

Management Milestone Summary (Version: 2003Mar18a)

Legend: Level 1: 1 Level 2: X Level 3: 0 (Original dates in gray)

WBS #	Milestone Name	Due Date	Level	Status	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1.010.8105	Designation of responsibility for Phase 2 development work elements in Europe	2003-May-01	2	Delay		X									
1.010.8110	Designation of responsibility for Phase 2 production work elements in Europe	2004-Jul-01	2	Delay			X	X							
1.010.8120	Executives submit 2003 budget and financial projections to JAO	2003-Feb-05	2	Done		X									
1.010.8121	Executives submit 2002 financial report (actual expenditures and value earned) to JAO	2003-Feb-28	2	Late		X									
1.010.8122	Executives submit 2004 budget and financial projections to JAO	2003-Sep-01	2				X								
1.010.8123	Executives submit 2003 financial report (actual expenditures and value earned) to JAO	2004-Feb-28	2					X							
1.010.8124	Executives submit 2005 budget and financial projections to JAO	2004-Sep-01	2						X						
1.010.8125	Executives submit 2004 financial report (actual expenditures and value earned) to JAO	2005-Feb-28	2							X					
1.010.8126	Executives submit 2006 budget and financial projections to JAO	2005-Sep-01	2								X				
1.010.8127	Executives submit 2005 financial report (actual expenditures and value earned) to JAO	2006-Feb-28	2							X					
1.010.8128	Executives submit 2007 budget and financial projections to JAO	2006-Sep-01	2								X				
1.010.8129	Executives submit 2006 financial report (actual expenditures and value earned) to JAO	2007-Feb-28	2									X			
1.010.8130	Executives submit 2008 budget and financial projections to JAO	2007-Sep-01	2										X		
1.010.8131	Executives submit 2007 financial report (actual expenditures and value earned) to JAO	2008-Feb-28	2											X	
1.010.8132	Executives submit 2009 budget and financial projections to JAO	2008-Sep-01	2												X
1.010.8133	Executives submit 2008 financial report (actual expenditures and value earned) to JAO	2009-Feb-28	2												
1.010.8134	Executives submit 2010 budget and financial projections to JAO	2009-Sep-01	2												
1.010.8135	Executives submit 2009 financial report (actual expenditures and value earned) to JAO	2010-Feb-28	2												
1.010.8136	Executives submit 2011 budget and financial projections to JAO	2010-Sep-01	2												
1.010.8137	Executives submit 2010 financial report (actual expenditures and value earned) to JAO	2011-Feb-28	2												
1.015.8050	Completion of Construction Project	2011-Dec-31	1												1
1.015.8160	All Requirements and Definitions Available	2002-Nov-01	2	Late		X									
1.015.8165	Site available for Work	2003-Jan-01	2	Late		X									
1.015.8170	Submit 2003 budget and financial projections to ALMA Board	2003-Feb-11	2	Done		X									
1.015.8171	Submit 2002 financial report (actual expenditures and value earned) to ALMA Board	2003-Mar-31	2			X									
1.015.8227	ALMA Groundbreaking	2003-Nov-03	2				X								
1.015.8172	Submit 2004 budget and financial projections to ALMA Board	2003-Sep-30	2				X								
1.015.8173	Submit 2003 financial report (actual expenditures and value earned) to ALMA Board	2004-Mar-31	2					X							
1.015.8174	Submit 2005 budget and financial projections to ALMA Board	2004-Sep-30	2						X						
1.015.8175	Submit 2004 financial report (actual expenditures and value earned) to ALMA Board	2005-Mar-31	2							X					
1.015.8176	Submit 2006 budget and financial projections to ALMA Board	2005-Sep-30	2								X				
1.015.8177	Submit 2005 financial report (actual expenditures and value earned) to ALMA Board	2006-Mar-31	2									X			
1.015.8178	Submit 2007 budget and financial projections to ALMA Board	2006-Sep-30	2										X		
1.015.8179	Submit 2006 financial report (actual expenditures and value earned) to ALMA Board	2007-Mar-31	2											X	
1.015.8180	Submit 2008 budget and financial projections to ALMA Board	2007-Sep-30	2												X
1.015.8181	Submit 2007 financial report (actual expenditures and value earned) to ALMA Board	2008-Mar-31	2												
1.015.8182	Submit 2009 budget and financial projections to ALMA Board	2008-Sep-30	2												
1.015.8183	Submit 2008 financial report (actual expenditures and value earned) to ALMA Board	2009-Mar-31	2												
1.015.8184	Submit 2010 budget and financial projections to ALMA Board	2009-Sep-30	2												
1.015.8185	Submit 2009 financial report (actual expenditures and value earned) to ALMA Board	2010-Mar-31	2												
1.015.8186	Submit 2011 budget and financial projections to ALMA Board	2010-Sep-30	2												
1.015.8187	Submit 2010 financial report (actual expenditures and value earned) to ALMA Board	2011-Mar-31	2												

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WBS #	Milestone Name	Due Date	Level	Status	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2.025.8204	Access to land, permissions secured	2003-Apr-01	2	Delay		X	X								
2.025.8208	Final Approval of Architectural program for all AOS buildings	2003-Feb-01	2	Late		X									
2.025.8212	Draft Joint Antenna Foundation Interface	2003-Feb-01	2	Late		X	X								
2.025.8213	Freeze Joint Antenna Foundation Interface	2003-Feb-15	2	Late		X	X								
2.025.8216	Freeze Central Cluster Configuration	2003-Mar-01	2	Late		X									
2.025.8220	Award Contract Design / Engineering for AOS Facilities NA	2002-Oct-09	2	Done	X										
2.025.8222	AOS Foundations NA Central Cluster CDR	2003-Mar-01	2	Late		X									
2.025.8224	AOS Foundations NA Central Cluster Construction Tender Docs Complete	2003-Apr-15	2			X									
2.025.8226	AOS Foundations NA Central Cluster Construction Contract Signed	2003-Oct-01	2				X								
2.025.8010	Begin initial Phase of Civil Work in Chile	2003-Dec-31	1				1								
2.025.8228	AOS Foundations NA Central Cluster Provisional Acceptance	2005-Jun-30	2					X							
2.025.8230	AOS Foundations NA Remaining Construction / Tender Docs Complete	2005-Mar-01	2				X								
2.025.8232	AOS Foundations NA Remaining Construction Contract Signed	2005-Sep-01	2					X							
2.025.8234	AOS Foundations NA Remaining Provisional Acceptance	2007-Jun-01	2							X					
2.025.8236	AOS Foundations EU Design/Eng Contract Awarded	2007-Jan-01	2							X					
2.025.8238	AOS Foundations EU CDR Complete	2007-Apr-01	2							X					
2.025.8240	AOS Foundations EU Construction / Tender Docs Complete	2007-Jul-01	2							X					
2.025.8242	AOS Foundations EU Construction Contract Signed	2008-Mar-01	2								X				
2.025.8244	AOS Foundations EU Provisional Acceptance	2011-Oct-01	2											X	
2.025.8250	AOS Buildings NA Foundations/Envelope CDR Complete	2003-Apr-01	2			X									
2.025.8252	AOS Buildings NA Foundations/Envelope Construction / Tender Docs Complete	2003-May-31	2			X									
2.025.8254	AOS Buildings NA Foundations/Envelope Construction Contract Signed	2003-Dec-31	2				X								
2.025.8258	AOS Buildings NA Foundations/Envelope Provisional Acceptance	2004-Aug-31	2				X								
2.025.8260	AOS Buildings Finish & Installations NA CDR Complete	2003-Aug-31	2			X									
2.025.8262	AOS Buildings Finish & Installations NA Construction / Tender Docs Complete	2003-Nov-30	2			X									
2.025.8264	AOS Buildings Finish & Installations NA Construction Contract Signed	2004-Jul-01	2				X								
2.025.8266	AOS Buildings Finish & Installations NA Provisional Acceptance	2005-Jun-30	2					X							
2.025.8025	Initial Phase of Civil Work in Chile Complete	2005-Jun-30	1					1							
2.025.20701	AOS Interconnect Roads & Trenches NA Provisional Acceptance	2007-Jun-30	2							X					
2.025.8284	AOS Interconnect Roads & Trenches EU Provisional Acceptance	2011-Oct-01	2											X	
2.025.8286	Complete AOS Construction	2011-Oct-01	2	Delay									X	X	
2.025.8290	Construction Road Opening EU Construction / Tender Docs Complete	2003-Feb-15	2	Late		X									
2.025.8292	Construction Road Opening EU Construction Contract Signed	2003-Apr-01	2			X									
2.025.8294	Construction Road Opening EU Provisional Acceptance	2003-Sep-30	2				X								
2.025.8300	Access Road EU Design/Eng Contract Awarded	2003-Feb-13	2	Late		X									
2.025.8302	Access Road to OSF EU CDR Complete	2003-Mar-31	2			X									
2.025.8304	Access Road OSF to AOS EU CDR Complete	2003-Apr-15	2			X									
2.025.8306	Access Road EU Construction / Tender Docs Complete	2003-Jul-16	2				X								
2.025.8308	Access Road EU Construction Contract Signed	2004-May-30	2				X								
2.025.8310	Access Road OSF-AOS ready to accommodate transporter	2005-Jun-30	2					X							
2.025.8312	Access Road EU Provisional Acceptance	2008-Dec-31	2								X				
2.025.8320	ALMA Camp Construction / Tender Docs Complete	2003-Mar-01	2	Late		X									
2.025.8324	ALMA Camp Construction Contract Signed, Work begins	2003-May-01	2			X									
2.025.8326	ALMA Camp Provisional Acceptance	2003-Aug-15	2			X									

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2.025.8330	Contractors Camp Construction / Tender Docs Complete	2003-Mar-01	2	Late		X									
2.025.8332	Contractors Camp Construction Contract Signed, Work begins	2003-May-01	2			X									
2.025.8334	Contractors Camp Provisional Acceptance	2003-Oct-30	2				X								
2.025.8340	OSF Facilities Phase 1 (Tech area) EU Design/Eng Contract Awarded	2003-Jun-01	2			X									
2.025.8342	OSF Facilities Phase 1 (Tech area) EU CDR Complete	2003-Sep-15	2			X									
2.025.8344	OSF Facilities Phase 1 (Tech area) EU Construction / Tender Docs Complete	2003-Dec-31	2				X								
2.025.8346	OSF Facilities Phase 1 (Tech area) EU Construction Contract Signed	2004-Apr-01	2					X							
2.025.8348	OSF Facilities Phase 1 (Tech area) EU Provisional Acceptance	2005-Jul-31	2						X						
2.025.8350	OSF Facilities Phase 2 (Res. / Visitor) EU Design/Eng Contract Awarded	2008-Oct-01	2								X				
2.025.8352	OSF Facilities Phase 2 (Res. / Visitor) EU CDR Complete	2009-Mar-31	2								X				
2.025.8354	OSF Facilities Phase 2 (Res. / Visitor) EU Construction / Tender Docs Complete	2009-Jul-01	2									X			
2.025.8356	OSF Facilities Phase 2 (Res. / Visitor) EU Construction Contract Signed	2010-Jan-01	2										X		
2.025.8358	OSF Facilities Phase 2 (Res. / Visitor) EU Provisional Acceptance	2011-Oct-01	2											X	
2.025.8360	Freeze Fiber Optics and Electrical Specifications	2003-Apr-01	2			X									
2.025.8362	Fiber Optic Cables and Electrical Cables in Chile, N.A.	2004-Sep-15	2	Delay		X		X							
2.025.8364	OSF-AOS Fiber Optics Link Installed	2006-Dec-31	2						X						
2.025.8366	Fiber Optic Cables and Electrical Cables in Chile, Eur.	2008-Sep-01	2								X				
2.025.8370	Power Feasibility Study Completed	2003-Mar-31	2		X										
2.025.8372	ALMA Project Power Supply Plan Approved	2003-Aug-31	2			X									
2.025.8374	ALMA Permanent Power Supply Tender Docs Complete	2003-Dec-31	2				X								
2.025.8376	ALMA Permanent Power Supply Contract Signed	2004-May-31	2				X								
2.025.8378	Provisional Acceptance Power Supply Contract Phase 1	2005-Jun-30	2					X							
2.025.8410	Start Operations Budget	2006-Jan-01	2						X		X				
2.025.8380	Provisional Acceptance Power Supply Contract Last Phase	2006-Dec-31	2						X						
2.025.8390	Board Decision Location/Size Santiago JAO Office	2004-Jul-01	2				X								
2.025.8391	Architectural Design Contract awarded	2004-Sep-01	2				X								
2.025.8392	CDR	2004-Nov-01	2				X								
2.025.8393	Construction Tender Docs Complete	2004-Dec-01	2				X								
2.025.8394	Construction Contract signed	2005-Jan-01	2					X							
2.025.8395	Provisional Acceptance	2006-Jan-01	2						X						

Antenna Milestone Summary (Version: 2003Mar18a)

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WBS #	Milestone Name	Due Date	Level	Status	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
3.035.8502	Shared Access VertexRSI Antenna	2002-Nov-15	2	Done	X											
3.035.8503	Deliver Foundation Design requirements	2003-Feb-15	2	Late		X										
3.035.8505	Provisional Acceptance of VertexRSI Antenna	2003-Feb-14	2	Late		X										
3.035.8510	Complete Technical Performance Report-VertexRSI Antenna	2003-Apr-14	2	Delay		XX										
3.035.8515	Interim Antenna Technical Performance Report-AEC Antenna	2003-Apr-14	2	Delay		XX										
3.035.8530	Shared Access AEC Antenna (Preliminary Acceptance)	2003-May-28	2	Delay		X										
3.035.8540	Provisional Acceptance of AEC Antenna	2003-Jul-24	2	Delay		X										
3.035.8545	Complete Technical Performance Report-AEC Antenna	2003-Sep-23	2	Delay		X										
3.045.8500	RFQ for VertexRSI Antenna Delivered to Project Office	2003-Feb-28	2	Late		X										
3.045.8520	Submit RFQ to Vertex/RSI	2003-Mar-10	2	Late		X										
3.045.8522	Receive firm fixed-price Quotation from Vertex/RSI	2003-Apr-10	2			X										
3.045.8525	CFT/RFQ Bid Package Submitted to Project Office (AEC/VertexRSI)	2003-Jun-25	2	Delay		X										
3.045.8535	Issue CFT/RFQ for Production Antenna Design(s)	2003-Jul-28	2	Delay		XX										
3.045.8536	Receive Firm fixed-price Quotation from AEC	2003-Oct-18	2			X										
3.045.8550	Closing Date for Production Antenna Bids (Competitive Tender)	2003-Nov-27	2	Delay		X										
3.045.8560	Bid Evaluations Due to Project Office	2004-Jan-27	2	Delay		XX										
3.050.8564	Earliest possible Single Source Contract for 31+1 North Am. Ant.	2004-Jan-14	2			X										
3.050.8565	Sign Contract for 31+1 North Am. Production Antennas	2004-May-28	2	Delay		XX										
3.050.8575	Sign Contract for 32-Euro Production Antennas	2004-May-30	2			X										
3.050.8585	First Antenna Arrives at OSF (Retrofitted prototype)	2005-Oct-31	2					X								
3.050.8035	First Production Antenna available in Chile at OSF	2005-Dec-31	1					1								
3.060.8600	8th Antennas Preliminary Accepted at OSF	2007-Feb-28	2						X							
3.060.8605	20th Antennas Preliminary Accepted at OSF	2008-Jun-12	2							X						
3.060.8610	30th Antennas Preliminary Accepted at OSF	2009-Jun-12	2								X					
3.060.8615	50th Antennas Preliminary Acceptance at OSF	2010-May-31	2									X				
3.060.8620	All Antennas Preliminary Accepted at OSF	2011-Jun-30	2										X			
3.060.8625	All Antenna Provisionally Accepted in Chile at AOS	2011-Dec-16	2											X		
3.065.8555	Nutator Critical Design Review Completed	2003-Oct-08	2			X										
3.065.8590	All Nutators Accepted at OSF	2006-Jun-15	2						X							
3.070.8569	Transporter CFT Critical Review Completed	2003-Mar-15	2	Late	X											
3.070.8570	Issue CFT for Transporter	2004-Jan-10	2			X										
3.070.8580	First Transporter Accepted at OSF	2005-Sep-30	2				X									
3.070.8595	Second Transporter Accepted at OSF	2006-Sep-15	2						X							

FrontEnd Milestone Summary (Version: 2003Mar18a)

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WBS #	Milestone Name	Due Date	Level	Status	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
4.075.8700	Initial set of FE specs and interface-control documents discussed	2003-Apr-01	2	Delay	X	X									
4.075.8705	FE specifications and requirements plus ICD's submitted for approval	2003-Apr-15	2	Delay		XX									
4.075.8990	Front end sub-system Delta PDR	2003-Sep-01	2	Delay			X								
4.075.8995	All FE Contracts / Agreements in place	2003-Apr-01	2			X									
4.075.9020	RECEIVER CDR	2006-May-01	2						X						
4.075.9023	FE Production authorized	2006-May-01	2	Delay					XX						
4.080.8720	Freeze Dewar design	2003-Jul-15	2				X								
4.080.8740	Prototype cartridge bodies (plus dummies) delivered	2003-Jan-01	2	Done		X									
4.080.8750	Cartridge body design frozen	2003-Sep-01	2			X									
4.085.8730	Receiver Dewar #1 delivered to integration centre	2004-Jan-01	2				X								
4.085.8735	Receiver Dewar #8 delivered to integration centre	2005-Jul-01	2					X							
4.085.8755	Cartridge bodies for first receiver delivered	2004-Jan-01	2				X								
4.085.8760	Cartridge bodies for eighth receiver delivered	2004-Jul-01	2					X							
4.090.8765	Freeze optics design	2003-Apr-30	2	Delay		X									
4.090.8770	Freeze windows/IR filters design	2003-Apr-30	2	Delay		X									
4.095.8775	Warm optics for receiver #1 delivered	2004-Jan-01	2				X								
4.095.8780	Windows/IR filters for receiver #1 delivered	2004-Jan-01	2				X								
4.095.8785	Warm optics for receiver #8 delivered	2005-Jul-01	2	Delay				XX							
4.095.8790	Windows/IR filters for receiver #8 delivered	2005-Jul-01	2	Delay				XX							
4.100.8810	Deliver lab-prototype DC bias circuits	2004-Mar-01	2	Delay	X		X								
4.100.8820	Freeze the design of the DC support electronics	2003-Oct-01	2				X								
4.100.8835	Deliver lab prototype M/C circuit	2003-Apr-01	2	Delay		XX									
4.100.8845	Freeze hardware design M&C circuit	2003-Oct-01	2				X								
4.100.8860	Deliver receiver control software to users	2004-Jan-01	2				X								
4.100.8865	Deliver FE software req. to computing IPT	2004-Jan-01	2	Delay			XX								
4.100.8905	Freeze the design of the IF switch/processor	2004-Jan-01	2				X								
4.100.8920	Freeze the design of the FE chassis	2003-Oct-01	2				X								
4.105.8825	Deliver DC bias electronics for cartridge #1	2004-Jan-01	2				X								
4.105.8830	Deliver DC bias electronics for cartridge #8	2004-Jul-01	2	Delay				XX							
4.105.8850	Deliver the monitor and control module for front-end number one	2004-Mar-01	2	Delay			X								
4.105.8855	Deliver the monitor and control module for front-end number eight	2004-Sep-01	2	Delay				X							
4.105.8910	Deliver the IF switch/processor for the first front-end	2004-Oct-01	2					X							
4.105.8915	Deliver the IF switch/processor for the eighth front-end	2005-Jul-01	2					X	X						
4.105.8925	Deliver the FE chassis for receiver #1	2004-Jan-01	2				X								
4.105.8930	Deliver the FE chassis for receiver #8	2004-Jul-01	2					X							
4.145.8935	Band 3 Cartridge #1 delivered	2004-Oct-01	2					X							
4.145.8940	Band 3 Cartridge #8 delivered	2006-Jan-01	2						X						
4.165.8945	Band 6 Cartridge #1 delivered	2004-Oct-01	2					X							
4.165.8950	Band 6 Cartridge #8 delivered	2006-Jan-01	2						X						
4.175.8955	Band 7 Cartridge #1 delivered	2004-Oct-01	2					X							
4.175.8960	Band 7 Cartridge #8 delivered	2006-Jan-01	2						X						
4.195.8965	Band 9 Cartridge #1 delivered	2004-Oct-01	2					X							
4.195.8970	Band 9 Cartridge #8 delivered	2006-Jan-01	2						X						
4.210.8795	Delivery of 2 WVR development prototypes	2004-Sep-01	2	Delay			X								

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WBS #	Milestone Name	Due Date	Level	Status	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
4.215.8800	Deliver WVR #1 to OSF	2006-Jan-01	2	Delay				X	X						
4.215.8805	Deliver WVR #8 to OSF	2006-Dec-01	2	Delay				X	X						
4.220.8975	FE Test & Integration centre design ready	2003-Oct-01	2				X								
4.230.8040	Initial Front End Subsystem available at OSF	2005-Dec-31	1					1							
4.230.8980	NA FE Test & Integration centre operational	2004-Oct-01	2					XX							
4.230.8985	EU FE Test & Integration centre operational	2004-Oct-01	2					XX							
4.230.9000	Deliver Receiver #1 to the ATF	2005-Jul-01	2					X							
4.230.9005	Deliver receiver #2 to OSF/AOS	2005-Oct-03	2					X							
4.230.9010	Deliver receiver #7 to OSF/AOS	2006-Mar-15	2	Delay					X						
4.230.9015	Deliver receiver #8 to OSF/AOS	2006-May-01	2	Delay					XX						
4.240.9025	Definition of FE Service & exchange vehicle requirements	2004-Jan-01	2				X								
4.240.9030	FE Service & exchange vehicle #1 available	2005-Apr-01	2					X							
4.258.8870	LO review	2002-Nov-01	2	Done											
4.258.8880	Deliver lab prototype LO chain to each cartridge man.	2003-Mar-01	2	Late	X	X									
4.258.8890	Freeze LO design	2003-Oct-01	2	Delay			XX								
4.258.8895	Deliver LO chain(s) for cartridge #1	2004-Jan-01	2	Delay			XX								
4.258.8900	Deliver LO chain(s) for cartridge #8	2005-Jan-01	2	Delay				X	X						
4.105.8856	Deliver the final monitor and control circuitry to each of the receiver builders	2004-Mar-01	2				X								
4.100.8922	Freeze FE Design	2004-Jan-01	2	Delay			X								

BackEnd Milestone Summary (Version: 2003Mar18a)

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WBS #	Milestone Name	Due Date	Level	Status	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
5.260.9100	Deliver BE modules for system integration	2004-Jan-01	2				X								
5.260.9104	Contracts for BE Prototypes in Eur	TBD	2												
5.260.9106	Deliver Back End Production Plan	2004-Sep-01	2				X								
5.260.9120	All BE production contracts placed	2005-Jan-01	2				X								
5.262.9105	Install BE hardware on two ALMA prototype antennas at the ATF	2004-May-01	2				X								
5.262.9110	Complete BE Critical Design Review	2004-Jul-01	2				X								
5.262.9115	First interferometer fringes using prototype antennas at ATF	2004-Sep-01	2				X								
5.305.8020	Central Back End System Ready to Install at Array Site	2005-Mar-31	1					1							
5.305.8030	First Antenna based Back End Subsystem Ready for Installation at OSF	2005-Nov-01	1	Delay				1	1						
5.305.9122	Deliver Back End Assembly, Test, & Verification Plan	2004-Nov-30	2				X								
5.305.9125	All ALMA assembly, test and verification equipment in place	2005-May-01	2					X							
5.305.9130	Deliver BE antenna hardware for first three antennas	2005-Nov-01	2					X							
5.305.9135	Deliver BE central electronics hardware for first three antennas	2005-Nov-01	2					X							
5.305.9140	Deliver BE antenna and central hardware for antennas #4 - 9	2006-Jul-01	2						X						
5.305.9145	Deliver BE antenna and central hardware for antennas #10 - 17	2007-Jan-01	2							X					
5.305.9150	Deliver BE antenna and central hardware for antennas #18 - 37	2008-Jan-01	2								X				
5.305.9155	Deliver BE antenna and central hardware for antennas #38 -57	2009-Jan-01	2									X			
5.305.9160	Deliver BE antenna and central hardware for antennas #58 - 64	2009-Oct-01	2										X		

Correlator Milestone Summary (Version: 2003Mar18a)

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WBS #	Milestone Name	Due Date	Level	Status	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
6.315.9200	Complete design of pre-production boards for prototype correlator	2002-Dec-30	2	Done	X										
6.315.9205	Begin integrated testing of prototype correlator	2003-Jan-06	2	Done		X									
6.315.9208	Correlator ICDs submitted for approval	2003-Feb-28	2	Late		X									
6.315.9210	Hold Critical Design Review	2003-Jun-02	2			X									
6.315.9215	Pass Critical Design Review	2003-Jun-16	2			X									
6.315.9225	Prototype Correlator shipped to ATF	2003-Dec-15	2				X								
6.320.9220	Contract signed for Custom Correlator chips	2003-Sep-01	2				X								
6.320.9230	Begin assembly of first quadrant	2003-Sep-01	2				X								
6.320.9235	Begin board testing for first quadrant	2003-Nov-03	2				X								
6.320.9240	Begin integrated testing for first quadrant	2004-Apr-01	2					X							
6.320.9245	Begin ordering parts for second quadrant	2004-Oct-01	2					X							
6.320.9250	First quadrant shipped to Chile	2005-Jul-31	2						X						
6.320.9255	Begin assembly of second quadrant*	2005-Jan-07	2					X							
6.320.9260	Begin board testing for second quadrant	2005-Mar-01	2					X							
6.320.9265	Begin integrated testing for second quadrant	2005-May-01	2						X						
6.320.9270	Begin ordering parts for third quadrant	2005-Oct-01	2							X					
6.320.9275	Second quadrant shipped to Chile	2006-Jan-07	2						X						
6.320.9280	Begin assembly of third quadrant*	2006-Jan-07	2						X						
6.320.9285	Begin board testing for third quadrant	2006-Mar-01	2						X						
6.320.9290	Begin integrated testing for third quadrant	2006-May-01	2						X						
6.320.9295	Begin ordering parts for fourth quadrant	2006-Oct-01	2							X					
6.320.9300	Third quadrant shipped to Chile	2007-Jan-07	2							X					
6.320.9305	Begin assembly of fourth quadrant*	2007-Jan-07	2							X					
6.320.9310	Begin board testing for fourth quadrant	2007-Mar-01	2							X					
6.320.9315	Begin integrated testing for fourth quadrant	2007-May-01	2							X					
6.320.9320	Fourth quadrant shipped to Chile	2008-Jan-07	2								X				
6.325.9350	Second Generation Correlator Feasibility Study	2002-Mar-27	2	Done	X										
6.325.9355	2GC System Requirements Review	2003-May-20	2			X									
6.325.9360	2GC Conceptual Design Review	2004-Mar-19	2				X								
6.325.9365	2GC Preliminary Design Review	2005-Feb-28	2					X							

Computing Milestone Summary (Version: 2003Mar18a)

Legend: Level 1:1 Level 2:X Level 3:O (Original dates in gray)

WBS #	Milestone Name	Due Date	Level	Status	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
7.340.9400	Computing Subsystem Start (T0)	2002-Jun-01	2	Done	X										
7.340.9405	Internal Design Review (IDR)	2002-Dec-09	2	Done	X										
7.340.9410	Preliminary Design Review (PDR)	2003-Apr-11	2	Delay		XX									
7.340.9415	Subsystem pre-release (R0)	2003-May-01	2			X									
7.340.9420	Subsystem Critical Design Review 1 (CDR1)	2003-Jul-09	2	Delay		XX									
7.340.9425	Deliver ALMA Operations Plan, Software Aspects	2004-Jan-01	2				X								
7.340.9430	Subsystem Minor Release 1.1 (R1.1)	2004-Apr-01	2				X								
7.340.9435	Critical Design Review 2 (CDR2)	2004-May-01	2				X								
7.340.9440	Subsystem Minor Release 2.1 (R2.1)	2005-Apr-01	2					X							
7.340.9445	Subsystem Critical Design Review 3 (CDR3)	2005-May-01	2					X							
7.340.9450	Subsystem Minor Release 3.1 (R3.1)	2006-Apr-01	2						X						
7.340.9455	Subsystem Readiness Review (RR)	2006-Jun-01	2						X						
7.340.9460	Subsystem Major Release 4 (R4)	2006-Oct-01	2						X	X					
7.340.9465	Subsystem Preliminary Acceptance Review (PAR)	2006-Dec-01	2						X	X					
7.340.9470	Software Agreements, Final Construction Phase	2007-Jun-01	2	Delay						X	X				
7.340.9475	Support Completion (T1)	2007-Jun-01	2							X					
7.340.9480	Computing Preliminary Acceptance (CPA)	2007-Mar-01	2							X					
7.340.9485	Interim science observation	2007-Jun-01	2	Delay						X					
7.340.9490	Complete Subsystem Upgrade	2011-Jun-01	2	Delay									X	X	
7.340.9495	Subsystem Major Release 1 (R1)	2003-Oct-01	2			X									
7.340.9500	Subsystem Major Release 2 (R2)	2004-Oct-01	2				X								
7.340.9505	Subsystem Major Release 3 (R3)	2005-Oct-01	2					X							
7.340.9510	Subsystem Minor Release 4.1 (R4.1)	2007-Apr-01	2							X					
7.340.9515	Integration Release 1 (IR1)	2003-Dec-01	2			X									
7.340.9520	Integration Release 2 (IR2)	2004-Dec-01	2				X								
7.340.9525	Integration Release 3 (IR3)	2005-Dec-01	2					X							
7.340.9530	Integration Release 4 (IR4)	2006-Dec-01	2						X						
7.340.9535	Integration Release 4.1(IR4.1)	2007-Jun-01	2							X					

System Milestone Summary (Version: 2003Mar18a)

Legend: Level 1:1 Level 2:X Level 3:0 (Original dates in gray)

WBS #	Milestone Name	Due Date	Level	Status	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
8.365.9602	System Requirements Review (SRR) - System Requirements Finalized	2003-Sep-01	2	Delay		X									
8.365.9605	ALMA System Design Review	2003-Dec-01	2			X									
8.365.9615	ALMA System CDR	2005-Jul-01	2					X							
8.370.9650	Prototype Integration & Verification Plan (Q4 2003 through Q4 2004) approved for Lab and ATF	2003-Aug-01	2	Delay		X									
8.370.9653	All hardware for Prototype System Lab Integration accepted and delivered	2004-Jan-01	2				X								
8.370.9656	AEG Releases Antennas to ALMA System Prototype Integration Group	2004-Apr-01	2				X								
8.370.9659	ALMA prototype electronics and software installed on ATF	2004-May-01	2				XX								
8.370.9662	First interferometer fringes using prototype antennas at ATF	2004-Sep-01	2				X								
8.370.9665	Discontinue interferometer hardware and software system testing and commissioning	2005-Jan-01	2	Delay				XX							
8.370.9668	Finish testing of ALMA prototype and production hardware / software on ATF	2006-Jul-01	2	Delay				X	X						
8.370.8005	Start Antenna Evaluation at ALMA Test Facility	2003-Feb-21	1	Late	11										
8.370.9700	NA Prototype Holography Complete	2003-May-06	2	Delay	X	X									
8.370.9703	NA Prototype Optical Tracking and Pointing Tests Complete	2003-Aug-01	2	Delay	X	X									
8.370.9706	NA Prototype Radiometric Testing and Evaluation Complete	2003-Nov-12	2	Delay		X	X								
8.370.9709	EU Prototype Holography Complete	2003-Sep-05	2	Delay		X									
8.370.9712	EU Prototype Optical Tracking and Pointing Tests Complete	2003-Oct-10	2	Delay		XX									
8.370.9715	EU Prototype Radiometric Testing and Evaluation Complete	2003-Dec-15	2	Delay		X									
8.370.9718	NA Prototype Evaluation Report	2004-Jan-01	2				X								
8.370.9721	EU Prototype Evaluation Report	2004-Jan-01	2				X								
8.375.9750	ALMA Integration & Verification Plan - Q1 2005 through Q4 2007 for OSF and AOS	2004-Jan-01	2				X								
8.375.9753	Establish Integration office at OSF	2005-Feb-15	2					X							
8.375.9756	Integration team and infrastructure ready at OSF.	2005-Sep-01	2	Delay				XX							
8.375.9759	Initial central electronics and computing - integrated, tested and accepted at OSF	2005-Nov-15	2	Delay				XX							
8.375.9762	Initial antenna electronics and computing - integrated, tested and accepted at OSF	2005-Nov-15	2					X							
8.375.9765	First fully outfitted antenna integrated and accepted at OSF	2006-Feb-15	2						X						
8.375.9768	First fully outfitted antenna integrated and accepted at AOS	2006-Apr-01	2	Delay				XX							
8.375.9771	Phase 2 ALMA Integration and Verification Plan Q1 2008 and beyond	2006-Jul-01	2	Delay				X	X						
8.375.9774	Three antenna array integrated & functioning at AOS	2006-Aug-01	2	Delay					X						

Science Milestone Summary (Version: 2003Mar18a)

Legend: Level 1:1 Level 2:X Level 3:0 (Original dates in gray)

WBS #	Milestone Name	Due Date	Level	Status	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
9.380.8045	Start Early Science Operations	2007-Sep-30	1							1					
9.380.8055	Start of full Science Operations	2012-Mar-31	1												1
9.380.9800	Plan for compact and intermediate configurations submitted	2002-Oct-15	2	Late	X										
9.380.9805	Review of calibration requirements with science examples complete	2003-Feb-28	2	Late		X									
9.380.9812	Document on how calibration reqs flow down to instrumental specs	2003-Jun-30	2			X									
9.380.9815	Plan for Y+ configuration submitted	2003-Jun-30	2	Delay		X									
9.380.9820	Calibration strategy submitted	2003-Sep-30	2	Delay		X									
9.380.9825	Science aspects of operations plan complete	2003-Dec-31	2	Delay			X								
9.380.9830	Plan for early science configurations complete	2004-Jun-30	2	Delay				X							
9.380.9835	Report WVR strategy / implementation / operations	2004-Sep-30	2	Delay				X							
9.380.9840	Review of tests of calibration strategies on prototype interferometer complete	2004-Dec-31	2	Delay				X							
9.380.9843	Review of tests of calibration strategies on ATF interferometer	2005-May-30	2	Delay				X							
9.380.9845	Science verification plan for commissioning submitted	2005-Jun-30	2	Delay			X	X							
9.380.9850	Science verification of ALMA early science array Bands 3, 6, & 7 complete	2007-Jul-31	2	Delay						X					
9.380.9855	Science verification of ALMA Band 9 complete	2008-Sep-30	2	Delay							X				
9.380.9860	Science verification of ALMA imaging quality	2009-Dec-31	2	Delay								X	X		
9.380.9865	Final Science verification complete array	2011-Dec-31	2												X
9.380.9870	Definition of site characterization instrumentation for ALMA operations	2006-Jan-31	2						X						X