Appendix 4G

Attachment 2: Storage and Elevation Results (CalSim 3)

Appendix 4G

Attachment 2: Storage and Elevation Results (CalSim 3)

The following results of the CalSim 3 model are included for reservoir storage and elevation conditions for the following scenarios:

- Baseline Conditions (Updated) (040424)
- Alternative 1 plus Cumulative Projects (102023)

Title	Model Parameter	Table Numbers	Figure Numbers
San Luis Reservoir SWP Storage	S_SLUIS_SWP	4G-2-1-1a to 4G-2-1-1c	4G-2-1a to 4G-2-1l
San Luis Reservoir Storage	Post-Processed	4G-2-2-1a to 4G-2-2-1c	4G-2-2a to 4G-2-2l
San Luis Reservoir Elevation	Post-Processed	4G-2-3-1a to 4G-2-3-1c	4G-2-3a to 4G-2-3l

Report formats:

- Monthly tables comparing two scenarios (exceedance values, long-term average, and average by water year type).
- Monthly exceedance charts (all months) including all scenarios.

Table 4G-2-1-1a. San Luis SWP Storage, Baseline Conditions (Updated) 040424, End of Month Storage (TAF)

Statistic	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
10% Exceedance	723	818	1,011	1,010	1,067	1,067	1,067	947	860	829	807	725
20% Exceedance	624	750	829	852	1,009	1,067	965	867	687	653	664	624
30% Exceedance	535	671	725	741	868	981	920	740	548	549	560	553
40% Exceedance	478	550	639	700	775	804	741	628	474	472	480	494
50% Exceedance	380	467	573	656	702	737	626	508	397	412	412	393
60% Exceedance	314	388	499	574	653	673	575	436	307	382	373	347
70% Exceedance	266	284	433	534	588	596	533	388	238	319	336	291
80% Exceedance	207	222	329	436	479	520	436	304	192	273	309	243
90% Exceedance	157	144	187	324	373	423	339	215	78	221	261	200
Full Simulation Period Average[a]	420	488	581	638	716	755	684	566	428	470	476	442
Wet Water Years (30%)	510	624	723	776	879	931	914	807	665	678	668	636
Above Normal Water Years (11%)	415	504	617	685	781	822	707	568	401	468	547	523
Below Normal Water Years (21%)	459	533	624	665	708	732	608	445	271	367	456	470
Dry Water Years (22%)	403	453	541	581	620	648	553	423	295	376	331	254
Critical Water Years (16%)	227	211	290	388	506	553	519	469	389	345	291	242

Table 4G-2-1-1b. San Luis SWP Storage, Alternative 1 plus Cumulative 102023, End of Month Storage (TAF)

Statistic	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
10% Exceedance	850	945	1,067	1,067	1,067	1,067	1,067	1,052	915	879	857	887
20% Exceedance	720	840	974	928	1,066	1,067	1,014	938	710	740	753	721
30% Exceedance	596	744	785	789	871	988	909	883	670	592	611	637
40% Exceedance	492	599	686	718	804	799	761	706	490	529	543	584
50% Exceedance	454	493	621	688	754	736	660	552	433	442	467	475
60% Exceedance	352	444	545	623	700	700	610	499	346	411	414	380
70% Exceedance	292	335	459	565	603	644	565	453	315	347	369	319
80% Exceedance	240	261	390	461	478	476	415	371	243	326	313	255
90% Exceedance	177	167	183	295	370	395	328	252	90	236	286	231
Full Simulation Period Average[a]	478	541	625	671	735	756	700	625	476	511	521	506
Wet Water Years (30%)	574	681	760	798	893	936	927	886	728	734	735	759
Above Normal Water Years (11%)	462	548	679	736	805	820	735	645	446	510	583	598
Below Normal Water Years (21%)	513	582	675	701	732	726	631	526	340	425	506	512
Dry Water Years (22%)	461	511	584	614	640	643	551	438	321	395	367	290
Critical Water Years (16%)	287	263	322	430	524	571	545	508	415	365	307	260

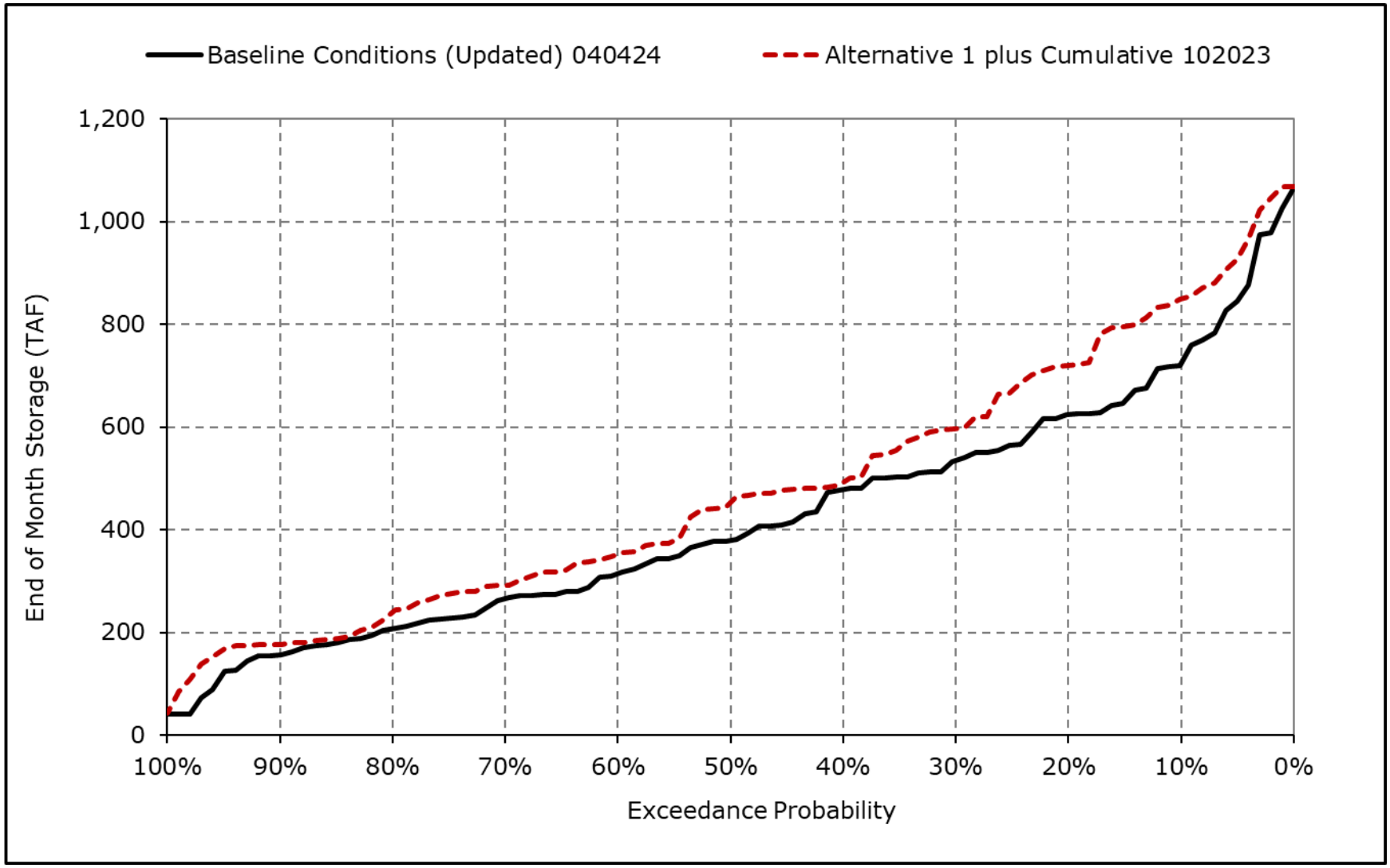
Table 4G-2-1-1c. San Luis SWP Storage, Alternative 1 plus Cumulative 102023 minus Baseline Conditions (Updated) 040424, End of Month Storage (TAF)

Statistic	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
10% Exceedance	127	126	56	57	0	0	0	105	55	50	49	161
20% Exceedance	96	90	145	76	57	0	49	70	23	87	89	97
30% Exceedance	61	73	61	47	3	7	-10	143	121	43	50	84
40% Exceedance	14	50	48	18	29	-5	20	78	16	57	63	89
50% Exceedance	74	25	48	33	52	-1	34	44	36	30	55	82
60% Exceedance	38	56	45	48	47	27	35	63	39	29	41	33
70% Exceedance	26	52	26	31	15	48	32	66	77	28	33	28
80% Exceedance	32	39	61	25	-1	-44	-21	67	51	53	3	12
90% Exceedance	20	22	-4	-29	-3	-27	-11	37	12	15	25	31
Full Simulation Period Average[a]	58	53	43	34	19	2	15	59	48	41	45	65
Wet Water Years (30%)	64	57	37	22	14	5	13	79	63	56	67	123
Above Normal Water Years (11%)	47	44	62	51	24	-2	28	77	45	42	37	75
Below Normal Water Years (21%)	54	49	51	36	25	-7	23	81	68	59	50	42
Dry Water Years (22%)	57	58	43	34	20	-6	-3	15	26	19	35	36
Critical Water Years (16%)	60	52	32	41	17	19	25	39	26	20	16	18

[a] Based on the 100-year simulation period.

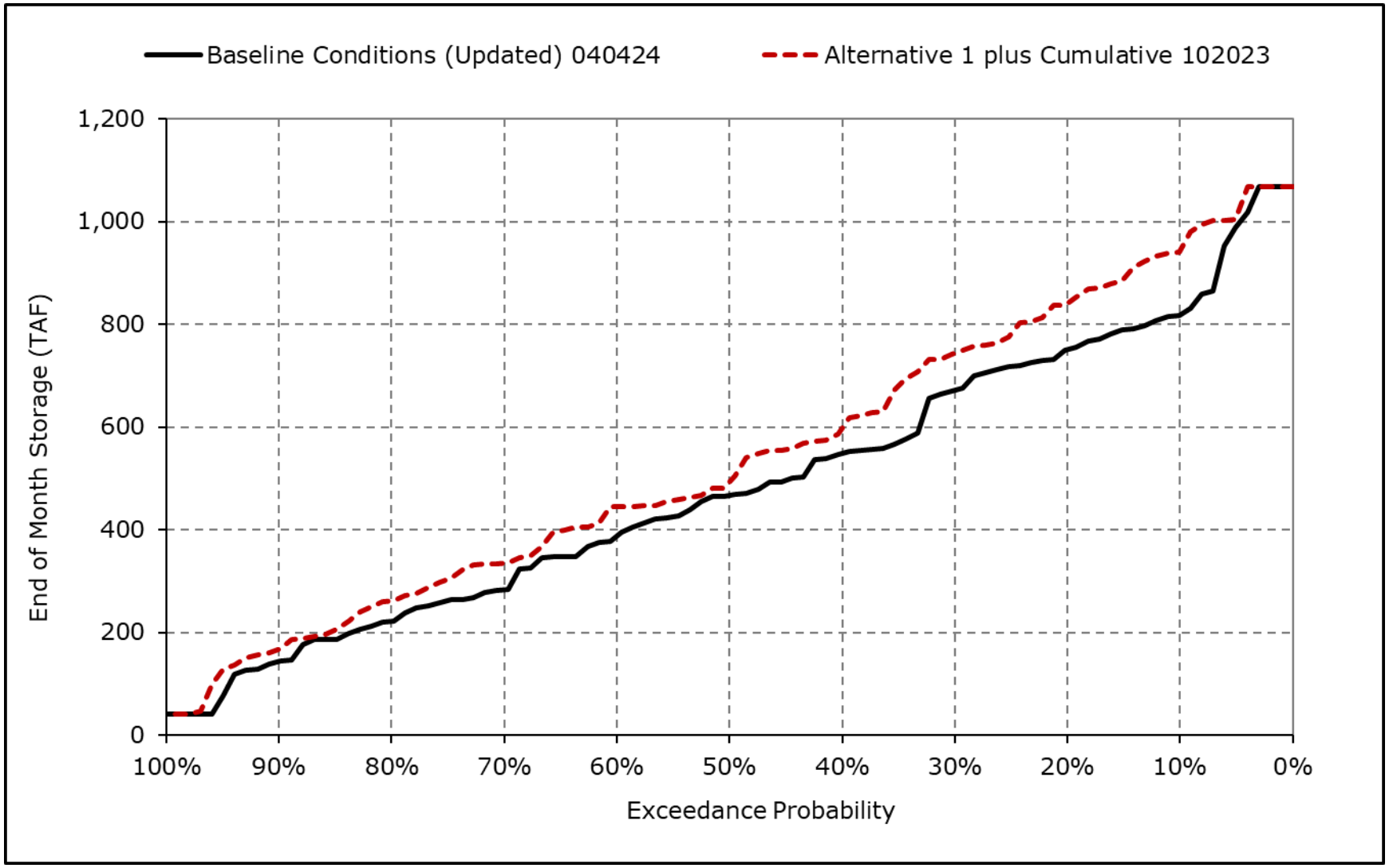
* All scenarios are simulated at current climate condition and 0 cm sea level rise.
* Water Year Types defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999).
* Water Year Types results are displayed with water year - year type sorting.

Figure 4G-2-1a. San Luis SWP Storage, October



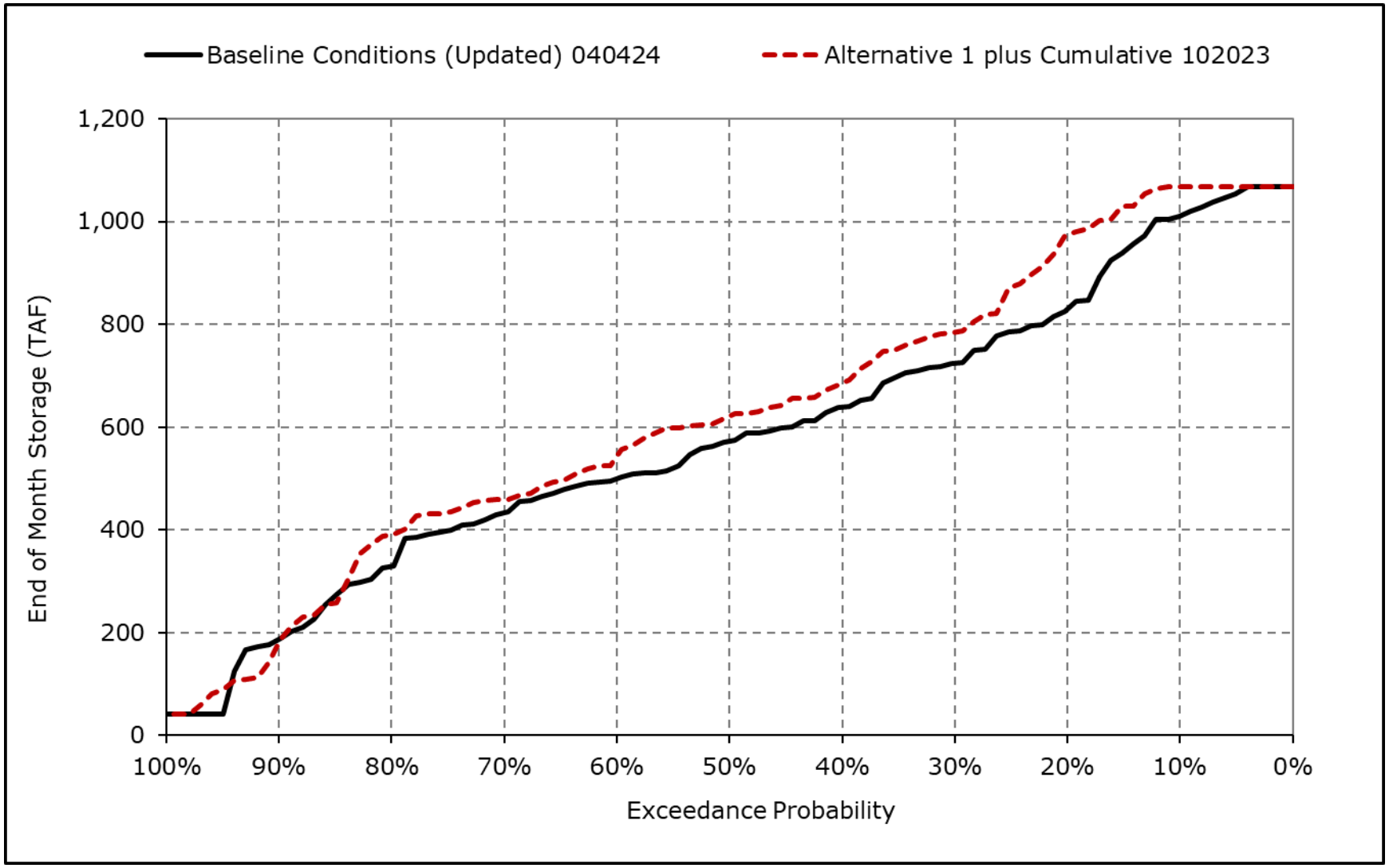
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-1b. San Luis SWP Storage, November



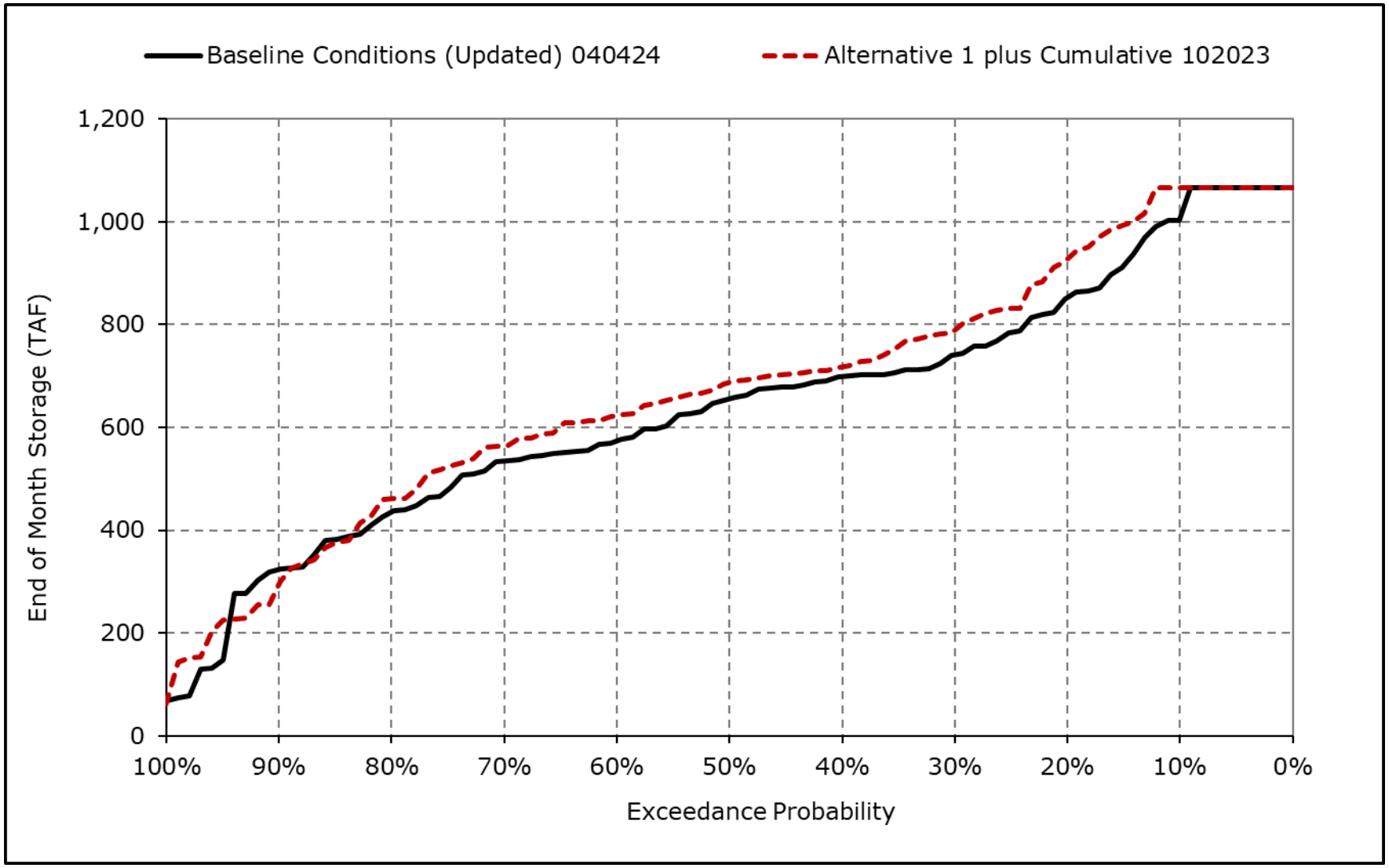
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-1c. San Luis SWP Storage, December



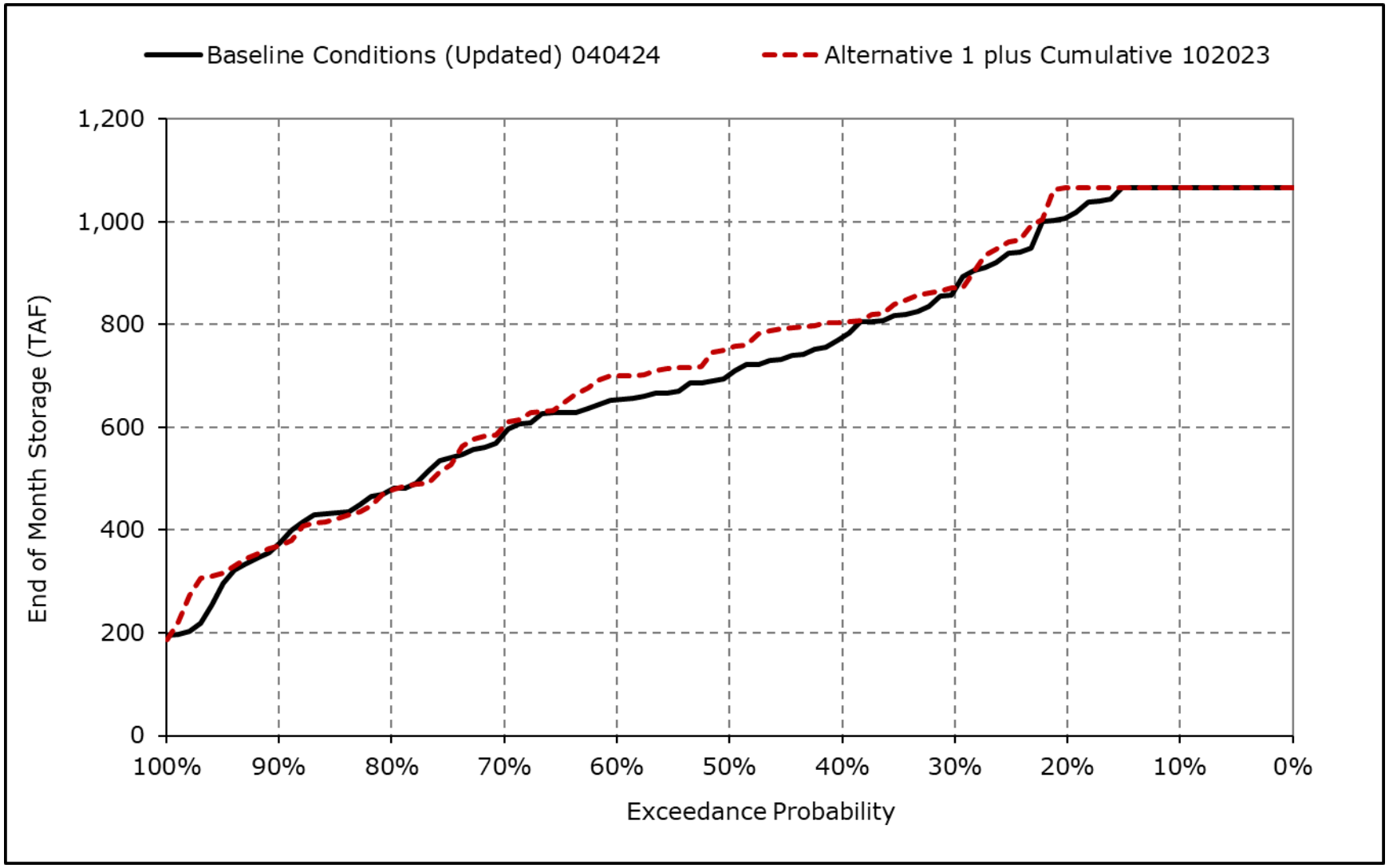
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-1d. San Luis SWP Storage, January



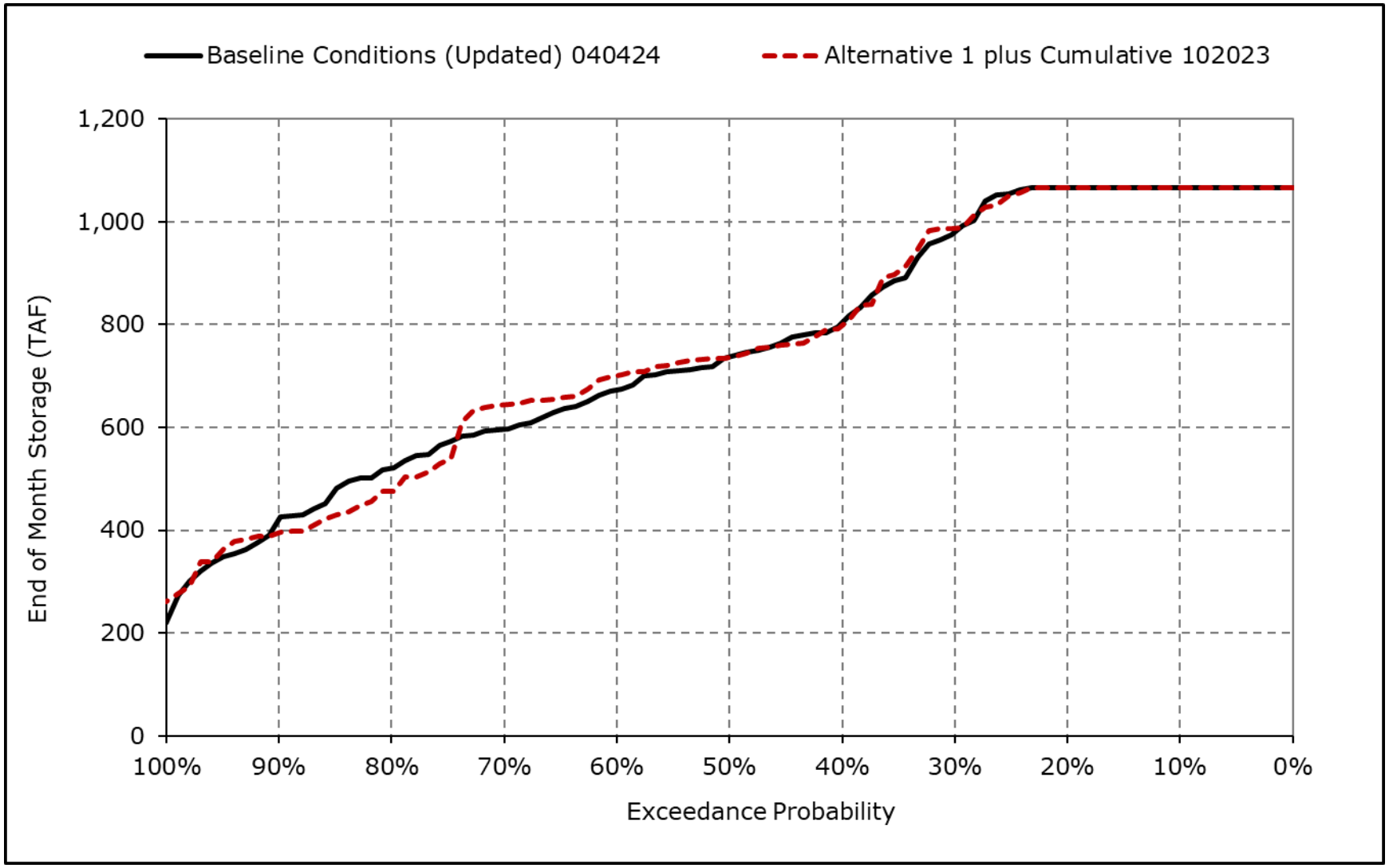
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-1e. San Luis SWP Storage, February



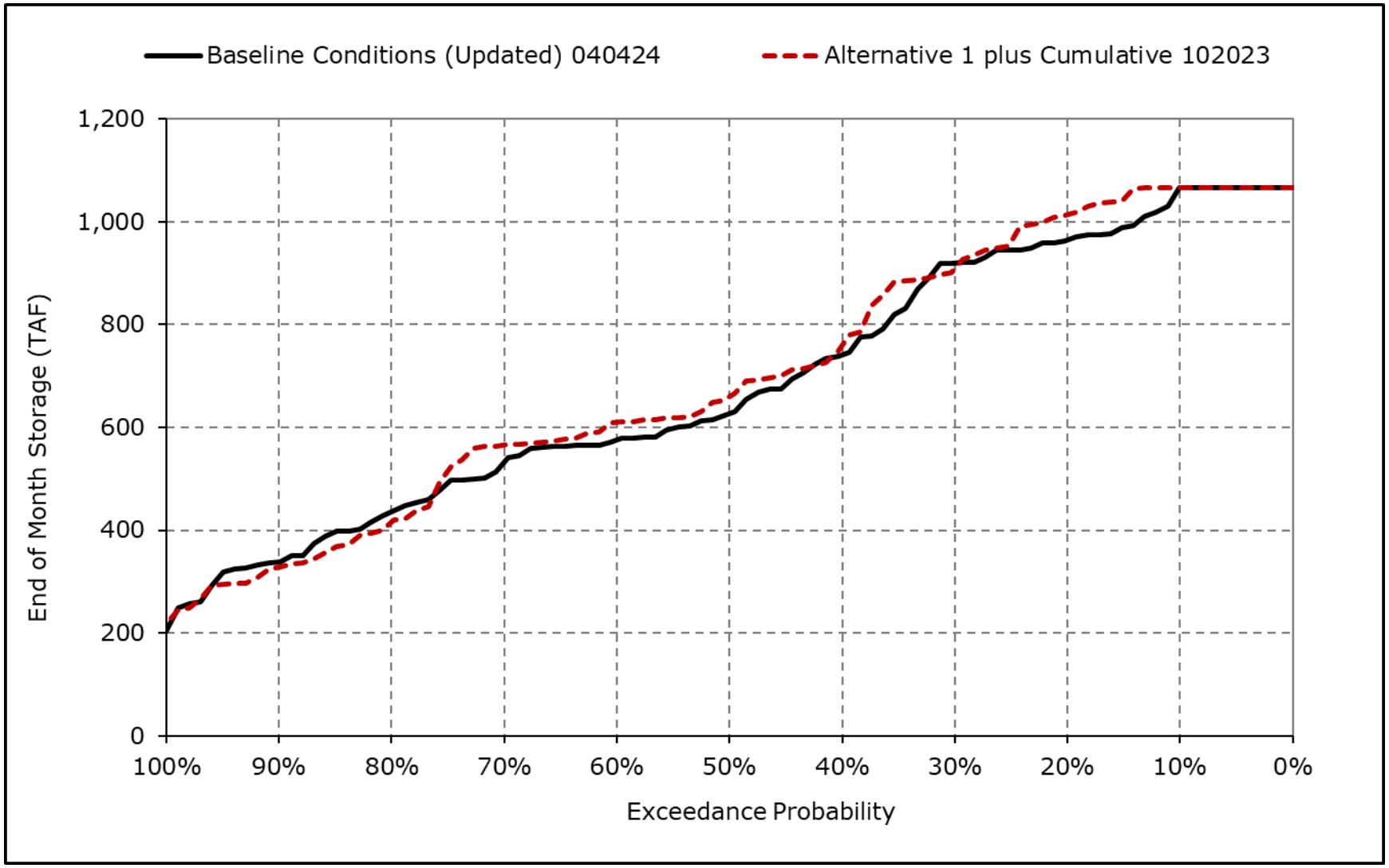
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-1f. San Luis SWP Storage, March



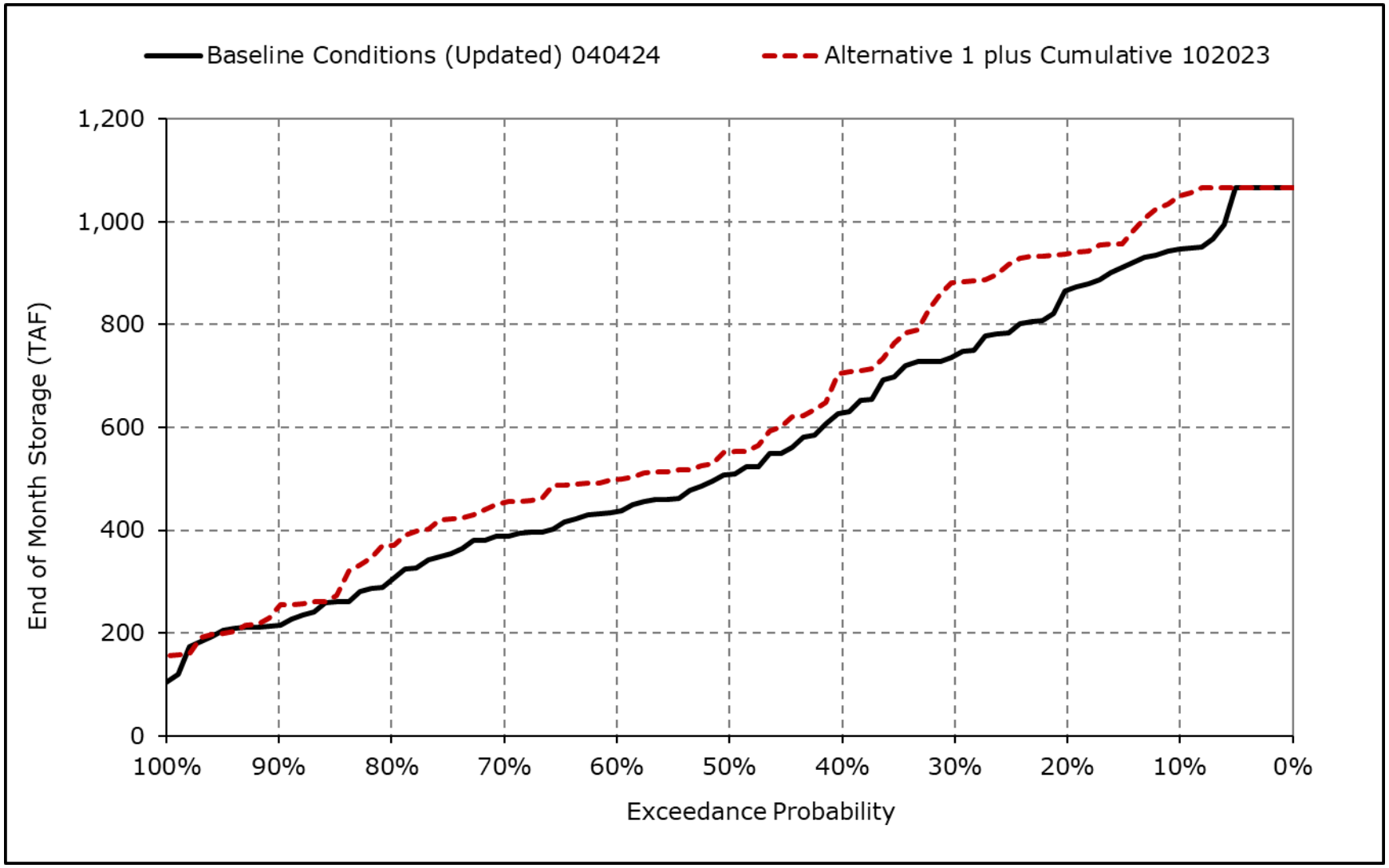
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-1g. San Luis SWP Storage, April



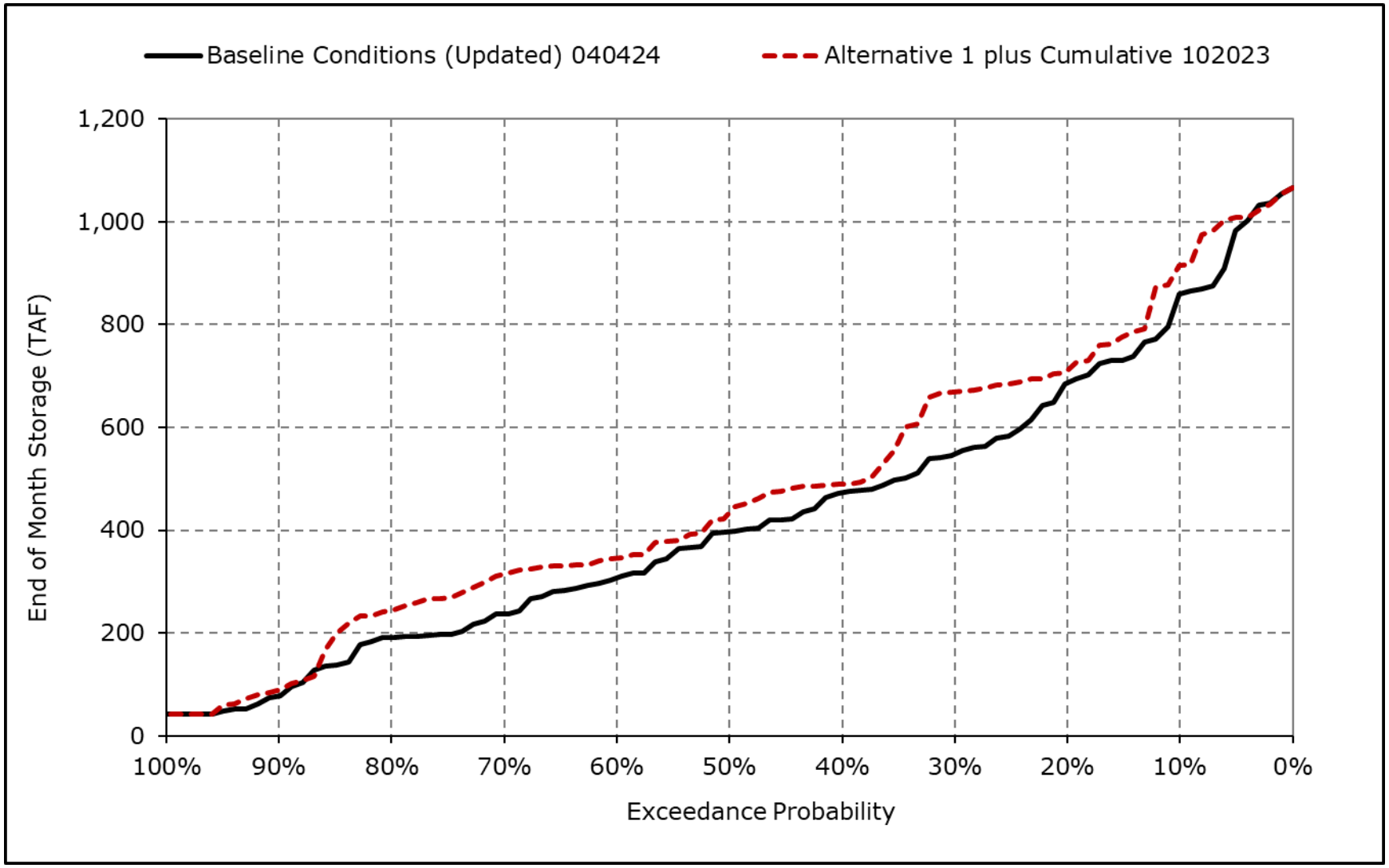
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-1h. San Luis SWP Storage, May



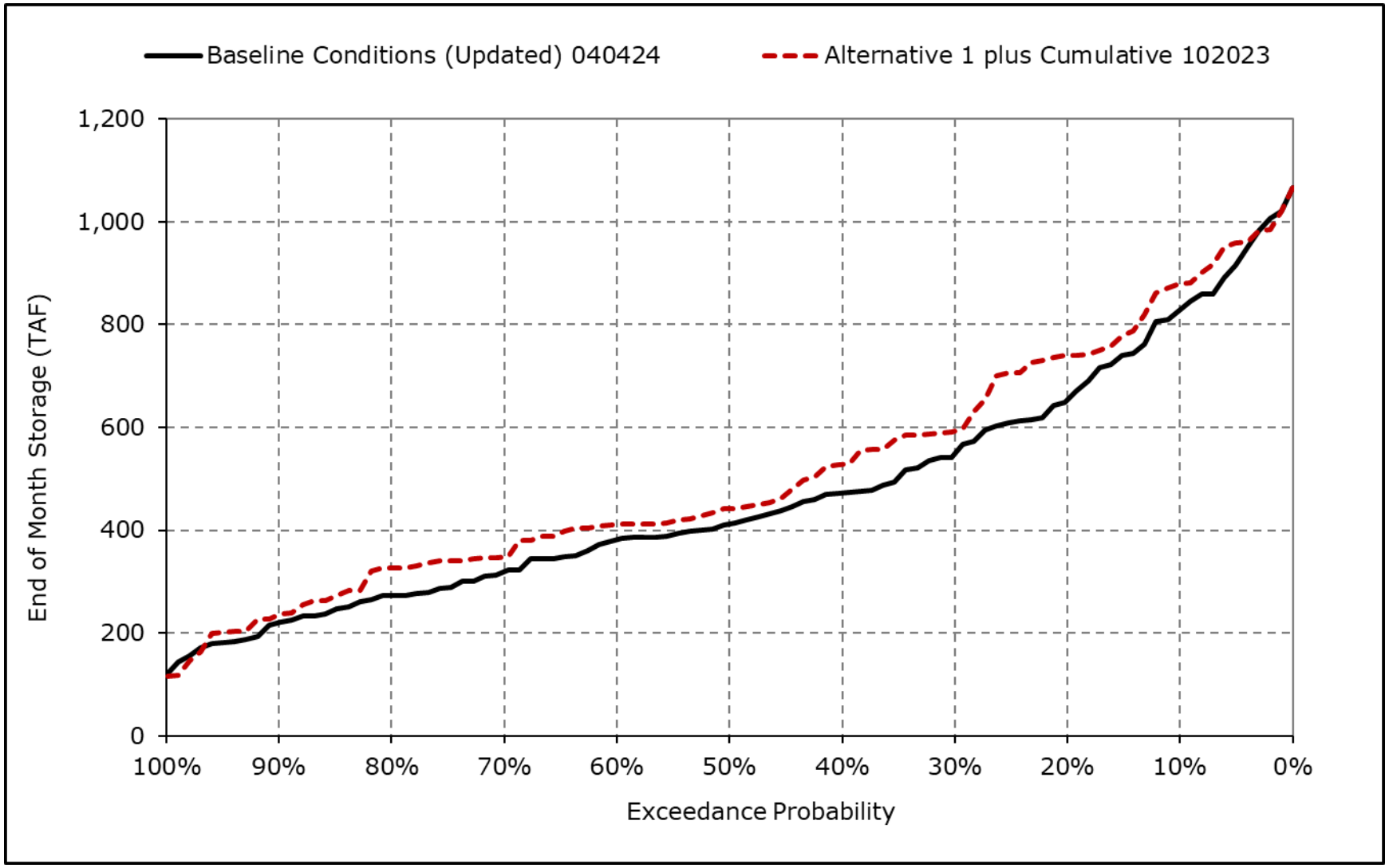
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-1i. San Luis SWP Storage, June



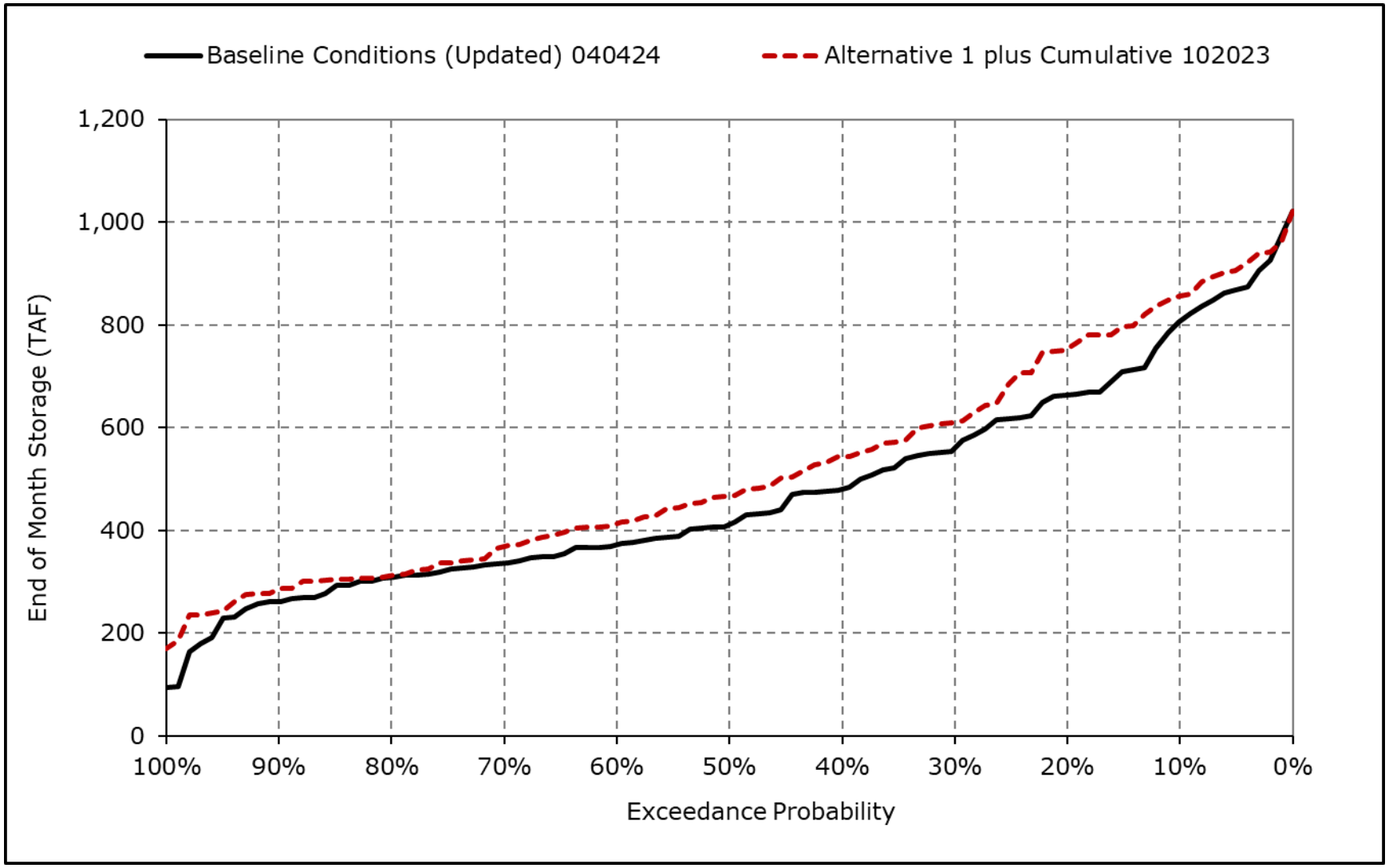
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-1j. San Luis SWP Storage, July



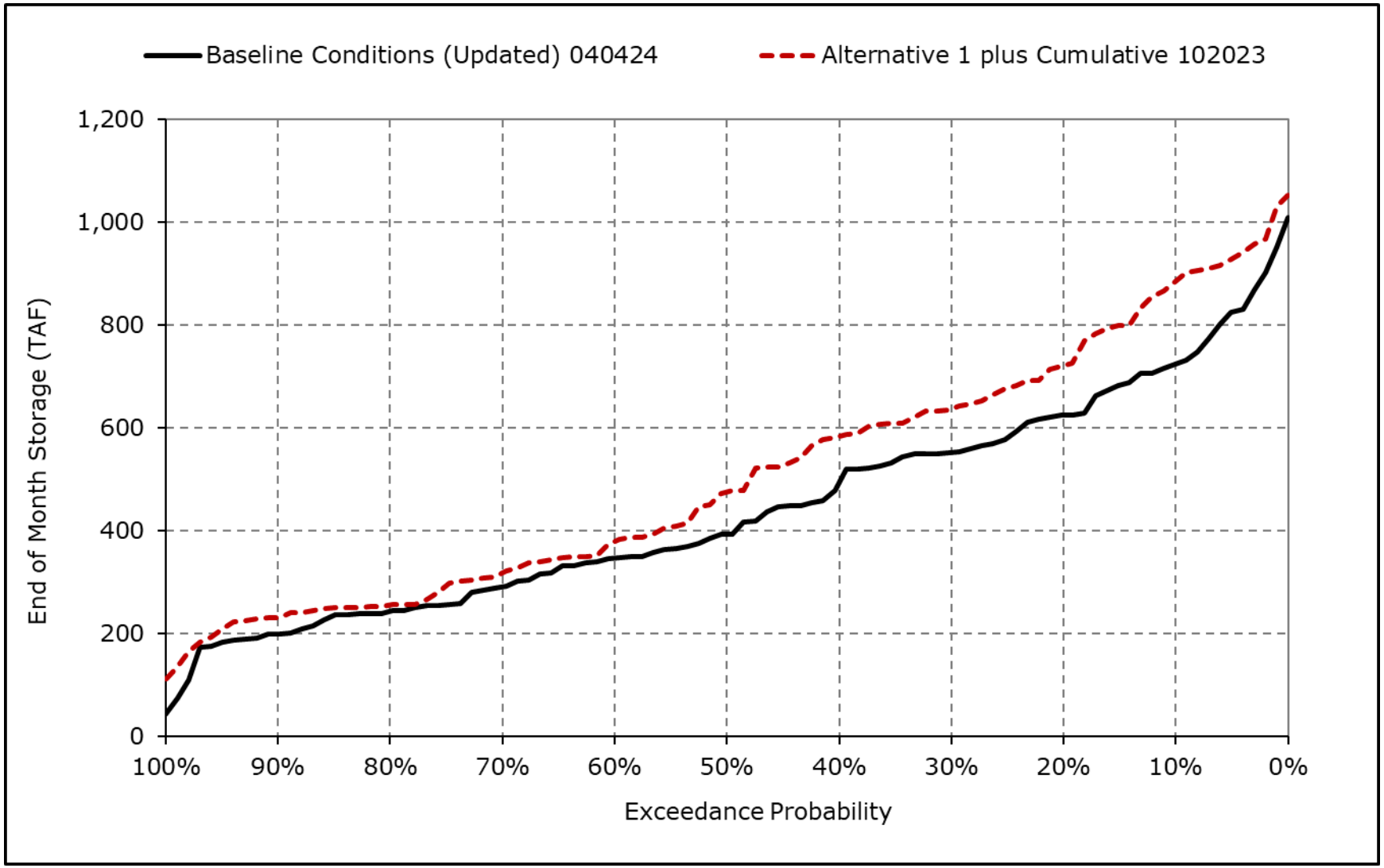
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-1k. San Luis SWP Storage, August



*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-1l. San Luis SWP Storage, September



*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Table 4G-2-2-1a. San Luis Storage (CVP and SWP), Baseline Conditions (Updated) 040424, End of Month Storage (TAF)

Statistic	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
10% Exceedance	1,266	1,505	1,810	1,835	2,037	2,039	2,018	1,853	1,622	1,391	1,253	1,269
20% Exceedance	872	1,157	1,447	1,645	1,806	2,039	1,885	1,706	1,295	970	789	819
30% Exceedance	776	1,041	1,298	1,454	1,691	1,790	1,747	1,477	1,019	788	685	689
40% Exceedance	690	902	1,170	1,347	1,574	1,684	1,451	1,184	865	645	586	601
50% Exceedance	551	770	1,058	1,281	1,450	1,541	1,347	1,037	736	617	497	516
60% Exceedance	478	666	970	1,185	1,350	1,413	1,276	951	646	550	459	488
70% Exceedance	396	565	869	1,069	1,249	1,339	1,157	850	577	496	422	442
80% Exceedance	373	495	692	997	1,155	1,199	988	740	488	448	399	385
90% Exceedance	276	365	528	690	915	1,048	874	642	366	346	351	346
Full Simulation Period Average[a]	656	850	1,096	1,272	1,447	1,553	1,410	1,165	871	729	622	632
Wet Water Years (30%)	768	1,029	1,325	1,539	1,750	1,868	1,838	1,649	1,334	1,102	931	917
Above Normal Water Years (11%)	607	825	1,082	1,310	1,536	1,655	1,516	1,274	903	706	660	637
Below Normal Water Years (21%)	719	940	1,166	1,302	1,443	1,530	1,260	909	572	517	532	614
Dry Water Years (22%)	633	794	1,029	1,159	1,267	1,368	1,144	840	579	543	417	416
Critical Water Years (16%)	426	490	675	861	1,072	1,180	1,093	969	776	582	416	415

Table 4G-2-2-1b. San Luis Storage (CVP and SWP), Alternative 1 plus Cumulative 102023, End of Month Storage (TAF)

Statistic	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
10% Exceedance	1,385	1,569	1,874	1,917	2,039	2,039	2,039	1,960	1,745	1,442	1,298	1,383
20% Exceedance	1,013	1,273	1,573	1,659	1,848	2,014	1,950	1,827	1,446	1,059	861	900
30% Exceedance	840	1,141	1,393	1,508	1,767	1,864	1,837	1,677	1,187	953	774	806
40% Exceedance	716	958	1,210	1,391	1,609	1,650	1,597	1,360	984	765	662	698
50% Exceedance	616	853	1,127	1,314	1,490	1,579	1,440	1,223	890	690	571	608
60% Exceedance	522	754	1,052	1,240	1,370	1,429	1,322	1,163	835	655	503	535
70% Exceedance	489	649	945	1,133	1,303	1,355	1,243	1,080	726	619	463	480
80% Exceedance	406	587	834	1,003	1,116	1,215	1,136	937	654	525	431	431
90% Exceedance	328	406	587	747	965	1,065	927	803	439	430	390	387
Full Simulation Period Average[a]	730	926	1,161	1,318	1,480	1,557	1,483	1,340	1,002	820	686	709
Wet Water Years (30%)	850	1,114	1,387	1,579	1,782	1,873	1,854	1,739	1,399	1,161	1,001	1,043
Above Normal Water Years (11%)	663	884	1,172	1,382	1,583	1,650	1,565	1,397	974	776	709	697
Below Normal Water Years (21%)	794	1,013	1,242	1,356	1,489	1,519	1,412	1,218	812	684	624	683
Dry Water Years (22%)	702	876	1,093	1,199	1,283	1,362	1,226	1,041	736	631	471	473
Critical Water Years (16%)	505	560	716	902	1,104	1,218	1,180	1,121	889	652	458	451

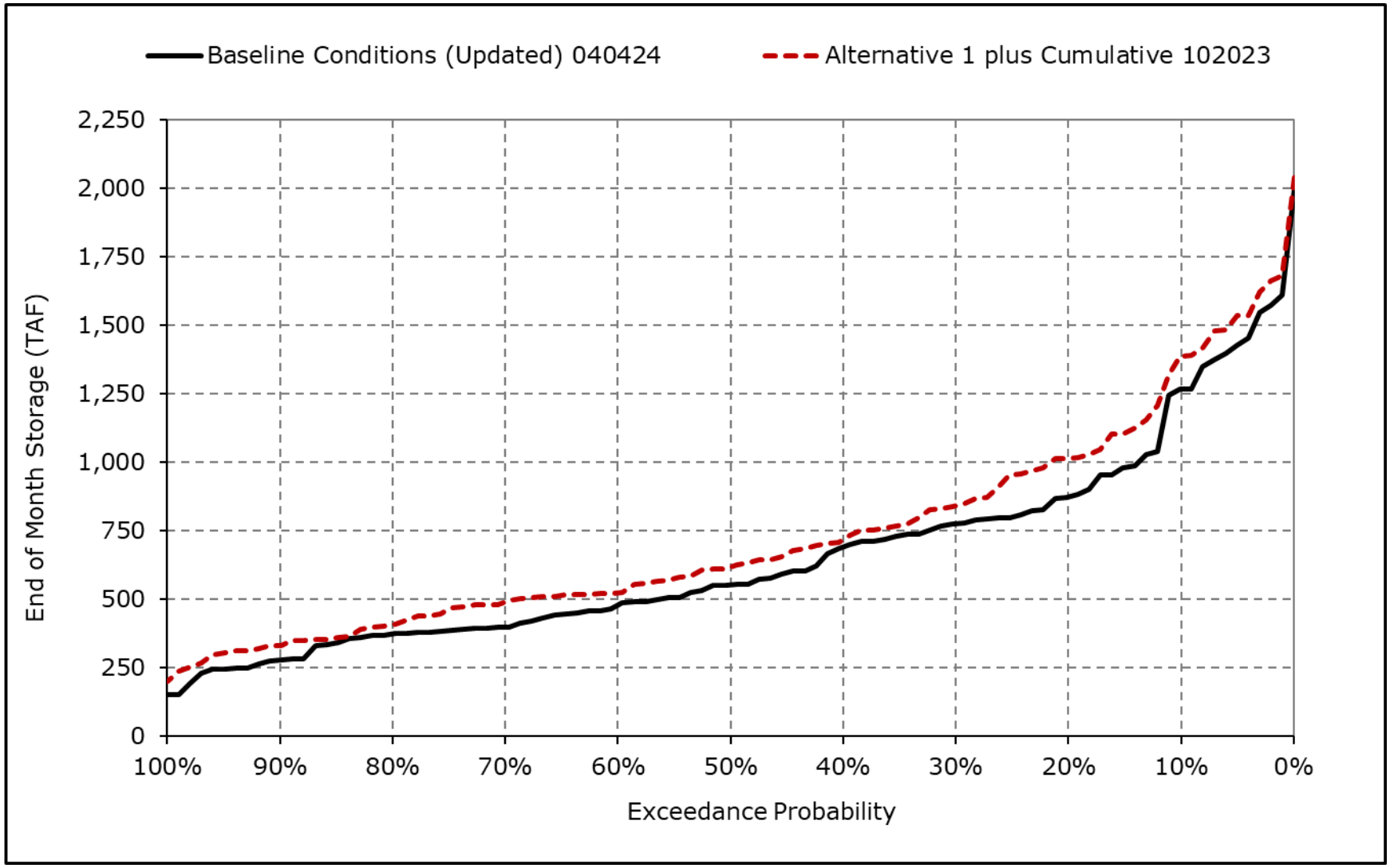
Table 4G-2-2-1c. San Luis Storage (CVP and SWP), Alternative 1 plus Cumulative 102023 minus Baseline Conditions (Updated) 040424, End of Month Storage (TAF)

Statistic	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
10% Exceedance	120	64	65	82	2	0	21	106	123	51	45	114
20% Exceedance	141	116	126	15	43	-25	65	121	151	89	72	81
30% Exceedance	64	99	95	55	77	74	91	200	168	165	89	118
40% Exceedance	27	57	40	44	35	-34	146	177	120	120	76	97
50% Exceedance	65	83	68	33	40	38	93	187	154	73	75	92
60% Exceedance	44	87	83	55	20	16	46	213	189	106	44	47
70% Exceedance	92	85	77	65	55	17	87	229	150	123	41	39
80% Exceedance	33	92	142	5	-39	16	148	197	166	76	31	46
90% Exceedance	52	41	59	57	49	17	53	161	74	83	39	41
Full Simulation Period Average[a]	74	76	65	47	33	3	74	174	130	91	65	77
Wet Water Years (30%)	82	84	61	40	31	5	15	91	66	60	70	126
Above Normal Water Years (11%)	56	59	90	72	47	-5	49	122	71	71	49	60
Below Normal Water Years (21%)	75	73	76	54	46	-12	152	309	239	166	92	70
Dry Water Years (22%)	69	82	64	39	17	-5	82	201	157	88	54	57
Critical Water Years (16%)	79	70	41	41	31	37	87	153	113	70	42	36

[a] Based on the 100-year simulation period.

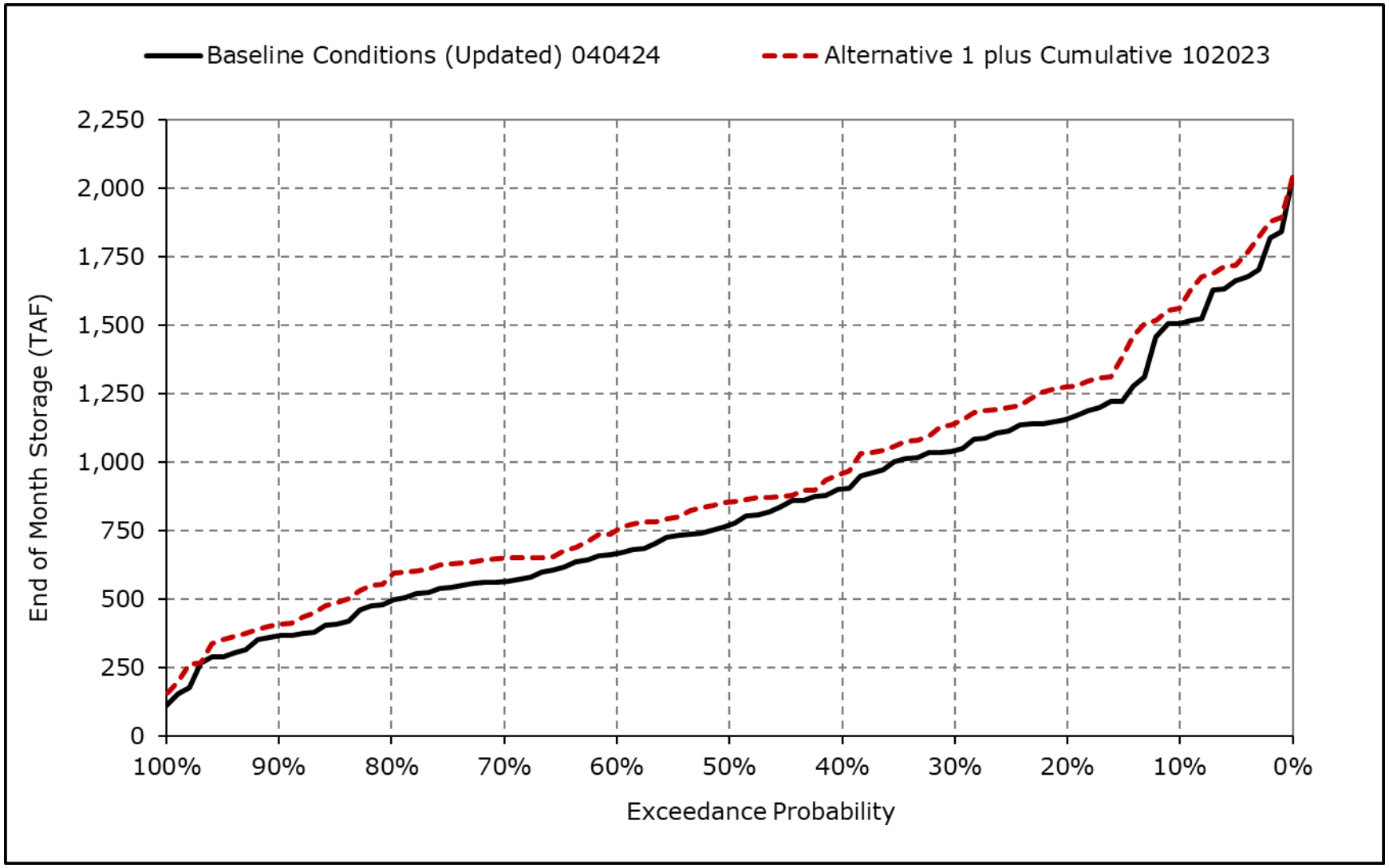
* All scenarios are simulated at current climate condition and 0 cm sea level rise.
* Water Year Types defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999).
* Water Year Types results are displayed with water year - year type sorting.

Figure 4G-2-2a. San Luis Storage (CVP and SWP), October



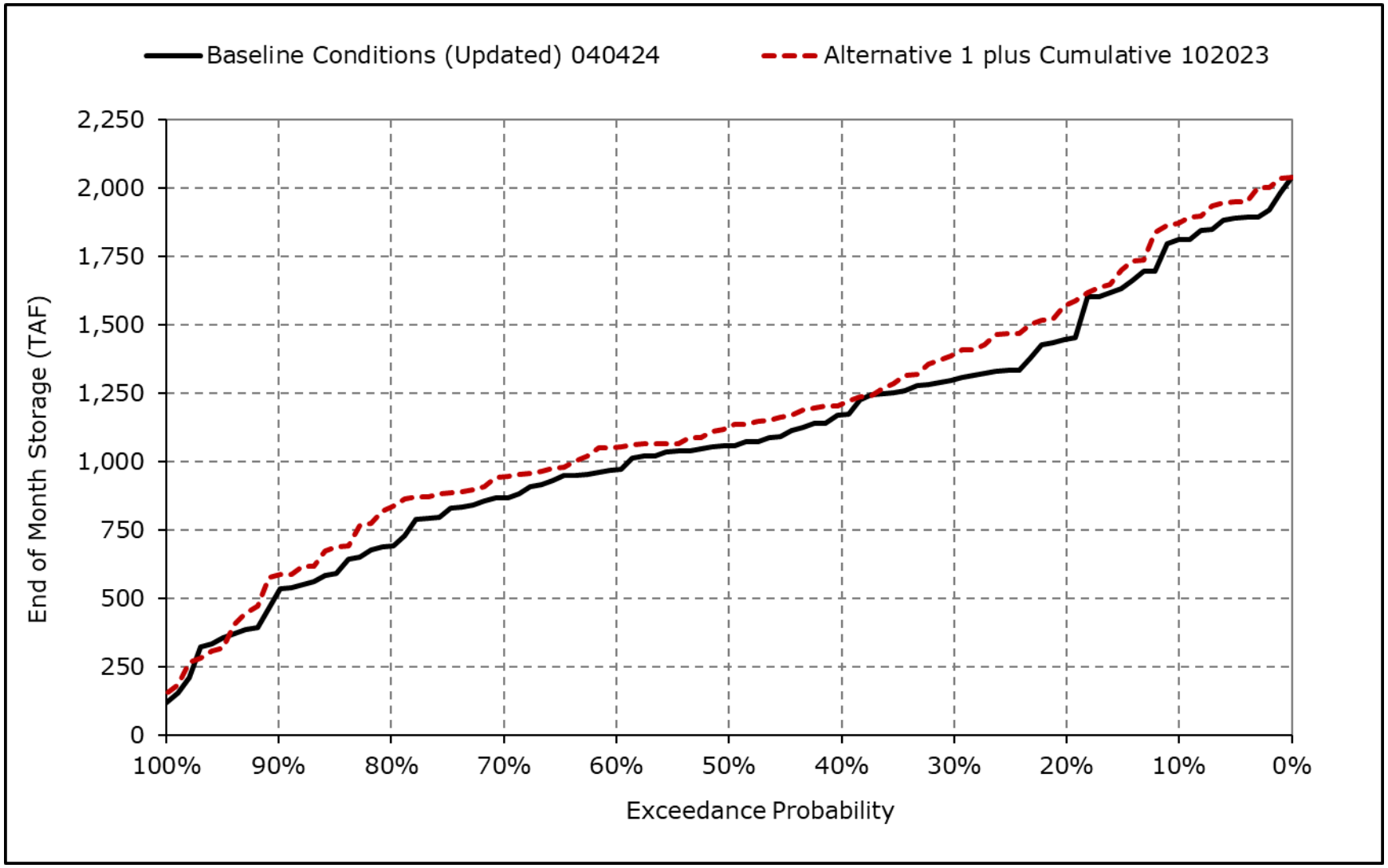
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-2b. San Luis Storage (CVP and SWP), November



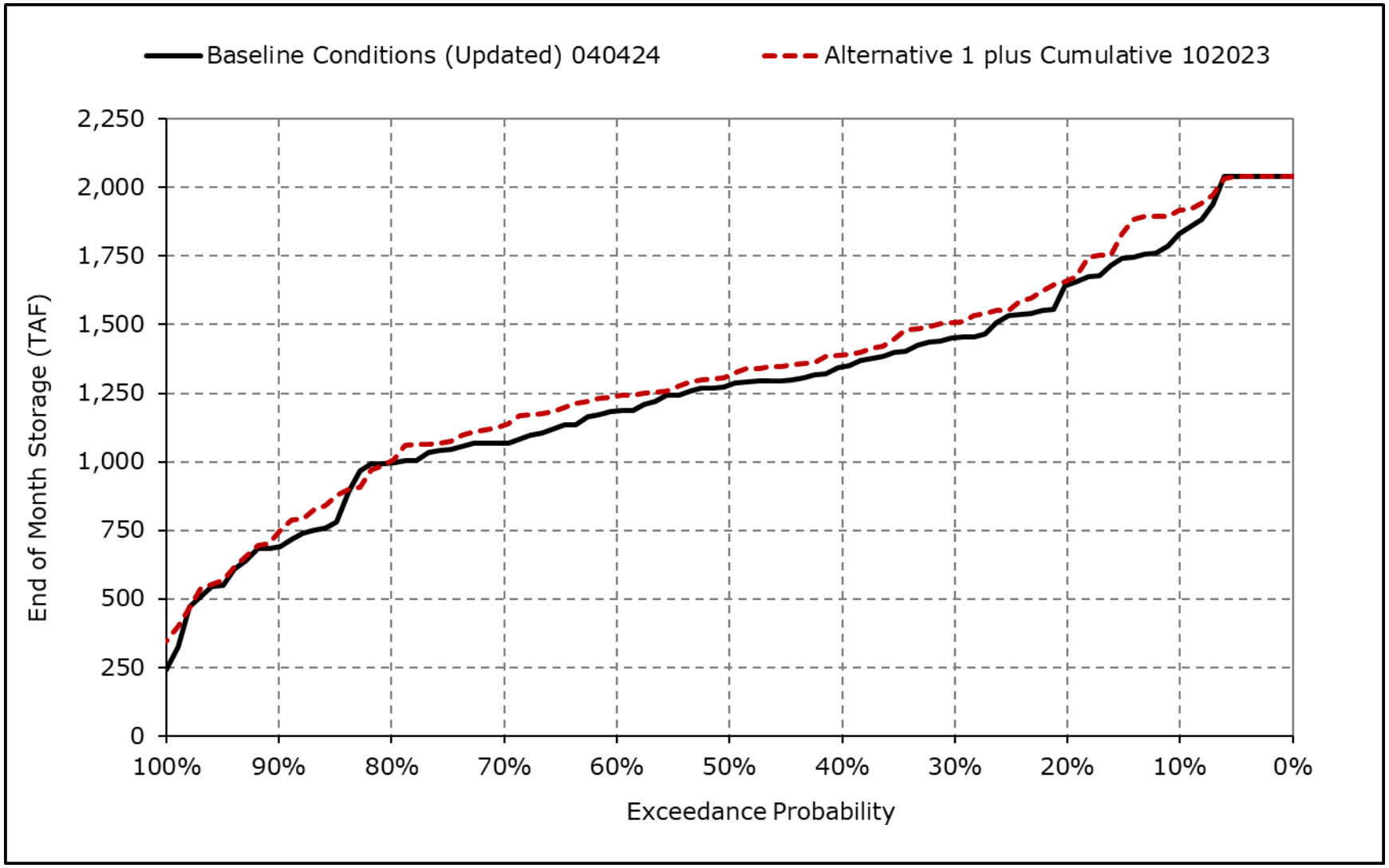
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-2c. San Luis Storage (CVP and SWP), December



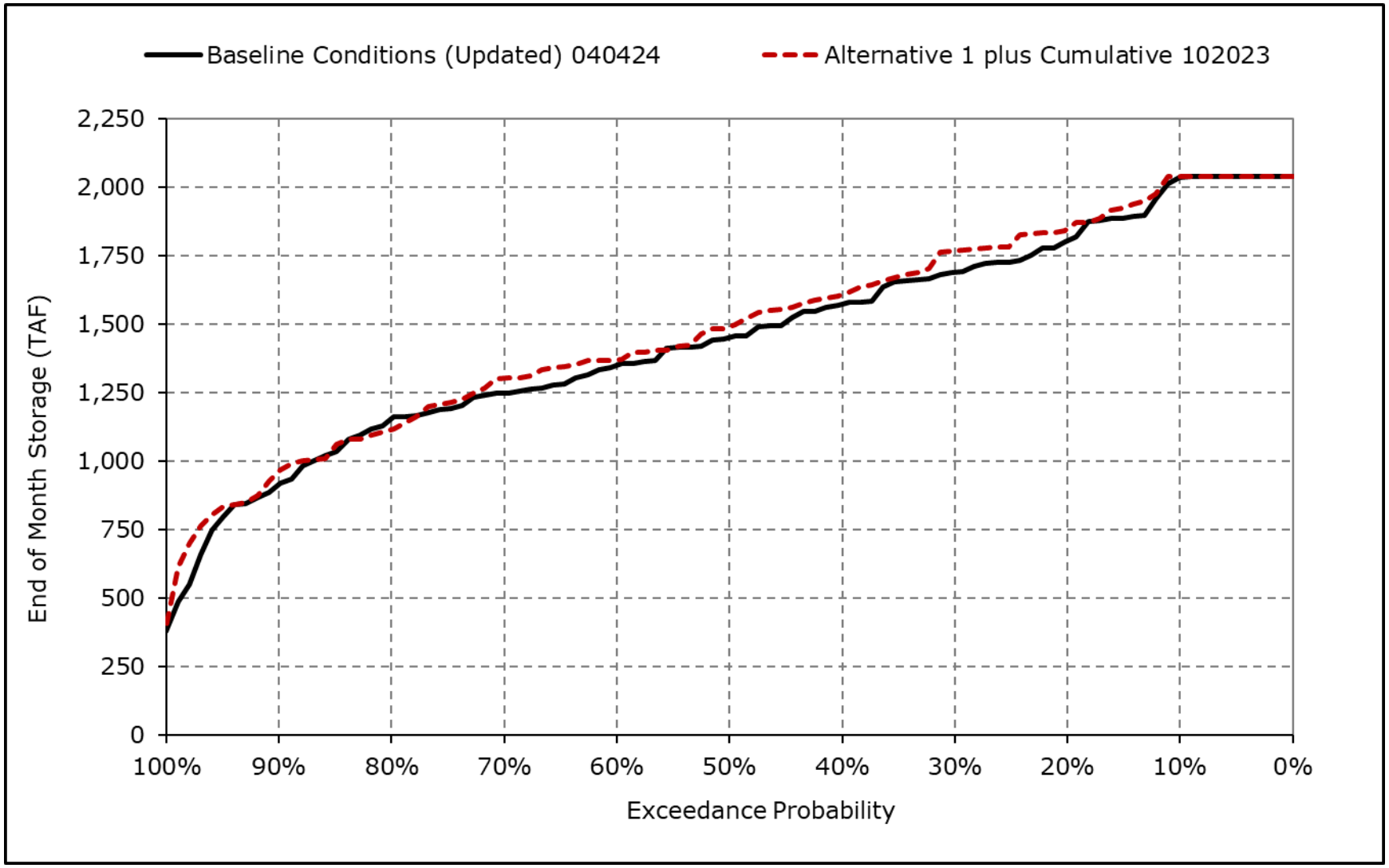
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-2d. San Luis Storage (CVP and SWP), January



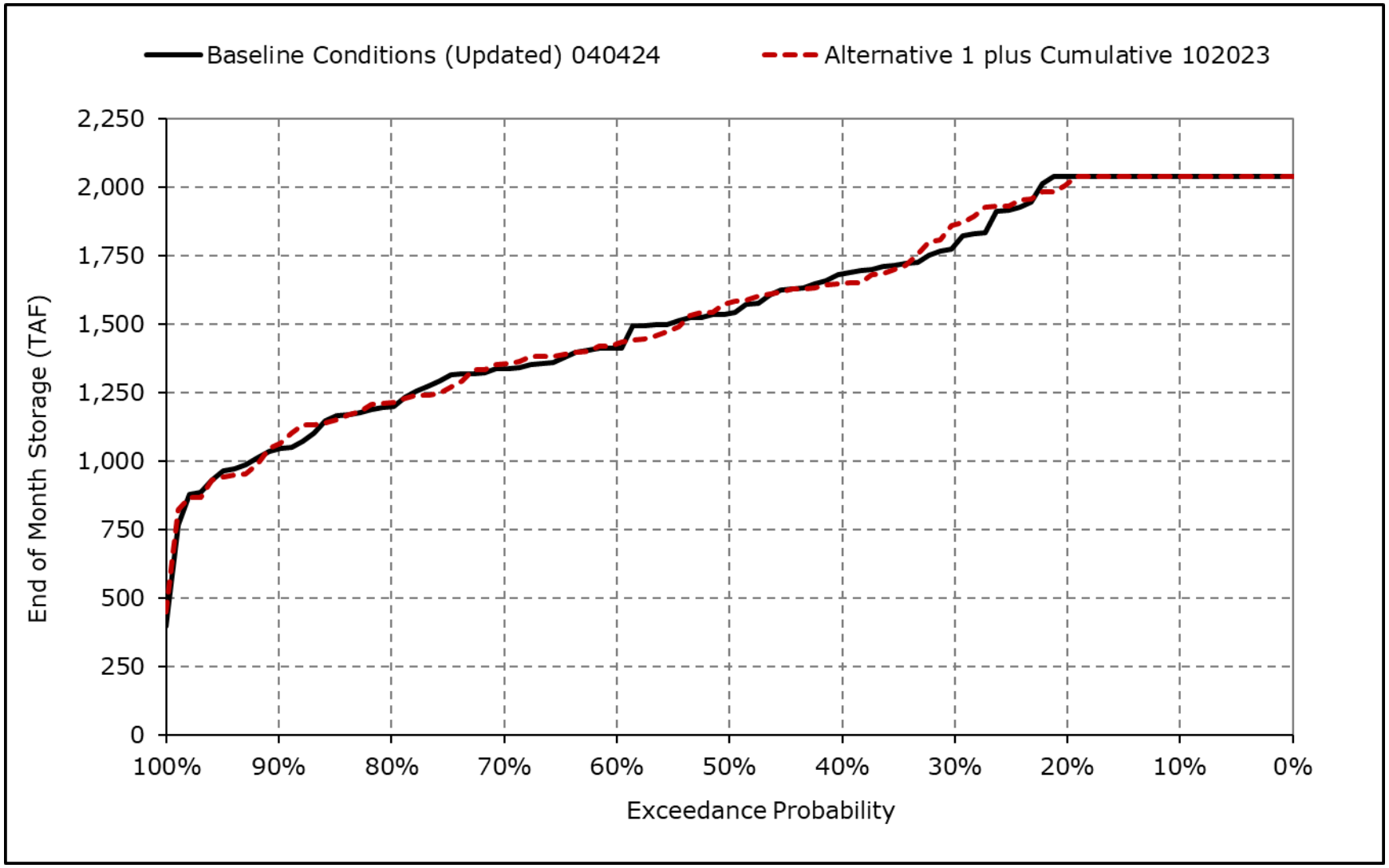
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-2e. San Luis Storage (CVP and SWP), February



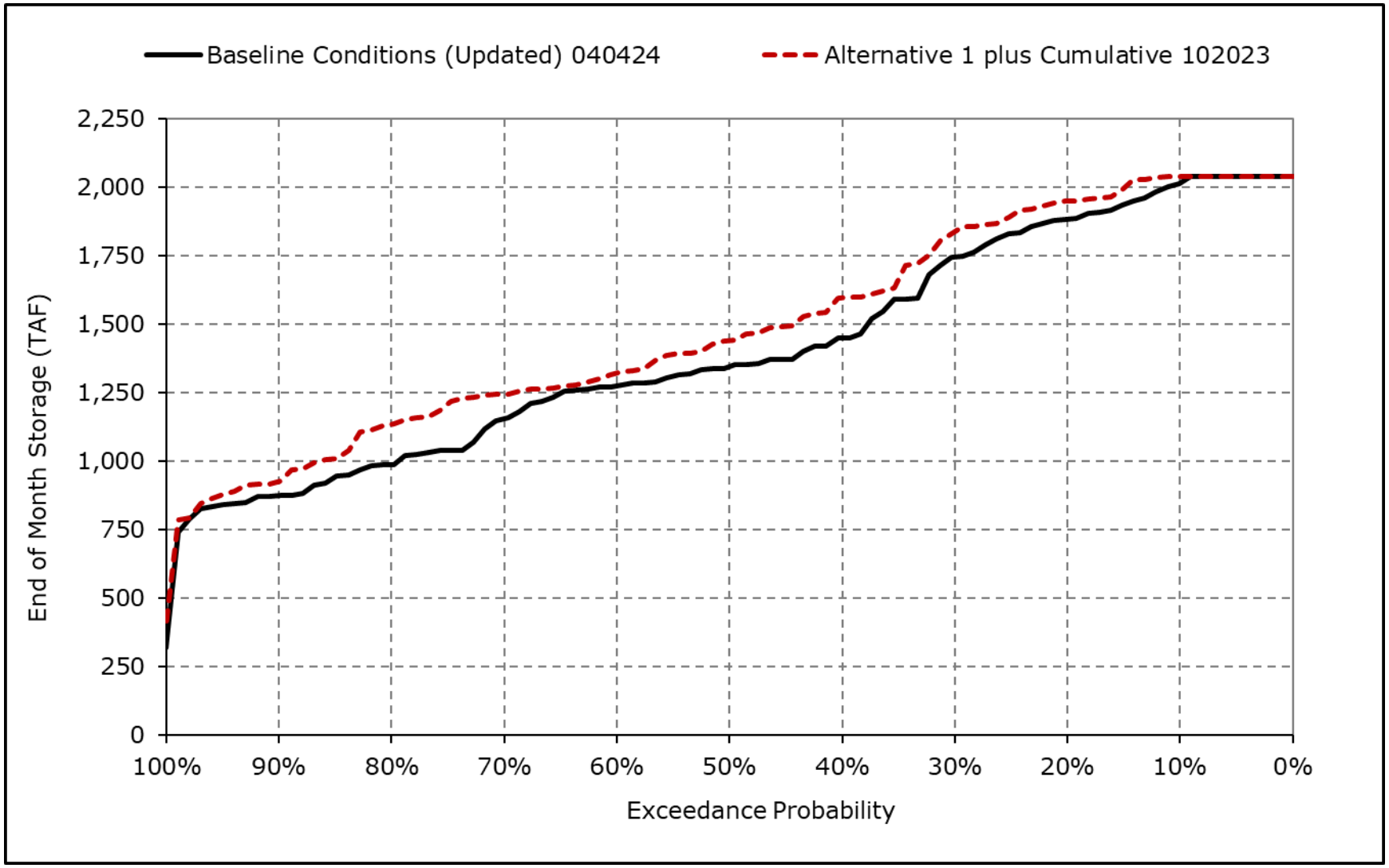
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-2f. San Luis Storage (CVP and SWP), March



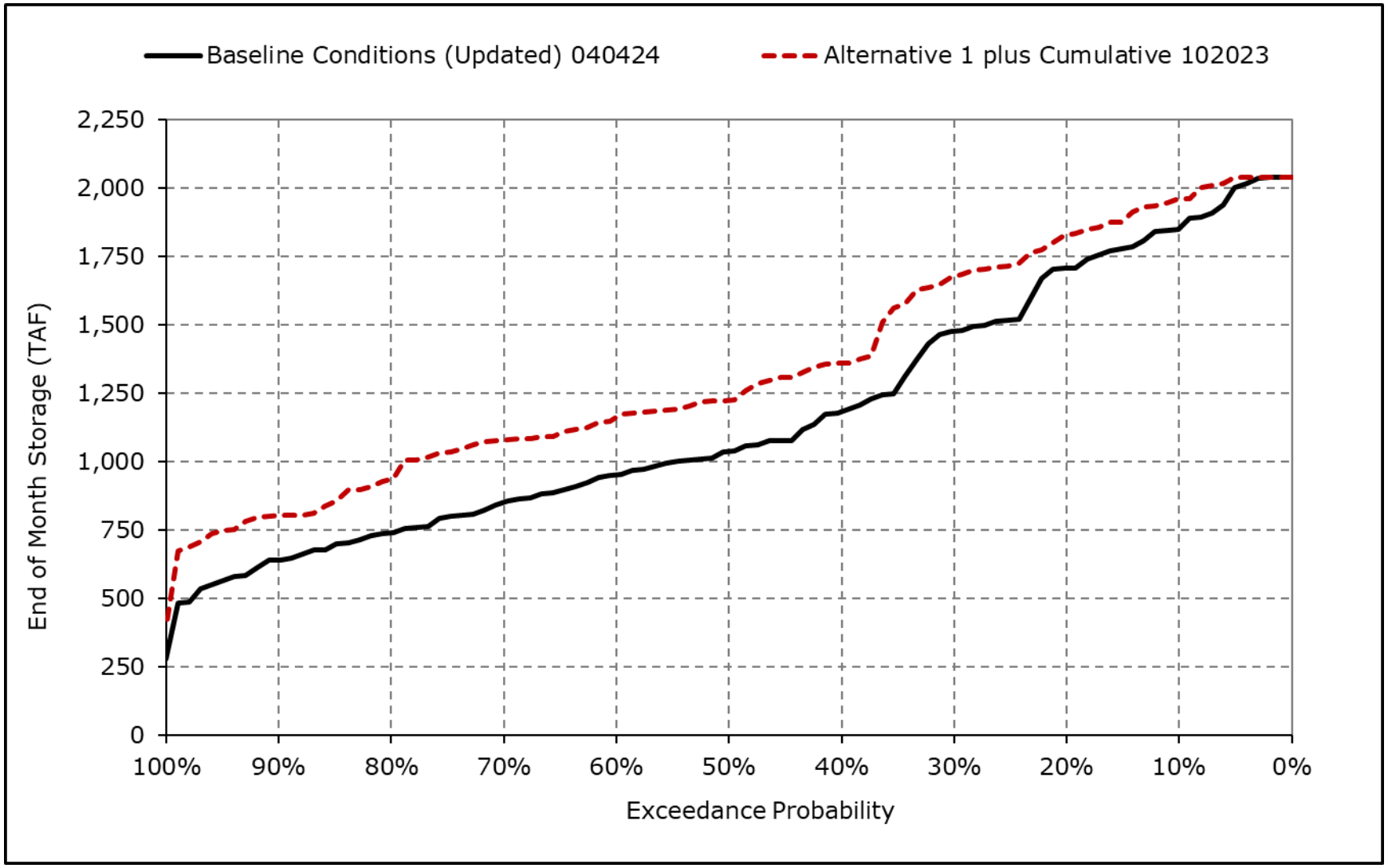
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-2g. San Luis Storage (CVP and SWP), April



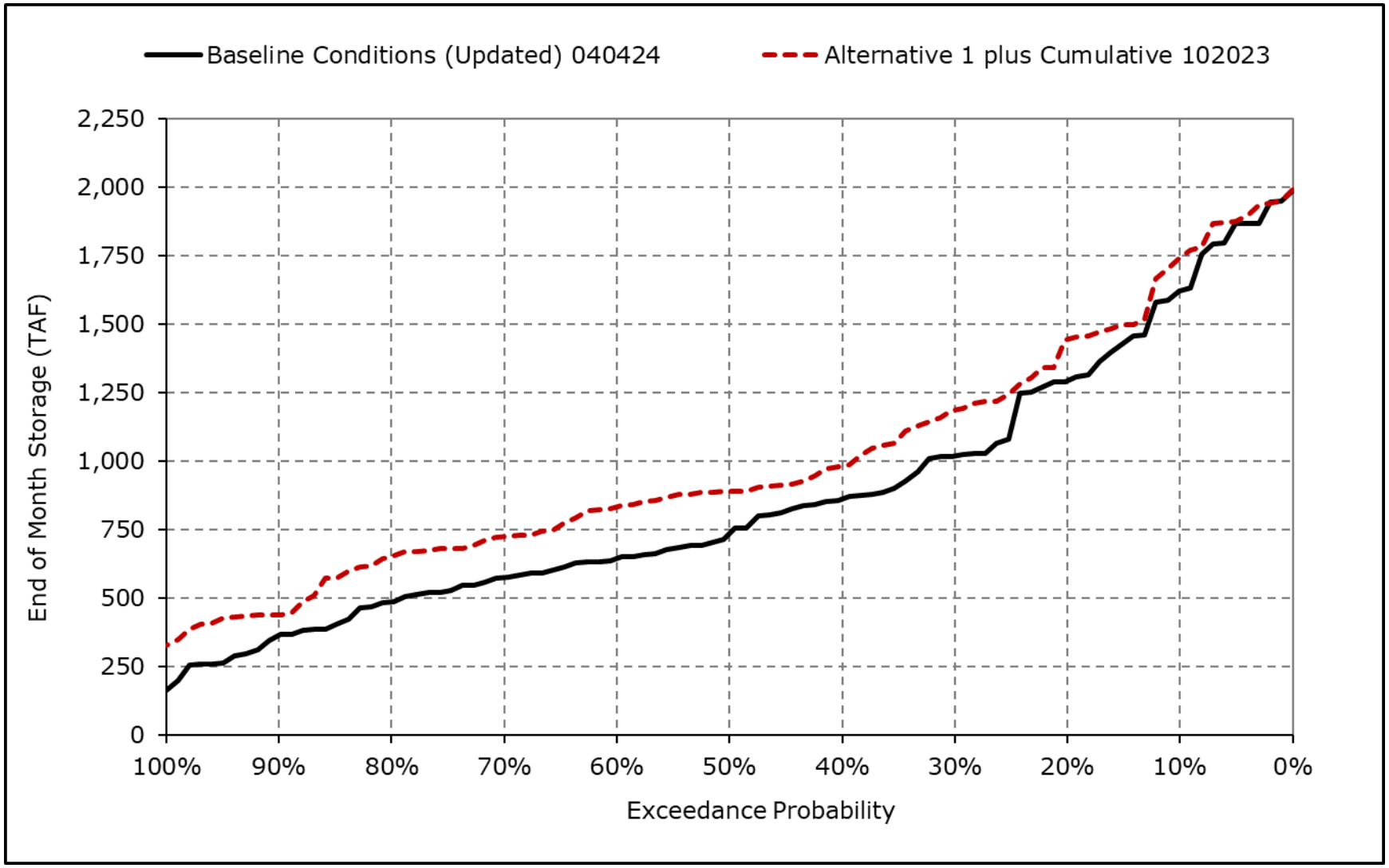
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-2h. San Luis Storage (CVP and SWP), May



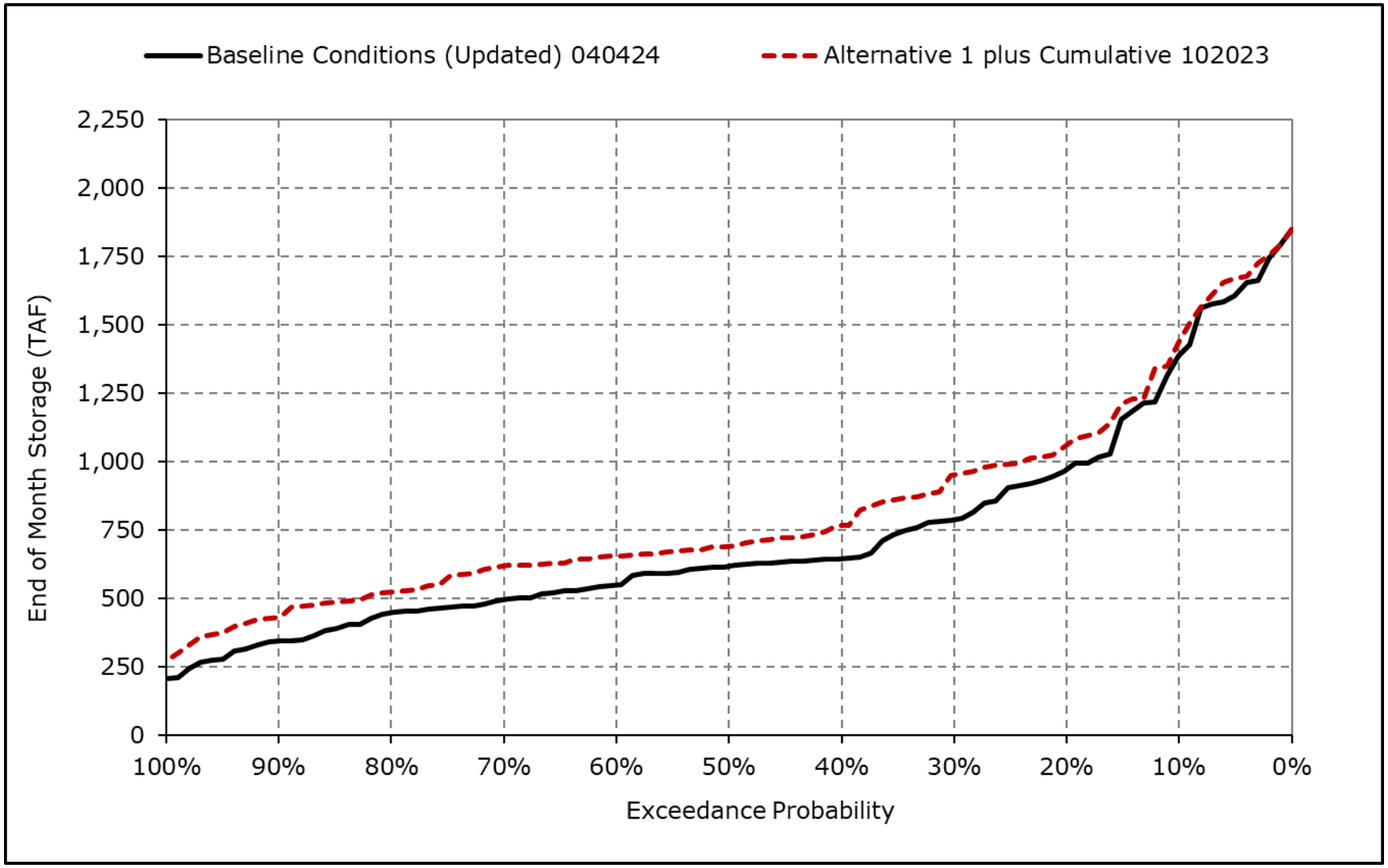
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-2i. San Luis Storage (CVP and SWP), June



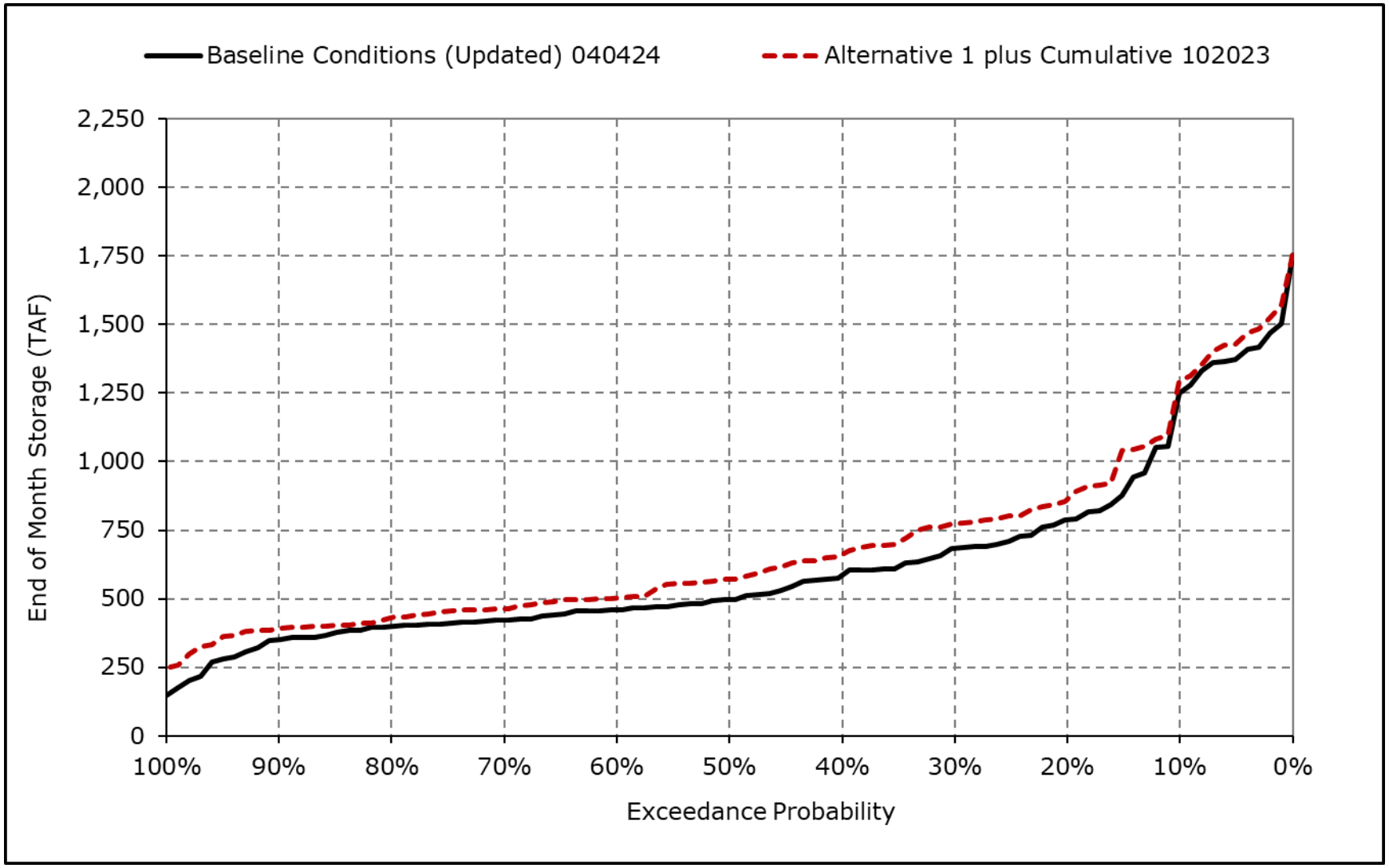
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-2j. San Luis Storage (CVP and SWP), July



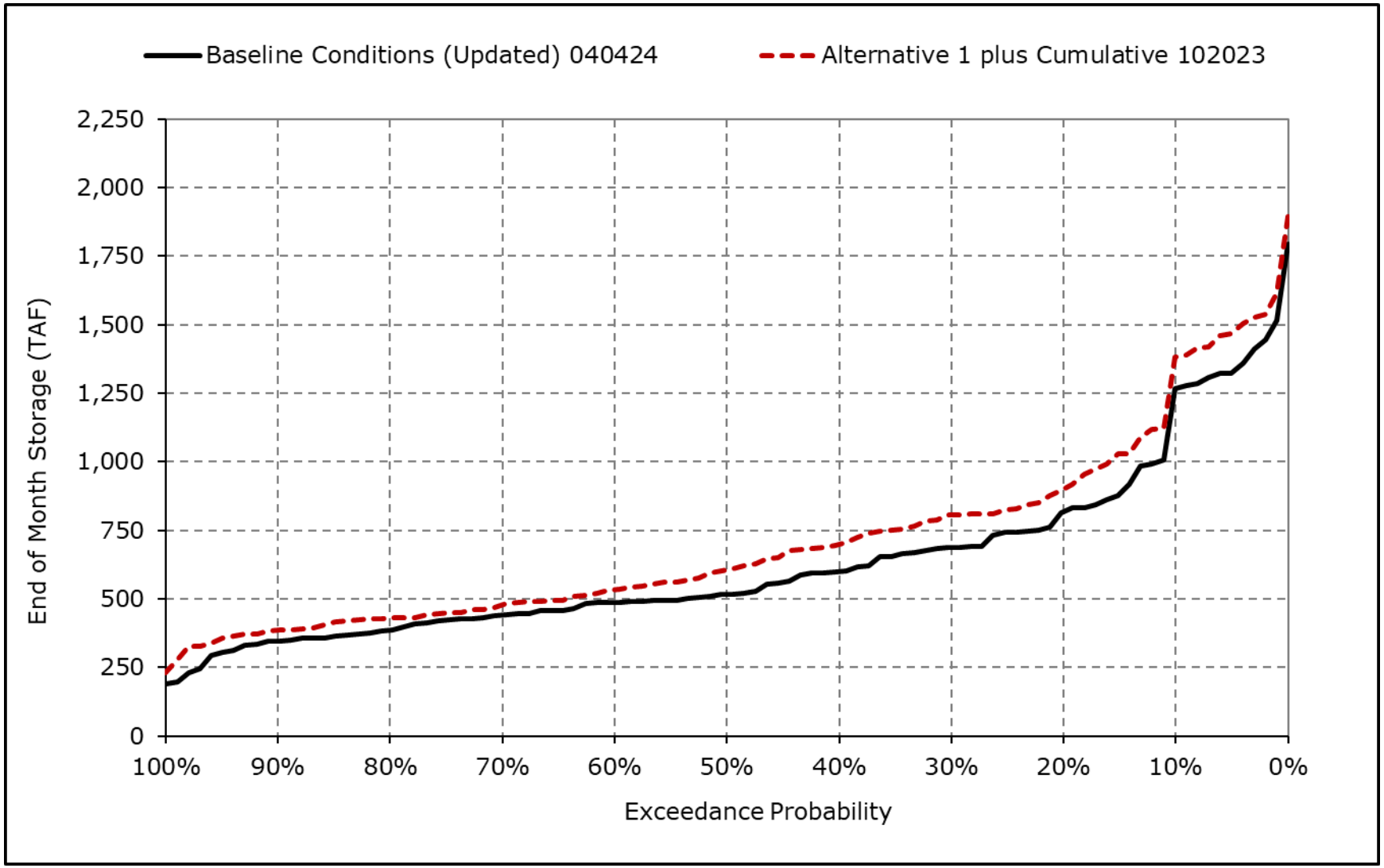
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-2k. San Luis Storage (CVP and SWP), August



*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-2l. San Luis Storage (CVP and SWP), September



*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Table 4G-2-3-1a. San Luis Reservoir (SWP and CVP), Baseline Conditions (Updated) 040424, End of Month Elevation (Feet)

Statistic	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
10% Exceedance	478	500	525	527	544	544	542	529	510	490	477	478
20% Exceedance	439	468	495	512	525	544	532	517	481	450	431	434
30% Exceedance	429	457	481	495	516	524	520	497	455	431	419	419
40% Exceedance	420	443	469	485	506	515	495	470	439	414	407	409
50% Exceedance	403	429	458	479	495	503	486	456	425	411	396	399
60% Exceedance	394	417	450	470	486	492	479	448	414	403	391	395
70% Exceedance	382	405	439	459	476	485	468	437	406	396	386	389
80% Exceedance	379	396	420	453	467	472	452	425	395	390	383	381
90% Exceedance	365	378	400	420	444	457	440	414	378	376	376	376
Full Simulation Period Average[a]	412	433	458	476	493	502	489	466	435	420	408	410
Wet Water Years (30%)	423	452	482	501	520	529	527	511	482	459	443	441
Above Normal Water Years (11%)	406	429	456	480	501	512	499	477	440	419	415	413
Below Normal Water Years (21%)	420	443	466	480	493	501	477	441	402	396	399	409
Dry Water Years (22%)	410	428	453	467	478	487	466	435	405	401	384	385
Critical Water Years (16%)	384	393	414	435	457	468	460	447	427	406	384	384

Table 4G-2-3-1b. San Luis Reservoir (SWP and CVP), Alternative 1 plus Cumulative 102023, End of Month Elevation (Feet)

Statistic	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
10% Exceedance	489	505	531	534	544	544	544	538	520	494	481	489
20% Exceedance	454	479	505	513	529	542	537	527	494	458	438	442
30% Exceedance	436	466	490	500	522	530	528	514	470	448	429	432
40% Exceedance	423	448	473	490	509	512	507	487	451	428	416	421
50% Exceedance	411	437	465	482	498	506	494	474	441	420	406	410
60% Exceedance	400	427	458	475	488	493	483	468	436	415	397	401
70% Exceedance	395	415	447	465	481	486	476	460	424	411	392	394
80% Exceedance	384	407	435	453	464	473	466	446	415	400	387	387
90% Exceedance	373	384	407	426	449	459	445	432	388	387	382	381
Full Simulation Period Average[a]	420	441	465	481	496	503	496	483	449	431	416	419
Wet Water Years (30%)	433	461	488	505	522	530	528	519	488	466	450	455
Above Normal Water Years (11%)	413	436	465	487	505	511	503	488	447	427	421	420
Below Normal Water Years (21%)	428	450	472	484	497	500	490	472	430	417	410	417
Dry Water Years (22%)	418	437	460	471	479	486	474	456	423	412	392	393
Critical Water Years (16%)	395	401	418	440	460	472	468	463	440	414	390	389

Table 4G-2-3-1c. San Luis Reservoir (SWP and CVP), Alternative 1 plus Cumulative 102023 minus Baseline Conditions (Updated) 040424, End of Month Elevation (Feet)

Statistic	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
10% Exceedance	11	6	5	7	0	0	2	9	10	4	4	11
20% Exceedance	15	11	11	1	3	-2	5	10	14	9	8	9
30% Exceedance	7	9	9	5	6	6	7	17	16	17	10	13
40% Exceedance	3	6	4	4	3	-3	13	17	13	14	9	11
50% Exceedance	8	9	6	3	3	3	8	18	16	9	9	11
60% Exceedance	6	10	8	5	2	1	4	21	21	12	6	6
70% Exceedance	13	10	8	6	5	2	8	23	18	15	6	5
80% Exceedance	5	11	16	1	-4	2	14	21	20	10	4	6
90% Exceedance	9	6	7	7	5	2	6	18	10	12	5	6
Full Simulation Period Average[a]	9	8	6	4	3	0	7	17	15	11	8	9
Wet Water Years (30%)	10	9	6	4	3	0	1	8	6	6	7	13
Above Normal Water Years (11%)	7	6	9	6	4	-1	4	11	7	8	6	7
Below Normal Water Years (21%)	8	7	7	5	4	-1	14	31	29	21	11	8
Dry Water Years (22%)	8	9	7	4	2	-1	8	21	19	11	8	8
Critical Water Years (16%)	11	9	5	5	4	4	8	15	12	8	6	5

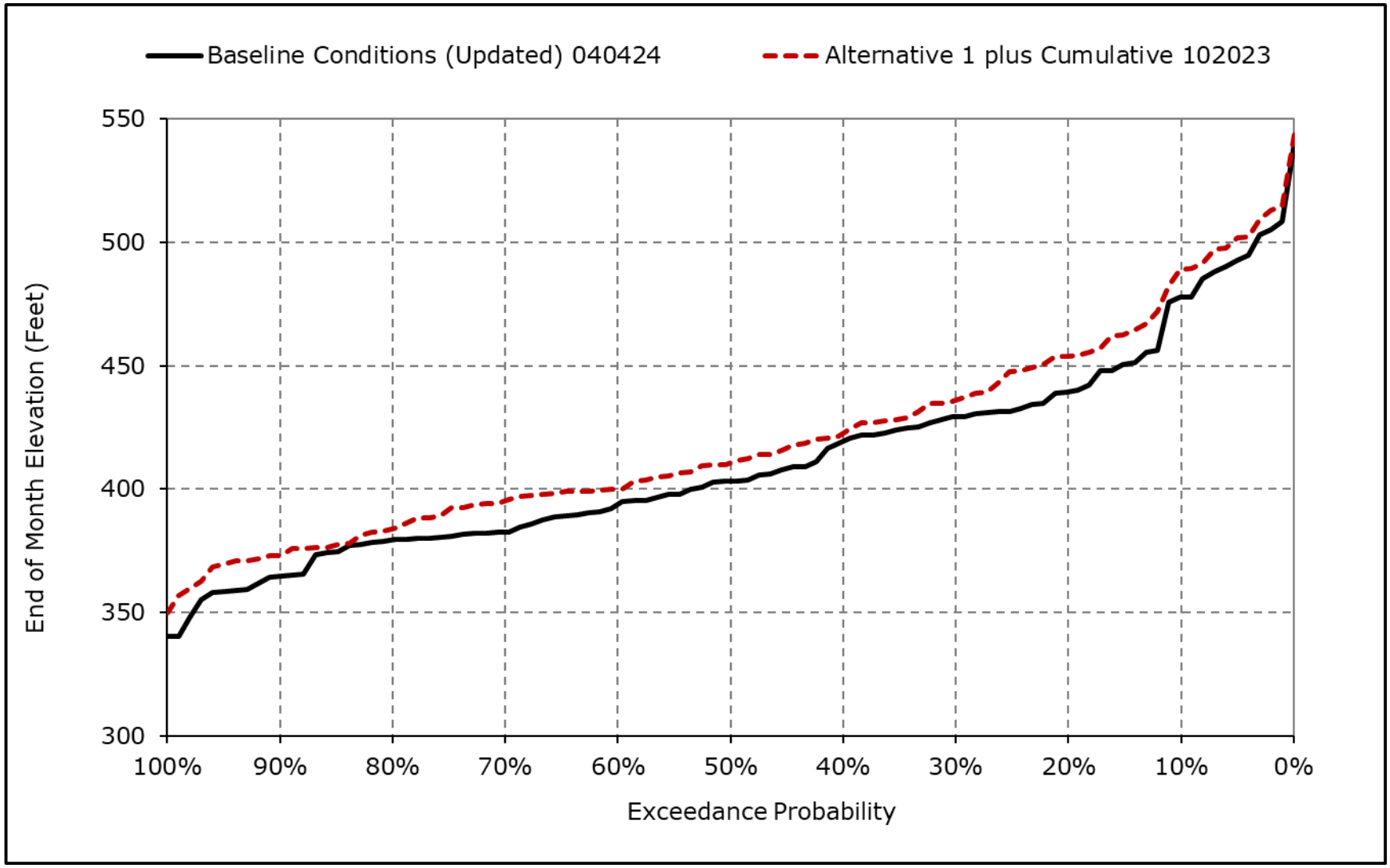
[a] Based on the 100-year simulation period.

* All scenarios are simulated at current climate condition and 0 cm sea level rise.

* Water Year Types defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999).

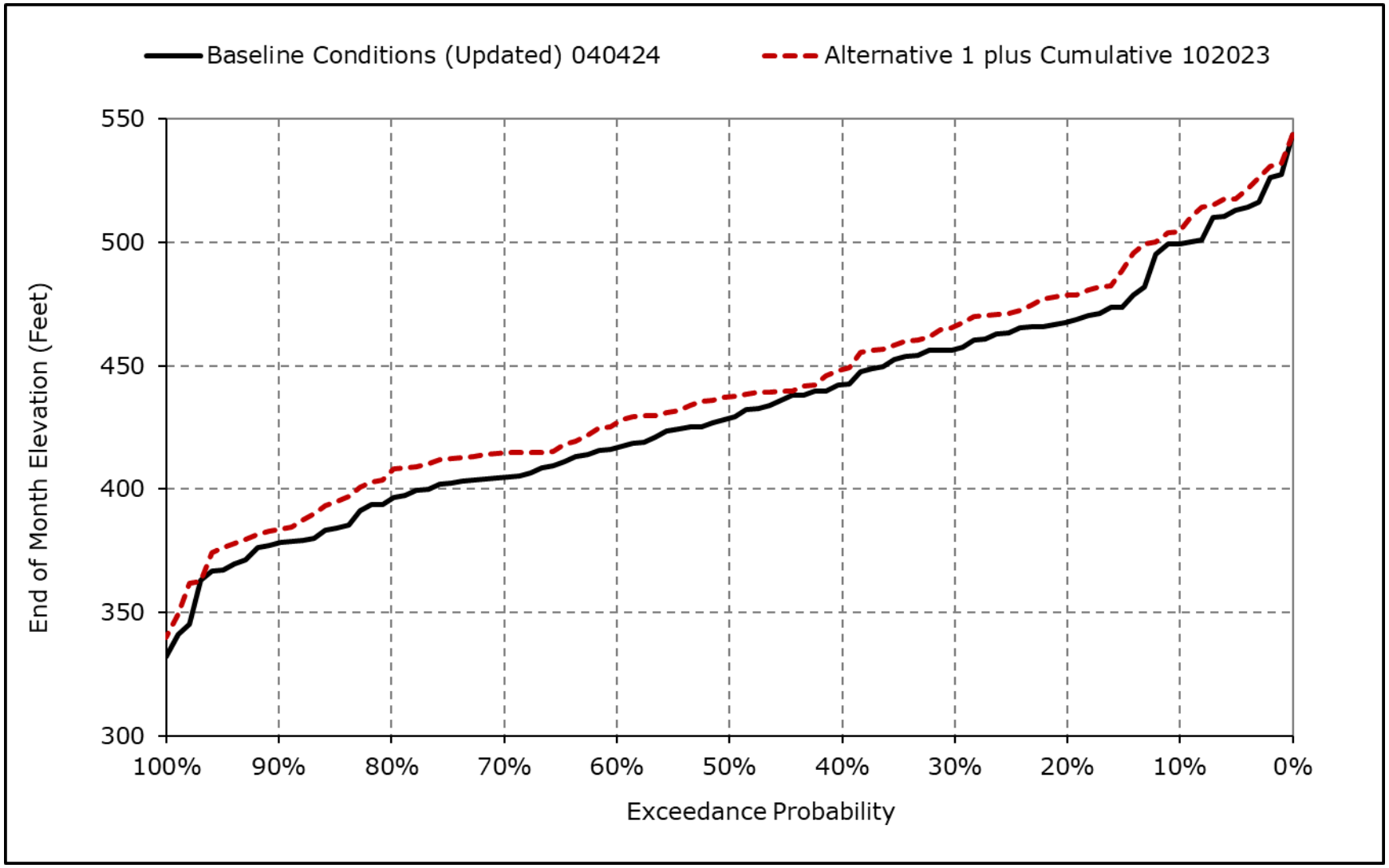
* Water Year Types results are displayed with water year - year type sorting.

Figure 4G-2-3a. San Luis Reservoir (SWP and CVP), October



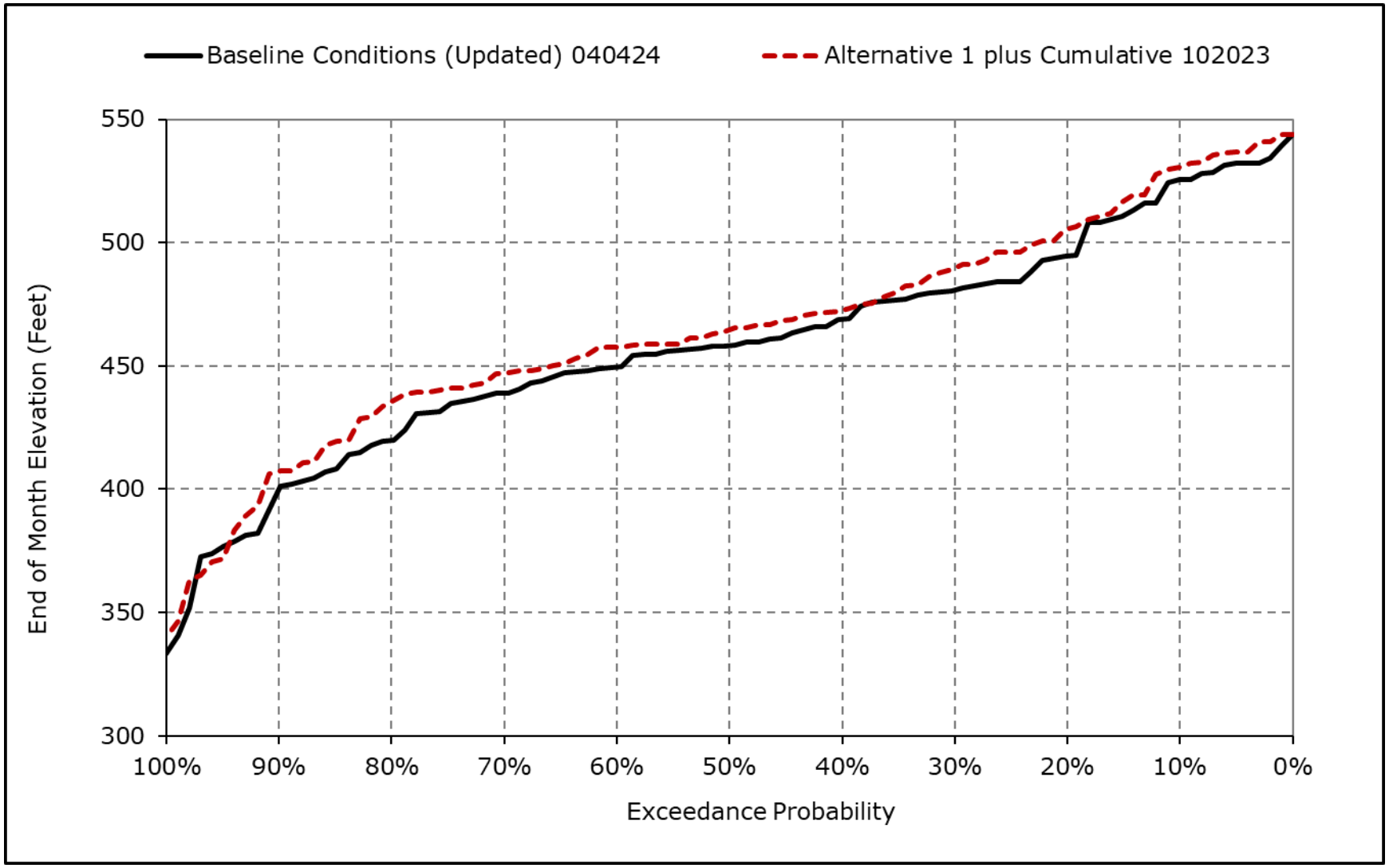
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-3b. San Luis Reservoir (SWP and CVP), November



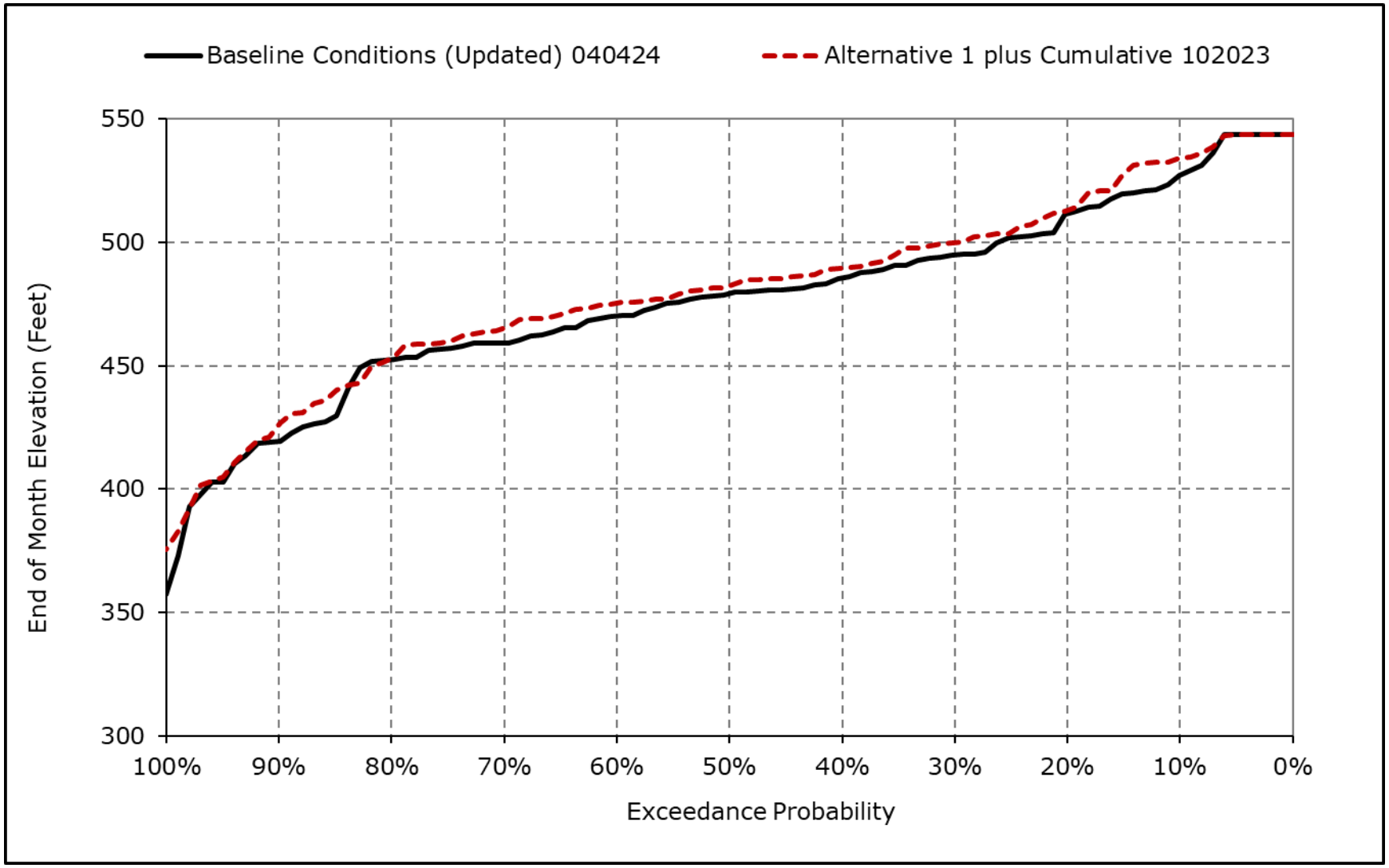
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-3c. San Luis Reservoir (SWP and CVP), December



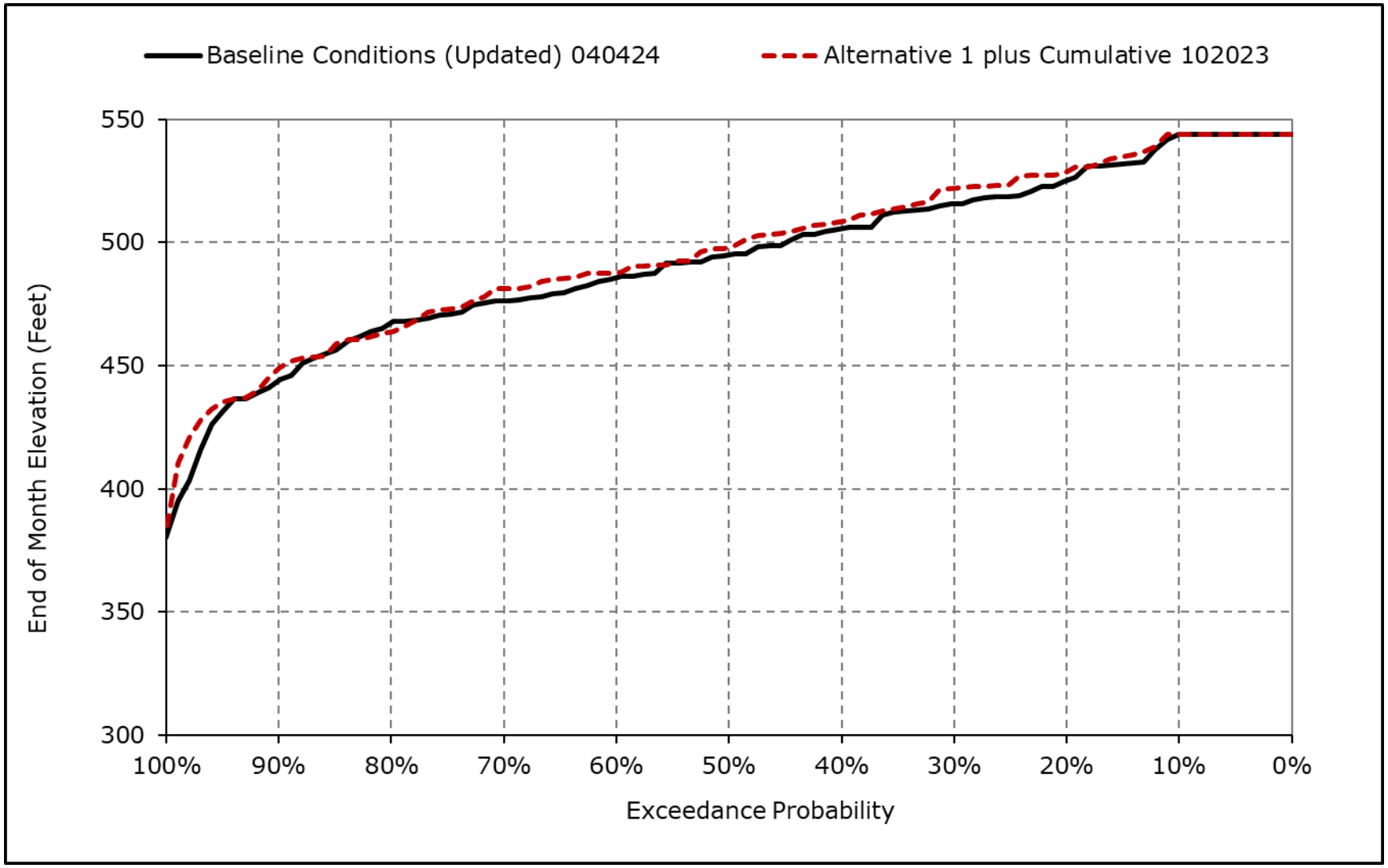
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-3d. San Luis Reservoir (SWP and CVP), January



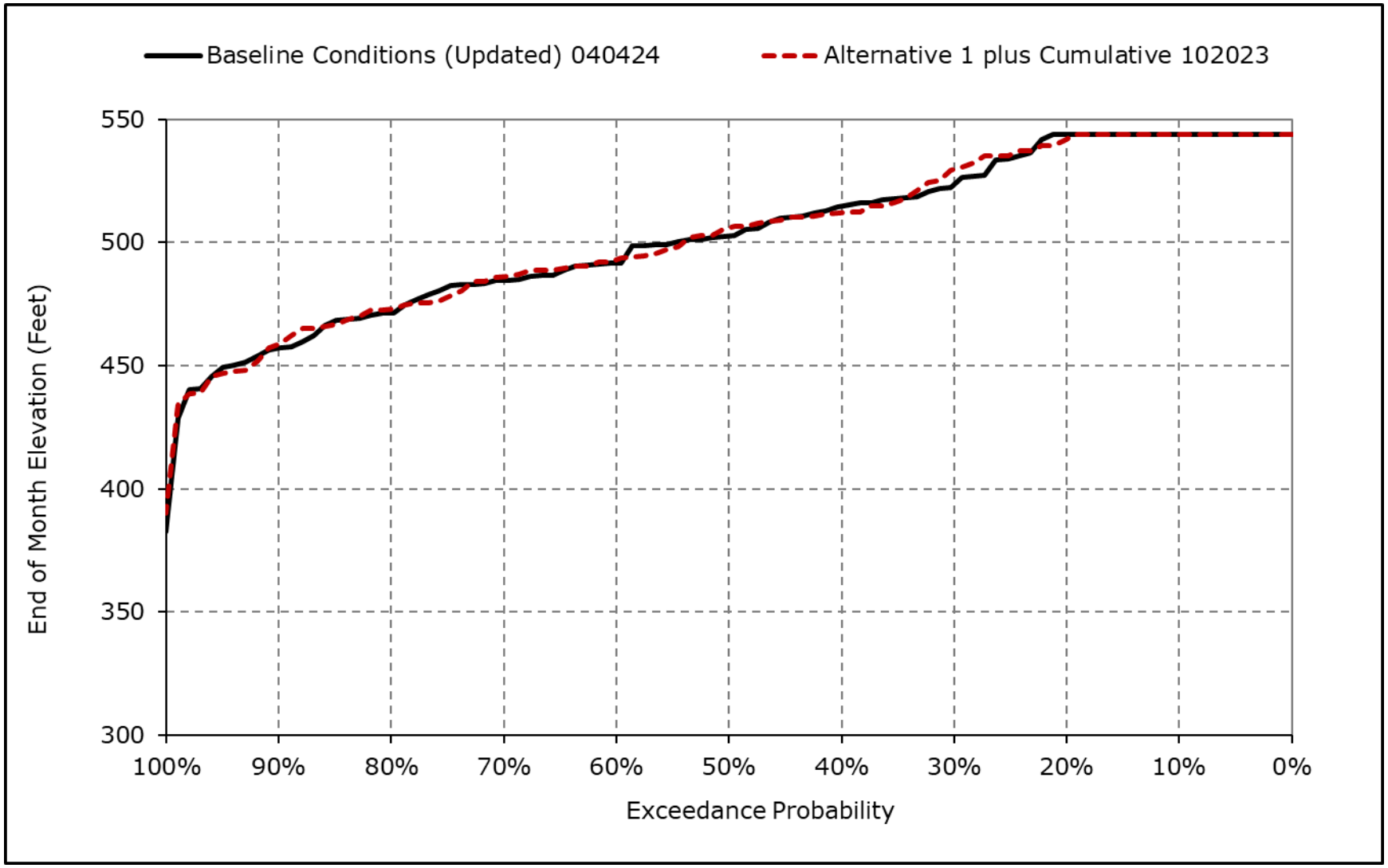
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-3e. San Luis Reservoir (SWP and CVP), February



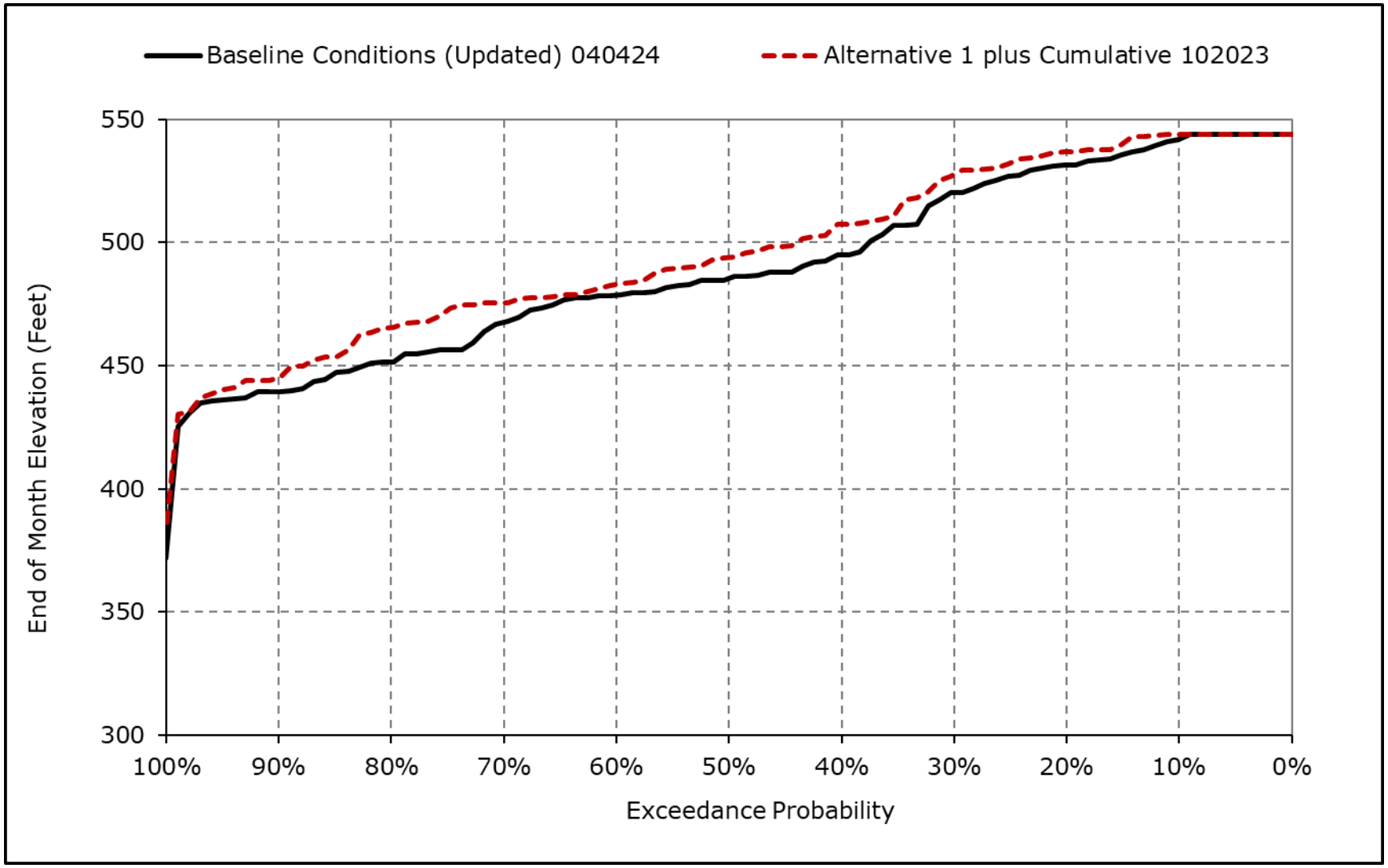
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-3f. San Luis Reservoir (SWP and CVP), March



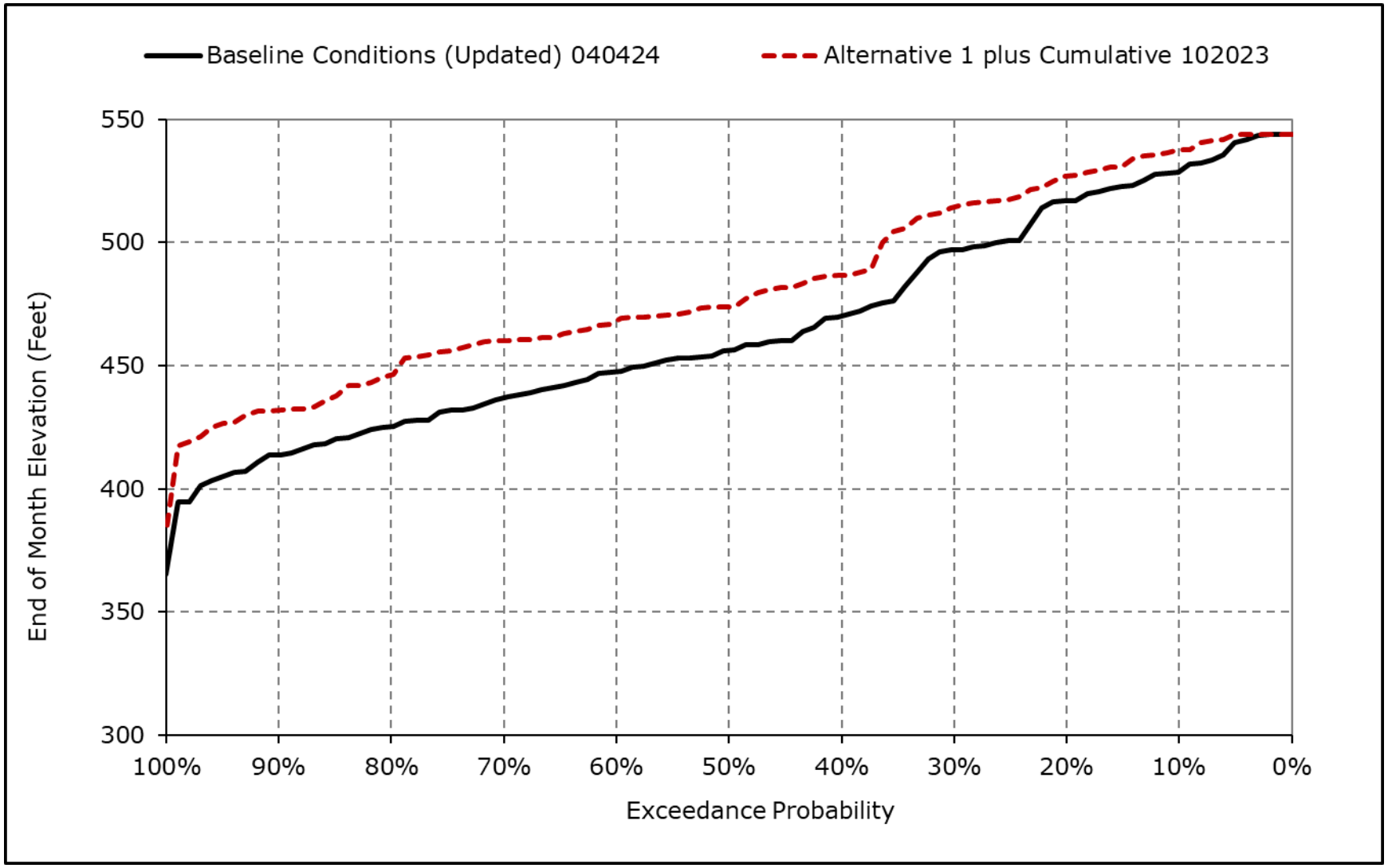
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-3g. San Luis Reservoir (SWP and CVP), April



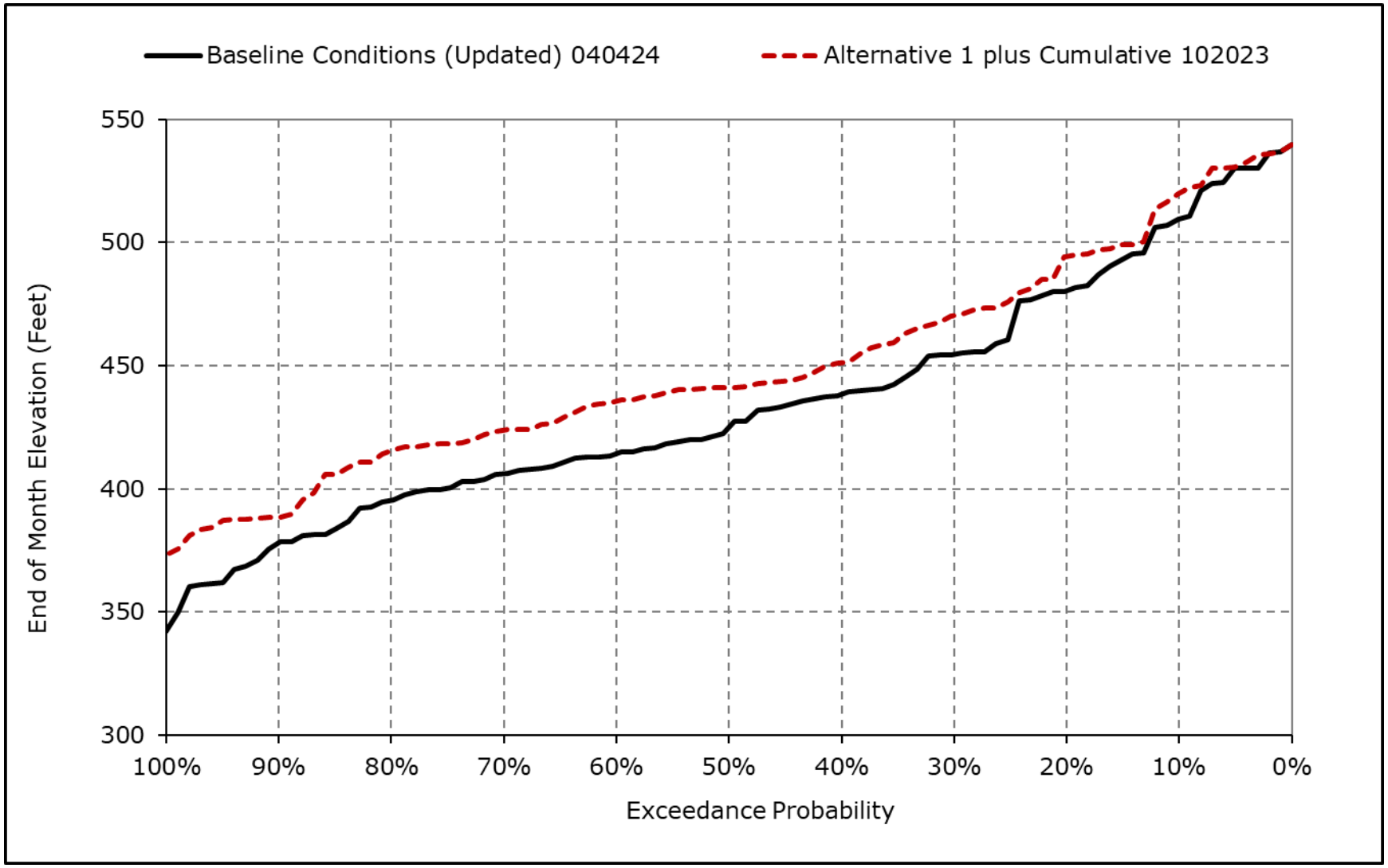
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-3h. San Luis Reservoir (SWP and CVP), May



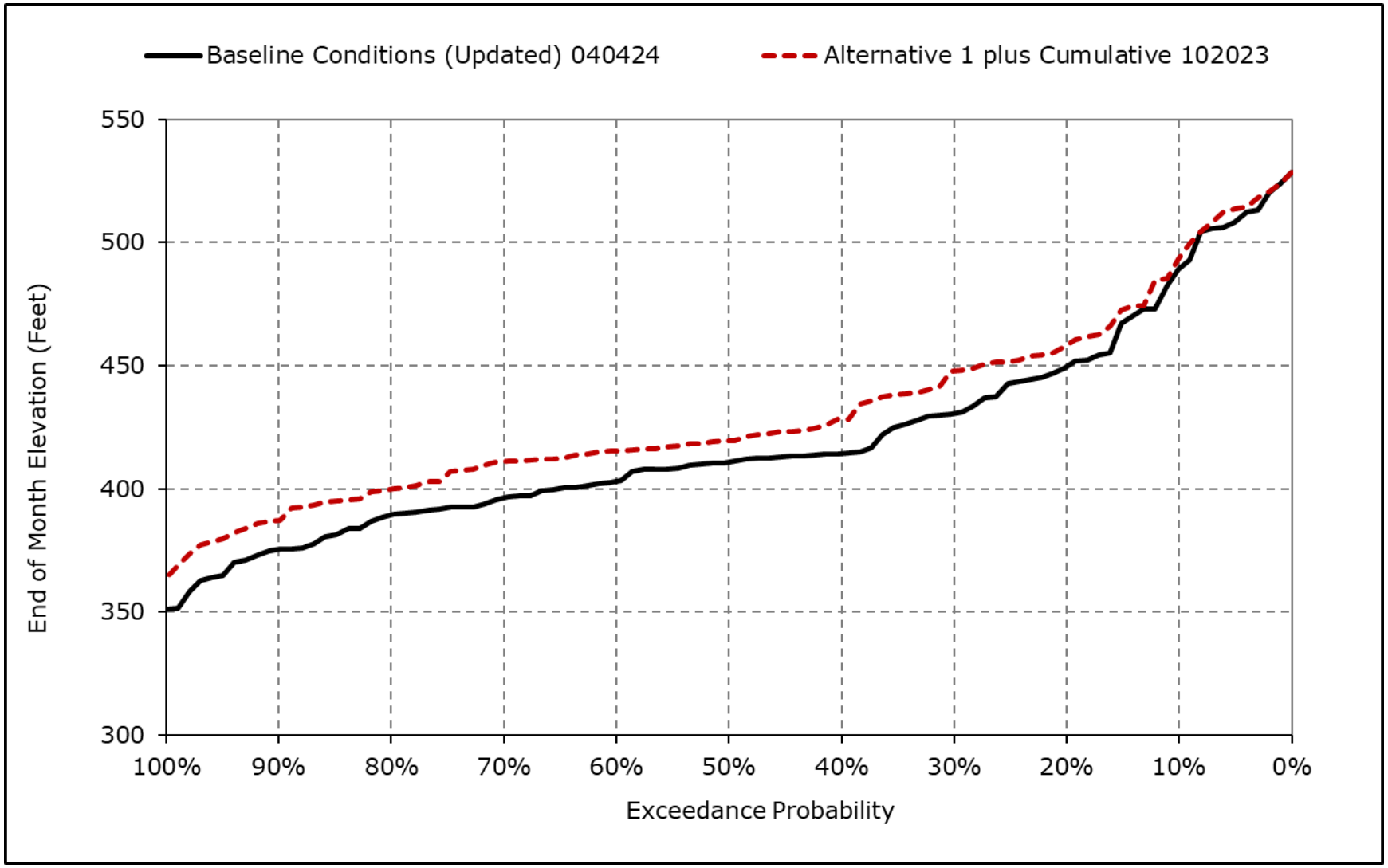
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-3i. San Luis Reservoir (SWP and CVP), June



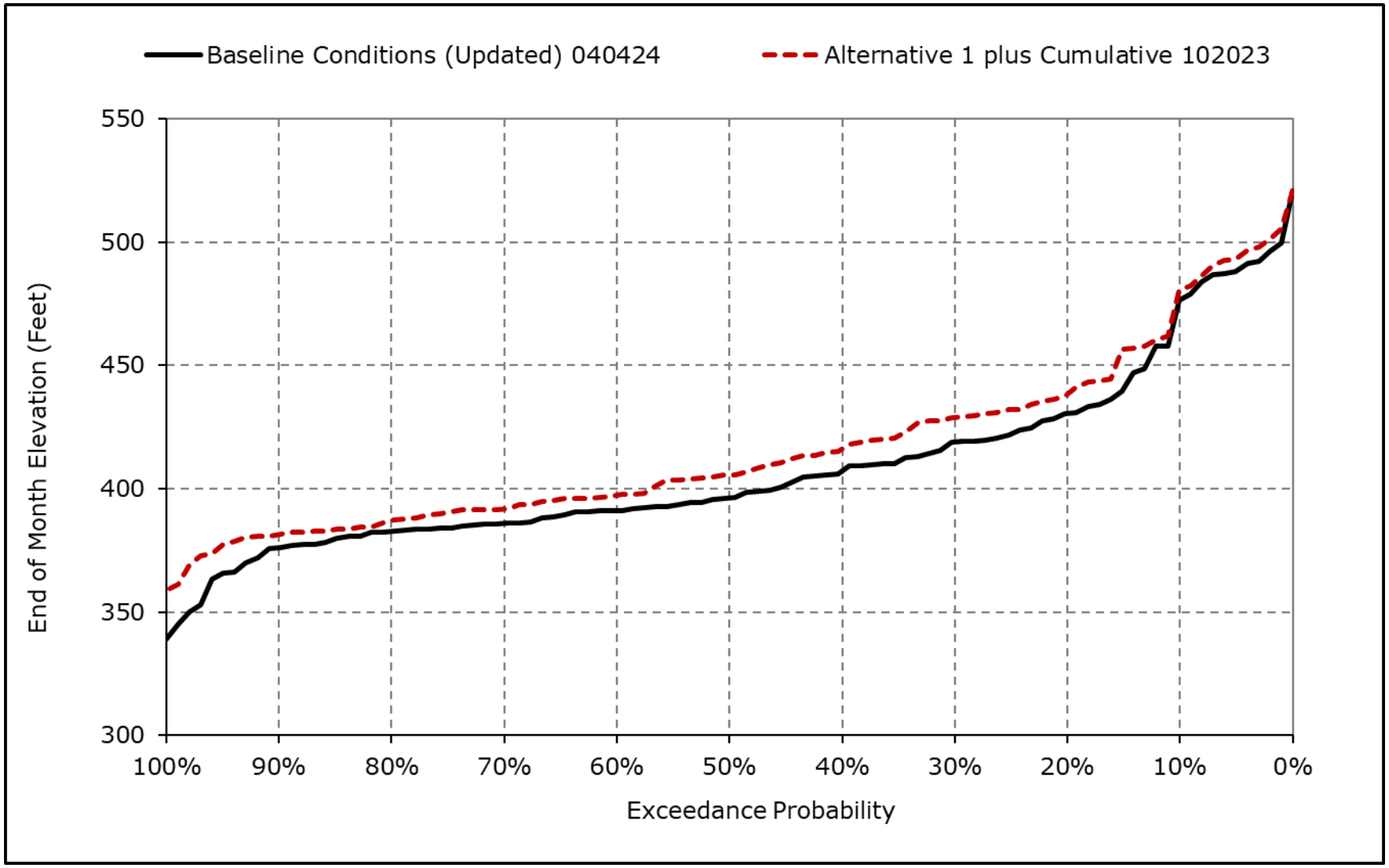
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-3j. San Luis Reservoir (SWP and CVP), July



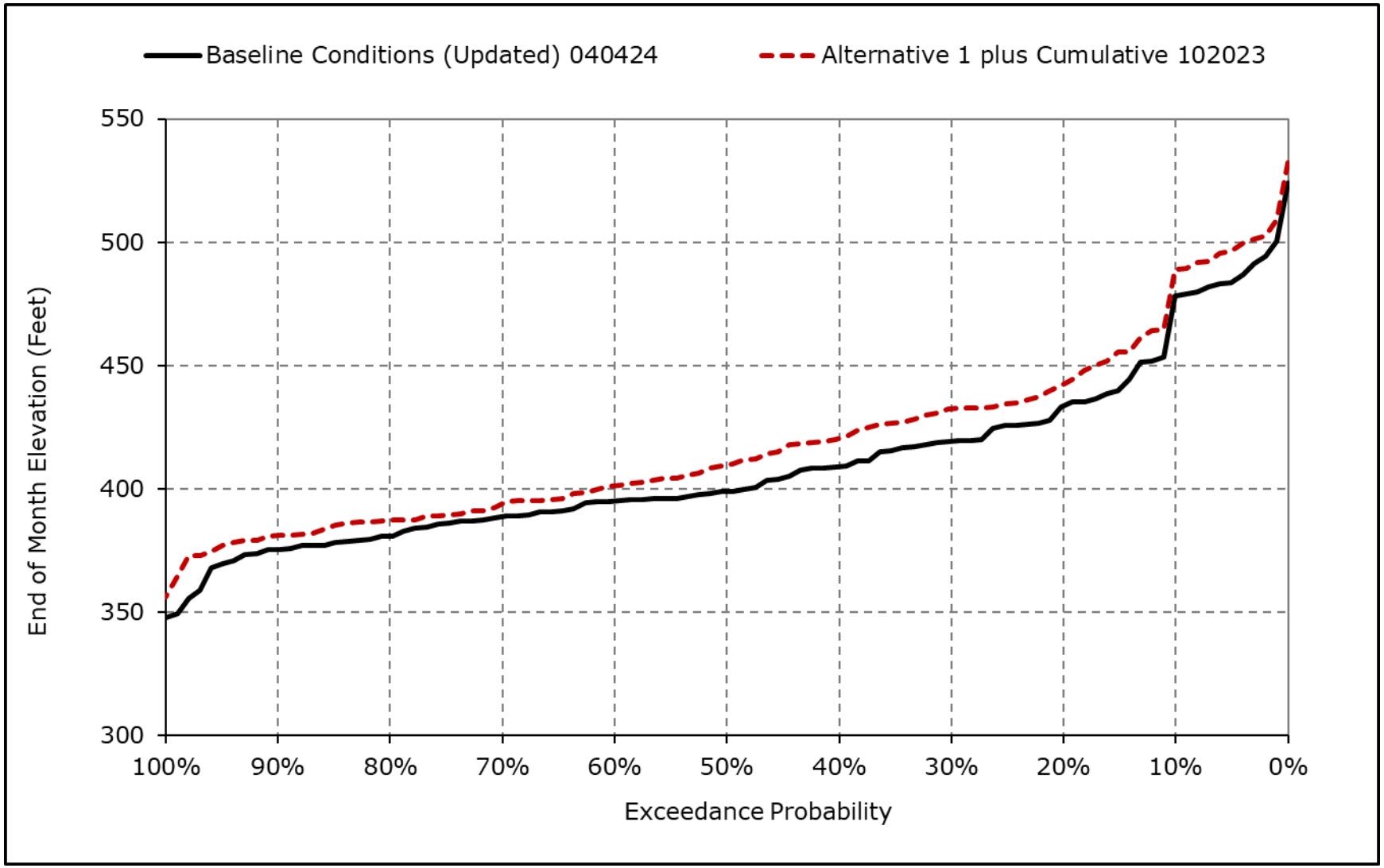
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-3k. San Luis Reservoir (SWP and CVP), August



*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4G-2-3l. San Luis Reservoir (SWP and CVP), September



*All scenarios are simulated at current climate condition and 0 cm sea level rise.