sub 13</b>	<b>40.5 days?</b>	<b>1/25/18</b>	<b>3/21/18</b>																					
60	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>15 days?</b>	<b>1/25/18</b>	<b>2/13/18</b>																					
61	5000 Duct Banks Walkdown & Acceptance	10 days?	1/25/18	2/6/18					0%																
62	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18					0%																
63	7000 Area Cathodic Protection Walkdown & Acceptance	10 days?	1/25/18	2/6/18					0%																
64	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18					0%																
65	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	2/1/18	2/13/18	62				0%																
66	<b>Turnover Documentation</b>	<b>40.5 days?</b>	<b>1/25/18</b>	<b>3/21/18</b>																					
67	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18					0%																
68	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18					0%																
69	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18					0%																
70	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18					0%																
71	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	3/20/18	3/21/18	430FS-6 wks					0%															
72	<b>984 - LCF Sasol Raw Water Pump System - Sub 31</b>	<b>93.5 days?</b>	<b>11/9/17</b>	<b>3/23/18</b>																					
73	<b>Turnover Documentation</b>	<b>93.5 days</b>	<b>11/9/17</b>	<b>3/23/18</b>																					
74	Receive completed Motor Folder / ITRs from WC and status MCPlus	5 days	11/9/17	11/15/17																					

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ID	Task Name	Duration	Start	Finish	Predecessors	December 12/3	January 11/7	January 11/21	March 21/18	March 21/22	June 15/27	July 7/1	August 11/8/5	August 11/9/9	October 21/10/14	October 21/11/18	January 112/23	January 111/27	March 113/3	March 114/7	May 215/12	May 216/16	
75	Verify WC upload of completed Motor Folder to POL	5 days	11/9/17	11/15/17																			
76	Verify WC upload of QVDs to POL	5 days	11/16/17	11/22/17	74																		
77	Receive completed QVDs from WC and status MCPlus	5 days	2/28/18	3/6/18	81,80,82				0%														
78	Issue Area PreComm Work Pack (PWP) - Motors and	5 days	3/16/18	3/23/18	238FS-6 wks				0%														
79	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>25 days?</b>	<b>1/25/18</b>	<b>2/27/18</b>																			
80	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18					0%														
81	6000 Area Cable Tray Walkdown & Acceptance	5 days	2/7/18	2/13/18	80				0%														
82	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	2/14/18	2/27/18	81				0%														
83	<b>995-SS-31 Sasol Raw Water Pump Station (69kV Feed)</b>	<b>93.5 days?</b>	<b>12/18/17</b>	<b>4/27/18</b>																			
84	<b>Vendor Support Call Out</b>	<b>0 days</b>	<b>12/18/17</b>	<b>12/18/17</b>		◆ 12/18																	
85	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	12/18/17	12/18/17	102SF-6 wks	◆ 12/18																	
86	CAT - 6 week lead time	0 days	12/18/17	12/18/17	98SF-6 wks	◆ 12/18																	
87	<b>Turnover Documentation</b>	<b>52.5 days</b>	<b>1/17/18</b>	<b>3/29/18</b>																			
88	Issue Substation PWP, Matrix & ITRs	5 days	1/17/18	1/24/18	93SF-2 wks				0%														
89	Receive completed QVDs from WC and status MCPlus	5 days	2/9/18	2/15/18	93				0%														
90	Verify WC upload of QVDs to POL	1 day	2/9/18	2/9/18	93				0%														
91	Receive completed ITRs from WC and status MCPlus	5 days	3/23/18	3/29/18	101				0%														
92	Verify WC upload of ITRs to POL	1 day	3/23/18	3/23/18	101				0%														
93	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>2/9/18</b>	<b>2/9/18</b>																			
94	15kV Critical incomer Dress, Acceptance Test & Term	0 days	2/9/18	2/9/18					◆ 2/9														
95	69kV Incomers Dress, Acceptance Test & Term	0 days	2/9/18	2/9/18					◆ 2/9														
96	Commissioning power for building HVAC/UPS	0 days	2/9/18	2/9/18					◆ 2/9														
97	Fiber Network Pull, Term and Test	0 days	2/9/18	2/9/18					◆ 2/9														
98	Generator Installation Test	0 days	2/9/18	2/9/18					◆ 2/9														
99	Substation Installation Test	0 days	2/9/18	2/9/18					◆ 2/9														
100	Transformers Static Test	0 days	2/9/18	2/9/18					◆ 2/9														
101	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>30 days?</b>	<b>2/9/18</b>	<b>3/22/18</b>																			
102	13.8kV Transformer-Switchgear Functional Tests	8 days	2/9/18	2/20/18	93				0%														
103	480V Transformer-Switchgear & MCC Bus Functional	3 days	2/9/18	2/13/18	93				0%														
104	HVAC Functional & Performance Tests	15 days?	2/9/18	3/1/18	99				0%														
105	Substation Building and Yard Acceptance & Turnover	10 days	2/9/18	2/22/18	93				0%														
106	Transformers Functional Test	8 days	2/9/18	2/20/18	100				0%														
107	UPS Functional & Performance Tests	10 days	2/9/18	2/22/18	99				0%														
108	480V Switchgear, Transf. & MCC Bus System Turnover	5 days	2/14/18	2/20/18	103				0%														
109	13.8kV Switchgear & Transf. System Turnover	5 days	2/21/18	2/27/18	102				0%														
110	Generator & ATS Precomm Tests	10 days?	2/23/18	3/8/18	98,105				0%														
111	HVAC and UPS Turnover	15 days?	3/2/18	3/22/18	104,107				0%														

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ID	Task Name	Duration	Start	Finish	Predecessors	Dec 1 12/3	January 11 1/7	February 11 2/11	March 21 3/18	April 22 4/22	June 1 5/27	July 1 7/1	August 11 8/5	September 9 9/9	October 21 10/14	November 18 11/18	December 23 12/23	January 1 1/27	February 3 3/3	March 11 4/7	April 12 5/12	May 16 6/16
112	Generator & ATS Turnover	10 days?	3/9/18	3/22/18	110				0%													
113	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>45 days</b>	<b>2/9/18</b>	<b>4/12/18</b>																		
114	Fiber Network/Controller Commissioning	5 days	2/9/18	2/15/18	97			0%														
115	DCS Interface - PMS/Distribution Network & RIO	18 days	2/16/18	3/13/18	114			0%														
116	PMS Interface - PMS/Distribution Network & RIO	18 days	3/13/18	4/5/18	114,467				0%													
117	ICSS Interface - Interim Turnover	5 days	3/14/18	3/20/18	115			0%														
118	PMS Interface - Interim Turnover	5 days	4/6/18	4/12/18	116				0%													
119	Ready for Energization - SNA Forecast	0 days	3/21/18	3/21/18					3/21													
120	<b>MS-4 Motor Controls and Solo Runs</b>	<b>18.25 days</b>	<b>4/3/18</b>	<b>4/27/18</b>																		
121	DCS Interface - Motors - Network & RIO	8 days	4/3/18	4/13/18	125FF-1 wk				0%													
122	MCC Cubicle Local and DCS Control/Status Tests	7 days	4/4/18	4/13/18	125FF-1 wk				0%													
123	Perform Process Motor Bumps / Solo Runs	4 days	4/24/18	4/27/18	125					0%												
124	Ready for Energization	0 days	4/12/18	4/12/18	101,118				4/12													
125	Check, Energize and ready to distribute	7 days	4/13/18	4/23/18	124				0%													
126	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>2 days</b>	<b>4/24/18</b>	<b>4/25/18</b>																		
127	8000 Area Lighting Transformers/Panels Energization	2 days	4/24/18	4/25/18	125				0%													
128	<b>995 LCF Electrical Distribution - Sub 31</b>	<b>12 days?</b>	<b>1/25/18</b>	<b>2/8/18</b>																		
129	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>10 days?</b>	<b>1/25/18</b>	<b>2/6/18</b>																		
130	5000 Duct Banks Walkdown & Acceptance	10 days?	1/25/18	2/6/18				0%														
131	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18				0%														
132	<b>Turnover Documentation</b>	<b>2 days?</b>	<b>2/7/18</b>	<b>2/8/18</b>																		
133	Receive completed QVDs from WC and status MCPlus	1 day?	2/7/18	2/7/18	130,131			0%														
134	Verify WC upload of QVDs to POL	1 day?	2/8/18	2/8/18	133			0%														
135	<b>983-SS-14 Demin Water (Upstream Sub 31)</b>	<b>104.5 days?</b>	<b>12/18/17</b>	<b>5/14/18</b>																		
136	<b>Vendor Support Call Out</b>	<b>0 days</b>	<b>12/18/17</b>	<b>12/18/17</b>					12/18													
137	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	12/18/17	12/18/17	102SF-6 wks				12/18													
138	<b>Turnover Documentation</b>	<b>62.5 days</b>	<b>1/4/18</b>	<b>3/30/18</b>																		
139	Issue Substation PWP, Matrix & ITRs	5 days	1/4/18	1/11/18	144SF-2 wks			0%														
140	Receive completed QVDs from WC and status MCPlus	5 days	1/30/18	2/3/18	144			0%														
141	Verify WC upload of QVDs to POL	1 day	1/30/18	1/30/18	144			0%														
142	Receive completed ITRs from WC and status MCPlus	5 days	3/26/18	3/30/18	150				0%													
143	Verify WC upload of ITRs to POL	1 day	3/26/18	3/26/18	150				0%													
144	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>1/30/18</b>	<b>1/30/18</b>					1/30													
145	15kV Critical incomer Dress, Acceptance Test & Term	0 days	1/30/18	1/30/18					1/30													
146	Commissioning power for building HVAC/UPS	0 days	1/30/18	1/30/18					1/30													
147	Fiber Network Pull, Term and Test	0 days	1/30/18	1/30/18					1/30													
148	Substation Installation Test	0 days	1/30/18	1/30/18					1/30													
149	Transformers Static Test	0 days	1/30/18	1/30/18					1/30													

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ID	Task Name	Duration	Start	Finish	Predecessors	December 12/3	January 11 1/7	2/11	March 21 3/18	4/22	June 1 5/27	7/1	August 11 8/5	9/9	October 21 10/14	11/18	January 1 12/23	1/27	March 11 3/3	4/7	May 21 5/12	6/16
150	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days?</b>	<b>1/30/18</b>	<b>3/23/18</b>																		
151	480V Transformer-Switchgear & MCC Bus Functional	12 days	1/30/18	2/13/18	144			0%														
152	Substation Building and Yard Acceptance & Turnover	10 days	1/30/18	2/9/18	144			0%														
153	Transformers Functional Test	8 days	1/30/18	2/7/18	149			0%														
154	HVAC Functional & Performance Tests	15 days?	2/12/18	3/2/18	152			0%														
155	UPS Functional & Performance Tests	10 days	2/12/18	2/23/18	152			0%														
156	480V Switchgear, Transf. & MCC Bus System Turnover	15 days?	2/14/18	3/6/18	151			0%														
157	HVAC and UPS Turnover	15 days?	3/5/18	3/23/18	154,155			0%														
158	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>42 days?</b>	<b>1/30/18</b>	<b>3/27/18</b>																		
159	Fiber Network/Controller Commissioning	10 days	1/30/18	2/9/18	147			0%														
160	DCS Interface - PMS/Distribution Network & RIO	12 days	2/12/18	2/27/18	159			0%														
161	ICSS Interface - Interim Turnover	3 days?	2/28/18	3/2/18	160			0%														
162	PMS Interface - PMS/Distribution Network & RIO, 44	6 days	3/13/18	3/20/18	159,467			0%														
163	PMS Interface - Interim Turnover	5 days	3/21/18	3/27/18	162			0%														
164	Ready for Energization	0 days	3/27/18	3/27/18	150,163				3/27													
165	Ready for Energization - SNA Forecast	0 days	4/2/18	4/2/18					4/2													
166	<b>MS-4 Motor Controls and Solo Runs</b>	<b>24.25 days</b>	<b>4/4/18</b>	<b>5/8/18</b>																		
167	MCC Cubicle Local and DCS Control/Status Tests	12 days	4/4/18	4/20/18	171FF-1 wk				0%													
168	DCS Interface - Motors - Network & RIO	9 days	4/9/18	4/20/18	171FF-1 wk				0%													
169	Perform Process Motor Bumps / Solo Runs	6 days	5/1/18	5/8/18	171				0%													
170	Upstream sub energized	0 days	4/23/18	4/23/18	125				4/23													
171	Check, Energize and ready to distribute	5 days	4/24/18	4/30/18	164,170				0%													
172	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>10 days?</b>	<b>5/1/18</b>	<b>5/14/18</b>																		
173	8000 Area Lighting Transformers/Panels Energization	10 days?	5/1/18	5/14/18	171				0%													
174	<b>087 - Ethylene Storage Systems - Sub 14, 17</b>	<b>47.5 days?</b>	<b>1/25/18</b>	<b>3/30/18</b>																		
175	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>15 days?</b>	<b>1/25/18</b>	<b>2/13/18</b>																		
176	5000 Duct Banks Walkdown & Acceptance	10 days?	1/25/18	2/6/18				0%														
177	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18				0%														
178	7000 Area Cathodic Protection Walkdown & Acceptance - none?	10 days?	1/25/18	2/6/18				0%														
179	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18				0%														
180	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	2/1/18	2/13/18	177			0%														
181	<b>Turnover Documentation</b>	<b>47.5 days?</b>	<b>1/25/18</b>	<b>3/30/18</b>																		
182	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18				0%														
183	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18				0%														
184	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18				0%														
185	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18				0%														

█ Critical Task    
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 █ Baseline Summary    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	December 12/3	January 11	January 11	January 11	March 21	March 21	June 1	June 1	July 1	August 11	August 11	October 21	October 21	January 1	January 1	March 11	March 11	May 21	May 21
186	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	3/29/18	3/30/18	345FS-6 wks,171					0%														
187	<b>983 - LCF Water Treatment Systems / Demin - Sub 14</b>	<b>32.5 days?</b>	<b>1/25/18</b>	<b>3/9/18</b>																				
188	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>25 days?</b>	<b>1/25/18</b>	<b>2/27/18</b>																				
189	7000 Area Cathodic Protection Walkdown & Accepta	10 days?	1/25/18	2/6/18						0%														
190	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18						0%														
191	6000 Area Cable Tray Walkdown & Acceptance	5 days	2/7/18	2/13/18	190					0%														
192	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	2/14/18	2/27/18	191					0%														
193	<b>Turnover Documentation</b>	<b>32.5 days?</b>	<b>1/25/18</b>	<b>3/9/18</b>																				
194	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	3/8/18	3/9/18	171FS-6 wks					0%														
195	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18						0%														
196	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18						0%														
197	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18						0%														
198	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18						0%														
199	<b>983-SS-15 Raw Water (Upstream Sub 31)</b>	<b>92.5 days?</b>	<b>1/10/18</b>	<b>5/17/18</b>																				
200	<b>Vendor Support Call Out</b>	<b>0 days</b>	<b>1/10/18</b>	<b>1/10/18</b>						1/10														
201	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	1/10/18	1/10/18	216SF-6 wks					1/10														
202	<b>Turnover Documentation</b>	<b>62.5 days</b>	<b>2/6/18</b>	<b>5/3/18</b>																				
203	Issue Substation PWP, Matrix & ITRs	5 days	2/6/18	2/13/18	208SF-2 wks					0%														
204	Receive completed QVDs from WC and status MCPlus	5 days	3/2/18	3/8/18	208					0%														
205	Verify WC upload of QVDs to POL	1 day	3/2/18	3/2/18	208					0%														
206	Receive completed ITRs from WC and status MCPlus	5 days	4/27/18	5/3/18	215																			
207	Verify WC upload of ITRs to POL	1 day	4/27/18	4/27/18	215																			
208	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>3/2/18</b>	<b>3/2/18</b>																				
209	15kV Critical incomer Dress, Acceptance Test & Term	0 days	3/2/18	3/2/18																				
210	15kV Incomers Dress, Acceptance Test & Term	0 days	3/2/18	3/2/18																				
211	Commissioning power for building HVAC/UPS	0 days	3/2/18	3/2/18																				
212	Fiber Network Pull, Term and Test	0 days	3/2/18	3/2/18																				
213	Substation Installation Test	0 days	3/2/18	3/2/18																				
214	Transformers Static Test	0 days	3/2/18	3/2/18																				
215	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days?</b>	<b>3/2/18</b>	<b>4/26/18</b>																				
216	5kV Switchgear & MCC Item and Functional Tests	10 days	3/2/18	3/15/18	208																			
217	480V Transformer-Switchgear & MCC Bus Functional	10 days	3/2/18	3/15/18	208																			
218	Substation Building and Yard Acceptance & Turnover	10 days	3/2/18	3/15/18	208																			
219	Transformers Functional Test	8 days	3/2/18	3/13/18	214																			
220	5kV Switchgear & MCC Turnover	5 days	3/16/18	3/22/18	218,216,219																			
221	480V Switchgear, Transf. & MCC Bus System Turnove	5 days	3/16/18	3/22/18	217,219																			

█ Critical Task    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	December 1		January 11		March 21		June 1		August 11		October 21		January 1		March 11		May 21	
						12/3	1/7	2/11	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7	5/12	6/16	
222	HVAC Functional & Performance Tests	15 days?	3/16/18	4/5/18	218						0%												
223	UPS Functional & Performance Tests	10 days	3/16/18	3/29/18	218						0%												
224	HVAC and UPS Turnover	15 days?	4/6/18	4/26/18	222,223						0%												
225	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>27 days?</b>	<b>3/2/18</b>	<b>4/9/18</b>																			
226	Fiber Network/Controller Commissioning	10 days	3/2/18	3/15/18	212						0%												
227	DCS Interface - PMS/Distribution Network & RIO	12 days	3/16/18	4/2/18	226						0%												
228	PMS Interface - PMS/Distribution Network & RIO, 13	12 days	3/16/18	4/2/18	226						0%												
229	ICSS Interface - Interim Turnover	3 days?	4/3/18	4/5/18	227						0%												
230	PMS Interface - Interim Turnover	5 days	4/3/18	4/9/18	228						0%												
231	<b>MS-4 Motor Controls and Solo Runs</b>	<b>26.25 days</b>	<b>4/11/18</b>	<b>5/17/18</b>																			
232	MCC Cubicle Local and DCS Control/Status Tests	13 days	4/11/18	4/30/18	238FF-1 wk						0%												
233	DCS Interface - Motors - Network & RIO	9 days	4/17/18	4/30/18	238FF-1 wk						0%												
234	Ready for Energization - SNA Forecast	0 days	5/5/18	5/5/18																			
235	Perform Process Motor Bumps / Solo Runs	7 days	5/9/18	5/17/18	238						0%												
236	Upstream sub energized	0 days	4/23/18	4/23/18	125																		
237	Ready for Energization	0 days	4/26/18	4/26/18	215,230																		
238	Check, Energize and ready to distribute	8 days	4/27/18	5/8/18	237,236						0%												
239	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>4 days</b>	<b>5/9/18</b>	<b>5/14/18</b>																			
240	8000 Area Lighting Transformers/Panels Energization	4 days	5/9/18	5/14/18	238						0%												
241	<b>985 - LCF Sasol Raw Water Treatment - Sub 15</b>	<b>38.5 days?</b>	<b>1/25/18</b>	<b>3/19/18</b>																			
242	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>15 days?</b>	<b>1/25/18</b>	<b>2/13/18</b>																			
243	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18							0%												
244	7000 Area Cathodic Protection Walkdown & Accepta	10 days?	1/25/18	2/6/18							0%												
245	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18							0%												
246	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	2/1/18	2/13/18	243						0%												
247	<b>Turnover Documentation</b>	<b>38.5 days?</b>	<b>1/25/18</b>	<b>3/19/18</b>																			
248	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18							0%												
249	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18							0%												
250	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18							0%												
251	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18							0%												
252	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	3/16/18	3/19/18	238FS-6 wks						0%												
253	<b>982-SS-16 Waste Water (Upstream Sub 31)</b>	<b>96.5 days?</b>	<b>1/24/18</b>	<b>6/6/18</b>																			
254	<b>Vendor Support Call Out</b>	<b>0 days</b>	<b>1/24/18</b>	<b>1/24/18</b>																			
255	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	1/24/18	1/24/18	270SF-6 wks																		
256	<b>Turnover Documentation</b>	<b>62.5 days</b>	<b>2/20/18</b>	<b>5/17/18</b>																			
257	Issue Substation PWP, Matrix & ITRs	5 days	2/20/18	2/27/18	262SF-2 wks						0%												

█ Critical Task    
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 █ Baseline Milestone    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 1 12/3	January 11 1/7	February 11 2/11	March 21 3/18	April 22 4/22	June 1 5/27	July 1 7/1	August 11 8/5	September 9 9/9	October 21 10/14	November 18 11/18	December 23 12/23	January 1 1/27	February 3 3/3	March 11 4/7	April 12 5/12	May 16 6/16	
258	Receive completed QVDs from WC and status MCPlus	5 days	3/16/18	3/22/18	262				0%														
259	Verify WC upload of QVDs to POL	1 day	3/16/18	3/16/18	262				0%														
260	Receive completed ITRs from WC and status MCPlus	5 days	5/11/18	5/17/18	269					0%													
261	Verify WC upload of ITRs to POL	1 day	5/11/18	5/11/18	269					0%													
262	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>3/16/18</b>	<b>3/16/18</b>					3/16														
263	15kV Critical incomer Dress, Acceptance Test & Term	0 days	3/16/18	3/16/18					3/16														
264	15kV Incomers Dress, Acceptance Test & Term	0 days	3/16/18	3/16/18					3/16														
265	Commissioning power for building HVAC/UPS	0 days	3/16/18	3/16/18					3/16														
266	Fiber Network Pull, Term and Test	0 days	3/16/18	3/16/18					3/16														
267	Substation Installation Test	0 days	3/16/18	3/16/18					3/16														
268	Transformers Static Test	0 days	3/16/18	3/16/18					3/16														
269	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days?</b>	<b>3/16/18</b>	<b>5/10/18</b>																			
270	5kV Switchgear & MCC Item and Functional Tests	10 days	3/16/18	3/29/18	262				0%														
271	480V Transformer-Switchgear & MCC Bus Functional	10 days	3/16/18	3/29/18	262				0%														
272	Substation Building and Yard Acceptance & Turnover	10 days	3/16/18	3/29/18	262				0%														
273	Transformers Functional Test	8 days	3/16/18	3/27/18	268				0%														
274	5kV Switchgear & MCC Turnover	5 days	3/30/18	4/5/18	272,270,273				0%														
275	480V Switchgear, Transf. & MCC Bus System Turnover	15 days?	3/30/18	4/19/18	271,273				0%														
276	HVAC Functional & Performance Tests	15 days?	3/30/18	4/19/18	272				0%														
277	UPS Functional & Performance Tests	10 days	3/30/18	4/12/18	272				0%														
278	HVAC and UPS Turnover	15 days?	4/20/18	5/10/18	276,277				0%														
279	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>29 days?</b>	<b>3/16/18</b>	<b>4/25/18</b>																			
280	Fiber Network/Controller Commissioning	10 days	3/16/18	3/29/18	266				0%														
281	DCS Interface - PMS/Distribution Network & RIO	12 days	3/30/18	4/16/18	280				0%														
282	PMS Interface - PMS/Distribution Network & RIO, 15	14 days	3/30/18	4/18/18	280				0%														
283	ICSS Interface - Interim Turnover	3 days?	4/17/18	4/19/18	281				0%														
284	PMS Interface - Interim Turnover	5 days	4/19/18	4/25/18	282				0%														
285	<b>MS-4 Motor Controls and Solo Runs</b>	<b>39.25 days</b>	<b>4/12/18</b>	<b>6/6/18</b>																			
286	MCC Cubicle Local and DCS Control/Status Tests	22 days	4/12/18	5/14/18	291FF-1 wk				0%														
287	DCS Interface - Motors - Network & RIO	9 days	5/1/18	5/14/18	291FF-1 wk				0%														
288	Perform Process Motor Bumps / Solo Runs	11 days	5/23/18	6/6/18	291				0%														
289	Upstream sub energized	0 days	4/23/18	4/23/18	125				4/23														
290	Ready for Energization	0 days	5/10/18	5/10/18	269,284				5/10														
291	Check, Energize and ready to distribute	8 days	5/11/18	5/22/18	289,290				0%														
292	Ready for Energization - SNA Forecast	0 days	5/20/18	5/20/18					5/20														
293	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>6 days</b>	<b>5/23/18</b>	<b>5/30/18</b>																			
294	8000 Area Lighting Transformers/Panels Energization	6 days	5/23/18	5/30/18	291				0%														
295	982 - LCF Waste Water System - Sub 16	48.5 days?	1/25/18	4/2/18																			

█ Critical Task    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 12/3	Jan 11 1/7	Jan 21 2/11	Mar 21 3/18	Apr 22 4/22	June 1 5/27	July 1 7/1	Aug 11 8/5	Aug 11 9/9	Oct 21 10/14	Oct 21 11/18	Jan 1 12/23	Jan 1 1/27	Mar 11 3/3	Mar 11 4/7	May 21 5/12	May 21 6/16	
296	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>15 days?</b>	<b>1/25/18</b>	<b>2/13/18</b>																			
297	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18			0%																
298	7000 Area Cathodic Protection Walkdown & Acceptance	10 days?	1/25/18	2/6/18			0%																
299	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	1/25/18	2/6/18			0%																
300	9000 Area Grounding Walkdown & Acceptance	10 days?	2/1/18	2/13/18	297		0%																
301	<b>Turnover Documentation</b>	<b>48.5 days?</b>	<b>1/25/18</b>	<b>4/2/18</b>																			
302	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%																
303	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%																
304	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18			0%																
305	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18			0%																
306	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	3/30/18	4/2/18	291FS-6 wks				0%														
307	<b>087-SS-17 MEG/Ethylene Storage (Upstream Sub 31)</b>	<b>94.5 days?</b>	<b>1/24/18</b>	<b>6/4/18</b>																			
308	<b>Vendor Support Call Out</b>	<b>0 days</b>	<b>1/24/18</b>	<b>1/24/18</b>			1/24																
309	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	1/24/18	1/24/18	324SF-6 wks		1/24																
310	<b>Turnover Documentation</b>	<b>62.5 days</b>	<b>2/20/18</b>	<b>5/17/18</b>																			
311	Issue Substation PWP, Matrix & ITRs	5 days	2/20/18	2/27/18	316SF-2 wks			0%															
312	Receive completed QVDs from WC and status MCPlus	5 days	3/16/18	3/22/18	316				0%														
313	Verify WC upload of QVDs to POL	1 day	3/16/18	3/16/18	316				0%														
314	Receive completed ITRs from WC and status MCPlus	5 days	5/11/18	5/17/18	323					0%													
315	Verify WC upload of ITRs to POL	1 day	5/11/18	5/11/18	323					0%													
316	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>3/16/18</b>	<b>3/16/18</b>					3/16														
317	15kV Critical incomer Dress, Acceptance Test & Term	0 days	3/16/18	3/16/18					3/16														
318	15kV Incomers Dress, Acceptance Test & Term	0 days	3/16/18	3/16/18					3/16														
319	Commissioning power for building HVAC/UPS	0 days	3/16/18	3/16/18					3/16														
320	Fiber Network Pull, Term and Test	0 days	3/16/18	3/16/18					3/16														
321	Substation Installation Test	0 days	3/16/18	3/16/18					3/16														
322	Transformers Static Test	0 days	3/16/18	3/16/18					3/16														
323	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days?</b>	<b>3/16/18</b>	<b>5/10/18</b>																			
324	5kV Switchgear & MCC Item and Functional Tests	8 days	3/16/18	3/27/18	316					0%													
325	480V Transformer-Switchgear & MCC Bus Functional	8 days	3/16/18	3/27/18	316					0%													
326	Substation Building and Yard Acceptance & Turnover	10 days	3/16/18	3/29/18	316					0%													
327	Transformers Functional Test	8 days	3/16/18	3/27/18	322					0%													
328	480V Switchgear, Transf. & MCC Bus System Turnover	5 days	3/28/18	4/3/18	325,327					0%													
329	5kV Switchgear & MCC Turnover	5 days	3/30/18	4/5/18	326,324,327					0%													
330	HVAC Functional & Performance Tests	15 days?	3/30/18	4/19/18	326					0%													
331	UPS Functional & Performance Tests	10 days	3/30/18	4/12/18	326					0%													

█ Critical Task    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	December 1		January 11		March 21		June 1		August 11		October 21		January 1		March 11		May 21	
						12/3	1/7	2/11	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7	5/12	6/16	
332	HVAC and UPS Turnover	15 days?	4/20/18	5/10/18	330,331																		
333	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>25 days?</b>	<b>3/16/18</b>	<b>4/19/18</b>																			
334	Fiber Network/Controller Commissioning	10 days	3/16/18	3/29/18	320																		
335	DCS Interface - PMS/Distribution Network & RIO	10 days	3/30/18	4/12/18	334																		
336	PMS Interface - PMS/Distribution Network & RIO	10 days	3/30/18	4/12/18	334																		
337	ICSS Interface - Interim Turnover	3 days?	4/13/18	4/17/18	335																		
338	PMS Interface - Interim Turnover	5 days	4/13/18	4/19/18	336																		
339	Upstream sub energized	0 days	4/23/18	4/23/18	125																		
340	<b>MS-4 Motor Controls and Solo Runs</b>	<b>28.25 days</b>	<b>4/25/18</b>	<b>6/4/18</b>																			
341	MCC Cubicle Local and DCS Control/Status Tests	12 days	4/25/18	5/11/18	345FF-1 wk																		
342	DCS Interface - Motors - Network & RIO	9 days	4/30/18	5/11/18	345FF-1 wk																		
343	Perform Process Motor Bumps / Solo Runs	10 days	5/22/18	6/4/18	345																		
344	Ready for Energization	0 days	5/10/18	5/10/18	323,338																		
345	Check, Energize and ready to distribute	7 days	5/11/18	5/21/18	339,344																		
346	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>10 days?</b>	<b>5/22/18</b>	<b>6/4/18</b>																			
347	8000 Area Lighting Transformers/Panels Energization	10 days?	5/22/18	6/4/18	345																		
348	Ready for Energization - SNA Forecast	0 days	5/27/18	5/27/18																			
349	<b>078 - Truck Loading Systems -Sub 17, 25</b>	<b>62.5 days?</b>	<b>1/25/18</b>	<b>4/20/18</b>																			
350	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>15 days?</b>	<b>1/25/18</b>	<b>2/13/18</b>																			
351	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18																			
352	7000 Area Cathodic Protection Walkdown & Acceptance	10 days?	1/25/18	2/6/18																			
353	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18																			
354	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	2/1/18	2/13/18	351																		
355	<b>Turnover Documentation</b>	<b>62.5 days?</b>	<b>1/25/18</b>	<b>4/20/18</b>																			
356	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18																			
357	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18																			
358	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18																			
359	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18																			
360	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	4/19/18	4/20/18	345FS-6 wks,656																		
361	<b>079 - Rail Car Loading Systems - Sub 17</b>	<b>47.5 days?</b>	<b>1/25/18</b>	<b>3/30/18</b>																			
362	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>15 days?</b>	<b>1/25/18</b>	<b>2/13/18</b>																			
363	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18																			
364	7000 Area Cathodic Protection Walkdown & Acceptance	10 days?	1/25/18	2/6/18																			
365	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18																			
366	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	2/1/18	2/13/18	363																		
367	<b>Turnover Documentation</b>	<b>47.5 days?</b>	<b>1/25/18</b>	<b>3/30/18</b>																			

█ Critical Task    
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  Baseline Milestone    
 █ Milestone    
 █ Summary Progress    
  Manual Summary    
  Baseline Summary    
  Summary    
  Project Summary    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 1 12/3	January 11 1/7	2/11	March 21 3/18	4/22	June 1 5/27	7/1	August 11 8/5	9/9	October 21 10/14	11/18	January 1 12/23	1/27	March 11 3/3	4/7	May 21 5/12	6/16	
368	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%																
369	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%																
370	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18			0%																
371	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18			0%																
372	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	3/29/18	3/30/18	345FS-6 wks				0%														
373	<b>981 - LCF Fire Water System - Follow on Stage 2 works - Sub 17</b>	<b>286.5 days?</b>	<b>2/20/17</b>	<b>3/30/18</b>		[Gantt bar from 2/20/17 to 3/30/18]																	
374	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>262.75 days?</b>	<b>2/20/17</b>	<b>2/26/18</b>		[Gantt bar from 2/20/17 to 2/26/18]																	
375	6000 Area Cable Tray Walkdown & Acceptance	243.38 days	2/20/17	1/31/18		[Dotted Gantt bar from 2/20/17 to 1/31/18]																	
376	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	259.63 days?	2/20/17	2/21/18	375	[Dotted Gantt bar from 2/20/17 to 2/21/18]																	
377	9000 Area Grounding Walkdown & Acceptance	262.75 days?	2/20/17	2/26/18		[Dotted Gantt bar from 2/20/17 to 2/26/18]																	
378	5000 Duct Banks Walkdown & Acceptance	2.5 days?	1/25/18	1/29/18		[Dotted Gantt bar from 1/25/18 to 1/29/18]																	
379	7000 Area Cathodic Protection Walkdown & Acceptance	2.5 days?	1/25/18	1/29/18		[Dotted Gantt bar from 1/25/18 to 1/29/18]																	
380	<b>Turnover Documentation</b>	<b>47.5 days?</b>	<b>1/25/18</b>	<b>3/30/18</b>		[Gantt bar from 1/25/18 to 3/30/18]																	
381	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%																
382	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%																
383	Verify WC upload of completed Motor Folder to POL	1 day?	1/26/18	1/26/18	381		0%																
384	Verify WC upload of QVDs to POL	1 day?	1/26/18	1/26/18	382		0%																
385	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	3/29/18	3/30/18	345FS-6 wks				0%														
386	<b>095-SS-11 West Cooling Tower (69kV Feed)</b>	<b>104.5 days?</b>	<b>12/21/17</b>	<b>5/17/18</b>		[Gantt bar from 12/21/17 to 5/17/18]																	
387	<b>Vendor Support Call Out</b>	<b>0 days</b>	<b>12/21/17</b>	<b>12/21/17</b>		◆ 12/21																	
388	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	12/21/17	12/21/17	390FS-6 wks	◆ 12/21																	
389	CAT - 6 week lead time	0 days	12/21/17	12/21/17	390SF-6 wks	◆ 12/21																	
390	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>2/14/18</b>	<b>2/14/18</b>		◆ 2/14																	
391	15kV Critical incomer Dress, Acceptance Test & Term	0 days	2/14/18	2/14/18		◆ 2/14																	
392	69kV Incomers Dress, Acceptance Test & Term	0 days	2/14/18	2/14/18		◆ 2/14																	
393	Commissioning power for building HVAC/UPS	0 days	2/14/18	2/14/18		◆ 2/14																	
394	Fiber Network Pull, Term and Test	0 days	2/14/18	2/14/18		◆ 2/14																	
395	Generator Installation Test	0 days	2/14/18	2/14/18		◆ 2/14																	
396	Substation Installation Test	0 days	2/14/18	2/14/18		◆ 2/14																	
397	Transformers Static Test	0 days	2/14/18	2/14/18		◆ 2/14																	
398	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days</b>	<b>2/14/18</b>	<b>4/10/18</b>		[Gantt bar from 2/14/18 to 4/10/18]																	
399	5kV Switchgear & MCC Item and Functional Tests	15 days	2/14/18	3/6/18	390	[Progress bar from 2/14/18 to 3/6/18] 0%																	
400	480V Transformer-Switchgear & MCC Bus Functional	15 days	2/14/18	3/6/18	390	[Progress bar from 2/14/18 to 3/6/18] 0%																	
401	Substation Building and Yard Acceptance & Turnover	10 days	2/14/18	2/27/18	390	[Progress bar from 2/14/18 to 2/27/18] 0%																	
402	Transformers Functional Test	8 days	2/14/18	2/23/18	397	[Progress bar from 2/14/18 to 2/23/18] 0%																	

█ Critical Task    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 12/3	Jan 11 1/7	Jan 21 2/11	Mar 21 3/18	Apr 22 4/22	June 1 5/27	July 1 7/1	Aug 11 8/5	Aug 11 9/9	Oct 21 10/14	Oct 21 11/18	Jan 1 12/23	Jan 1 1/27	Mar 11 3/3	Mar 11 4/7	May 21 5/12	May 21 6/16	
403	13.8kV Transformer-Switchgear Functional Tests	20 days	2/28/18	3/27/18	409FF,390				0%														
404	Generator & ATS Precomm Tests	5 days	2/28/18	3/6/18	401				0%														
405	HVAC Functional & Performance Tests	5 days	2/28/18	3/6/18	401				0%														
406	UPS Functional & Performance Tests	5 days	2/28/18	3/6/18	401				0%														
407	5kV Switchgear & MCC Turnover	10 days	3/7/18	3/20/18	401,399				0%														
408	480V Switchgear, Transf. & MCC Bus System Turnover	10 days	3/7/18	3/20/18	400				0%														
409	Generator & ATS Turnover	15 days	3/7/18	3/27/18	404,400				0%														
410	HVAC and UPS Turnover	15 days	3/7/18	3/27/18	405,406				0%														
411	13.8kV Switchgear & Transf. System Turnover	10 days	3/28/18	4/10/18	403				0%														
412	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>57 days?</b>	<b>2/14/18</b>	<b>5/3/18</b>																			
413	Fiber Network/Controller Commissioning	5 days	2/14/18	2/20/18	394				0%														
414	DCS Interface - PMS/Distribution Network & RIO	33 days	2/21/18	4/6/18	413				0%														
415	PMS Interface - PMS/Distribution Network & RIO, 451	33 days	3/13/18	4/26/18	413,467				0%														
416	ICSS Interface - Interim Turnover	3 days?	4/9/18	4/11/18	414,466				0%														
417	PMS Interface - Interim Turnover	5 days	4/27/18	5/3/18	415				0%														
418	<b>Turnover Documentation</b>	<b>45 days</b>	<b>2/14/18</b>	<b>4/17/18</b>	<b>390</b>																		
419	Receive completed ITRs from WC and status MCPlus	5 days	2/14/18	2/20/18	404SF-6 wks				0%														
420	Verify WC upload of ITRs to POL	1 day	2/14/18	2/14/18	403SF-6 wks				0%														
421	Verify WC upload of QVDs to POL	1 day	2/14/18	2/14/18	393				0%														
422	Issue Substation PWP, Matrix & ITRs	5 days	4/11/18	4/17/18	398				0%														
423	Receive completed QVDs from WC and status MCPlus	5 days	4/11/18	4/17/18	393,398				0%														
424	Ready for Energization - SNA Forecast	0 days	4/1/18	4/1/18					4/1														
425	<b>MS-4 Motor Controls and Solo Runs</b>	<b>21.25 days</b>	<b>4/18/18</b>	<b>5/17/18</b>																			
426	MCC Cubicle Local and DCS Control/Status Tests	10 days	4/18/18	5/2/18	430FF-1 wk				0%														
427	DCS Interface - Motors - Network & RIO	9 days	4/19/18	5/2/18	430FF-1 wk				0%														
428	Perform Process Motor Bumps / Solo Runs	5 days	5/11/18	5/17/18	430				0%														
429	Ready for Energization	0 days	4/26/18	4/26/18	398,415				4/26														
430	Check, Energize and ready to distribute	10 days	4/27/18	5/10/18	429				0%														
431	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>3 days</b>	<b>5/11/18</b>	<b>5/15/18</b>																			
432	8000 Area Lighting Transformers/Panels Energization	3 days	5/11/18	5/15/18	430				0%														
433	<b>080 - Cooling Water Systems -Sub 11</b>	<b>40.5 days?</b>	<b>1/25/18</b>	<b>3/21/18</b>																			
434	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>25 days?</b>	<b>1/25/18</b>	<b>2/27/18</b>																			
435	5000 Duct Banks Walkdown & Acceptance	10 days?	1/25/18	2/6/18					0%														
436	7000 Area Cathodic Protection Walkdown & Acceptance	10 days?	1/25/18	2/6/18					0%														
437	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18					0%														
438	6000 Area Cable Tray Walkdown & Acceptance	5 days	2/7/18	2/13/18	437				0%														
439	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	2/14/18	2/27/18	438				0%														





# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 12/3	January 11 1/7	2/11	March 21 3/18	4/22	June 1 5/27	7/1	August 11 8/5	9/9	October 21 10/14	11/18	January 1 12/23	1/27	March 11 3/3	4/7	May 21 5/12	6/16
440	<b>Turnover Documentation</b>	<b>40.5 days?</b>	<b>1/25/18</b>	<b>3/21/18</b>																		
441	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%															
442	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%															
443	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18			0%															
444	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18			0%															
445	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	3/20/18	3/21/18	430FS-6 wks				0%													
446	<b>094-SS-21 West Control Building (Upstream Sub 11)</b>	<b>79 days?</b>	<b>2/1/18</b>	<b>5/21/18</b>																		
447	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>34 days?</b>	<b>2/1/18</b>	<b>3/19/18</b>																		
448	DC Charger Functional & Performance Tests	5 days	2/1/18	2/6/18			0%															
449	480V Transformer-Switchgear & MCC Bus Functional	12 days	2/9/18	2/26/18	462			0%														
450	Generator & ATS Precomm Tests	5 days	2/9/18	2/15/18	460			0%														
451	Substation Building and Yard Acceptance & Turnover	5 days	2/9/18	2/15/18	457			0%														
452	Transformers Static Test	4 days	2/9/18	2/14/18	463			0%														
453	DC Charger Turnover	5 days	2/16/18	2/22/18	448,450			0%														
454	Transformers Functional Test	8 days	2/16/18	2/27/18	463,451			0%														
455	Generator & ATS Turnover	10 days?	2/27/18	3/12/18	450,449				0%													
456	480V Switchgear, Transf. & MCC Bus System Turnover	5 days	3/13/18	3/19/18	449,455				0%													
457	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>2/9/18</b>	<b>2/9/18</b>			2/9															
458	13.8kV Incomers Dress, Acceptance Test & Term	0 days	2/9/18	2/9/18			2/9															
459	Fiber Network Pull, Term and Test	0 days	2/9/18	2/9/18			2/9															
460	Generator Installation Test	0 days	2/9/18	2/9/18			2/9															
461	Generator Section Replacement/Test	0 days	2/9/18	2/9/18			2/9															
462	Switchgear Construction Testing	0 days	2/9/18	2/9/18			2/9															
463	Transformer repairs	0 days	2/9/18	2/9/18			2/9															
464	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>27 days</b>	<b>2/9/18</b>	<b>3/19/18</b>																		
465	Fiber Network/Controller Commissioning	5 days	2/9/18	2/15/18	459			0%														
466	DCS Interface - PMS/Distribution Network & RIO	12 days	2/16/18	3/5/18	465			0%														
467	PMS Interface - PMS/Distribution Network & RIO	6 days	3/5/18	3/12/18	465,3				0%													
468	ICSS Interface - Interim Turnover	5 days	3/6/18	3/12/18	466				0%													
469	PMS Interface - Interim Turnover	5 days	3/13/18	3/19/18	467				0%													
470	<b>Turnover Documentation</b>	<b>32 days</b>	<b>2/9/18</b>	<b>3/26/18</b>																		
471	Receive completed QVDs from WC and status MCPlus	5 days	2/9/18	2/15/18	457				0%													
472	Verify WC upload of QVDs to POL	5 days	2/9/18	2/15/18	457				0%													
473	Receive completed ITRs from WC and status MCPlus	5 days	3/20/18	3/26/18	447																	
474	Verify WC upload of ITRs to POL	5 days	3/20/18	3/26/18	447																	
475	Ready for Energization	0 days	3/19/18	3/19/18	447,469																	
476	<b>MS-4 Motor Controls and Solo Runs</b>	<b>18.25 days</b>	<b>4/25/18</b>	<b>5/21/18</b>																		

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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 1	January 11		March 21		June 1		August 11		October 21		January 1		March 11		May 21	
						12/3	1/7	2/11	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7	5/12	6/16
477	DCS Interface - Motors - Network & RIO	9 days	4/25/18	5/8/18	481FF-1 wk					0%												
478	MCC Cubicle Local and DCS Control/Status Tests	5 days	5/1/18	5/8/18	481FF-1 wk					0%												
479	Perform Process Motor Bumps / Solo Runs	3 days	5/17/18	5/21/18	481					0%												
480	Upstream sub energized	0 days	5/10/18	5/10/18	430					5/10												
481	Check, Energize and ready to distribute	4 days	5/11/18	5/16/18	475,480					0%												
482	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>2 days</b>	<b>5/17/18</b>	<b>5/18/18</b>																		
483	8000 Area Lighting Transformers/Panels Energization	2 days	5/17/18	5/18/18	481					0%												
484	<b>052 - Ethylene-2 Support Systems - Sub 36</b>	<b>53.5 days?</b>	<b>1/25/18</b>	<b>4/9/18</b>																		
485	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>25 days?</b>	<b>1/25/18</b>	<b>2/27/18</b>																		
486	5000 Duct Banks Walkdown & Acceptance	10 days?	1/25/18	2/6/18						0%												
487	7000 Area Cathodic Protection Walkdown & Acceptance	10 days?	1/25/18	2/6/18						0%												
488	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18						0%												
489	6000 Area Cable Tray Walkdown & Acceptance	5 days	2/7/18	2/13/18	486					0%												
490	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	2/14/18	2/27/18	489					0%												
491	<b>Turnover Documentation</b>	<b>53.5 days?</b>	<b>1/25/18</b>	<b>4/9/18</b>																		
492	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18						0%												
493	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18						0%												
494	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18						0%												
495	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18						0%												
496	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	4/6/18	4/9/18	571FS-6 wks					0%												
497	<b>055 - Ethylene Export Compression Area - Sub 36</b>	<b>53.5 days?</b>	<b>1/25/18</b>	<b>4/9/18</b>																		
498	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>15 days?</b>	<b>1/25/18</b>	<b>2/13/18</b>																		
499	5000 Duct Banks Walkdown & Acceptance - none	10 days?	1/25/18	2/6/18						0%												
500	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18						0%												
501	7000 Area Cathodic Protection Walkdown & Acceptance - none	10 days?	1/25/18	2/6/18						0%												
502	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18						0%												
503	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	2/1/18	2/13/18	500					0%												
504	<b>Turnover Documentation</b>	<b>53.5 days?</b>	<b>1/25/18</b>	<b>4/9/18</b>																		
505	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18						0%												
506	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18						0%												
507	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18						0%												
508	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18						0%												
509	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	4/6/18	4/9/18	571FS-6 wks					0%												
510	<b>082 - Fuel Gas Unit - Sub 36</b>	<b>50.5 days?</b>	<b>1/25/18</b>	<b>4/4/18</b>																		

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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 12/3	Jan 11 1/7	Jan 21 2/11	Mar 21 3/18	Apr 22 4/22	June 1 5/27	July 1 7/1	Aug 11 8/5	Aug 11 9/9	Oct 21 10/14	Oct 21 11/18	Jan 1 12/23	Jan 1 1/27	Mar 11 3/3	Mar 11 4/7	May 21 5/12	May 21 6/16	
511	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>10 days?</b>	<b>1/25/18</b>	<b>2/6/18</b>			0%																
512	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18			0%																
513	7000 Area Cathodic Protection Walkdown & Acceptance	10 days?	1/25/18	2/6/18			0%																
514	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	1/25/18	2/6/18			0%																
515	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18			0%																
516	<b>Turnover Documentation</b>	<b>50.5 days?</b>	<b>1/25/18</b>	<b>4/4/18</b>																			
517	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%																
518	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18			0%																
519	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18			0%																
520	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	4/3/18	4/4/18	56FS-6 wks				0%														
521	<b>083 - Plant and Instrument Air Unit - Sub 36</b>	<b>53.5 days?</b>	<b>1/25/18</b>	<b>4/9/18</b>																			
522	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>15 days?</b>	<b>1/25/18</b>	<b>2/13/18</b>																			
523	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18			0%																
524	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18			0%																
525	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	2/1/18	2/13/18	523			0%															
526	<b>Turnover Documentation</b>	<b>53.5 days?</b>	<b>1/25/18</b>	<b>4/9/18</b>																			
527	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%																
528	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%																
529	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18			0%																
530	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18			0%																
531	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	4/6/18	4/9/18	571FS-6 wks				0%														
532	<b>095-SS-36 South UO&amp;I @ Cracker (Upstream Sub 11)</b>	<b>97.5 days?</b>	<b>1/31/18</b>	<b>6/14/18</b>																			
533	<b>Vendor Support Call Out</b>	<b>0 days</b>	<b>1/31/18</b>	<b>1/31/18</b>			1/31																
534	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	1/31/18	1/31/18	550SF-6 wks		1/31																
535	<b>Turnover Documentation</b>	<b>62.5 days</b>	<b>2/27/18</b>	<b>5/24/18</b>																			
536	Issue Substation PWP, Matrix & ITRs	5 days	2/27/18	3/6/18	541SF-2 wks			0%															
537	Receive completed QVDs from WC and status MCPlus	5 days	3/23/18	3/29/18	541				0%														
538	Verify WC upload of QVDs to POL	1 day	3/23/18	3/23/18	541				0%														
539	Receive completed ITRs from WC and status MCPlus	5 days	5/18/18	5/24/18	548					0%													
540	Verify WC upload of ITRs to POL	1 day	5/18/18	5/18/18	548					0%													
541	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>3/23/18</b>	<b>3/23/18</b>					3/23														
542	15kV Critical incomer Dress, Acceptance Test & Term	0 days	3/23/18	3/23/18					3/23														
543	15kV Incomers Dress, Acceptance Test & Term	0 days	3/23/18	3/23/18					3/23														
544	Commissioning power for building HVAC/UPS	0 days	3/23/18	3/23/18					3/23														
545	Fiber Network Pull, Term and Test	0 days	3/23/18	3/23/18					3/23														
546	Substation Installation Test	0 days	3/23/18	3/23/18					3/23														

█ Critical Task    
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 █ Summary Progress    
 █ Manual Summary    
 █ Baseline Summary    
 █ Summary    
 █ Project Summary    
 █ Slippage

# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 1 12/3	January 11 1/7	February 11 2/11	March 21 3/18	April 22 4/22	June 1 5/27	July 1 7/1	August 11 8/5	September 9 9/9	October 21 10/14	November 18 11/18	December 23 12/23	January 1 1/27	February 3 3/3	March 11 4/7	April 12 5/12	May 16 6/16	
547	Transformers Static Test	0 days	3/23/18	3/23/18					◆ 3/23														
548	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days?</b>	<b>3/23/18</b>	<b>5/17/18</b>					▬														
549	5kV Switchgear & MCC Item and Functional Tests	12 days	3/23/18	4/9/18	541				▬ 0%														
550	480V Transformer-Switchgear & MCC Bus Functional	12 days	3/23/18	4/9/18	541				▬ 0%														
551	Substation Building and Yard Acceptance & Turnover	10 days	3/23/18	4/5/18	541				▬ 0%														
552	Transformers Functional Test	8 days	3/23/18	4/3/18	547				▬ 0%														
553	HVAC Functional & Performance Tests	15 days?	4/6/18	4/26/18	551				▬ 0%														
554	UPS Functional & Performance Tests	10 days	4/6/18	4/19/18	551				▬ 0%														
555	5kV Switchgear & MCC Turnover	5 days	4/10/18	4/16/18	551,549,552				▬ 0%														
556	480V Switchgear, Transf. & MCC Bus System Turnover	5 days	4/10/18	4/16/18	550,552				▬ 0%														
557	HVAC and UPS Turnover	15 days?	4/27/18	5/17/18	553,554					▬ 0%													
558	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>27 days?</b>	<b>3/23/18</b>	<b>4/30/18</b>					▬														
559	Fiber Network/Controller Commissioning	10 days	3/23/18	4/5/18	545,633				▬ 0%														
560	DCS Interface - PMS/Distribution Network & RIO	12 days	4/6/18	4/23/18	559				▬ 0%														
561	PMS Interface - PMS/Distribution Network & RIO	12 days	4/6/18	4/23/18	559				▬ 0%														
562	ICSS Interface - Interim Turnover	3 days?	4/24/18	4/26/18	560				▬ 0%														
563	PMS Interface - Interim Turnover	5 days	4/24/18	4/30/18	561				▬ 0%														
564	<b>MS-4 Motor Controls and Solo Runs</b>	<b>41.25 days</b>	<b>4/18/18</b>	<b>6/14/18</b>					▬														
565	MCC Cubicle Local and DCS Control/Status Tests	23 days	4/18/18	5/21/18	571FF-1 wk				▬ 0%														
566	DCS Interface - Motors - Network & RIO	9 days	5/8/18	5/21/18	571FF-1 wk				▬ 0%														
567	Perform Process Motor Bumps / Solo Runs	12 days	5/30/18	6/14/18	571					▬ 0%													
568	Ready for Energization - SNA Forecast	0 days	4/30/18	4/30/18					◆ 4/30														
569	Upstream sub energized	0 days	5/10/18	5/10/18	430				◆ 5/10														
570	Ready for Energization	0 days	5/17/18	5/17/18	548,563				◆ 5/17														
571	Check, Energize and ready to distribute	8 days	5/18/18	5/29/18	569,570				▬ 0%														
572	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>6 days</b>	<b>5/30/18</b>	<b>6/6/18</b>					▬														
573	8000 Area Lighting Transformers/Panels Energization	6 days	5/30/18	6/6/18	571				▬ 0%														
574	<b>995-SS-22 Maintenance Building (Upstream Sub 11)</b>	<b>97.5 days?</b>	<b>1/24/18</b>	<b>6/7/18</b>					▬														
575	<b>Vendor Support Call Out</b>	<b>10 days</b>	<b>1/24/18</b>	<b>2/6/18</b>					▬														
576	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	1/24/18	1/24/18	593SF-6 wks				◆ 1/24														
577	CAT - 6 week lead time	0 days	2/6/18	2/6/18	597SF-6 wks				◆ 2/6														
578	<b>Turnover Documentation</b>	<b>62.5 days</b>	<b>2/20/18</b>	<b>5/17/18</b>					▬														
579	Issue Substation PWP, Matrix & ITRs	5 days	2/20/18	2/27/18	584SF-2 wks				▬ 0%														
580	Receive completed QVDs from WC and status MCPlus	5 days	3/16/18	3/22/18	584				▬ 0%														
581	Verify WC upload of QVDs to POL	1 day	3/16/18	3/16/18	584				▬ 0%														
582	Receive completed ITRs from WC and status MCPlus	5 days	5/11/18	5/17/18	592				▬ 0%														
583	Verify WC upload of ITRs to POL	1 day	5/11/18	5/11/18	592				▬ 0%														
584	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>3/16/18</b>	<b>3/16/18</b>					◆ 3/16														

▬ Critical Task    
 ▬ Manual Task    
 ▬ Baseline Milestone    
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 ◆ Summary Progress    
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 ▬ Slippage



# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 1 12/3	January 11 1/7	February 11 2/11	March 21 3/18	April 22 4/22	June 1 5/27	July 1 7/1	August 11 8/5	September 9 9/9	October 21 10/14	November 18 11/18	December 23 12/23	January 1 1/27	February 3 3/3	March 11 4/7	April 12 5/12	May 16 6/16	
585	13.8kV Incomers Dress, Acceptance Test & Term	0 days	3/16/18	3/16/18					◆ 3/16														
586	15kV Critical incomer Dress, Acceptance Test & Term	0 days	3/16/18	3/16/18					◆ 3/16														
587	Commissioning power for building HVAC/UPS	0 days	3/16/18	3/16/18					◆ 3/16														
588	Fiber Network Pull, Term and Test	0 days	3/16/18	3/16/18					◆ 3/16														
589	Generator Installation Test	0 days	3/16/18	3/16/18					◆ 3/16														
590	Substation Installation Test	0 days	3/16/18	3/16/18					◆ 3/16														
591	Transformers Static Test	0 days	3/16/18	3/16/18					◆ 3/16														
592	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days?</b>	<b>3/16/18</b>	<b>5/10/18</b>					▬														
593	13.8kV Transformer-Switchgear Functional Tests	13 days	3/16/18	4/3/18	584				▬ 0%														
594	480V Transformer-Switchgear & MCC Bus Functional	13 days	3/16/18	4/3/18	584				▬ 0%														
595	Substation Building and Yard Acceptance & Turnover	10 days	3/16/18	3/29/18	584				▬ 0%														
596	Transformers Functional Test	8 days	3/16/18	3/27/18	591				▬ 0%														
597	Generator & ATS Precomm Tests	10 days?	3/30/18	4/12/18	595				▬ 0%														
598	HVAC Functional & Performance Tests	15 days?	3/30/18	4/19/18	595				▬ 0%														
599	UPS Functional & Performance Tests	10 days	3/30/18	4/12/18	595				▬ 0%														
600	13.8kV Switchgear & Transf. System Turnover	5 days	4/4/18	4/10/18	593,596				▬ 0%														
601	480V Switchgear, Transf. & MCC Bus System Turnover	5 days	4/4/18	4/10/18	594,596				▬ 0%														
602	Generator & ATS Turnover	10 days?	4/13/18	4/26/18	597				▬ 0%														
603	HVAC and UPS Turnover	15 days?	4/20/18	5/10/18	598,599				▬ 0%														
604	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>34 days?</b>	<b>3/16/18</b>	<b>5/2/18</b>					▬														
605	Fiber Network/Controller Commissioning	10 days	3/16/18	3/29/18	588				▬ 0%														
606	DCS Interface - PMS/Distribution Network & RIO	19 days	3/30/18	4/25/18	605				▬ 0%														
607	PMS Interface - PMS/Distribution Network & RIO	19 days	3/30/18	4/25/18	605				▬ 0%														
608	ICSS Interface - Interim Turnover	3 days?	4/26/18	4/30/18	606				▬ 0%														
609	PMS Interface - Interim Turnover	5 days	4/26/18	5/2/18	607				▬ 0%														
610	<b>MS-4 Motor Controls and Solo Runs</b>	<b>24.25 days</b>	<b>5/4/18</b>	<b>6/7/18</b>					▬														
611	MCC Cubicle Local and DCS Control/Status Tests	12 days	5/4/18	5/22/18	616FF-1 wk				▬ 0%														
612	DCS Interface - Motors - Network & RIO	9 days	5/9/18	5/22/18	616FF-1 wk				▬ 0%														
613	Perform Process Motor Bumps / Solo Runs	6 days	5/31/18	6/7/18	616				▬ 0%														
614	Ready for Energization	0 days	5/10/18	5/10/18	592,609				◆ 5/10														
615	Upstream sub energized	0 days	5/10/18	5/10/18	430				◆ 5/10														
616	Check, Energize and ready to distribute	14 days	5/11/18	5/30/18	615,614				▬ 0%														
617	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>3 days</b>	<b>5/31/18</b>	<b>6/4/18</b>					▬														
618	8000 Area Lighting Transformers/Panels Energization	3 days	5/31/18	6/4/18	616				▬ 0%														
619	Ready for Energization - SNA Forecast	0 days	6/3/18	6/3/18					◆ 6/3														
620	<b>086-SS-25 Alcohol Storage (Upstream Sub 22)</b>	<b>112.5 days?</b>	<b>1/24/18</b>	<b>6/28/18</b>					▬														
621	Vendor Support Call Out	0 days	1/24/18	1/24/18					◆ 1/24														
622	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	1/24/18	1/24/18	637SF-6 wks				◆ 1/24														

▬ Critical Task    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	December 1	January			March		June 1	August		October		January		March		May	
						12/3	1/7	2/11	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7	5/12	6/16
623	<b>Turnover Documentation</b>	<b>62.5 days</b>	<b>2/20/18</b>	<b>5/17/18</b>																		
624	Issue Substation PWP, Matrix & ITRs	5 days	2/20/18	2/27/18	629SF-2 wks																	
625	Receive completed QVDs from WC and status MCPlus	5 days	3/16/18	3/22/18	629																	
626	Verify WC upload of QVDs to POL	1 day	3/16/18	3/16/18	629																	
627	Receive completed ITRs from WC and status MCPlus	5 days	5/11/18	5/17/18	636																	
628	Verify WC upload of ITRs to POL	1 day	5/11/18	5/11/18	636																	
629	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>3/16/18</b>	<b>3/16/18</b>																		
630	15kV Critical incomer Dress, Acceptance Test & Term	0 days	3/16/18	3/16/18																		
631	15kV Incomers Dress, Acceptance Test & Term	0 days	3/16/18	3/16/18																		
632	Commissioning power for building HVAC/UPS	0 days	3/16/18	3/16/18																		
633	Fiber Network Pull, Term and Test	0 days	3/16/18	3/16/18																		
634	Substation Installation Test	0 days	3/16/18	3/16/18																		
635	Transformers Static Test	0 days	3/16/18	3/16/18																		
636	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days?</b>	<b>3/16/18</b>	<b>5/10/18</b>																		
637	480V Transformer-Switchgear & MCC Bus Functional	10 days	3/16/18	3/29/18	629																	
638	Substation Building and Yard Acceptance & Turnover	10 days	3/16/18	3/29/18	629																	
639	Transformers Functional Test	8 days	3/16/18	3/27/18	635																	
640	480V Switchgear, Transf. & MCC Bus System Turnover	5 days	3/30/18	4/5/18	637,639																	
641	HVAC Functional & Performance Tests	15 days?	3/30/18	4/19/18	638																	
642	UPS Functional & Performance Tests	10 days	3/30/18	4/12/18	638																	
643	HVAC and UPS Turnover	15 days?	4/20/18	5/10/18	641,642																	
644	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>25 days?</b>	<b>3/16/18</b>	<b>4/19/18</b>																		
645	Fiber Network/Controller Commissioning	10 days	3/16/18	3/29/18	633																	
646	DCS Interface - PMS/Distribution Network & RIO	11 days	3/30/18	4/13/18	645																	
647	PMS Interface - PMS/Distribution Network & RIO	10 days	3/30/18	4/12/18	645																	
648	PMS Interface - Interim Turnover	5 days	4/13/18	4/19/18	647																	
649	ICSS Interface - Interim Turnover	3 days?	4/16/18	4/18/18	646																	
650	<b>MS-4 Motor Controls and Solo Runs</b>	<b>44.25 days</b>	<b>4/27/18</b>	<b>6/28/18</b>																		
651	MCC Cubicle Local and DCS Control/Status Tests	25 days	4/27/18	6/1/18	656FF-1 wk																	
652	DCS Interface - Motors - Network & RIO	9 days	5/21/18	6/1/18	656FF-1 wk																	
653	Perform Process Motor Bumps / Solo Runs	13 days	6/12/18	6/28/18	656																	
654	Ready for Energization	0 days	5/10/18	5/10/18	636,648																	
655	Upstream sub energized	0 days	5/30/18	5/30/18	616																	
656	Check, Energize and ready to distribute	8 days	5/31/18	6/11/18	654,655																	
657	Ready for Energization - SNA Forecast	0 days	6/10/18	6/10/18																		
658	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>7 days</b>	<b>6/12/18</b>	<b>6/20/18</b>																		
659	8000 Area Lighting Transformers/Panels Energization	7 days	6/12/18	6/20/18	656																	
660	<b>085 - Alcohol Truck Unloading - Sub 25</b>	<b>62.5 days?</b>	<b>1/25/18</b>	<b>4/20/18</b>																		



# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 12/3	January 11 1/7	2/11	March 21 3/18	4/22	June 1 5/27	7/1	August 11 8/5	9/9	October 21 10/14	11/18	January 1 12/23	1/27	March 11 3/3	4/7	May 21 5/12	6/16
661	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>6.25 days?</b>	<b>1/25/18</b>	<b>2/2/18</b>			0%															
662	5000 Duct Banks Walkdown & Acceptance	0.63 days?	1/25/18	1/25/18			0%															
663	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18			0%															
664	7000 Area Cathodic Protection Walkdown & Acceptance	0.63 days?	1/25/18	1/25/18			0%															
665	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	1.25 days?	2/1/18	2/2/18	663		0%															
666	<b>Turnover Documentation</b>	<b>62.5 days?</b>	<b>1/25/18</b>	<b>4/20/18</b>																		
667	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%															
668	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%															
669	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18			0%															
670	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18			0%															
671	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	4/19/18	4/20/18	656FS-6 wks				0%													
672	<b>086 - Alcohol Rail Storage Area - Sub 25</b>	<b>62.5 days?</b>	<b>1/25/18</b>	<b>4/20/18</b>																		
673	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>15 days?</b>	<b>1/25/18</b>	<b>2/13/18</b>			0%															
674	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18			0%															
675	7000 Area Cathodic Protection Walkdown & Acceptance	10 days?	1/25/18	2/6/18			0%															
676	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18			0%															
677	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	2/1/18	2/13/18	674		0%															
678	<b>Turnover Documentation</b>	<b>62.5 days?</b>	<b>1/25/18</b>	<b>4/20/18</b>																		
679	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%															
680	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%															
681	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18			0%															
682	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18			0%															
683	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	4/19/18	4/20/18	656FS-6 wks				0%													
684	<b>035 - Guerbet Alcohols - Sub 26</b>	<b>267.5 days?</b>	<b>1/25/18</b>	<b>1/31/19</b>																		
685	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>15 days?</b>	<b>1/25/18</b>	<b>2/13/18</b>			0%															
686	5000 Duct Banks Walkdown & Acceptance	10 days?	1/25/18	2/6/18			0%															
687	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18			0%															
688	7000 Area Cathodic Protection Walkdown & Acceptance	10 days?	1/25/18	2/6/18			0%															
689	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18			0%															
690	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	2/1/18	2/13/18	687		0%															
691	<b>Turnover Documentation</b>	<b>267.5 days?</b>	<b>1/25/18</b>	<b>1/31/19</b>																		
692	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%															
693	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18			0%															

█ Critical Task    
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 █ Summary Progress    
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 █ Summary    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	December 1		January 11		March 21		June 1		August 11		October 21		January 1		March 11		May 21	
						12/3	1/7	2/11	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7	5/12	6/16	
694	Receive completed QVDs from WC and status MCPlus	1 day?	2/14/18	2/14/18	690				0%														
695	Verify WC upload of QVDs to POL	1 day?	2/14/18	2/14/18	690			0%															
696	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	1/30/19	1/31/19	748FS-6 wks														0%				
697	<b>040 ETO - 4/5 -Sub 26</b>	<b>267.5 days?</b>	<b>1/25/18</b>	<b>1/31/19</b>																			
698	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>6.25 days?</b>	<b>1/25/18</b>	<b>2/2/18</b>																			
699	5000 Duct Banks Walkdown & Acceptance	0.63 days?	1/25/18	1/25/18				0%															
700	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18				0%															
701	7000 Area Cathodic Protection Walkdown & Acceptance	0.63 days?	1/25/18	1/25/18				0%															
702	9000 Area Grounding Walkdown & Acceptance	1.25 days?	1/25/18	1/26/18				0%															
703	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	1.25 days?	2/1/18	2/2/18	700			0%															
704	<b>Turnover Documentation</b>	<b>267.5 days?</b>	<b>1/25/18</b>	<b>1/31/19</b>																			
705	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18				0%															
706	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18				0%															
707	Receive completed QVDs from WC and status MCPlus	1 day?	2/2/18	2/3/18	703			0%															
708	Verify WC upload of QVDs to POL	1 day?	2/2/18	2/3/18	703			0%															
709	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	1/30/19	1/31/19	748FS-6 wks															0%			
710	<b>040-SS-26 Guebert/ETO (Upstream Sub 22)</b>	<b>227 days?</b>	<b>5/30/18</b>	<b>4/11/19</b>																			
711	Upstream sub energized	0 days	5/30/18	5/30/18	616							5/30											
712	<b>Vendor Support Call Out</b>	<b>0 days</b>	<b>11/8/18</b>	<b>11/8/18</b>																			
713	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	11/8/18	11/8/18	728SF-6 wks																		
714	<b>Turnover Documentation</b>	<b>62.5 days</b>	<b>12/6/18</b>	<b>3/4/19</b>																			
715	Issue Substation PWP, Matrix & ITRs	5 days	12/6/18	12/13/18	720SF-2 wks															0%			
716	Receive completed QVDs from WC and status MCPlus	5 days	1/1/19	1/7/19	720															0%			
717	Verify WC upload of QVDs to POL	1 day	1/1/19	1/1/19	720															0%			
718	Receive completed ITRs from WC and status MCPlus	5 days	2/26/19	3/4/19	727																0%		
719	Verify WC upload of ITRs to POL	1 day	2/26/19	2/26/19	727																0%		
720	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>1/1/19</b>	<b>1/1/19</b>																			
721	13.8kV Incomers Dress, Acceptance Test & Term	0 days	1/1/19	1/1/19																			
722	15kV Critical incomer Dress, Acceptance Test & Term	0 days	1/1/19	1/1/19																			
723	Commissioning power for building HVAC/UPS	0 days	1/1/19	1/1/19																			
724	Fiber Network Pull, Term and Test	0 days	1/1/19	1/1/19																			
725	Substation Installation Test	0 days	1/1/19	1/1/19																			
726	Transformers Static Test	0 days	1/1/19	1/1/19																			
727	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days?</b>	<b>1/1/19</b>	<b>2/25/19</b>																			
728	5kV Switchgear & MCC Item and Functional Tests	30 days	1/1/19	2/11/19	720																0%		
729	480V Transformer-Switchgear & MCC Bus Functional	30 days	1/1/19	2/11/19	720																0%		

█ Critical Task    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	December 1		January 11		March 21		June 1		August 11		October 21		January 1		March 11		May 21	
						12/3	1/7	2/11	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7	5/12	6/16	
730	Substation Building and Yard Acceptance & Turnover	10 days	1/1/19	1/14/19	720													0%					
731	Transformers Functional Test	8 days	1/1/19	1/10/19	726													0%					
732	HVAC Functional & Performance Tests	15 days?	1/15/19	2/4/19	730													0%					
733	UPS Functional & Performance Tests	10 days	1/15/19	1/28/19	730													0%					
734	HVAC and UPS Turnover	15 days?	2/5/19	2/25/19	732,733													0%					
735	5kV Switchgear & MCC Turnover	10 days	2/12/19	2/25/19	730,728													0%					
736	480V Switchgear, Transf. & MCC Bus System Turnover	10 days	2/12/19	2/25/19	729													0%					
737	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>45 days?</b>	<b>1/1/19</b>	<b>3/4/19</b>														0%					
738	Fiber Network/Controller Commissioning	10 days	1/1/19	1/14/19	724													0%					
739	DCS Interface - PMS/Distribution Network & RIO	30 days	1/15/19	2/25/19	738													0%					
740	PMS Interface - PMS/Distribution Network & RIO	30 days	1/15/19	2/25/19	738													0%					
741	ICSS Interface - Interim Turnover	3 days?	2/26/19	2/28/19	739													0%					
742	PMS Interface - Interim Turnover	5 days	2/26/19	3/4/19	740													0%					
743	<b>MS-4 Motor Controls and Solo Runs</b>	<b>32.25 days</b>	<b>2/26/19</b>	<b>4/11/19</b>														0%					
744	MCC Cubicle Local and DCS Control/Status Tests	12 days	2/26/19	3/14/19	748FF-1 wk													0%					
745	DCS Interface - Motors - Network & RIO	9 days	3/1/19	3/14/19	748FF-1 wk													0%					
746	Perform Process Motor Bumps / Solo Runs	14 days	3/25/19	4/11/19	748													0%					
747	Ready for Energization	0 days	3/4/19	3/4/19	727,742													3/4					
748	Check, Energize and ready to distribute	14 days	3/5/19	3/22/19	711,747													0%					
749	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>10 days?</b>	<b>3/25/19</b>	<b>4/5/19</b>														0%					
750	8000 Area Lighting Transformers/Panels Energization	10 days?	3/25/19	4/5/19	748													0%					
751	<b>994-SS-37 QC Lab / Maintenance Bldg. (Upstream Sub 2)</b>	<b>84.5 days?</b>	<b>3/7/18</b>	<b>7/3/18</b>														0%					
752	<b>Vendor Support Call Out</b>	<b>0 days</b>	<b>3/7/18</b>	<b>3/7/18</b>														3/7					
753	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	3/7/18	3/7/18	768SF-6 wks													3/7					
754	<b>Turnover Documentation</b>	<b>62.5 days</b>	<b>4/4/18</b>	<b>6/29/18</b>														0%					
755	Issue Substation PWP, Matrix & ITRs	5 days	4/4/18	4/11/18	760SF-2 wks													0%					
756	Receive completed QVDs from WC and status MCPlus	5 days	4/30/18	5/4/18	760													0%					
757	Verify WC upload of QVDs to POL	1 day	4/30/18	4/30/18	760													0%					
758	Receive completed ITRs from WC and status MCPlus	5 days	6/25/18	6/29/18	767													0%					
759	Verify WC upload of ITRs to POL	1 day	6/25/18	6/25/18	767													0%					
760	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>4/30/18</b>	<b>4/30/18</b>														4/30					
761	13.8kV Incomers Dress, Acceptance Test & Term	0 days	4/30/18	4/30/18														4/30					
762	15kV Critical incomer Dress, Acceptance Test & Term	0 days	4/30/18	4/30/18														4/30					
763	Commissioning power for building HVAC/UPS	0 days	4/30/18	4/30/18														4/30					
764	Fiber Network Pull, Term and Test	0 days	4/30/18	4/30/18														4/30					
765	Substation Installation Test	0 days	4/30/18	4/30/18														4/30					
766	Transformers Static Test	0 days	4/30/18	4/30/18														4/30					
767	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days?</b>	<b>4/30/18</b>	<b>6/22/18</b>														0%					

█ Critical Task    
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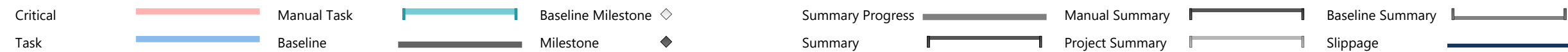
# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	December 18		January 18		March 18		June 18		August 18		October 18		January 19		March 19		May 19	
						12/3	12/10	1/7	1/14	2/11	2/18	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7
768	480V Transformer-Switchgear & MCC Bus Functional	5 days	4/30/18	5/4/18	760																		
769	Substation Building and Yard Acceptance & Turnover	10 days	4/30/18	5/11/18	760																		
770	Transformers Functional Test	8 days	4/30/18	5/9/18	766																		
771	480V Switchgear, Transf. & MCC Bus System Turnover	5 days	5/10/18	5/16/18	768,770																		
772	HVAC Functional & Performance Tests	15 days?	5/14/18	6/1/18	769																		
773	UPS Functional & Performance Tests	10 days	5/14/18	5/25/18	769																		
774	HVAC and UPS Turnover	15 days?	6/4/18	6/22/18	772,773																		
775	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>21 days?</b>	<b>4/30/18</b>	<b>5/28/18</b>																			
776	Fiber Network/Controller Commissioning	10 days	4/30/18	5/11/18	764																		
777	DCS Interface - PMS/Distribution Network & RIO	5 days	5/14/18	5/18/18	776																		
778	PMS Interface - PMS/Distribution Network & RIO	6 days	5/14/18	5/21/18	776																		
779	ICSS Interface - Interim Turnover	3 days?	5/21/18	5/23/18	777																		
780	PMS Interface - Interim Turnover	5 days	5/22/18	5/28/18	778																		
781	Upstream sub energized	0 days	5/30/18	5/30/18	616																		
782	<b>MS-4 Motor Controls and Solo Runs</b>	<b>21.25 days</b>	<b>6/4/18</b>	<b>7/3/18</b>																			
783	MCC Cubicle Local and DCS Control/Status Tests	10 days	6/4/18	6/18/18	787FF-1 wk																		
784	DCS Interface - Motors - Network & RIO	9 days	6/5/18	6/18/18	787FF-1 wk																		
785	Perform Process Motor Bumps / Solo Runs	5 days	6/27/18	7/3/18	787																		
786	Ready for Energization	0 days	6/22/18	6/22/18	767,780																		
787	Check, Energize and ready to distribute	2 days	6/25/18	6/26/18	786																		
788	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>3 days</b>	<b>6/27/18</b>	<b>6/29/18</b>																			
789	8000 Area Lighting Transformers/Panels Energization	3 days	6/27/18	6/29/18	787																		
790	<b>020-SS-20 EO/MEG (69kV Feed)</b>	<b>133 days?</b>	<b>6/18/18</b>	<b>12/18/18</b>																			
791	<b>Turnover Documentation</b>	<b>107 days</b>	<b>6/18/18</b>	<b>11/12/18</b>																			
792	15kV Critical incomer Dress, Acceptance Test & Term	0 days	6/18/18	6/18/18																			
793	Issue Substation PWP, Matrix & ITRs	5 days	8/8/18	8/15/18	801SF-2 wks																		
794	Receive completed QVDs from WC and status MCPlus	5 days	9/1/18	9/6/18	801																		
795	Verify WC upload of QVDs to POL	1 day	9/1/18	9/1/18	801																		
796	Receive completed ITRs from WC and status MCPlus	5 days	11/6/18	11/12/18	809																		
797	Verify WC upload of ITRs to POL	1 day	11/6/18	11/6/18	809																		
798	<b>Vendor Support Call Out</b>	<b>10 days</b>	<b>7/11/18</b>	<b>7/25/18</b>																			
799	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	7/11/18	7/11/18	811SF-6 wks																		
800	CAT - 6 week lead time	0 days	7/25/18	7/25/18	815SF-6 wks																		
801	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>9/1/18</b>	<b>9/1/18</b>																			
802	15kV Critical incomer Dress, Acceptance Test & Term	0 days	9/1/18	9/1/18																			
803	69kV Incomers Dress, Acceptance Test & Term	0 days	9/1/18	9/1/18																			
804	Commissioning power for building HVAC/UPS	0 days	9/1/18	9/1/18																			
805	Fiber Network Pull, Term and Test	0 days	9/1/18	9/1/18																			

█ Critical Task    
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 █ Summary    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	September 1	January 11		March 21		June 1		August 11		October 21		January 1		March 11		May 21	
						12/3	1/7	2/11	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7	5/12	6/16
806	Generator Installation Test	0 days	9/1/18	9/1/18										◆ 9/1								
807	Substation Installation Test	0 days	9/1/18	9/1/18										◆ 9/1								
808	Transformers Static Test	0 days	9/1/18	9/1/18										◆ 9/1								
809	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>47 days?</b>	<b>9/1/18</b>	<b>11/5/18</b>										▬								
810	5kV Switchgear & MCC Item and Functional Tests	35 days	9/1/18	10/18/18	801									▬ 0%								
811	13.8kV Transformer-Switchgear Functional Tests	35 days	9/1/18	10/18/18	801									▬ 0%								
812	480V Transformer-Switchgear & MCC Bus Functional	35 days	9/1/18	10/18/18	801									▬ 0%								
813	Substation Building and Yard Acceptance & Turnover	10 days	9/1/18	9/13/18	801									▬ 0%								
814	Transformers Functional Test	8 days	9/1/18	9/11/18	808									▬ 0%								
815	Generator & ATS Precomm Tests	10 days?	9/14/18	9/27/18	813									▬ 0%								
816	HVAC Functional & Performance Tests	15 days?	9/14/18	10/4/18	813									▬ 0%								
817	UPS Functional & Performance Tests	10 days	9/14/18	9/27/18	813									▬ 0%								
818	Generator & ATS Turnover	10 days?	9/28/18	10/11/18	815									▬ 0%								
819	HVAC and UPS Turnover	15 days?	10/5/18	10/25/18	816,817									▬ 0%								
820	5kV Switchgear & MCC Turnover	12 days	10/19/18	11/5/18	813,810										▬ 0%							
821	13.8kV Switchgear & Transf. System Turnover	12 days	10/19/18	11/5/18	811										▬ 0%							
822	480V Switchgear, Transf. & MCC Bus System Turnover	12 days	10/19/18	11/5/18	812										▬ 0%							
823	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>50 days?</b>	<b>9/1/18</b>	<b>11/8/18</b>										▬								
824	Fiber Network/Controller Commissioning	10 days	9/1/18	9/13/18	805									▬ 0%								
825	DCS Interface - PMS/Distribution Network & RIO	35 days	9/14/18	11/1/18	824									▬ 0%								
826	PMS Interface - PMS/Distribution Network & RIO	35 days	9/14/18	11/1/18	824									▬ 0%								
827	ICSS Interface - Interim Turnover	3 days?	11/2/18	11/6/18	825										▬ 0%							
828	PMS Interface - Interim Turnover	5 days	11/2/18	11/8/18	826										▬ 0%							
829	<b>MS-4 Motor Controls and Solo Runs</b>	<b>31.25 days</b>	<b>11/5/18</b>	<b>12/18/18</b>										▬								
830	MCC Cubicle Local and DCS Control/Status Tests	12 days	11/5/18	11/21/18	834FF-1 wk										▬ 0%							
831	DCS Interface - Motors - Network & RIO	9 days	11/8/18	11/21/18	834FF-1 wk										▬ 0%							
832	Perform Process Motor Bumps / Solo Runs	13 days	11/30/18	12/18/18	834											▬ 0%						
833	Ready for Energization	0 days	11/8/18	11/8/18	809,828										◆ 11/8							
834	Check, Energize and ready to distribute	15 days	11/9/18	11/29/18	833										▬ 0%							
835	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>10 days?</b>	<b>11/30/18</b>	<b>12/13/18</b>											▬							
836	8000 Area Lighting Transformers/Panels Energization	10 days?	11/30/18	12/13/18	834										▬ 0%							
837	<b>020 EO/EG Unit - Sub 20</b>	<b>186.5 days?</b>	<b>1/25/18</b>	<b>10/10/18</b>										▬								
838	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>6.25 days?</b>	<b>1/25/18</b>	<b>2/2/18</b>										▬								
839	5000 Duct Banks Walkdown & Acceptance	0.63 days?	1/25/18	1/25/18										▬ 0%								
840	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18										▬ 0%								
841	7000 Area Cathodic Protection Walkdown & Acceptance	0.63 days?	1/25/18	1/25/18										▬ 0%								
842	9000 Area Grounding Walkdown & Acceptance	1.25 days?	1/25/18	1/26/18										▬ 0%								



# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 12/3	Jan 11 1/7	Jan 21 2/11	Mar 21 3/18	Apr 22 4/22	June 1 5/27	July 1 7/1	Aug 11 8/5	Aug 11 9/9	Oct 21 10/14	Oct 21 11/18	Jan 1 12/23	Jan 1 1/27	Mar 11 3/3	Mar 11 4/7	May 21 5/12	May 21 6/16	
843	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	1.25 days?	2/1/18	2/2/18	840		0%																
844	<b>Turnover Documentation</b>	<b>186.5 days?</b>	<b>1/25/18</b>	<b>10/10/18</b>																			
845	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%																
846	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18			0%																
847	Receive completed QVDs from WC and status MCPlus	1 day?	2/2/18	2/3/18	843		0%																
848	Verify WC upload of QVDs to POL	1 day?	2/2/18	2/3/18	843		0%																
849	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	10/9/18	10/10/18	834FS-6 wks,787										0%								
850	<b>060-SS-19 LLDPE (69kV Feed)</b>	<b>233 days?</b>	<b>1/17/18</b>	<b>12/5/18</b>																			
851	<b>MS-4 Motor Controls and Solo Runs</b>	<b>233 days?</b>	<b>1/17/18</b>	<b>12/5/18</b>																			
852	<b>Large Drives</b>	<b>233 days?</b>	<b>1/17/18</b>	<b>12/5/18</b>																			
853	<b>Construction</b>	<b>153 days</b>	<b>1/17/18</b>	<b>8/16/18</b>																			
854	Elect - Equipment Installation	15 days	1/17/18	2/5/18			0%																
855	Elect - Continuity / signal verification	20 days	2/6/18	3/5/18	854			0%															
856	CS - Install instruments	25 days	6/1/18	7/5/18							0%												
857	CS - Continuity / signal verification	30 days	7/6/18	8/16/18	856							0%											
858	<b>Preliminary &amp; General</b>	<b>4 days</b>	<b>2/6/18</b>	<b>2/9/18</b>																			
859	E/I Precomm KoM	2 days	2/6/18	2/7/18	854		0%																
860	Vender Alignment Meeting	2 days	2/8/18	2/9/18	859		0%																
861	<b>Precommissioning</b>	<b>198 days?</b>	<b>3/6/18</b>	<b>12/5/18</b>																			
862	Electrical Control System Loop Checks (Voltage Regulation)	1 day?	3/6/18	3/6/18	855			0%															
863	Electrical Safety System Loop Checks	1 day?	3/6/18	3/6/18	855			0%															
864	Instrumednt Control System Loop Checks (Stea	1 day?	8/17/18	8/17/18	857								0%										
865	Instruement Safety System Loop Checks	1 day?	8/17/18	8/17/18	857								0%										
866	DCS Interface - Motors - Network & RIO	9 days	10/24/18	11/6/18	910FF-1 wk										0%								
867	Motor Rotate / Run - Uncoupled	5 days	11/15/18	11/21/18	910,862,863,864											0%							
868	Motor Run - Spinning Restart Tests	5 days	11/22/18	11/28/18	867											0%							
869	Motor Run - Coupled	5 days	11/29/18	12/5/18	868											0%							
870	MCC Cubicle Local and DCS Control/Status Tests	12 days	10/19/18	11/6/18	910FF-1 wk										0%								
871	Perform Process Motor Bumps / Solo Runs	12 days	11/15/18	11/30/18	910										0%								
872	<b>Vendor Support Call Out</b>	<b>10 days</b>	<b>7/25/18</b>	<b>8/8/18</b>																			
873	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	7/25/18	7/25/18	905SF-6 wks								7/25										
874	CAT - 6 week lead time	0 days	8/8/18	8/8/18	900SF-6 wks								8/8										
875	<b>Turnover Documentation</b>	<b>58.5 days?</b>	<b>8/8/18</b>	<b>10/26/18</b>																			
876	Issue Substation PWP, Matrix & ITRs	5 days	8/8/18	8/15/18	881SF-2 wks								0%										
877	Receive completed QVDs from WC and status MCPlus	1 day?	9/1/18	9/1/18	881								0%										
878	Verify WC upload of QVDs to POL	1 day	9/1/18	9/1/18	881								0%										

█ Critical Task    
 █ Manual Task    
 █ Baseline Milestone    
 ◆ Milestone    
 ◆ Baseline Milestone    
 █ Summary Progress    
 █ Manual Summary    
 █ Baseline Summary    
 █ Summary    
 █ Project Summary    
 █ Slippage



# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	December 18		January 19		March 19		June 19		August 19		October 19		January 20		March 20		May 20	
						12/3	12/10	1/7	1/14	2/11	2/18	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7
879	Receive completed ITRs from WC and status MCPlus	1 day?	10/26/18	10/26/18	889																		
880	Verify WC upload of ITRs to POL	1 day	10/26/18	10/26/18	889																		
881	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>9/1/18</b>	<b>9/1/18</b>											◆ 9/1								
882	15kV Critical incomer Dress, Acceptance Test & Term	0 days	9/1/18	9/1/18											◆ 9/1								
883	69kV Incomers Dress, Acceptance Test & Term	0 days	9/1/18	9/1/18											◆ 9/1								
884	Commissioning power for building HVAC/UPS	0 days	9/1/18	9/1/18											◆ 9/1								
885	Fiber Network Pull, Term and Test	0 days	9/1/18	9/1/18											◆ 9/1								
886	Generator Installation Test	0 days	9/1/18	9/1/18											◆ 9/1								
887	Substation Installation Test	0 days	9/1/18	9/1/18											◆ 9/1								
888	Transformers Static Test	0 days	9/1/18	9/1/18											◆ 9/1								
889	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days?</b>	<b>9/1/18</b>	<b>10/25/18</b>											┌───────────┐								
890	13.8kV Transformer-Switchgear Functional Tests	13 days	9/1/18	9/18/18	881										▬ 0%								
891	480V Transformer-Switchgear & MCC Bus Functional	13 days	9/1/18	9/18/18	881										▬ 0%								
892	Substation Building and Yard Acceptance & Turnover	10 days	9/1/18	9/13/18	881										▬ 0%								
893	Transformers Functional Test	8 days	9/1/18	9/11/18	888										▬ 0%								
894	5kV Switchgear & MCC Item and Functional Tests	13 days	9/14/18	10/2/18	892										▬ 0%								
895	Generator & ATS Precomm Tests	10 days?	9/14/18	9/27/18	892										▬ 0%								
896	HVAC Functional & Performance Tests	15 days?	9/14/18	10/4/18	892										▬ 0%								
897	UPS Functional & Performance Tests	10 days	9/14/18	9/27/18	892										▬ 0%								
898	13.8kV Switchgear & Transf. System Turnover	5 days	9/19/18	9/25/18	890,893										▬ 0%								
899	480V Switchgear, Transf. & MCC Bus System Turnover	5 days	9/19/18	9/25/18	891,893										▬ 0%								
900	Generator & ATS Turnover	10 days?	9/28/18	10/11/18	895										▬ 0%								
901	5kV Switchgear & MCC Turnover	5 days	10/3/18	10/9/18	892,894										▬ 0%								
902	HVAC and UPS Turnover	15 days?	10/5/18	10/25/18	896,897										▬ 0%								
903	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>39 days?</b>	<b>9/1/18</b>	<b>10/24/18</b>											┌───────────┐								
904	Fiber Network/Controller Commissioning	10 days	9/1/18	9/13/18	885										▬ 0%								
905	DCS Interface - PMS/Distribution Network & RIO	24 days	9/14/18	10/17/18	904										▬ 0%								
906	PMS Interface - PMS/Distribution Network & RIO, 31	24 days	9/14/18	10/17/18	904										▬ 0%								
907	ICSS Interface - Interim Turnover	3 days?	10/18/18	10/22/18	905										▬ 0%								
908	PMS Interface - Interim Turnover	5 days	10/18/18	10/24/18	906										▬ 0%								
909	Ready for Energization	0 days	10/25/18	10/25/18	889,908										◆ 10/25								
910	Check, Energize and ready to distribute	14 days	10/26/18	11/14/18	909										▬ 0%								
911	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>10 days?</b>	<b>11/15/18</b>	<b>11/28/18</b>																			
912	8000 Area Lighting Transformers/Panels Energization	10 days?	11/15/18	11/28/18	910										▬ 0%								
913	<b>060 LLDPE - Sub 19</b>	<b>175.5 days?</b>	<b>1/25/18</b>	<b>9/25/18</b>											┌──────────────────────────────────┐								
914	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>6.25 days?</b>	<b>1/25/18</b>	<b>2/2/18</b>											┌───┐								
915	5000 Duct Banks Walkdown & Acceptance	0.63 days?	1/25/18	1/25/18											▬ 0%								
916	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18											▬ 0%								

▬ Critical Task    
 ▬ Manual Task    
 ▬ Baseline Milestone    
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 ▬ Manual Summary    
 ▬ Baseline Summary    
 ▬ Summary    
 ▬ Project Summary    
 ▬ Slippage    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	December 1		January 11		March 21		June 1		August 11		October 21		January 1		March 11		May 21	
						12/3	1/7	2/11	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7	5/12	6/16	
917	7000 Area Cathodic Protection Walkdown & Acceptance	0.63 days?	1/25/18	1/25/18					0%														
918	9000 Area Grounding Walkdown & Acceptance	1.25 days?	1/25/18	1/26/18					0%														
919	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	1.25 days?	2/1/18	2/2/18	916				0%														
920	<b>Turnover Documentation</b>	<b>175.5 days?</b>	<b>1/25/18</b>	<b>9/25/18</b>																			
921	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18					0%														
922	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18					0%														
923	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18					0%														
924	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18					0%														
925	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	9/24/18	9/25/18	910FS-6 wks																		
926	<b>063-SS-18 LDPE (69kV Feed)</b>	<b>232 days?</b>	<b>1/17/18</b>	<b>12/4/18</b>																			
927	<b>MS-4 Motor Controls and Solo Runs</b>	<b>232 days?</b>	<b>1/17/18</b>	<b>12/4/18</b>																			
928	<b>Large Drives</b>	<b>232 days?</b>	<b>1/17/18</b>	<b>12/4/18</b>																			
929	<b>Construction</b>	<b>153 days</b>	<b>1/17/18</b>	<b>8/16/18</b>																			
930	Elect - Equipment Installation	15 days	1/17/18	2/5/18					0%														
931	Elect - Continuity / signal verification	20 days	2/6/18	3/5/18	930				0%														
932	CS - Install instruments	25 days	6/1/18	7/5/18																			
933	CS - Continuity / signal verification	30 days	7/6/18	8/16/18	932																		
934	<b>Preliminary &amp; General</b>	<b>4 days</b>	<b>2/6/18</b>	<b>2/9/18</b>																			
935	E/I Precomm KoM	2 days	2/6/18	2/7/18	930				0%														
936	Vender Alignment Meeting	2 days	2/8/18	2/9/18	935				0%														
937	<b>Precommissioning</b>	<b>197 days?</b>	<b>3/6/18</b>	<b>12/4/18</b>																			
938	Electrical Control System Loop Checks (Voltage Regulation)	1 day?	3/6/18	3/6/18	931				0%														
939	Electrical Safety System Loop Checks	1 day?	3/6/18	3/6/18	931				0%														
940	Instrumednt Control System Loop Checks (Stea	1 day?	8/17/18	8/17/18	933																		
941	Instruement Safety System Loop Checks	1 day?	8/17/18	8/17/18	933																		
942	MCC Cubicle Local and DCS Control/Status Tests	12 days	10/18/18	11/5/18	986FF-1 wk																		
943	DCS Interface - Motors - Network & RIO	9 days	10/23/18	11/5/18	986FF-1 wk																		
944	Large Drive - Motor Rotate / Run - Uncoupled	5 days	11/14/18	11/20/18	986,938,939,940																		
945	Perform Process Motor Bumps / Solo Runs	8 days	11/14/18	11/23/18	986																		
946	Large Drive - Motor Run - Spinning Restart Tests	5 days	11/21/18	11/27/18	944																		
947	Large Drive - Motor Run - Coupled	5 days	11/28/18	12/4/18	946																		
948	<b>Vendor Support Call Out</b>	<b>10 days</b>	<b>7/11/18</b>	<b>7/25/18</b>																			
949	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	7/11/18	7/11/18	967SF-6 wks																		
950	CAT - 6 week lead time	0 days	7/25/18	7/25/18	971SF-6 wks																		
951	<b>Turnover Documentation</b>	<b>62.5 days</b>	<b>8/8/18</b>	<b>11/1/18</b>																			
952	Issue Substation PWP, Matrix & ITRs	5 days	8/8/18	8/15/18	957SF-2 wks																		



# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	September 1	January 11		March 21		June 1		August 11		October 21		January 1		March 11		May 21	
						12/3	1/7	2/11	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7	5/12	6/16
953	Receive completed QVDs from WC and status MCPlus	5 days	9/1/18	9/6/18	957									0%								
954	Verify WC upload of QVDs to POL	1 day	9/1/18	9/1/18	957									0%								
955	Receive completed ITRs from WC and status MCPlus	5 days	10/26/18	11/1/18	965											0%						
956	Verify WC upload of ITRs to POL	1 day	10/26/18	10/26/18	965											0%						
957	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>9/1/18</b>	<b>9/1/18</b>										9/1								
958	15kV Critical incomer Dress, Acceptance Test & Term	0 days	9/1/18	9/1/18										9/1								
959	69kV Incomers Dress, Acceptance Test & Term	0 days	9/1/18	9/1/18										9/1								
960	Commissioning power for building HVAC/UPS	0 days	9/1/18	9/1/18										9/1								
961	Fiber Network Pull, Term and Test	0 days	9/1/18	9/1/18										9/1								
962	Generator Installation Test	0 days	9/1/18	9/1/18										9/1								
963	Substation Installation Test	0 days	9/1/18	9/1/18										9/1								
964	Transformers Static Test	0 days	9/1/18	9/1/18										9/1								
965	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days?</b>	<b>9/1/18</b>	<b>10/25/18</b>																		
966	5kV Switchgear & MCC Item and Functional Tests	25 days	9/1/18	10/4/18	957									0%								
967	13.8kV Transformer-Switchgear Functional Tests	25 days	9/1/18	10/4/18	957									0%								
968	480V Transformer-Switchgear & MCC Bus Functional	25 days	9/1/18	10/4/18	957									0%								
969	Substation Building and Yard Acceptance & Turnover	10 days	9/1/18	9/13/18	957									0%								
970	Transformers Functional Test	8 days	9/1/18	9/11/18	964									0%								
971	Generator & ATS Precomm Tests	10 days?	9/14/18	9/27/18	969									0%								
972	HVAC Functional & Performance Tests	15 days?	9/14/18	10/4/18	969									0%								
973	UPS Functional & Performance Tests	10 days	9/14/18	9/27/18	969									0%								
974	Generator & ATS Turnover	10 days?	9/28/18	10/11/18	971									0%								
975	5kV Switchgear & MCC Turnover	8 days	10/5/18	10/16/18	969,966									0%								
976	13.8kV Switchgear & Transf. System Turnover	8 days	10/5/18	10/16/18	967,970									0%								
977	480V Switchgear, Transf. & MCC Bus System Turnover	8 days	10/5/18	10/16/18	968,970									0%								
978	HVAC and UPS Turnover	15 days?	10/5/18	10/25/18	972,973									0%								
979	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>41 days?</b>	<b>9/1/18</b>	<b>10/26/18</b>																		
980	Fiber Network/Controller Commissioning	10 days	9/1/18	9/13/18	961									0%								
981	DCS Interface - PMS/Distribution Network & RIO	26 days	9/14/18	10/19/18	980									0%								
982	PMS Interface - PMS/Distribution Network & RIO, 32	26 days	9/14/18	10/19/18	980									0%								
983	ICSS Interface - Interim Turnover	3 days?	10/22/18	10/24/18	981									0%								
984	PMS Interface - Interim Turnover	5 days	10/22/18	10/26/18	982									0%								
985	Ready for Energization	0 days	10/26/18	10/26/18	965,984											10/26						
986	Check, Energize and ready to distribute	12 days	10/29/18	11/13/18	985									0%								
987	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>10 days?</b>	<b>11/14/18</b>	<b>11/27/18</b>																		
988	8000 Area Lighting Transformers/Panels Energization	10 days?	11/14/18	11/27/18	986											0%						
989	<b>081 - Flare System - Sub 18, 19, 23</b>	<b>175.5 days?</b>	<b>1/25/18</b>	<b>9/25/18</b>																		
990	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>15 days?</b>	<b>1/25/18</b>	<b>2/13/18</b>																		

█ Critical Task    
 █ Manual Task    
 █ Baseline Milestone    
 █ Milestone    
 █ Summary Progress    
 █ Manual Summary    
 █ Baseline Summary    
 █ Summary    
 █ Project Summary    
 █ Slippage

# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 12/3	Jan 11 1/7	Jan 21 2/11	Mar 21 3/18	Apr 22 4/22	June 1 5/27	July 1 7/1	Aug 11 8/5	Aug 11 9/9	Oct 21 10/14	Oct 21 11/18	Jan 1 12/23	Jan 1 1/27	Mar 11 3/3	Mar 11 4/7	May 21 5/12	May 21 6/16	
991	5000 Duct Banks Walkdown & Acceptance	10 days?	1/25/18	2/6/18			0%																
992	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18			0%																
993	7000 Area Cathodic Protection Walkdown & Acceptance	10 days?	1/25/18	2/6/18			0%																
994	9000 Area Grounding Walkdown & Acceptance	10 days?	1/25/18	2/6/18			0%																
995	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	10 days?	2/1/18	2/13/18	992		0%																
996	<b>Turnover Documentation</b>	<b>175.5 days?</b>	<b>1/25/18</b>	<b>9/25/18</b>																			
997	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%																
998	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%																
999	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18			0%																
1000	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18			0%																
1001	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	9/24/18	9/25/18	910FS-6 wks,105									0%									
1002	<b>063 LDPE - Sub 18</b>	<b>174.5 days?</b>	<b>1/25/18</b>	<b>9/24/18</b>																			
1003	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>6.25 days?</b>	<b>1/25/18</b>	<b>2/2/18</b>																			
1004	5000 Duct Banks Walkdown & Acceptance	0.63 days?	1/25/18	1/25/18			0%																
1005	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18			0%																
1006	7000 Area Cathodic Protection Walkdown & Acceptance	0.63 days?	1/25/18	1/25/18			0%																
1007	9000 Area Grounding Walkdown & Acceptance	1.25 days?	1/25/18	1/26/18			0%																
1008	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	1.25 days?	2/1/18	2/2/18	1005		0%																
1009	<b>Turnover Documentation</b>	<b>174.5 days?</b>	<b>1/25/18</b>	<b>9/24/18</b>																			
1010	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%																
1011	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%																
1012	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18			0%																
1013	Verify WC upload of QVDs to POL	1 day?	1/25/18	1/25/18			0%																
1014	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	9/21/18	9/24/18	986FS-6 wks									0%									
1015	<b>050-SS-23 Ethane Cracker (69kV Feed)</b>	<b>101.5 days?</b>	<b>1/3/18</b>	<b>5/23/18</b>																			
1016	<b>Vendor Support Call Out</b>	<b>10 days</b>	<b>1/3/18</b>	<b>1/17/18</b>																			
1017	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	1/3/18	1/3/18	1035SF-6 wks	1/3																	
1018	CAT - 6 week lead time	0 days	1/17/18	1/17/18	1039SF-6 wks	1/17																	
1019	<b>Turnover Documentation</b>	<b>62.5 days</b>	<b>1/31/18</b>	<b>4/26/18</b>																			
1020	Issue Substation PWP, Matrix & ITRs	5 days	1/31/18	2/6/18	1025SF-2 wks		0%																
1021	Receive completed QVDs from WC and status MCPlus	5 days	2/23/18	3/1/18	1025		0%																
1022	Verify WC upload of QVDs to POL	1 day	2/23/18	2/23/18	1025		0%																
1023	Receive completed ITRs from WC and status MCPlus	5 days	4/20/18	4/26/18	1033				0%														
1024	Verify WC upload of ITRs to POL	1 day	4/20/18	4/20/18	1033				0%														
1025	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>2/23/18</b>	<b>2/23/18</b>				2/23															

█ Critical Task    
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 ◆ Summary Progress    
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 █ Baseline Summary    
 █ Summary    
 █ Project Summary    
 █ Slippage



# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 1 12/3	January 11 1/7	January 21 2/11	March 21 3/18	April 22 4/22	June 1 5/27	July 1 7/1	August 11 8/5	August 19 9/9	October 21 10/14	October 29 11/18	January 1 12/23	January 11 1/27	March 11 3/3	March 21 4/7	May 21 5/12	May 29 6/16	
1026	15kV Critical incomer Dress, Acceptance Test & Term	0 days	2/23/18	2/23/18				◆ 2/23															
1027	69kV Incomers Dress, Acceptance Test & Term	0 days	2/23/18	2/23/18				◆ 2/23															
1028	Commissioning power for building HVAC/UPS	0 days	2/23/18	2/23/18				◆ 2/23															
1029	Fiber Network Pull, Term and Test	0 days	2/23/18	2/23/18				◆ 2/23															
1030	Generator Installation Test	0 days	2/23/18	2/23/18				◆ 2/23															
1031	Substation Installation Test	0 days	2/23/18	2/23/18				◆ 2/23															
1032	Transformers Static Test	0 days	2/23/18	2/23/18				◆ 2/23															
1033	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days?</b>	<b>2/23/18</b>	<b>4/19/18</b>				▬															
1034	5kV Switchgear & MCC Item and Functional Tests	18 days	2/23/18	3/20/18	1025			▬ 0%															
1035	13.8kV Transformer-Switchgear Functional Tests	18 days	2/23/18	3/20/18	1025			▬ 0%															
1036	480V Transformer-Switchgear & MCC Bus Functional	18 days	2/23/18	3/20/18	1025			▬ 0%															
1037	Substation Building and Yard Acceptance & Turnover	10 days	2/23/18	3/8/18	1025			▬ 0%															
1038	Transformers Functional Test	8 days	2/23/18	3/6/18	1032			▬ 0%															
1039	Generator & ATS Precomm Tests	10 days?	3/9/18	3/22/18	1037			▬ 0%															
1040	HVAC Functional & Performance Tests	15 days?	3/9/18	3/29/18	1037			▬ 0%															
1041	UPS Functional & Performance Tests	10 days	3/9/18	3/22/18	1037			▬ 0%															
1042	5kV Switchgear & MCC Turnover	6 days	3/21/18	3/28/18	1037,1034,1038			▬ 0%															
1043	13.8kV Switchgear & Transf. System Turnover	6 days	3/21/18	3/28/18	1035,1038			▬ 0%															
1044	480V Switchgear, Transf. & MCC Bus System Turnover	6 days	3/21/18	3/28/18	1036,1038			▬ 0%															
1045	Generator & ATS Turnover	10 days?	3/23/18	4/5/18	1039			▬ 0%															
1046	HVAC and UPS Turnover	15 days?	3/30/18	4/19/18	1040,1041			▬ 0%															
1047	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>41 days?</b>	<b>2/23/18</b>	<b>4/20/18</b>				▬															
1048	Fiber Network/Controller Commissioning	10 days	2/23/18	3/8/18	1029			▬ 0%															
1049	DCS Interface - PMS/Distribution Network & RIO	24 days	3/9/18	4/11/18	1048			▬ 0%															
1050	PMS Interface - PMS/Distribution Network & RIO	24 days	3/13/18	4/13/18	1048,467			▬ 0%															
1051	ICSS Interface - Interim Turnover	3 days?	4/12/18	4/16/18	1049			▬ 0%															
1052	PMS Interface - Interim Turnover	5 days	4/16/18	4/20/18	1050			▬ 0%															
1053	<b>MS-4 Motor Controls and Solo Runs</b>	<b>26.25 days</b>	<b>4/13/18</b>	<b>5/21/18</b>				▬															
1054	MCC Cubicle Local and DCS Control/Status Tests	12 days	4/13/18	5/1/18	1058FF-1 wk			▬ 0%															
1055	DCS Interface - Motors - Network & RIO	9 days	4/18/18	5/1/18	1058FF-1 wk			▬ 0%															
1056	Perform Process Motor Bumps / Solo Runs	8 days	5/10/18	5/21/18	1058			▬ 0%															
1057	Ready for Energization	0 days	4/20/18	4/20/18	1033,1052			◆ 4/20															
1058	Check, Energize and ready to distribute	13 days	4/23/18	5/9/18	1057			▬ 0%															
1059	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>10 days?</b>	<b>5/10/18</b>	<b>5/23/18</b>				▬															
1060	8000 Area Lighting Transformers/Panels Energization	10 days?	5/10/18	5/23/18	1058			▬ 0%															
1061	<b>050 Ethane Cracker -Subs 23, 24, 30</b>	<b>107.5 days?</b>	<b>1/25/18</b>	<b>6/22/18</b>				▬															
1062	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>6.25 days?</b>	<b>1/25/18</b>	<b>2/2/18</b>				▬															
1063	5000 Duct Banks Walkdown & Acceptance	0.63 days?	1/25/18	1/25/18				▬ 0%															

▬ Critical Task     ▬ Manual Task     ▬ Baseline Milestone     ▬ Milestone     ◆ Milestone     ▬ Summary Progress     ▬ Manual Summary     ▬ Baseline Summary     ▬ Slippage  
▬ Task     ▬ Baseline     ▬ Milestone     ◆ Milestone     ▬ Summary     ▬ Project Summary     ▬ Slippage

# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 12/3	Jan 11 1/7	Jan 21 2/11	Mar 21 3/18	Apr 22 4/22	June 1 5/27	July 1 7/1	August 11 8/5	9/9	October 21 10/14	11/18	January 1 12/23	1/27	March 11 3/3	4/7	May 21 5/12	6/16
1064	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18			0%															
1065	7000 Area Cathodic Protection Walkdown & Acceptance	0.63 days?	1/25/18	1/25/18			0%															
1066	9000 Area Grounding Walkdown & Acceptance	1.25 days?	1/25/18	1/26/18			0%															
1067	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	1.25 days?	2/1/18	2/2/18	1064		0%															
1068	<b>Turnover Documentation</b>	<b>107.5 days?</b>	<b>1/25/18</b>	<b>6/22/18</b>																		
1069	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%															
1070	Receive completed QVDs from WC and status MCPlus	1 day?	1/25/18	1/25/18			0%															
1071	Verify WC upload of completed Motor Folder to POL	1 day?	1/26/18	1/26/18	1069		0%															
1072	Verify WC upload of QVDs to POL	1 day?	1/26/18	1/26/18	1070		0%															
1073	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	6/21/18	6/22/18	1058FS-6 wks,11						0%											
1074	<b>050-SS-24 Ethane Cracker (Upstream Sub 23)</b>	<b>103.5 days?</b>	<b>4/11/18</b>	<b>9/1/18</b>																		
1075	<b>Vendor Support Call Out</b>	<b>0 days</b>	<b>4/11/18</b>	<b>4/11/18</b>						4/11												
1076	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	4/11/18	4/11/18	1092SF-6 wks					4/11												
1077	<b>Turnover Documentation</b>	<b>62.5 days</b>	<b>5/9/18</b>	<b>8/3/18</b>																		
1078	Issue Substation PWP, Matrix & ITRs	5 days	5/9/18	5/16/18	1084SF-2 wks						0%											
1079	Receive completed QVDs from WC and status MCPlus	5 days	6/4/18	6/8/18	1084						0%											
1080	Verify WC upload of QVDs to POL	1 day	6/4/18	6/4/18	1084						0%											
1081	Receive completed ITRs from WC and status MCPlus	5 days	7/30/18	8/3/18	1091								0%									
1082	Verify WC upload of ITRs to POL	1 day	7/30/18	7/30/18	1091								0%									
1083	Upstream sub energized	0 days	5/9/18	5/9/18	1058					5/9												
1084	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>6/4/18</b>	<b>6/4/18</b>							6/4											
1085	15kV Critical incomer Dress, Acceptance Test & Term	0 days	6/4/18	6/4/18							6/4											
1086	15kV Incomers Dress, Acceptance Test & Term	0 days	6/4/18	6/4/18							6/4											
1087	Commissioning power for building HVAC/UPS	0 days	6/4/18	6/4/18							6/4											
1088	Fiber Network Pull, Term and Test	0 days	6/4/18	6/4/18							6/4											
1089	Substation Installation Test	0 days	6/4/18	6/4/18							6/4											
1090	Transformers Static Test	0 days	6/4/18	6/4/18							6/4											
1091	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days?</b>	<b>6/4/18</b>	<b>7/27/18</b>																		
1092	480V Transformer-Switchgear & MCC Bus Functional	18 days	6/4/18	6/27/18	1084						0%											
1093	Substation Building and Yard Acceptance & Turnover	10 days	6/4/18	6/15/18	1084						0%											
1094	Transformers Functional Test	8 days	6/4/18	6/13/18	1090						0%											
1095	HVAC Functional & Performance Tests	15 days?	6/18/18	7/6/18	1093						0%											
1096	UPS Functional & Performance Tests	10 days	6/18/18	6/29/18	1093						0%											
1097	480V Switchgear, Transf. & MCC Bus System Turnover	6 days	6/28/18	7/5/18	1092,1094						0%											
1098	HVAC and UPS Turnover	15 days?	7/9/18	7/27/18	1095,1096						0%											
1099	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>33 days?</b>	<b>6/4/18</b>	<b>7/18/18</b>																		

█ Critical Task    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	December 1	January 11		March 21		June 1		August 11		October 21		January 1		March 11		May 21	
						12/3	1/7	2/11	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7	5/12	6/16
1100	Fiber Network/Controller Commissioning	10 days	6/4/18	6/15/18	1088							0%										
1101	DCS Interface - PMS/Distribution Network & RIO	18 days	6/18/18	7/11/18	1100							0%										
1102	PMS Interface - PMS/Distribution Network & RIO	18 days	6/18/18	7/11/18	1100							0%										
1103	ICSS Interface - Interim Turnover	3 days?	7/12/18	7/16/18	1101							0%										
1104	PMS Interface - Interim Turnover	5 days	7/12/18	7/18/18	1102							0%										
1105	<b>MS-4 Motor Controls and Solo Runs</b>	<b>34.25 days</b>	<b>7/17/18</b>	<b>9/1/18</b>																		
1106	MCC Cubicle Local and DCS Control/Status Tests	12 days	7/17/18	8/2/18	1110FF-1 wk							0%										
1107	DCS Interface - Motors - Network & RIO	9 days	7/20/18	8/2/18	1110FF-1 wk							0%										
1108	Perform Process Motor Bumps / Solo Runs	16 days	8/13/18	9/1/18	1110								0%									
1109	Ready for Energization	0 days	7/27/18	7/27/18	1091,1104								7/27									
1110	Check, Energize and ready to distribute	10 days	7/30/18	8/10/18	1109,1083								0%									
1111	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>10 days?</b>	<b>8/13/18</b>	<b>8/24/18</b>																		
1112	8000 Area Lighting Transformers/Panels Energization	10 days?	8/13/18	8/24/18	1110								0%									
1113	<b>030 Ziegler Alcohols - Sub 28, 33, 34</b>	<b>266.5 days?</b>	<b>1/25/18</b>	<b>1/30/19</b>																		
1114	<b>MS-3/4 Construction Completion Walkdowns</b>	<b>6.25 days?</b>	<b>1/25/18</b>	<b>2/2/18</b>																		
1115	5000 Duct Banks Walkdown & Acceptance	0.63 days?	1/25/18	1/25/18								0%										
1116	6000 Area Cable Tray Walkdown & Acceptance	5 days	1/25/18	1/31/18								0%										
1117	7000 Area Cathodic Protection Walkdown & Acceptance	0.63 days?	1/25/18	1/25/18								0%										
1118	9000 Area Grounding Walkdown & Acceptance	1.25 days?	1/25/18	1/26/18								0%										
1119	8000 Area Lighting Transformers/Panels Walkdown & Acceptance	1.25 days?	2/1/18	2/2/18	1116							0%										
1120	<b>Turnover Documentation</b>	<b>266.5 days?</b>	<b>1/25/18</b>	<b>1/30/19</b>																		
1121	Receive completed Motor Folder / ITRs from WC and status MCPlus	1 day?	1/25/18	1/25/18								0%										
1122	Verify WC upload of completed Motor Folder to POL	1 day?	1/25/18	1/25/18								0%										
1123	Receive completed QVDs from WC and status MCPlus	1 day?	2/2/18	2/3/18	1119							0%										
1124	Verify WC upload of QVDs to POL	1 day?	2/2/18	2/3/18	1119							0%										
1125	Issue Area PreComm Work Pack (PWP) - Motors and	1 day?	1/29/19	1/30/19	1208FS-6 wks,13																0%	
1126	<b>050-SS-30 Ethane Cracker (Upstream Sub 23)</b>	<b>79.5 days?</b>	<b>5/9/18</b>	<b>8/28/18</b>																		
1127	<b>Turnover Documentation</b>	<b>62.5 days</b>	<b>5/9/18</b>	<b>8/3/18</b>																		
1128	Issue Substation PWP, Matrix & ITRs	5 days	5/9/18	5/16/18	1134SF-2 wks							0%										
1129	Receive completed QVDs from WC and status MCPlus	5 days	6/4/18	6/8/18	1134							0%										
1130	Verify WC upload of QVDs to POL	1 day	6/4/18	6/4/18	1134							0%										
1131	Receive completed ITRs from WC and status MCPlus	5 days	7/30/18	8/3/18	1141								0%									
1132	Verify WC upload of ITRs to POL	1 day	7/30/18	7/30/18	1141								0%									
1133	Upstream sub energized	0 days	5/9/18	5/9/18	1058							5/9										
1134	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>6/4/18</b>	<b>6/4/18</b>								6/4										
1135	15kV Critical incomer Dress, Acceptance Test & Term	0 days	6/4/18	6/4/18								6/4										

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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	December 1		January 11		March 21		June 1		August 11		October 21		January 1		March 11		May 21	
						12/3	1/7	2/11	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7	5/12	6/16	
1136	15kV Incomers Dress, Acceptance Test & Term	0 days	6/4/18	6/4/18								◆ 6/4											
1137	Commissioning power for building HVAC/UPS	0 days	6/4/18	6/4/18								◆ 6/4											
1138	Fiber Network Pull, Term and Test	0 days	6/4/18	6/4/18								◆ 6/4											
1139	Substation Installation Test	0 days	6/4/18	6/4/18								◆ 6/4											
1140	Transformers Static Test	0 days	6/4/18	6/4/18								◆ 6/4											
1141	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>40 days?</b>	<b>6/4/18</b>	<b>7/27/18</b>								▬											
1142	5kV Switchgear & MCC Item and Functional Tests	9 days	6/4/18	6/14/18	1134							▬ 0%											
1143	480V Transformer-Switchgear & MCC Bus Functional	9 days	6/4/18	6/14/18	1134							▬ 0%											
1144	Substation Building and Yard Acceptance & Turnover	10 days	6/4/18	6/15/18	1134							▬ 0%											
1145	Transformers Functional Test	8 days	6/4/18	6/13/18	1140							▬ 0%											
1146	480V Switchgear, Transf. & MCC Bus System Turnover	5 days	6/15/18	6/21/18	1143,1145							▬ 0%											
1147	5kV Switchgear & MCC Turnover	5 days	6/18/18	6/22/18	1144,1142,1145							▬ 0%											
1148	HVAC Functional & Performance Tests	15 days?	6/18/18	7/6/18	1144							▬ 0%											
1149	UPS Functional & Performance Tests	10 days	6/18/18	6/29/18	1144							▬ 0%											
1150	HVAC and UPS Turnover	15 days?	7/9/18	7/27/18	1148,1149							▬ 0%											
1151	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>34 days?</b>	<b>6/4/18</b>	<b>7/19/18</b>								▬											
1152	Fiber Network/Controller Commissioning	10 days	6/4/18	6/15/18	1138							▬ 0%											
1153	DCS Interface - PMS/Distribution Network & RIO	19 days	6/18/18	7/12/18	1152							▬ 0%											
1154	PMS Interface - PMS/Distribution Network & RIO	19 days	6/18/18	7/12/18	1152							▬ 0%											
1155	ICSS Interface - Interim Turnover	3 days?	7/13/18	7/17/18	1153							▬ 0%											
1156	PMS Interface - Interim Turnover	5 days	7/13/18	7/19/18	1154							▬ 0%											
1157	<b>MS-4 Motor Controls and Solo Runs</b>	<b>29.25 days</b>	<b>7/18/18</b>	<b>8/28/18</b>								▬											
1158	MCC Cubicle Local and DCS Control/Status Tests	12 days	7/18/18	8/3/18	1162FF-1 wk							▬ 0%											
1159	DCS Interface - Motors - Network & RIO	9 days	7/23/18	8/3/18	1162FF-1 wk							▬ 0%											
1160	Perform Process Motor Bumps / Solo Runs	11 days	8/14/18	8/28/18	1162							▬ 0%											
1161	Ready for Energization	0 days	7/27/18	7/27/18	1141,1156							◆ 7/27											
1162	Check, Energize and ready to distribute	11 days	7/30/18	8/13/18	1161,1133							▬ 0%											
1163	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>10 days?</b>	<b>8/14/18</b>	<b>8/27/18</b>								▬											
1164	8000 Area Lighting Transformers/Panels Energization	10 days?	8/14/18	8/27/18	1162							▬ 0%											
1165	<b>030-SS-28 North Ziegler (69kV Feed)</b>	<b>142.5 days?</b>	<b>7/27/18</b>	<b>2/11/19</b>								▬											
1166	<b>Vendor Support Call Out</b>	<b>10 days</b>	<b>7/27/18</b>	<b>8/10/18</b>								▬											
1167	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	7/27/18	7/27/18	1200SF-6 wks							◆ 7/27											
1168	CAT - 6 week lead time	0 days	8/10/18	8/10/18	1189SF-6 wks							◆ 8/10											
1169	<b>Turnover Documentation</b>	<b>89.5 days</b>	<b>8/24/18</b>	<b>12/26/18</b>								▬											
1170	Issue Substation PWP, Matrix & ITRs	5 days	8/24/18	8/31/18	1175SF-2 wks							▬ 0%											
1171	Receive completed QVDs from WC and status MCPlus	5 days	9/18/18	9/24/18	1175							▬ 0%											
1172	Verify WC upload of QVDs to POL	1 day	9/18/18	9/18/18	1175							▬ 0%											
1173	Receive completed ITRs from WC and status MCPlus	5 days	12/20/18	12/26/18	1183							▬ 0%											

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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	Dec 1	January 11		March 21		June 1		August 11		October 21		January 1		March 11		May 21	
						12/3	1/7	2/11	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7	5/12	6/16
1174	Verify WC upload of ITRs to POL	1 day	12/20/18	12/20/18	1183																	
1175	<b>MS-1 Construction Completion Works</b>	<b>0 days</b>	<b>9/18/18</b>	<b>9/18/18</b>										◆ 9/18								
1176	15kV Critical incomer Dress, Acceptance Test & Term	0 days	9/18/18	9/18/18										◆ 9/18								
1177	69kV Incomers Dress, Acceptance Test & Term	0 days	9/18/18	9/18/18										◆ 9/18								
1178	Commissioning power for building HVAC/UPS	0 days	9/18/18	9/18/18										◆ 9/18								
1179	Fiber Network Pull, Term and Test	0 days	9/18/18	9/18/18										◆ 9/18								
1180	Generator Installation Test	0 days	9/18/18	9/18/18										◆ 9/18								
1181	Substation Installation Test	0 days	9/18/18	9/18/18										◆ 9/18								
1182	Transformers Static Test	0 days	9/18/18	9/18/18										◆ 9/18								
1183	<b>MS-2 Precomm. &amp; Bus Energization</b>	<b>67 days?</b>	<b>9/18/18</b>	<b>12/19/18</b>										▬								
1184	5kV Switchgear & MCC Item and Functional Tests	50 days	9/18/18	11/26/18	1175									▬ 0%								
1185	13.8kV Transformer-Switchgear Functional Tests	50 days	9/18/18	11/26/18	1175									▬ 0%								
1186	480V Transformer-Switchgear & MCC Bus Functional	50 days	9/18/18	11/26/18	1175									▬ 0%								
1187	Substation Building and Yard Acceptance & Turnover	10 days	9/18/18	10/1/18	1175									▬ 0%								
1188	Transformers Functional Test	8 days	9/18/18	9/27/18	1182									▬ 0%								
1189	Generator & ATS Precomm Tests	10 days?	10/2/18	10/15/18	1187									▬ 0%								
1190	HVAC Functional & Performance Tests	15 days?	10/2/18	10/22/18	1187									▬ 0%								
1191	UPS Functional & Performance Tests	10 days	10/2/18	10/15/18	1187									▬ 0%								
1192	Generator & ATS Turnover	10 days?	10/16/18	10/29/18	1189									▬ 0%								
1193	HVAC and UPS Turnover	15 days?	10/23/18	11/12/18	1190,1191									▬ 0%								
1194	5kV Switchgear & MCC Turnover	17 days	11/27/18	12/19/18	1187,1184																	
1195	13.8kV Switchgear & Transf. System Turnover	17 days	11/27/18	12/19/18	1185																	
1196	480V Switchgear, Transf. & MCC Bus System Turnover	17 days	11/27/18	12/19/18	1186																	
1197	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	<b>55 days?</b>	<b>9/18/18</b>	<b>12/3/18</b>										▬								
1198	DCS Interface - PMS/Distribution Network & RIO	50 days	9/18/18	11/26/18	1179									▬ 0%								
1199	Fiber Network/Controller Commissioning	10 days	9/18/18	10/1/18	1179									▬ 0%								
1200	PMS Interface - PMS/Distribution Network & RIO	50 days	9/18/18	11/26/18	1179									▬ 0%								
1201	ICSS Interface - Interim Turnover	3 days?	11/27/18	11/29/18	1198																	
1202	PMS Interface - Interim Turnover	5 days	11/27/18	12/3/18	1200									▬ 0%								
1203	<b>MS-4 Motor Controls and Solo Runs</b>	<b>38.25 days</b>	<b>12/19/18</b>	<b>2/11/19</b>																		
1204	MCC Cubicle Local and DCS Control/Status Tests	12 days	12/19/18	1/4/19	1208FF-1 wk																	
1205	DCS Interface - Motors - Network & RIO	9 days	12/24/18	1/4/19	1208FF-1 wk																	
1206	Perform Process Motor Bumps / Solo Runs	20 days	1/15/19	2/11/19	1208																	
1207	Ready for Energization	0 days	12/19/18	12/19/18	1183,1202																	
1208	Check, Energize and ready to distribute	18 days	12/20/18	1/14/19	1207																	
1209	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>10 days?</b>	<b>1/15/19</b>	<b>1/28/19</b>																		
1210	8000 Area Lighting Transformers/Panels Energization	10 days?	1/15/19	1/28/19	1208																	
1211	<b>006-SS-33 West Ziegler (Upstream Sub 28)</b>	<b>192 days?</b>	<b>5/11/18</b>	<b>2/1/19</b>																		

▬ Critical Task    
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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	December 1		January 11		March 21		June 1		August 11		October 21		January 1		March 11		May 21	
						12/3	1/7	2/11	3/18	4/22	5/27	7/1	8/5	9/9	10/14	11/18	12/23	1/27	3/3	4/7	5/12	6/16	
1250	<b>038 - Alumina 2 - Sub 34</b>	266.5 days?	1/25/18	1/30/19																			
1263	<b>006-SS-34 East Ziegler (Upstream Sub 28)</b>	94.5 days?	11/27/18	4/8/19																			
1264	<b>Vendor Support Call Out</b>	0 days	11/27/18	11/27/18																			
1265	ABB (PMS) & Emerson (ICSS) - 6 week lead time	0 days	11/27/18	11/27/18	1282SF-6 wks																		
1266	<b>Turnover Documentation</b>	62.5 days	12/25/18	3/21/19																			
1267	Issue Substation PWP, Matrix & ITRs	5 days	12/25/18	1/1/19	1273SF-2 wks																		
1268	Receive completed QVDs from WC and status MCPlus	5 days	1/18/19	1/24/19	1273																		
1269	Verify WC upload of QVDs to POL	1 day	1/18/19	1/18/19	1273																		
1270	Receive completed ITRs from WC and status MCPlus	5 days	3/15/19	3/21/19	1280																		
1271	Verify WC upload of ITRs to POL	1 day	3/15/19	3/15/19	1280																		
1272	<b>Upstream sub energized</b>	0 days	1/14/19	1/14/19	1208																		
1273	<b>MS-1 Construction Completion Works</b>	0 days	1/18/19	1/18/19																			
1274	15kV Critical incomer Dress, Acceptance Test & Term	0 days	1/18/19	1/18/19																			
1275	69kV Incomers Dress, Acceptance Test & Term	0 days	1/18/19	1/18/19																			
1276	Commissioning power for building HVAC/UPS	0 days	1/18/19	1/18/19																			
1277	Fiber Network Pull, Term and Test	0 days	1/18/19	1/18/19																			
1278	Substation Installation Test	0 days	1/18/19	1/18/19																			
1279	Transformers Static Test	0 days	1/18/19	1/18/19																			
1280	<b>MS-2 Precomm. &amp; Bus Energization</b>	40 days?	1/18/19	3/14/19																			
1281	5kV Switchgear & MCC Item and Functional Tests	10 days	1/18/19	1/31/19	1273																		
1282	13.8kV Transformer-Switchgear Functional Tests	10 days	1/18/19	1/31/19	1273																		
1283	480V Transformer-Switchgear & MCC Bus Functional	10 days	1/18/19	1/31/19	1273																		
1284	Substation Building and Yard Acceptance & Turnover	10 days	1/18/19	1/31/19	1273																		
1285	Transformers Functional Test	8 days	1/18/19	1/29/19	1279																		
1286	5kV Switchgear & MCC Turnover	5 days	2/1/19	2/7/19	1284,1281																		
1287	13.8kV Switchgear & Transf. System Turnover	5 days	2/1/19	2/7/19	1282																		
1288	480V Switchgear, Transf. & MCC Bus System Turnover	5 days	2/1/19	2/7/19	1283																		
1289	HVAC Functional & Performance Tests	15 days?	2/1/19	2/21/19	1284																		
1290	UPS Functional & Performance Tests	10 days	2/1/19	2/14/19	1284																		
1291	HVAC and UPS Turnover	15 days?	2/22/19	3/14/19	1289,1290																		
1292	<b>MS-5 PMS &amp; DCS Interfacing Precomm.</b>	25 days?	1/18/19	2/21/19																			
1293	Fiber Network/Controller Commissioning	10 days	1/18/19	1/31/19	1277																		
1294	DCS Interface - PMS/Distribution Network & RIO	10 days	2/1/19	2/14/19	1293																		
1295	PMS Interface - PMS/Distribution Network & RIO	10 days	2/1/19	2/14/19	1293																		
1296	ICSS Interface - Interim Turnover	3 days?	2/15/19	2/19/19	1294																		
1297	PMS Interface - Interim Turnover	5 days	2/15/19	2/21/19	1295																		
1298	<b>MS-4 Motor Controls and Solo Runs</b>	27.25 days	2/28/19	4/8/19																			
1299	DCS Interface - Motors - Network & RIO	9 days	2/28/19	3/13/19	1303FF-1 wk																		

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# INTEGRATED ELECTRICAL PRECOMMISSIONING SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors	December		January		March		June		August		October		January		March		May			
						12/3	12/10	1/7	1/14	2/11	2/18	3/18	3/25	4/22	5/27	6/1	7/1	8/5	8/12	9/9	10/14	10/21	11/18	12/23	1/27
1300	Perform Process Motor Bumps / Solo Runs	7 days	3/4/19	3/13/19	1303FF-1 wk																0%				
1301	MCC Cubicle Local and DCS Control/Status Tests	12 days	3/22/19	4/8/19	1303																0%				
1302	Ready for Energization	0 days	3/14/19	3/14/19	1280,1297																3/14				
1303	Check, Energize and ready to distribute	5 days	3/15/19	3/21/19	1208,1302																0%				
1304	<b>MS-3 Lighting, Small Power, Heat Trace Precomm</b>	<b>10 days?</b>	<b>3/22/19</b>	<b>4/4/19</b>																					
1305	8000 Area Lighting Transformers/Panels Energization	10 days?	3/22/19	4/4/19	1303																0%				
1306	070 - Interconnecting Pipe Rack - Above Ground (Ph 1-3)	10 days?	1/25/18	2/6/18																					
1315	072 - OSBL Piping - Underground	10 days?	1/25/18	2/6/18																					
1318	Q053-0001 STEAM TURBINE GENERATOR	168 days?	1/17/18	9/5/18																					

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 Manual Summary █    
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