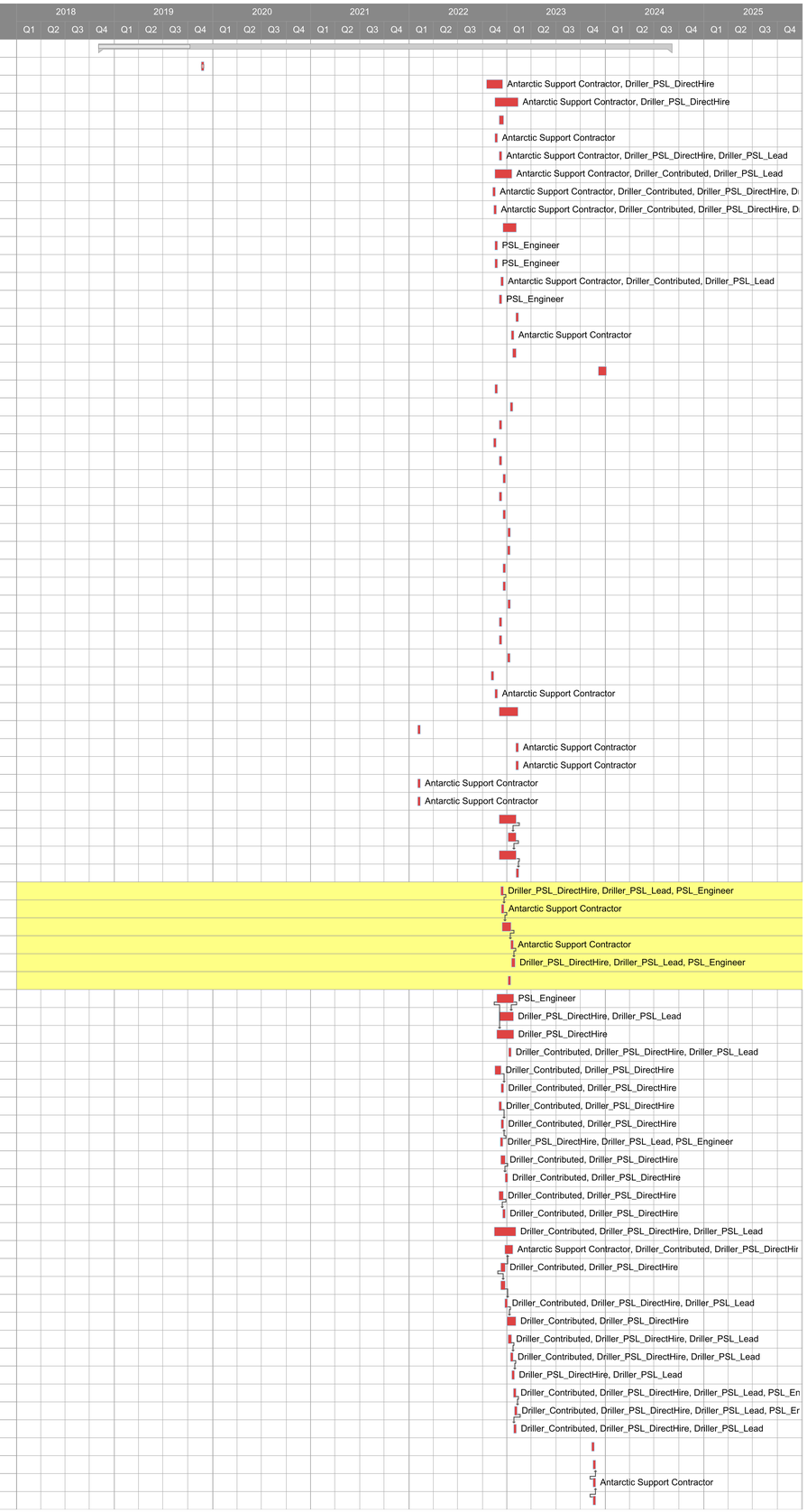
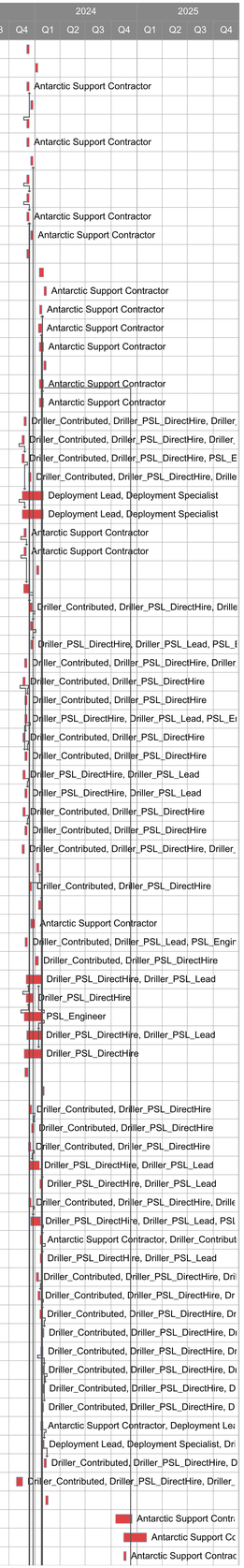
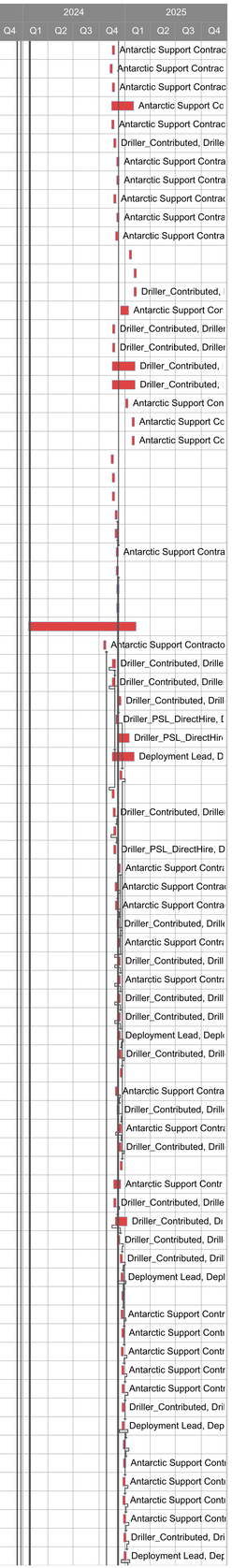
	WBS	Task Name	Start Date	End Date	Predecessor WBS
573	1.2.8.1	Seasonal Staffing & Training, Off-Ice Coordination	11/02/18	09/02/24	
617	1.2.8.3.4.1	EHWD Air Shipment Arrives, Upgrade Parts	11/19/19	11/19/19	618
647	1.2.8.5.3.1	Logistics Support - MCM (ASC)	10/15/22	12/14/22	
648	1.2.8.5.3.2	Provide Heaters (PolarTherm) (ASC)	11/15/22	02/08/23	
649	1.2.8.5.3.3	GPR Re-survey: Cable Routes & Hole Locations (ASC)	12/01/22	12/16/22	
650	1.2.8.5.3.4	Provide 287B Skidsteer & Snomo's (ASC)	11/15/22	11/15/22	
651	1.2.8.5.3.5	Re-establish SES Pad, Groom & Compact Roads Complete (ASC)	12/01/22	12/01/22	
652	1.2.8.5.3.6	MDS/Reel/Cargo Moves - Berms to Cryo & Cryo to SES (ASC)	11/15/22	01/16/23	
653	1.2.8.5.3.7	Excavate EHWD & Equipment Berms for Access (ASC)	11/07/22	11/15/22	
654	1.2.8.5.3.8	Deliver MECC & Fuel Tank, Shop, SEW to Cryo (ASC)	11/11/22	11/15/22	
655	1.2.8.5.3.9	Provide Temp Power for SES (CRELL or Onan Genset)	12/15/22	02/01/23	
656	1.2.8.5.3.10	Water Tank Doghouses Built (ASC)	11/15/22	11/15/22	
657	1.2.8.5.3.11	Cryo Worksite Set-up Complete (ASC)	11/15/22	11/15/22	
658	1.2.8.5.3.12	Crane Support Gens & Vertical Turbine Pump Lifts (ASC)	12/07/22	12/08/22	
659	1.2.8.5.3.13	Install Fall Restraint Towers X10 (ASC)	12/01/22	12/07/22	
660	1.2.8.5.3.14	Drill Hose & Main/RWCR Over-Winter Storage - McM (ASC)	02/01/23	02/07/23	
661	1.2.8.5.3.15	Surface Cable, Hose, & Reels Over-Winter Storage - MCM (ASC)	01/15/23	01/15/23	
662	1.2.8.5.3.16	Winter Storage Support: TOS 1 & 2 (ASC)	01/20/23	02/01/23	
663	1.2.8.5.3.17	Electrician Support - ICL Overwinter Storage & Rack Feeders (ASC)	12/05/23	01/03/24	
666	1.2.8.5.4.1.1	8' Refit Container Contents Arrive - NPX	11/15/22	11/15/22	
667	1.2.8.5.4.1.2	Fuel Systems & Tower Components Arrive - NPX	01/11/23	01/11/23	319FS +301d
668	1.2.8.5.4.1.3	Refit Container A Contents Arrives (Filtration, MHP/PHS, Gen, Pumps, etc) - NPX	12/01/22	12/01/22	317FS +272d
669	1.2.8.5.4.1.4	287 Loader Arrives - NPX	11/10/22	11/10/22	
670	1.2.8.5.4.1.5	Motor Drives and Control System Parts Arrive - NPX	12/01/22	12/01/22	322FS +87d
672	1.2.8.5.4.2.1	Camp Hose Arrives - NPX	12/15/22	12/15/22	335FS +19d
673	1.2.8.5.4.2.3	287 Loader Arrives - NPX	12/01/22	12/01/22	
674	1.2.8.5.4.2.4	Container Skis (5 sets) Arrive - NPX	12/15/22	12/15/22	
675	1.2.8.5.4.2.5	Firn Drill Arrives - NPX	01/02/23	01/02/23	328FS +109d
676	1.2.8.5.4.2.6	IFD Drillhead & Sheave Arrives - NPX	01/01/23	01/01/23	
677	1.2.8.5.4.2.7	Refit Container B Arrives (cable trays, ladders, FRTs, VTPs, etc) - NPX	12/15/22	12/15/22	
678	1.2.8.5.4.2.8	ARA Drill Components and Trailer Arrive - NPX Move drill components to	12/15/22	12/15/22	328FS +97d
679	1.2.8.5.4.2.9	Main and Return Water Cable Reels Arrive - (NPX)	01/02/23	01/02/23	324FS +33d
681	1.2.8.5.4.3.1	TBD MTLS Arrive - NPX	12/01/22	12/01/22	
682	1.2.8.5.4.3.2	GEN- 3 Arrives - NPX	12/01/22	12/01/22	
683	1.2.8.5.4.3.3	GEN-2 Arrives - NPX	01/01/23	01/01/23	
685	1.2.8.5.4.4.1	TBD MTLS Arrive - NPX	11/01/22	11/01/22	
686	1.2.8.5.4.4.2	TBD MTLS Arrive - NPX	11/15/22	11/15/22	
687	1.2.8.5.4.4.3	Cargo Retro (21/22)	12/01/22	02/08/23	
689	1.2.8.5.4.5.1	Drill Hose & Main/RWCR Arrival - McM	02/01/22	02/01/22	
690	1.2.8.5.4.5.2	Surface Cable and SBJs Arrive - MCM	02/01/23	02/01/23	
691	1.2.8.5.4.5.3	TBD	02/01/23	02/01/23	
692	1.2.8.5.4.5.4	DOM Handling Facility Arrives - MCM	02/01/22	02/01/22	
693	1.2.8.5.4.5.5	Refit Containers A and B, 8' containers A and B - MCM	02/01/22	02/01/22	
695	1.2.8.5.5.1	Drillers Support for SES layout	12/01/22	02/01/23	
696	1.2.8.5.5.2	Layout - Hoses, Cables, Interconnects & Cable Trays for SES etc.	01/03/23	02/01/23	695FF
699	1.2.8.5.5.4	Temp power from backup generator (CRELL, ONAN)	12/01/22	02/01/23	696FF
700	1.2.8.5.5.5	SES Initial Setup Complete	02/02/23	02/02/23	699
702	1.2.8.5.6.1	Set generators 1 & 3 onto Skis with Crane	12/07/22	12/08/22	
703	1.2.8.5.6.2	Generators 1, 3 & PDM Delivered to Cryo	12/09/22	12/09/22	702
704	1.2.8.5.6.3	Generators & PDM - Misc Repairs & Testing	12/12/22	01/13/23	703
705	1.2.8.5.6.4	Generators: Relocated from Cryo to SES	01/13/23	01/13/23	704FF
706	1.2.8.5.6.5	Preliminary GEN Testing & Winterization	01/16/23	01/27/23	705
707	1.2.8.5.6.6	Set Generator 2 onto Skis with Crane	01/03/23	01/03/23	
710	1.2.8.5.7.1.1	Motor Drives: Install Retrofit Kits	11/22/22	01/23/23	
711	1.2.8.5.7.1.2	Misc Controls Tasking	12/01/22	01/23/23	710FF
712	1.2.8.5.7.1.3	Motor Drives: Conduit Wiring	11/22/22	01/23/23	710SS
714	1.2.8.5.7.2.1	Repairs, Electrical Upgrades & Install Racks	01/05/23	01/11/23	
716	1.2.8.5.7.3.1	Retrofit MHPs in Field	11/15/22	12/07/22	
717	1.2.8.5.7.3.2	MHP Subsystem Evaluation	12/08/22	12/08/22	716
719	1.2.8.5.7.4.1	Retrofit PHS in Field	11/30/22	12/07/22	
720	1.2.8.5.7.4.2	PHS Subsystem Evaluation	12/08/22	12/08/22	721, 719
721	1.2.8.5.7.4.3	Install Filtration System in PHS	12/05/22	12/07/22	
723	1.2.8.5.7.5.1	Retrofit Water Tanks in Field	12/07/22	12/23/22	
724	1.2.8.5.7.5.2	Water Tank Subsystem Evaluation	12/23/22	12/23/22	723FF
726	1.2.8.5.7.6.1	Retrofit and Recondition Pumps in Field	11/30/22	12/14/22	
727	1.2.8.5.7.6.2	Pump Evaluated	12/14/22	12/14/22	726FF
729	1.2.8.5.7.7.1	Repair/Retrofit Shops, MECC	11/13/22	01/31/23	
731	1.2.8.5.7.8.1	Repair/Retrofit TOS & Towers	12/22/22	01/20/23	733
733	1.2.8.5.7.9.1	Repair/Replace Components, Energize & Test	12/07/22	12/21/22	
735	1.2.8.5.7.10.1	Repair/Replace Components, Energize & Test	12/07/22	12/21/22	733SS
737	1.2.8.5.7.11.1	Repair/Retrofit Winches & Reels	12/22/22	12/29/22	735
739	1.2.8.5.7.12.1	Inventory, Repair Hoses, Cables, Misc	12/30/22	01/30/23	737
743	1.2.8.5.7.14.1	Repair and Upgrade ARA Drill	01/03/23	01/16/23	
744	1.2.8.5.7.14.2	Sub-system testing	01/12/23	01/16/23	743FS -3d
745	1.2.8.5.7.14.3	Winterize & Store ARA Drill	01/17/23	01/20/23	744
747	1.2.8.5.8.1	Document, Photograph Equip & Upgrade Work, Further Req's	01/23/23	01/26/23	
748	1.2.8.5.8.2	Winterize/Close/Store all EHWD Equipment	01/27/23	02/01/23	747
749	1.2.8.5.8.3	Retro all components, crate, pack and deliver to cargo	01/24/23	02/01/23	748FF
785	1.2.8.6.4.1.1	TBD MTLS Arrive NPX	11/10/23	11/10/23	
786	1.2.8.6.4.1.3	8' Resupply Container Arrives - NPX	11/15/23	11/15/23	787SS
787	1.2.8.6.4.1.4	Refit Component Crate Arrives - NPX	11/15/23	11/15/23	788SS
788	1.2.8.6.4.1.5	Cargo Arrival: Computers, Motor Drives, All Hardware	11/15/23	11/15/23	322FS +336d



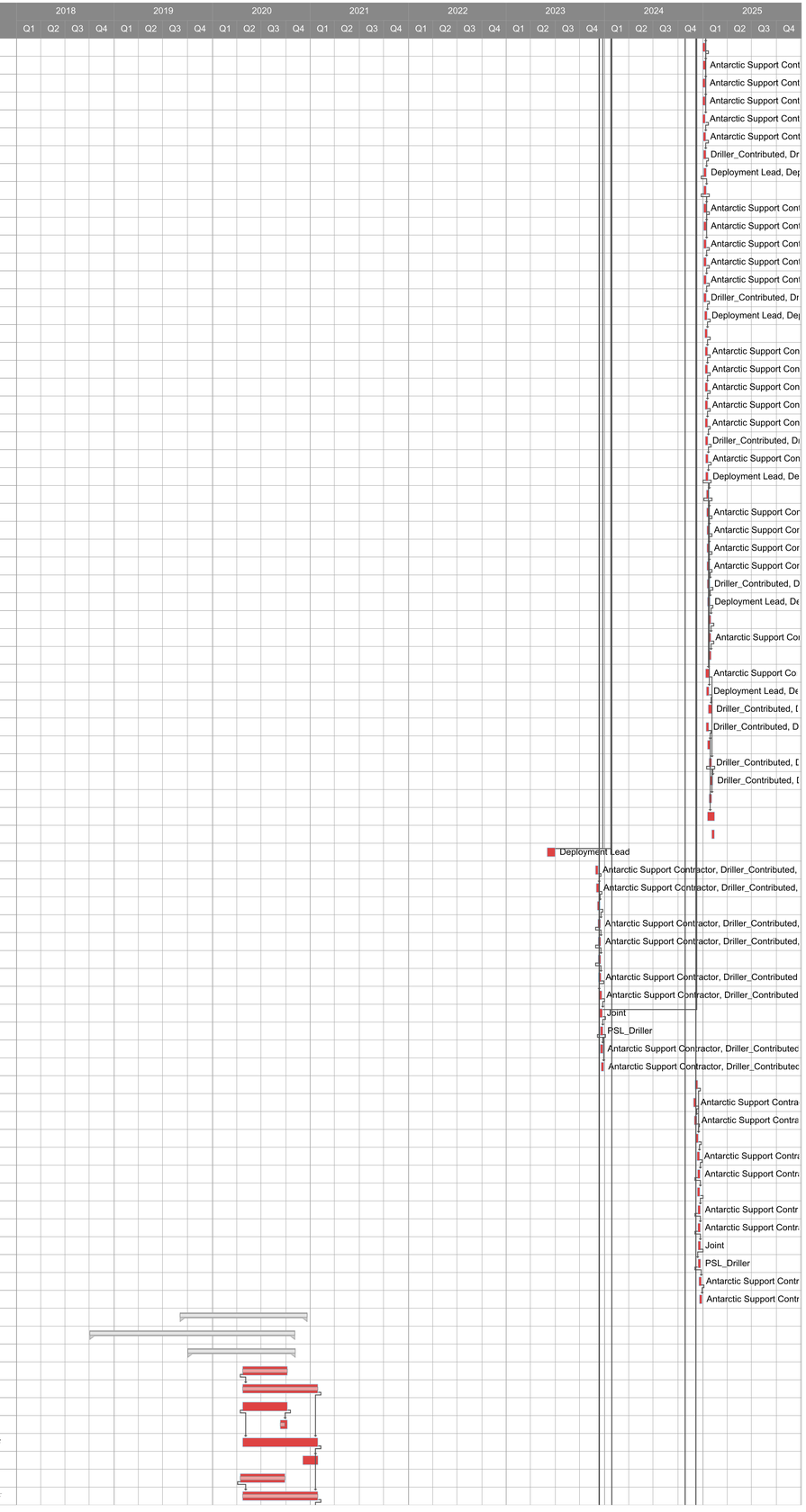
	WBS	Task Name	Start Date	End Date	Predecessor WBS
790	1.2.8.6.4.2.1	Installation Materials Weights & SPAT Equipment Arrives - NPX	12/01/23	12/01/23	
791	1.2.8.6.4.2.2	UNL HPU Arrives - NPX	01/01/24	01/01/24	
792	1.2.8.6.4.2.3	Drill Cables (Main Cable and Return) Reels Arrive - NPX	12/01/23	12/01/23	330, 794SS
793	1.2.8.6.4.2.4	TBD - NPX	12/15/23	12/15/23	
794	1.2.8.6.4.2.5	Filtration/Degassing Components: Arrive NPX	12/01/23	12/01/23	338FS +533d
795	1.2.8.6.4.2.6	Drill Hose Arrives - NPX (DNDF)	12/01/23	12/01/23	
796	1.2.8.6.4.2.7	Weightstacks, Misc Crates Arrive - NPX	12/15/23	12/15/23	1074FS +120d
797	1.2.8.6.4.2.8	GEN hoods Arrive - NPX	12/01/23	12/01/23	334FS +794d
798	1.2.8.6.4.2.9	TU-20 shaft Arrive - NPX	12/01/23	12/01/23	797SS
799	1.2.8.6.4.2.10	Surface Cable Arrives, SJB, FieldHub electronics, ICL hardware - NPX	12/01/23	12/01/23	798SS, 1619, 1610,
800	1.2.8.6.4.2.11	DOM Handling Facility Arrives - NPX	12/15/23	12/15/23	
802	1.2.8.6.4.3.1	GEN-1 Arrives - NPX	12/01/23	12/01/23	
804	1.2.8.6.4.4.1	TBD MTLS Arrive - NPX	01/15/24	01/31/24	
805	1.2.8.6.4.4.2	Drill Heads Arrive - NPX (Store in ICL)	02/01/24	02/01/24	340FS +55d
806	1.2.8.6.4.4.3	Sensor delivery (Strings 87-88) Arrives - NPX	01/16/24	01/16/24	1427FS +100d, 134
807	1.2.8.6.4.4.4	Installation Hardware (all 7 strings) and Breakout cables Arrives fro str. 87 and 88- NPX	01/12/24	01/23/24	1074FS +140d
808	1.2.8.6.4.4.5	Pressure sensors (7) Arrives - NPX	01/15/24	01/31/24	1062FS +334d
809	1.2.8.6.4.4.6	Combo & Drill Cables Arrive - NPX	01/31/24	01/31/24	332FS +313d
811	1.2.8.6.4.5.1	Downhole cables (7) Arrive - MCM	01/15/24	01/31/24	330FS +564d, 1538
812	1.2.8.6.4.5.2	Installation Hardware Arrives - MCM (placeholder see 807)	01/15/24	01/31/24	
814	1.2.8.6.5.1	Fuel Tower: Connect, Test and Make Ready	11/21/23	11/22/23	
815	1.2.8.6.5.2	Make Ready all SES Modules (DCC, PHS, MHPs, MECC, WTs, All)	11/14/23	11/24/23	
816	1.2.8.6.5.3	Furnace Checkout & Fire Up (All Modules)	11/14/23	11/16/23	815SS
817	1.2.8.6.5.4	Perform Emergency Incident Drill & Safety Training	12/08/23	12/11/23	
818	1.2.8.6.5.5	SES Maintenance Activities	11/15/23	01/31/24	816FS -2d
819	1.2.8.6.5.6	SES Digout	11/15/23	01/31/24	818SS
821	1.2.8.6.6.1	Generators: Charge Generator Batteries	11/21/23	11/29/23	
822	1.2.8.6.6.2	Prime / Commission fuel system	11/21/23	11/29/23	821SS
823	1.2.8.6.6.3	GEN-1, 2, 3 - Install GEN hoods	01/05/24	01/11/24	
824	1.2.8.6.6.4	GEN-1, 2, 3, PDM - Repairs, Tests with Contract Tech Support	11/20/23	12/13/23	822SS -1d
825	1.2.8.6.6.5	Generator & PDM: Commission & Final Testing at NPX	12/12/23	12/13/23	824FF
826	1.2.8.6.6.6	Generators Ready	12/14/23	12/14/23	825
827	1.2.8.6.6.7	Change from Temporary Power to IceCube Grid	12/15/23	12/18/23	826
830	1.2.8.6.7.1.1	Install Racks, Networks, Computers	11/23/23	11/28/23	
832	1.2.8.6.7.2.1	Final Upgrade & Replacement Activities	11/17/23	11/24/23	
833	1.2.8.6.7.2.2	Final Testing	11/24/23	11/30/23	832FS -1d
835	1.2.8.6.7.3.1	Install Filters in H2O System	11/24/23	11/27/23	
836	1.2.8.6.7.3.2	Final Upgrade & Replacement Activities	11/17/23	11/24/23	832SS
837	1.2.8.6.7.3.3	Final Testing	11/24/23	11/30/23	836FS -1d, 835FF
839	1.2.8.6.7.4.1	Install Railing, Ladders, Pumps, Plumbing, Final Upgrades	11/17/23	11/24/23	
840	1.2.8.6.7.4.2	Integrate, Verify, Test	11/24/23	11/30/23	839FS -1d
842	1.2.8.6.7.5.1	Final Upgrade & Replacement Activities	11/17/23	11/24/23	
843	1.2.8.6.7.5.2	Pump Testing	11/24/23	11/30/23	842FS -1d
845	1.2.8.6.7.6.1	Final Upgrade/Retrofit Shops, MECC	11/14/23	11/21/23	
847	1.2.8.6.7.7.1	Install Drill Hose on Reel	01/05/24	01/11/24	848FS +15d
848	1.2.8.6.7.7.2	Final Upgrades & Testing	12/10/23	12/14/23	
849	1.2.8.6.7.7.3	Install Blankets, Connect to Power, Heating Control & Test	01/12/24	01/16/24	847
851	1.2.8.6.7.8.1	Winches and Reels Final Integration & Testing (TU-20, TU-15, RWCR, RWHR, MCR)	12/15/23	01/01/24	
853	1.2.8.6.7.9.1	Fuel Tower: Commission - NPX	11/25/23	11/29/23	
855	1.2.8.6.7.10.1	TOS/Tower Equipment - Retrofit & Testing	12/31/23	01/12/24	
857	1.2.8.6.7.11.1	Control Software: System Integration, Verification, Test - NPX	11/29/23	01/23/24	859FF, 858SS
858	1.2.8.6.7.11.2	Motor Drives: Testing and Programming - NPX	11/29/23	12/26/23	859SS +5d
859	1.2.8.6.7.11.3	Motor Drives: Install Retrofit Kits	11/22/23	01/23/24	
860	1.2.8.6.7.11.4	Misc Controls Tasking	12/01/23	01/23/24	859FF
861	1.2.8.6.7.11.5	Motor Drives: Conduit Wiring	11/22/23	01/23/24	859FF
863	1.2.8.6.7.12.1	Integrate HPU-2 and Commission - NPX (Driller_PSL_Lead)	11/24/23	12/07/23	
864	1.2.8.6.7.12.2	Decommission & Store ARA Drill (Driller_PSL_Lead)	01/24/24	01/30/24	
866	1.2.8.6.8.1	Assemble Skis and Deck, Erect Walls, Construct Walls, Construct Roof	12/10/23	12/14/23	
867	1.2.8.6.8.2	Final Assembly with ASC Provided Crane	12/18/23	12/20/23	866FS +1d
869	1.2.8.6.9.1	Drill and Pump Out Water	12/07/23	12/11/23	
871	1.2.8.6.10.1	Develop & Maintain RodWell (Using ARA Drill) Includes Snow Melting Activities	12/11/23	01/16/24	869FS -1d
872	1.2.8.6.10.2	Rod Well Activities Complete (Using ARA Drill)	01/17/24	01/17/24	871
874	1.2.8.6.11.1	Drill and CRREL Integration and Commissioning at NPX	12/08/23	12/15/23	
875	1.2.8.6.11.2	Drill 8 Firn Holes w/ Independent Firn Drill (IFD)	12/15/23	01/18/24	874FS -1d
876	1.2.8.6.11.3	8 Holes Drilled, Covered and Flagged	01/18/24	01/18/24	875FS -1d
877	1.2.8.6.11.4	Winterize & Store IFD	01/18/24	01/25/24	876FS -1d
879	1.2.8.6.12.1	Readiness Review, Safety Refresher, Emergency & Safety Systems Tested	01/04/24	01/09/24	
880	1.2.8.6.12.2	Fire Boilers, Circulate Water or Glycol	01/10/24	01/18/24	879
881	1.2.8.6.12.3	Perform Systems Tests	01/17/24	01/22/24	880FS -2d
882	1.2.8.6.12.4	Blow Out Systems (need ASC compressor)	01/23/24	01/26/24	881
884	1.2.8.6.13.1	Document, Photograph Equip & Upgrade Work, Further Req's	01/20/24	01/22/24	
885	1.2.8.6.13.2	Remove DNF, Computer Equip, Drives, Capacitors, Etc	01/22/24	01/25/24	884SS
886	1.2.8.6.13.3	Winterize/Close/Store all EHWD Equipment	01/25/24	01/30/24	885FS -1d
887	1.2.8.6.13.4	Prepare Retrograde for Shipment	01/22/24	01/30/24	884SS
889	1.2.8.6.13.5.1	Remove & Retro/Store All DNF	01/20/24	01/30/24	
890	1.2.8.6.13.5.2	Winterize SES & TOS, Disconnect All Cables Hoses, Connections	01/24/24	01/31/24	889FS -5d
891	1.2.8.6.13.5.3	All EHWD Equipment Winterized	02/01/24	02/01/24	890
893	1.2.8.6.14.1	MCM Logistics Rep (Driller)	10/25/23	11/17/23	
894	1.2.8.6.15	END NPX 2023/24 Season	02/07/24	02/07/24	
899	1.2.8.7.3.1	MCM Logistics Support (ASC)	10/15/24	12/13/24	
900	1.2.8.7.3.2	Provide Heaters (PolarTherm) (ASC)	11/13/24	02/03/25	
901	1.2.8.7.3.3	Excavate Winter Storage Berms & Deliver Equipment (ASC)	11/13/24	11/18/24	



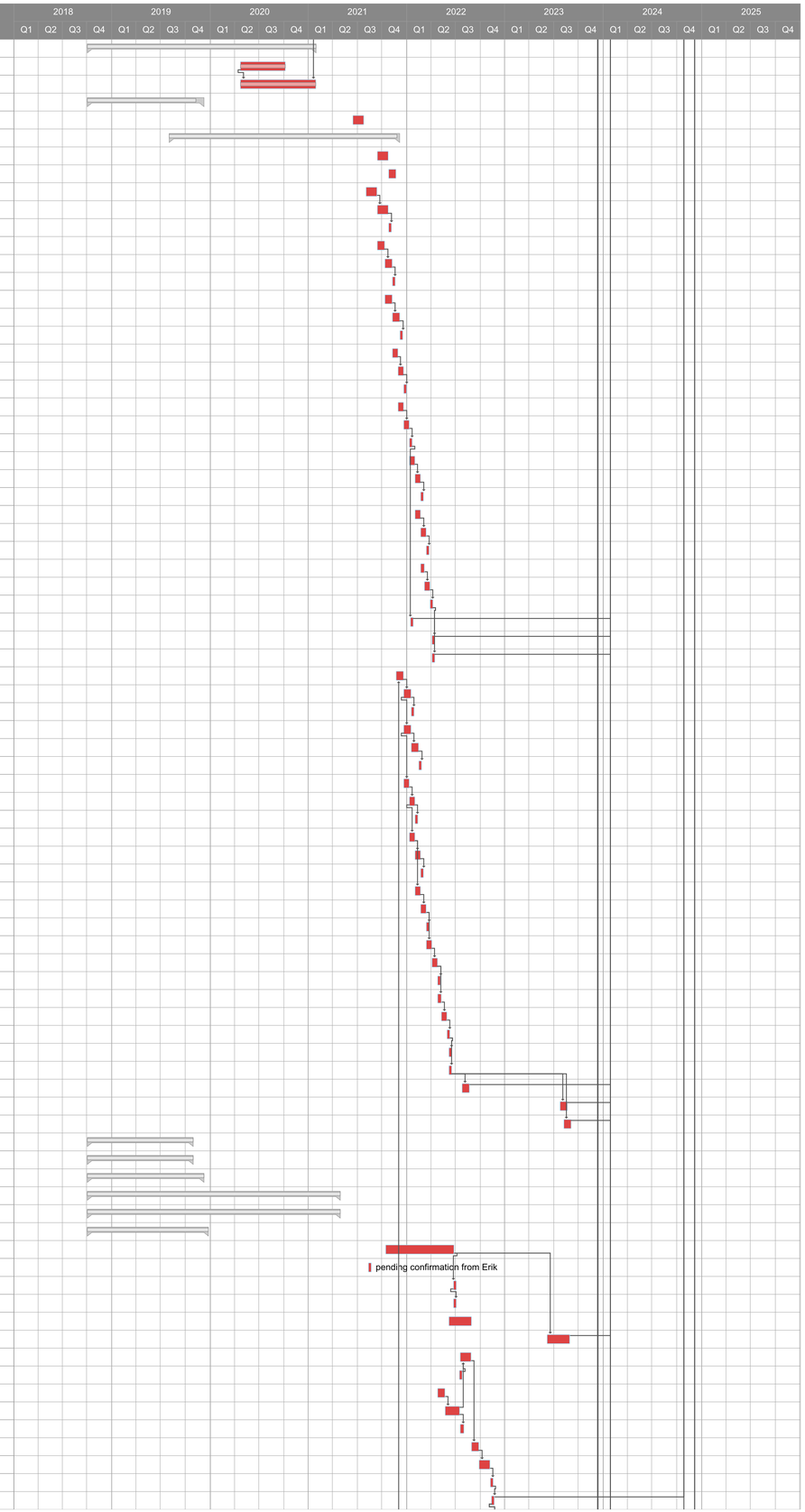
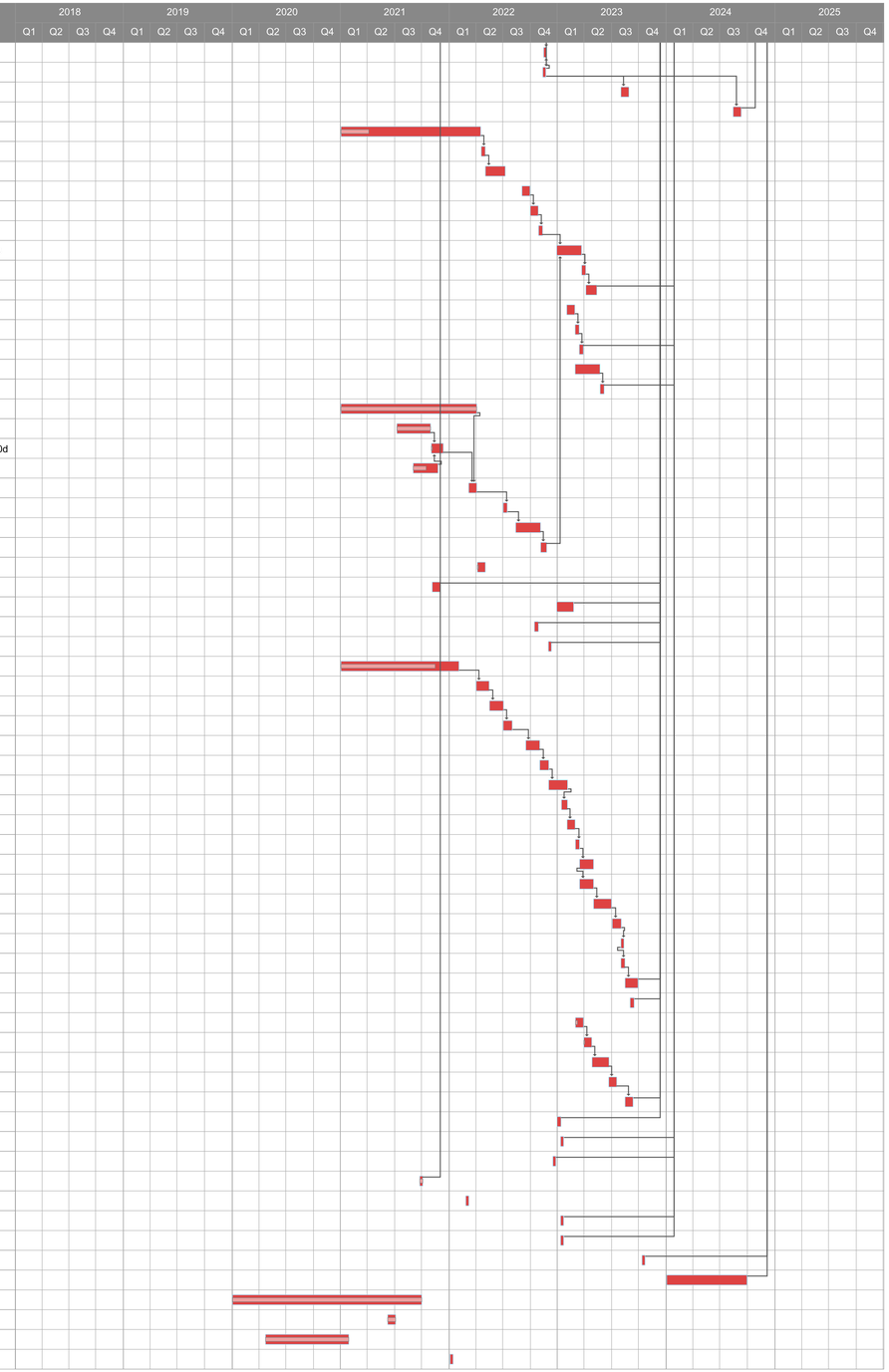
	WBS	Task Name	Start Date	End Date	Predecessor WBS
902	1.2.8.7.3.4	Built Ramp to Water Tank 1 (ASC)	11/15/24	11/15/24	
903	1.2.8.7.3.5	Re-establish SES Drill Pad, Excavate SES, and Roads, Groom & Compact Roads (ASC)	11/07/24	11/15/24	
904	1.2.8.7.3.6	SES Drill Pad Excavated & Established (ASC)	11/15/24	11/15/24	
905	1.2.8.7.3.7	Provide Support Generators (CRREL / Onan Genset) (ASC)	11/13/24	01/31/25	
906	1.2.8.7.3.8	Provide 953 Loader, 287B Skidsteer, Pax Van, & Snomo's (ASC)	11/13/24	11/13/24	
907	1.2.8.7.3.9	IT Activities for SES (ASC)	11/20/24	11/20/24	
908	1.2.8.7.3.10	Deliver Compressor to SES (ASC)	12/01/24	12/01/24	
909	1.2.8.7.3.11	Deliver & Warm Up Glycol Tank (ASC)	12/01/24	12/01/24	
910	1.2.8.7.3.12	Begin delivery - 5k Fuel Tanks (ASC)	11/20/24	11/20/24	
911	1.2.8.7.3.13	Deliver TOS1, TOS2, Drill Towers, DCC (to SES), Main Hose Reel (ASC)	12/01/24	12/03/24	
912	1.2.8.7.3.14	Deliver 3000 gals Seed Water from Station (ASC)	11/27/24	12/02/24	
913	1.2.8.7.3.15	Survey Support As-built Drawing (ASC)	01/15/25	01/22/25	
914	1.2.8.7.3.16	EHWD Storage Support (ASC)	02/01/25	02/11/25	
915	1.2.8.7.3.17	Demo Snow Ramp (ASC)	02/01/25	02/04/25	
916	1.2.8.7.3.18	Create Storage Berms (ASC), End-of-the-World and SES	12/15/24	01/13/25	
917	1.2.8.7.3.19	Receive Sensors 5 Strings and Deliver to SES (ASC)	11/16/24	11/16/24	
918	1.2.8.7.3.20	Receive Downhole Cables and Deliver to SES (ASC)	11/16/24	11/16/24	
919	1.2.8.7.3.21	Equipment Ops Support - Moves, TU-20 Loading, Season Snow Removal, Road Maint. (ASC)	11/15/24	02/05/25	
920	1.2.8.7.3.22	T&L Support - Cargo Deliveries (ASC)	11/15/24	02/05/25	
921	1.2.8.7.3.23	Create Storage Berms (ASC)	01/02/25	01/08/25	
922	1.2.8.7.3.24	Tow and Place EHWD onto Berms for Long-Term Storage (ASC)	01/25/25	01/28/25	
923	1.2.8.7.3.25	Demo Snow Ramp (ASC)	01/25/25	01/28/25	
926	1.2.8.7.4.1.1	Spare Drill Cable Arrives - NPX	11/11/24	11/11/24	340FS +257d
927	1.2.8.7.4.1.2	Computing and Controls Hardware Arrival - NPX	11/15/24	11/15/24	339FS +314d
928	1.2.8.7.4.1.3	Driller Resupply, Spare Parts Arrive - NPX	11/15/24	11/15/24	332FS +520d
929	1.2.8.7.4.1.4	Dust logger Winch (IDP) Arrival - NPX	11/25/24	11/25/24	1879FS +41d
930	1.2.8.7.4.1.5	Sensors (5 strings) Arrive - NPX	11/25/24	11/25/24	1834FS +777d, 183
931	1.2.8.7.4.1.6	Downhole cables (7) Arrive - NPX	11/29/24	11/29/24	811FS +216d
932	1.2.8.7.4.1.7	Breakout Cables, strings 89-93 Arrival - NPX	11/29/24	11/29/24	1094FS +250d
934	1.2.8.7.4.2.1	TBD MTLS Arrive - NPX	12/01/24	12/01/24	
936	1.2.8.7.4.3.1	TBD MTLS Arrival - NPX	12/01/24	12/01/24	
938	1.2.8.7.4.4.1	TBD MTLS Departure - NPX	01/20/24	02/07/25	
940	1.2.8.7.4.5.1	Sensors (5 strings) Arrive - MCM	10/15/24	10/16/24	1463FS +501d, 146
942	1.2.8.7.5.1	Make Ready all SES Modules (DCC, PHS, MHPs, MECC, WTs, All)	11/15/24	11/27/24	949SS +1d
943	1.2.8.7.5.2	Furnace Checkout & Fire Up (All modules)	11/15/24	11/20/24	942SS
944	1.2.8.7.5.3	Perform Emergency Incident Drill & Safety Training	12/08/24	12/10/24	
945	1.2.8.7.5.4	Ready ARA Drill for Service	11/28/24	12/04/24	943FS +5d
946	1.2.8.7.5.5	Re-establish and Maintain RodWell	12/04/24	01/16/25	
947	1.2.8.7.5.6	SES and Equipment Maintenance Activities	11/15/24	02/03/25	943SS
948	1.2.8.7.5.7	SES Ready for Drilling - (On Ice Final Readiness Assessment)	12/12/24	12/12/24	945FS +5d
949	1.2.8.7.5.8	SES Dig-out	11/14/24	11/18/24	
951	1.2.8.7.6.1	Generator & PDM: Commission - NPX	11/18/24	11/20/24	
952	1.2.8.7.6.2	Generators Ready	11/20/24	11/21/24	951FS -1d
953	1.2.8.7.6.3	Change from Temp Power to Generators (Stand Alone)	11/20/24	11/22/24	952SS
955	1.2.8.7.7.1	Hole Excavation, Trench & Install Cable Anchor (Hole 1 & 2)	12/06/24	12/09/24	960SS
956	1.2.8.7.7.2	Position & Level TOS1/Tower1 at Hole 1	11/25/24	11/25/24	
957	1.2.8.7.7.3	Position Sensor Handling Structure	11/26/24	11/27/24	956
958	1.2.8.7.7.4	Hose & Cable Delivery & Layout SES-TOS	12/02/24	12/04/24	957FS +2d
959	1.2.8.7.7.5	Trench & Install Reel Anchors (Hole 1)	12/05/24	12/09/24	958
960	1.2.8.7.7.6	Position Hose & Cable Reels (Hole 1)	12/06/24	12/09/24	958FS +1d
961	1.2.8.7.7.7	Make TOS1 Operational, Deliver Fuel, Fire Furnace	12/06/24	12/09/24	960SS
962	1.2.8.7.7.8	TOS1 Network/Comms Install	12/06/24	12/09/24	961SS
963	1.2.8.7.7.9	Connect Hose Loop & Circulate Water	12/06/24	12/09/24	962SS
964	1.2.8.7.7.10	Prepare SFC-DOM Cable (Mount on TU20, test slip ring) X2	12/06/24	12/09/24	963SS
965	1.2.8.7.7.11	Pull Drill Heads from ICL & Final Testing in TOS	12/09/24	12/12/24	964FS -1d
966	1.2.8.7.7.12	TOS1/Tower1 Site Ready for Drilling	12/13/24	12/16/24	965, 948
968	1.2.8.7.8.1	Position & Level TOS 2/Tower 2 (Hole 2)	11/26/24	12/02/24	
969	1.2.8.7.8.2	Cable Layout SES to TOS 2	12/02/24	12/06/24	968FS -1d
970	1.2.8.7.8.3	Make TOS2 Operational, Deliver fuel, Fire Furnace	12/09/24	12/11/24	969
971	1.2.8.7.8.4	TOS2 Network/Comms Install	12/09/24	12/12/24	970SS
972	1.2.8.7.8.5	TOS2/Tower2 in Position & Heated	12/13/24	12/16/24	971, 948
974	1.2.8.7.9.1	Readiness Review/Safety Refresher	11/20/24	12/16/24	
975	1.2.8.7.9.2	Emergency & Safety Systems Tested	11/20/24	11/25/24	
976	1.2.8.7.9.3	Fire Boilers, Circulate Water	11/26/24	01/08/25	975
977	1.2.8.7.9.4	Perform Complete Systems Testing (Wet Test & Comm).	12/04/24	12/11/24	976SS +6d
979	1.2.8.7.10.1	DRILL HOLE # 1	12/13/24	12/16/24	977FS +1d
980	1.2.8.7.10.2	Deployment - String 1	12/16/24	12/18/24	979FS -1d
981	1.2.8.7.10.3	String # 1 Deployed & Complete	12/19/24	12/20/24	980
982	1.2.8.7.10.4	Closeout & Relocate Tower & TOS to Hole 3	12/16/24	12/18/24	980SS
983	1.2.8.7.10.5	Trench & Install Reel Anchors (Hole 2)	12/19/24	12/23/24	982
984	1.2.8.7.10.6	Relocate Hose, Cable Reels, Sensor Handling Structure	12/17/24	12/19/24	979
985	1.2.8.7.10.7	Prepare SFC-DOM Cable (Mount on TU20, test slip ring) Prep for String 3	12/19/24	12/20/24	984FS -1d
986	1.2.8.7.10.8	Operational Debrief	12/20/24	12/20/24	985FS -1d
987	1.2.8.7.10.9	DRILL HOLE # 2	12/20/24	12/23/24	986FS -1d
988	1.2.8.7.10.10	Deployment - String 2	12/20/24	12/24/24	986FS -1d
989	1.2.8.7.10.11	String # 2 Deployed & Complete	12/24/24	12/25/24	988FS -1d
990	1.2.8.7.10.12	Closeout & Relocate Tower & TOS to Hole 4	12/25/24	12/25/24	989FS -1d
991	1.2.8.7.10.13	Trench & Install Reel Anchors (Hole 3)	12/23/24	12/23/24	988SS +1d
992	1.2.8.7.10.14	Relocate Hose, Cable Reels, Sensor Handling Structure	12/23/24	12/23/24	991FS -1d
993	1.2.8.7.10.15	Prepare SFC-DOM Cable (Mount on TU20, test slip ring) - Prep for String 4	12/25/24	12/25/24	992FS +1d
994	1.2.8.7.10.16	DRILL HOLE # 3	12/26/24	12/27/24	993
995	1.2.8.7.10.17	Deployment - String 3	12/27/24	12/30/24	994FS -1d



	WBS	Task Name	Start Date	End Date	Predecessor WBS
996	1.2.8.7.10.18	String # 3 Deployed & Complete	12/30/24	12/30/24	995FS -1d
997	1.2.8.7.10.19	Closeout & Relocate Tower & TOS for Hole 5	12/31/24	01/01/25	996
998	1.2.8.7.10.20	Trench & Install Reel Anchors (Hole 4)	12/30/24	12/30/24	995SS +1d
999	1.2.8.7.10.21	Relocate Hose, Cable Reels, Sensor Handling Structure	12/30/24	12/30/24	995SS +1d
1000	1.2.8.7.10.22	Hole Excavation, Trench & Install Cable Anchor (Hole 4)	12/30/24	12/31/24	995SS +1d
1001	1.2.8.7.10.23	Prepare SFC-Sensor Cable (Mount on TU20, test slip ring) - Prep for String 5	01/01/25	01/01/25	1000
1002	1.2.8.7.10.24	DRILL HOLE # 4	01/02/25	01/03/25	1001
1003	1.2.8.7.10.25	Deployment	01/03/25	01/03/25	1002FS -1d
1004	1.2.8.7.10.26	String # 4 Deployed & Complete	01/03/25	01/03/25	1003SS
1005	1.2.8.7.10.27	Closeout & Relocate Tower & TOS for Hole 6	01/03/25	01/03/25	1004FS -1d
1006	1.2.8.7.10.28	Trench & Install Reel Anchors (Hole 5)	01/03/25	01/03/25	1005FS -1d
1007	1.2.8.7.10.29	Relocate Hose, Cable Reels, Sensor Handling Structure	01/03/25	01/03/25	1004SS
1008	1.2.8.7.10.30	Hole Excavation, Trench & Install Cable Anchor (Hole 5)	01/03/25	01/03/25	1007FS -1d
1009	1.2.8.7.10.31	Prepare SFC-Sensor Cable (Mount on TU20, test slip ring) - Prep for String 6	01/03/25	01/03/25	1008FS -1d
1010	1.2.8.7.10.32	DRILL HOLE # 5	01/03/25	01/06/25	1009FS -1d
1011	1.2.8.7.10.33	Deployment - String 5	01/06/25	01/07/25	1010FS -1d
1012	1.2.8.7.10.34	String # 5 Deployed & Complete	01/07/25	01/07/25	1011FS -1d
1013	1.2.8.7.10.35	Closeout & Relocate Tower & TOS for Hole 7	01/08/25	01/08/25	1012
1014	1.2.8.7.10.36	Trench & Install Reel Anchors (Hole 6)	01/08/25	01/08/25	1013FS -1d
1015	1.2.8.7.10.37	Relocate Hose, Cable Reels, Sensor Handling Structure	01/08/25	01/08/25	1014FS -1d
1016	1.2.8.7.10.38	Hole Excavation, Trench & Install Cable Anchor (Hole 6)	01/08/25	01/08/25	1015FS -1d
1017	1.2.8.7.10.39	Prepare SFC-Sensor Cable (Mount on TU20, test slip ring) - Prep for String 7	01/08/25	01/08/25	1016FS -1d
1018	1.2.8.7.10.40	DRILL HOLE # 6	01/09/25	01/10/25	1017
1019	1.2.8.7.10.41	Driller Support for Dust Logging Activities	01/10/25	01/10/25	1018FS -1d
1020	1.2.8.7.10.42	Deployment - String 6	01/10/25	01/13/25	1019FS -1d
1021	1.2.8.7.10.43	String # 6 Deployed & Complete	01/13/25	01/13/25	1020FS -1d
1022	1.2.8.7.10.44	Closeout & Relocate Tower & TOS to Storage	01/14/25	01/14/25	1021
1023	1.2.8.7.10.45	Trench & Install Reel Anchors (Hole 7)	01/15/25	01/15/25	1022
1024	1.2.8.7.10.46	Relocate Hose & Cable Reels Change duration 1 day	01/15/25	01/15/25	1023FS -1d
1025	1.2.8.7.10.47	Hole Excavation, Trench & Install Cable Anchor (Hole 7)	01/15/25	01/15/25	1024FS -1d
1026	1.2.8.7.10.48	DRILL HOLE # 7	01/16/25	01/17/25	1025
1027	1.2.8.7.10.49	Deployment - String 7	01/17/25	01/20/25	1026FS -1d
1028	1.2.8.7.10.50	String # 7 Deployed & Complete	01/20/25	01/20/25	1027FS -1d
1029	1.2.8.7.10.51	Closeout & Relocate Tower & TOS to Storage Change duration 7 days	01/20/25	01/20/25	1028FS -1d
1030	1.2.8.7.10.52	Drilling & Installation Complete	01/21/25	01/21/25	1029
1032	1.2.8.7.11.1	Remove & Retro/Store All DNF	01/10/25	01/23/25	1020SS
1033	1.2.8.7.11.2	Decommission SES & TOS, Disconnect all cables hoses, connections	01/13/25	01/20/25	1021SS
1034	1.2.8.7.11.3	Winterize all EHWD equipment	01/20/25	01/31/25	1033FS -1d
1035	1.2.8.7.11.4	Remove Drill Hose from MSHR, Respool & Ship to ZCM	01/12/25	01/16/25	
1036	1.2.8.7.11.5	Shipment of Drill Hose to ZCM	01/17/25	01/17/25	1035
1037	1.2.8.7.11.6	Inventory & Photograph EHWD, Document Repairs needed	01/23/25	01/27/25	1032FS -1d
1038	1.2.8.7.11.7	UNL Equipment - Deliver to Cargo for Retro or Redistribution	01/27/25	01/29/25	1037FS -1d
1039	1.2.8.7.11.8	Crate and Deliver EHWD Equipment to Cargo for Retrograde or Redistribution	01/23/25	01/29/25	1037SS
1040	1.2.8.7.11.9	Cargo Retro (24/25)	01/17/25	02/11/25	1035
1041	1.2.8.7.12	NPX Activities Complete (24/25 Season)	02/02/25	02/02/25	
1074	1.2.9.4.10	Ship Installation Kits and Weights	05/31/23	06/29/23	1073
1086	1.2.9.5.6.1	Prep & Compact Surface Near ICL for Cable Install (ASC)	11/27/23	11/29/23	
1087	1.2.9.5.6.2	ICL: Open Tower, Bridge, and ICL Access (ASC)	11/30/23	12/04/23	1086
1088	1.2.9.5.6.3	Prep/Uncrate Cable Spools; Load onto TU20 (ASC/UW)	12/04/23	12/06/23	1087FS -1d
1089	1.2.9.5.6.4	Install 7 Surface Cables into ICL Tower, Across Bridge, into ICL (ASC & UW)	12/06/23	12/08/23	1088FS -1d
1090	1.2.9.5.6.5	Prep Cables & Attach to Grounding System in ICL (UW)	12/07/23	12/11/23	1089SS +1d
1091	1.2.9.5.6.6	Connect Surface Cables into ICL Patch Panels (UW)	12/07/23	12/11/23	1090SS
1092	1.2.9.5.6.7	Excavate Surface Junction Box Pits (ASC)	12/08/23	12/12/23	1091SS +1d
1093	1.2.9.5.6.8	Trench (mechanical) from SJB to ICL Tower (ASC)	12/11/23	12/12/23	1092FF
1094	1.2.9.5.6.9	Unspool & Lay Surface Cables from Tower to SJB Pits (ASC & UW)	12/13/23	12/14/23	1093
1095	1.2.9.5.6.10	Install SJB's in Pits (2); Connect cables (UW)	12/15/23	12/18/23	1094
1096	1.2.9.5.6.11	Build & Install Temp-Vault w/Lid (8'x10'x4'h) (ASC)	12/15/23	12/19/23	1095SS
1097	1.2.9.5.6.12	Survey, Backfill, and Flag Pits & Trenches (ASC)	12/18/23	12/20/23	1095FS -1d
1101	1.2.9.6.2	On Ice Readiness Review for 1st Hole Drill / Deployment	12/02/24	12/02/24	
1104	1.2.9.6.4.1	Prep & Compact Surface Near ICL for Cable Install (ASC)	11/26/24	11/28/24	1099
1105	1.2.9.6.4.2	ICL: Open Tower, Bridge, and ICL Access (ASC)	11/29/24	12/03/24	1104
1106	1.2.9.6.4.3	Prep/Uncrate Cable Spools; Load onto TU20 (ASC/UW)	12/04/24	12/06/24	1101, 1105
1107	1.2.9.6.4.4	Install 7 Surface Cables into ICL Tower, Across Bridge, into ICL (ASC & UW)	12/09/24	12/11/24	1106
1108	1.2.9.6.4.5	Prep Cables & Attach to Grounding System in ICL (UW)	12/11/24	12/13/24	1107FS -1d
1109	1.2.9.6.4.6	Connect Surface Cables into ICL Patch Panels (UW)	12/10/24	12/12/24	1108SS -1d
1110	1.2.9.6.4.7	Excavate Surface Junction Box Pits (ASC)	12/12/24	12/16/24	1109FS -1d
1111	1.2.9.6.4.8	Trench (mechanical) from SJB to ICL Tower (ASC)	12/12/24	12/13/24	1110SS
1112	1.2.9.6.4.9	Unspool & Lay Surface Cables from Tower to SJB Pits (ASC & UW)	12/13/24	12/16/24	1111SS +1d
1113	1.2.9.6.4.10	Install SJB's in Pits (2); Connect cables (UW)	12/13/24	12/16/24	1112FF
1114	1.2.9.6.4.11	Build & Install Temp-Vault w/Lid (8'x10'x4'h) (ASC)	12/16/24	12/18/24	1113SS +1d
1115	1.2.9.6.4.12	Survey, Backfill, and Flag Pits & Trenches (ASC)	12/18/24	12/20/24	1114FS -1d
1162	*1.3.1.2.5*	*Tender and procurement (series production)*	*09/02/19*	*12/18/20*	
1194	*1.3.1.3*	*mDOM High Voltage Subsystem*	*10/01/18*	*11/02/20*	
1197	*1.3.1.3.4*	*Tender and procurement*	*10/01/19*	*11/02/20*	
1215	*1.3.1.4.4*	*Tender and procurement (test production)*	*04/22/20*	*10/06/20*	
1216	*1.3.1.4.5*	*Tender and procurement (series production)*	*04/22/20*	*01/26/21*	*1215SS*
1222	1.3.1.5.5	Tender and procurement of support structures (test production)	04/22/20	10/06/20	
1223	1.3.1.5.6	Procurement of reflector rings (test production)	09/09/20	10/06/20	1222FF
1224	1.3.1.5.7	Tender and procurement of support structures (series production)	04/22/20	01/26/21	1222SS, 1216FF
1225	1.3.1.5.8	Procurement of reflector rings (series production)	12/02/20	01/26/21	1224FF
1230	*1.3.1.6.4*	*Tender and procurement (test production)*	*04/13/20*	*09/25/20*	*1229FS +20d*
1231	*1.3.1.6.5*	*Tender and procurement (series production)*	*04/22/20*	*01/26/21*	*1230SS, 1224FF*



	WBS	Task Name	Start Date	End Date	Predecessor WBS
1232	*1.3.1.7*	*mDOM Harness*	*10/01/18*	*01/26/21*	
1235	*1.3.1.7.3*	*Tender and procurement (test production)*	*04/22/20*	*10/06/20*	
1236	*1.3.1.7.4*	*Tender and procurement (series production)*	*04/22/20*	*01/26/21*	*1235SS, 1231FF*
1238	**1.3.1.8.1**	**Integrated module design**	**10/01/18**	**12/06/19**	
1268	1.3.1.9.1.2	Test production (Batch #0, Qty. 27)	06/14/21	07/23/21	
1273	**1.3.1.9.2.1**	**Set up facilities and hire personel**	**08/01/19**	**12/03/21**	
1278	1.3.1.9.2.2	Test production (Batch #0, Qty. 27)	09/13/21	10/22/21	
1281	1.3.1.9.2.5	Improve production site and procedures	10/25/21	11/19/21	
1287	1.3.1.10.1.1.1	Production Batch #1 (Qty. 27) (Start)	08/02/21	09/10/21	1800FS +137d
1288	1.3.1.10.1.1.2	FAT Batch #1	09/13/21	10/22/21	1287
1289	1.3.1.10.1.1.3	Packing Batch #1	10/25/21	10/29/21	1288
1290	1.3.1.10.1.1.4	Production Batch #2 (Qty. 27)	09/13/21	10/08/21	
1291	1.3.1.10.1.1.5	FAT Batch #2	10/11/21	11/05/21	1290
1292	1.3.1.10.1.1.6	Packing Batch #2	11/08/21	11/12/21	1291
1293	1.3.1.10.1.1.7	Production Batch #3 (Qty. 27)	10/11/21	11/05/21	
1294	1.3.1.10.1.1.8	FAT Batch #3	11/08/21	12/03/21	1293
1295	1.3.1.10.1.1.9	Packing Batch #3	12/06/21	12/10/21	1294
1296	1.3.1.10.1.1.10	Production Batch #4 (Qty. 27)	11/08/21	11/26/21	
1297	1.3.1.10.1.1.11	FAT Batch #4	11/29/21	12/17/21	1296
1298	1.3.1.10.1.1.12	Packing Batch #4	12/20/21	12/24/21	1297
1299	1.3.1.10.1.1.13	Production Batch #5 (Qty. 27)	11/29/21	12/17/21	
1300	1.3.1.10.1.1.14	FAT Batch #5	12/20/21	01/07/22	1299
1301	1.3.1.10.1.1.15	Packing Batch #5	01/10/22	01/14/22	1300
1302	1.3.1.10.1.1.16	Production Batch #6 (Qty. 27)	01/10/22	01/28/22	
1303	1.3.1.10.1.1.17	FAT Batch #6	01/31/22	02/18/22	1302
1304	1.3.1.10.1.1.18	Packing Batch #6	02/21/22	02/25/22	1303
1305	1.3.1.10.1.1.19	Production Batch #7 (Qty. 27)	01/31/22	02/18/22	
1306	1.3.1.10.1.1.20	FAT Batch #7	02/21/22	03/11/22	1305
1307	1.3.1.10.1.1.21	Packing Batch #7	03/14/22	03/18/22	1306
1308	1.3.1.10.1.1.22	Production Batch #8 (Qty. 9)	02/21/22	03/04/22	
1309	1.3.1.10.1.1.23	FAT Batch #8	03/07/22	03/25/22	1308
1310	1.3.1.10.1.1.24	Packing Batch #8	03/28/22	04/01/22	1309
1311	1.3.1.10.1.1.25	128 mDOMs for Strings 87-88 ready to ship to CHC	01/14/22	01/14/22	1301FF
1312	1.3.1.10.1.1.26	96 mDOMs for Strings 89-93 ready to ship to CHC	04/04/22	04/04/22	1310
1313	1.3.1.10.1.1.27	Production of 225 mDOMs at DESY site completed	04/04/22	04/04/22	1310
1317	1.3.1.10.1.2.1	Production Batch #1 (Qty. 27) (Start)	11/22/21	12/17/21	1815FS +41d
1318	1.3.1.10.1.2.2	FAT Batch #1	12/20/21	01/14/22	1317
1319	1.3.1.10.1.2.3	Packing Batch #1	01/17/22	01/21/22	1318
1320	1.3.1.10.1.2.4	Production Batch #2 (Qty. 27)	12/20/21	01/14/22	1318SS
1321	1.3.1.10.1.2.5	FAT Batch #2	01/17/22	02/11/22	1320
1322	1.3.1.10.1.2.6	Packing Batch #2	02/14/22	02/18/22	1321
1323	1.3.1.10.1.2.7	Production Batch #3 (Qty. 27)	12/20/21	01/07/22	1320SS
1324	1.3.1.10.1.2.8	FAT Batch #3	01/10/22	01/28/22	1323
1325	1.3.1.10.1.2.9	Packing Batch #3	01/31/22	02/04/22	1324
1326	1.3.1.10.1.2.10	Production Batch #4 (Qty. 27)	01/10/22	01/28/22	1324SS
1327	1.3.1.10.1.2.11	FAT Batch #4	01/31/22	02/18/22	1326
1328	1.3.1.10.1.2.12	Packing Batch #4	02/21/22	02/25/22	1327
1329	1.3.1.10.1.2.13	Production Batch #5 (Qty. 27)	01/31/22	02/18/22	1326
1330	1.3.1.10.1.2.14	FAT Batch #5	02/21/22	03/11/22	1329
1331	1.3.1.10.1.2.15	Packing Batch #5	03/14/22	03/18/22	1330
1332	1.3.1.10.1.2.16	Production Batch #6 (Qty. 27)	03/14/22	04/01/22	1330
1333	1.3.1.10.1.2.17	FAT Batch #6	04/04/22	04/22/22	1332
1334	1.3.1.10.1.2.18	Packing Batch #6	04/25/22	04/29/22	1333
1335	1.3.1.10.1.2.19	Production Batch #7 (Qty. 16)	04/25/22	05/06/22	1333
1336	1.3.1.10.1.2.20	FAT Batch #7	05/09/22	05/27/22	1335
1337	1.3.1.10.1.2.21	Packing Batch #7	05/30/22	06/03/22	1336
1338	1.3.1.10.1.2.22	200 mDOMs for Strings 89-93 ready to ship to Pt. Hueneme	06/06/22	06/06/22	1337
1339	1.3.1.10.1.2.23	Production of 205 mDOMs at MSU site completed	06/06/22	06/06/22	1337
1340	1.3.1.10.2	Ship 111 + 17 spare mDOMs for Strings 87-88 from DESY to CHC	07/25/22	08/19/22	1339FS +34d
1341	1.3.1.10.3	Ship 96 mDOMs for Strings 89-93 from DESY to CHC	07/24/23	08/18/23	1339FS +294d
1342	1.3.1.10.4	Ship 189 + 11 spare mDOMs for Strings 89-93 from MSU to Pt. Hueneme	08/07/23	09/01/23	1339FS +304d
1360	*1.3.2.2*	*D-Egg PMT*	*10/01/18*	*10/28/19*	
1361	*1.3.2.2.1*	*PMT Production*	*10/01/18*	*10/28/19*	
1368	*1.3.2.3.3*	*Tender and procurement*	*10/01/18*	*12/06/19*	
1373	*1.3.2.4*	*D-Egg Pressure Vessel*	*10/01/18*	*04/28/21*	
1374	*1.3.2.4.1*	*Pressure Vessel production*	*10/01/18*	*04/28/21*	
1379	*1.3.2.5*	*D-Egg Optical Gel*	*10/01/18*	*12/25/19*	
1422	1.3.2.9.1.4.2	FAT	10/14/21	06/23/22	
1423	1.3.2.9.1.5	78 + 18 spares D-Eggs for Strings 87-88 ready to ship to CHC	08/11/21	08/11/21	1419FF
1424	1.3.2.9.1.6	197 + 11 spare D-Eggs for Strings 89-93 ready to ship to CHC	06/23/22	06/23/22	1422FF
1425	1.3.2.9.1.7	Production of 310 D-Eggs completed	06/23/22	06/23/22	1424SS
1426	1.3.2.9.2	Ship 78 + 18 spare D-Eggs for Strings 87-88 to CHC	06/06/22	08/26/22	1419FS +212d
1427	1.3.2.9.3	Ship 197 + 11 spare D-Eggs for Strings 89-93 to CHC	06/06/23	08/28/23	1422FS +247d
1450	1.3.3.2.2.5	PDOM HV system production (Qty. 25)	07/18/22	08/26/22	1451, 1454
1451	1.3.3.3	PDOM Final Design Review	07/15/22	07/15/22	
1453	1.3.3.4.1	Refurbish 10 IceCube DOMs	04/25/22	05/20/22	
1454	1.3.3.4.2	Design Verification Test	05/23/22	07/15/22	1453
1455	1.3.3.4.3	Ship DVT modules to NTS	07/18/22	07/29/22	1454
1460	1.3.3.4.5.1	Refurbishment Batch #1 (Qty. 20)	08/29/22	09/23/22	1450
1461	1.3.3.4.5.2	FAT Batch #1	09/26/22	11/04/22	1460
1462	1.3.3.4.5.3	Packing Batch #1	11/07/22	11/11/22	1461
1463	1.3.3.4.5.4	2 + 2 spare PDOMs for Strings 87-88 ready to ship to Pt. Hueneme	11/11/22	11/11/22	1462FS -1d



	WBS	Task Name	Start Date	End Date	Predecessor WBS
1464	1.3.3.4.5.5	12 + 4 spare PDOMs for Strings 89-93 ready to ship to Pt. Hueneme	11/14/22	11/14/22	1463SS, 1465
1465	1.3.3.4.5.6	Refurbishment of 20 PDOMs completed	11/11/22	11/11/22	1463SS
1466	1.3.3.4.6	Ship 2 + 2 spare PDOMs for Strings 87-88 to Pt. Hueneme	08/01/23	08/28/23	1465FS +186d
1467	1.3.3.4.7	Ship 12 + 4 spare PDOMs for Strings 89-93 to Pt. Hueneme	08/13/24	09/09/24	1465FS +456d
1528	1.4.1.1.2.1.1	Breakout preliminary design	01/01/21	04/15/22	
1529	1.4.1.1.2.1.2	Breakout preliminary design review	04/18/22	04/29/22	1528
1531	1.4.1.1.2.2.1	Breakout final design	05/02/22	07/08/22	1529
1532	1.4.1.1.2.2.2	Breakout prototype production	09/02/22	09/29/22	
1533	1.4.1.1.2.2.3	Breakout prototype testing	09/30/22	10/27/22	1532
1534	1.4.1.1.2.2.4	Breakout final design review	10/28/22	11/10/22	1533
1536	1.4.1.1.3.2	MCA production	12/28/22	03/21/23	1525, 1534, 1588
1537	1.4.1.1.3.3	Pre-ship review	03/22/23	04/04/23	1536
1538	1.4.1.1.3.4	Main Cable Assembly shipping to PTH (RDD 12/1/23 for FY23 vessel)	04/05/23	05/09/23	1537
1552	1.4.1.2.3.1	BCA manufacturing	01/31/23	02/27/23	
1553	1.4.1.2.3.2	BCA pre-ship review	02/28/23	03/13/23	1552
1554	1.4.1.2.3.3	Shipping to PTH (FY24 ComSur, RDD 9/15/23)	03/14/23	03/27/23	1553
1557	1.4.1.2.4.1	BCA manufacturing	02/28/23	05/22/23	
1558	1.4.1.2.4.2	Shipping to PTH or CHC (FY24 vessel, RDD 12/1/23)	05/23/23	06/05/23	1557
1581	*1.4.1.4.1.1*	*Final design*	*01/01/21*	*04/01/22*	
1582	*1.4.1.4.1.2*	*Support rope prototype procurement*	*07/08/21*	*10/29/21*	
1583	1.4.1.4.1.3	Support rope prototype testing	11/01/21	12/10/21	1582, 1584FS -20d
1584	1.4.1.4.1.4	Cable knot tests	09/01/21	11/23/21	
1585	1.4.1.4.1.5	Rope plus cable pull tests	03/07/22	04/01/22	1581FF, 1583
1586	1.4.1.4.1.6	String hardware final design review	07/01/22	07/14/22	1585FS +64d
1587	1.4.1.4.1.7	String hardware procurement	08/12/22	11/03/22	1586FS +20d
1588	1.4.1.4.1.8	String hardware shipping to MCA production facility	11/04/22	11/24/22	1587
1591	1.4.1.5.2	Cable emulator box design	04/05/22	05/02/22	
1610	1.4.2.1.8	Shipping to PTH	11/04/21	12/01/21	1609
1619	1.4.2.2.6	Shipping to PTH	12/28/22	02/21/23	1618
1629	1.4.2.3.2.5	Shipping to PTH (NB: small)	10/14/22	10/27/22	1628
1640	1.4.2.3.3.7	Shipping to PTH	11/30/22	12/06/22	1639
1647	1.4.3.1.1.1	FieldHub rev1 design	01/01/21	01/31/22	
1648	1.4.3.1.1.2	FieldHub rev1 prototype production	04/01/22	05/13/22	1647FS +43d
1649	1.4.3.1.1.3	FieldHub rev1 testing and installation at NTS	05/16/22	06/30/22	1648
1650	1.4.3.1.1.4	FieldHub rev2 design	07/01/22	07/29/22	1649
1651	1.4.3.1.1.5	FieldHub rev2 prototype production	09/15/22	10/31/22	1650FS +33d
1652	1.4.3.1.1.6	FieldHub rev2 testing and installation at NTS	11/01/22	11/30/22	1651
1653	1.4.3.1.1.7	FieldHub prototype installed in ICL (hand carry)	12/01/22	01/31/23	1652
1654	1.4.3.1.1.8	FieldHub final design review	01/13/23	01/31/23	1653FF
1655	1.4.3.1.1.9	FieldHub rev3 design	02/01/23	02/28/23	1654
1656	1.4.3.1.1.10	Production readiness review	03/01/23	03/14/23	1655
1658	1.4.3.1.2.1	Procurement	03/15/23	04/28/23	1656
1659	1.4.3.1.2.2	PCB fabrication	03/15/23	04/28/23	1658SS
1660	1.4.3.1.2.3	FieldHub assembly	05/01/23	06/30/23	1659
1661	1.4.3.1.2.4	FieldHub acceptance testing	07/03/23	07/31/23	1660
1662	1.4.3.1.2.5	FieldHub production complete	08/01/23	08/01/23	1661
1663	1.4.3.1.2.6	Pre-ship review	08/01/23	08/14/23	1662SS
1664	1.4.3.1.2.7	Shipping to CHC (Air to Pole, RDD?)	08/15/23	09/25/23	1663
1674	1.4.4.1.1.5	Shipping to PTH	09/01/23	09/14/23	1672FS +239d
1678	1.4.4.1.2.1	Final design	03/01/23	03/28/23	
1679	1.4.4.1.2.2	Prototype production	03/29/23	04/25/23	1678
1680	1.4.4.1.2.3	Installation and testing at NTS/SPTS	04/26/23	06/20/23	1679
1681	1.4.4.1.2.4	Production of ICL system	06/21/23	07/18/23	1680
1683	1.4.4.1.2.6	Shipping to PTH	08/15/23	09/11/23	1681FS +19d
1707	1.4.4.2.4.2	Shipping to PTH (ComAir? RDD 9/15/23)	12/29/22	01/11/23	1706
1769	1.5.2.2.1.12	Ship Str. 87-88 Modules to CHC (4)	01/10/23	01/10/23	1764FS +288d
1784	1.5.2.2.2.13	Ship Str. 87-88 Modules to PTH (4)	12/15/22	12/15/22	1778FS +11d
1815	*1.5.2.3.1.2.19*	*Delivery of Camera mDOM to DESY Completed*	*09/23/21*	*09/23/21*	*1814*
1830	1.5.2.3.1.2.34	Delivery of Camera mDOM to MSU Completed	02/25/22	02/25/22	1829FF
1837	1.5.2.3.2.6	Delivery of Str. 87-88 Modules to CHC (2)	01/10/23	01/10/23	1835FS +244d
1850	1.5.2.4.11	Ship String 87-88 modules to CHC (4)	01/10/23	01/10/23	1848FS +161d
1851	1.5.2.4.12	Ship String 89-93 modules to CHC (8)	10/11/23	10/11/23	1848FS +357d
1879	1.5.3.4.3	Execution of Array Calibration	01/02/24	09/26/24	1878
1998	*1.6.1.6.1.2*	*mDOM Mainboard firmware development*	*01/02/20*	*09/30/21*	
1999	*1.6.1.6.1.3*	*Pulsed Laser Test Stand for Design verification*	*06/07/21*	*07/02/21*	
2000	*1.6.1.6.1.4*	*Tender and procurement (series production)*	*04/22/20*	*01/26/21*	
2016	1.6.1.6.5.2	R&D modules deployment readiness review	01/03/22	01/03/22