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June 14, 2017

VIA CALIFORNIA WATERFIX SERVICE LIST

Ms. Amy L. Aufdemberge
Assistant Regional Solicitor
Office of the Regional Solicitor
U.S. Department of the Interior
2800 Cottage Way
Sacramento, California 95825

Re: California WaterFix – Modeling Curves and Results for Sur-Rebuttal

Dear Ms. Aufdemberge:

In her sur-rebuttal testimony, Reclamation's witness Nancy Parker discusses Folsom Reservoir storage results from the modeling that petitioners presented in their case-in-chief in this hearing. (See exhibit DWR-514). Ms. Parker's sur-rebuttal testimony also discusses the Water Supply Index – Delivery Index (WSI-DI) used in CalSim as part of her testimony concerning modeling conducted by MBK Engineers. In order to expedite Ms. Parker's cross-examination, please ensure that, prior to her testimony, Ms. Parker is familiar with the attached, which are:

- Additional Folsom Reservoir storage results from the modeling that petitioners presented in their case-in-chief in this hearing; and
- WSI-DI curves from various model runs whose results petitioners have presented in this hearing.

Kind regards,



Ryan S. Bezerra

Enclosures

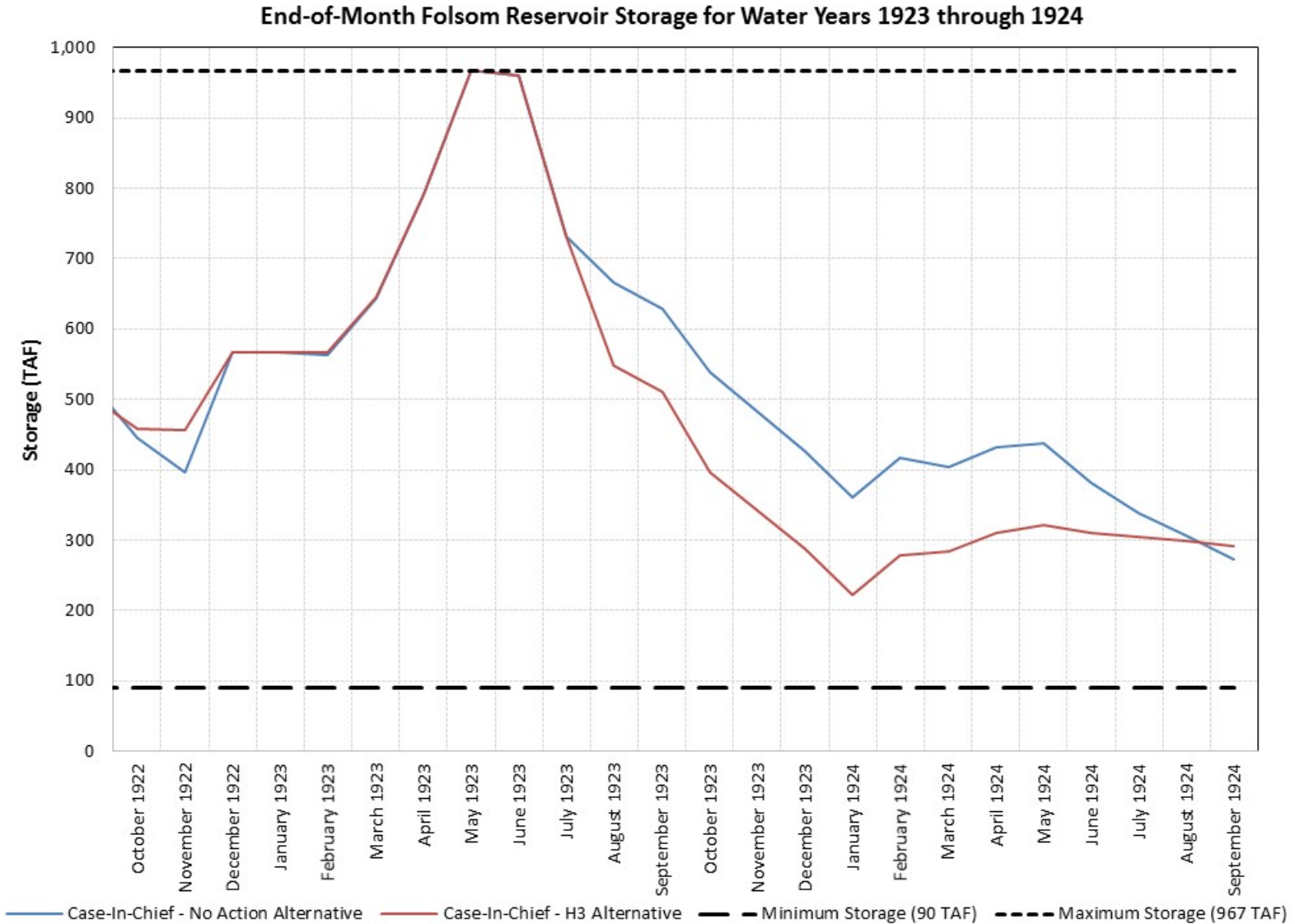
Cc: California WaterFix hearing service list
8618/CWF/WRC/L061417rsb USBR

Case-in-Chief – No Action v. Case-in-Chief – H3 Alternative

End-of-Month Folsom Reservoir Storage

1923-1924

Water Year Type	Month	End-of-Month Folsom Storage		Difference (TAF)
		Case-In-Chief - No Action Alternative (TAF)	Case-In-Chief - H3 Alternative (TAF)	
Water Year 1923 - Below Normal Year	October 1922	445	459	14
	November 1922	396	457	61
	December 1922	567	567	0
	January 1923	567	567	0
	February 1923	564	567	3
	March 1923	643	646	3
	April 1923	792	792	0
	May 1923	967	967	0
	June 1923	960	960	0
	July 1923	733	733	0
	August 1923	667	548	-119
September 1923	629	511	-118	
Water Year 1924 - Critical Year	October 1923	538	396	-142
	November 1923	482	343	-139
	December 1923	426	287	-139
	January 1924	361	222	-139
	February 1924	418	279	-139
	March 1924	405	284	-121
	April 1924	432	309	-122
	May 1924	438	322	-116
	June 1924	381	311	-70
	July 1924	339	304	-35
	August 1924	306	300	-6
	September 1924	273	292	19

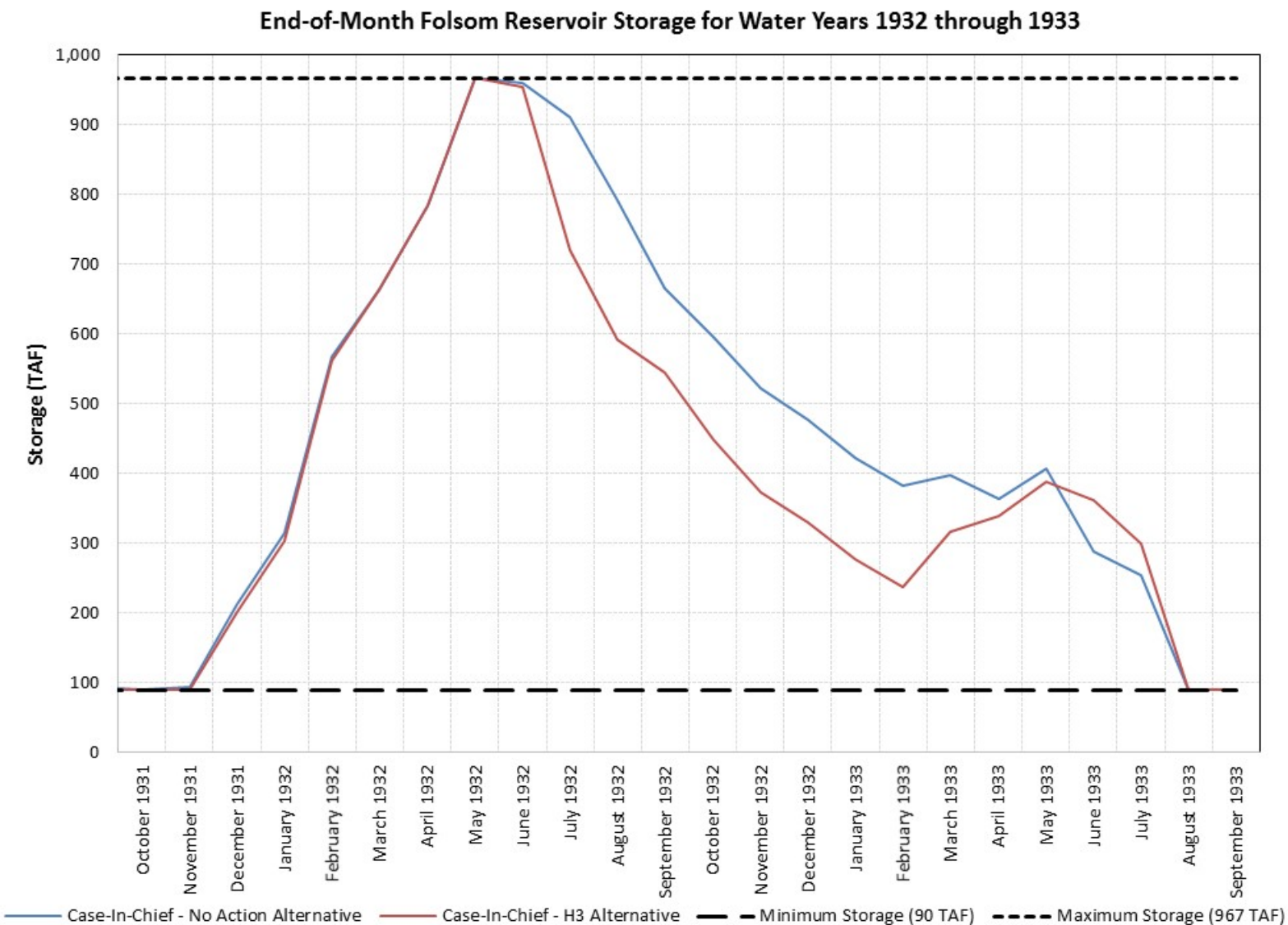


Case-in-Chief – No Action v. Case-in-Chief – H3 Alternative

End-of-Month Folsom Reservoir Storage

1932-1933

Water Year Type	Month	End-of-Month Folsom Storage		Difference (TAF)
		Case-In-Chief - No Action Alternative (TAF)	Case-In-Chief - H3 Alternative (TAF)	
Water Year 1932 - Critical Year	October 1931	90	90	0
	November 1931	94	90	-4
	December 1931	213	202	-11
	January 1932	314	303	-11
	February 1932	567	561	-6
	March 1932	664	664	0
	April 1932	784	784	0
	May 1932	967	967	0
	June 1932	961	954	-6
	July 1932	910	721	-190
	August 1932	792	592	-200
September 1932	666	545	-121	
Water Year 1933 - Critical Year	October 1932	595	448	-147
	November 1932	522	374	-148
	December 1932	477	330	-148
	January 1933	423	278	-146
	February 1933	382	237	-145
	March 1933	399	316	-83
	April 1933	363	339	-25
	May 1933	408	388	-20
	June 1933	288	362	75
	July 1933	255	300	45
	August 1933	90	90	0
	September 1933	90	90	0

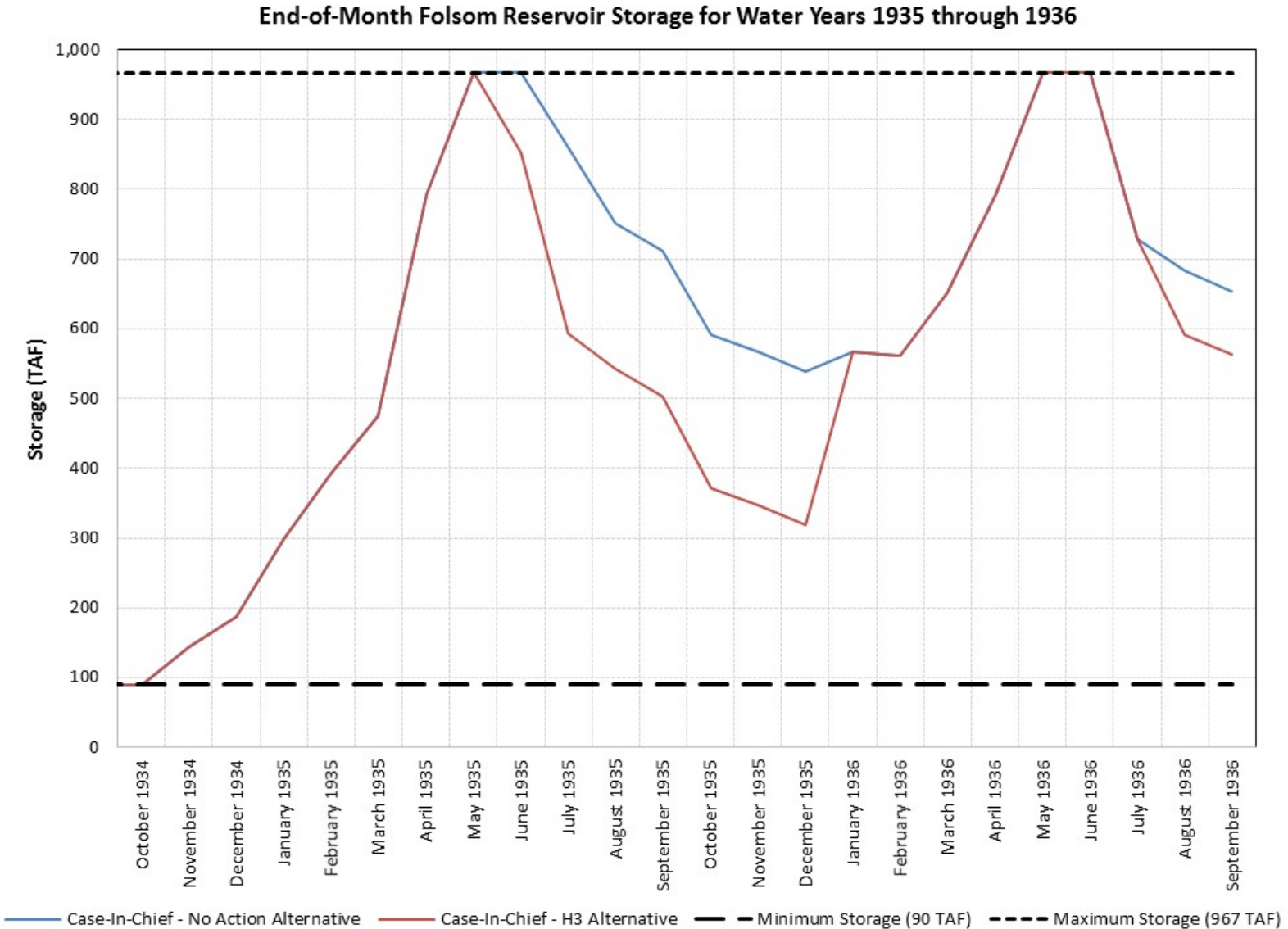


Case-in-Chief – No Action v. Case-in-Chief – H3 Alternative

End-of-Month Folsom Reservoir Storage

1935-1936

Water Year Type	Month	End-of-Month Folsom Storage		Difference (TAF)
		Case-In-Chief - No Action Alternative (TAF)	Case-In-Chief - H3 Alternative (TAF)	
Water Year 1935 - Dry Year	October 1934	90	90	0
	November 1934	144	144	0
	December 1934	188	188	0
	January 1935	297	298	0
	February 1935	392	392	0
	March 1935	474	474	0
	April 1935	792	792	0
	May 1935	967	967	0
	June 1935	967	852	-115
	July 1935	860	593	-267
	August 1935	751	543	-208
September 1935	711	503	-208	
Water Year 1936 - Below Normal Year	October 1935	592	371	-221
	November 1935	567	347	-220
	December 1935	540	319	-220
	January 1936	567	567	0
	February 1936	562	562	0
	March 1936	651	651	0
	April 1936	792	792	0
	May 1936	967	967	0
	June 1936	967	967	0
	July 1936	728	728	0
	August 1936	683	592	-91
September 1936	653	562	-91	

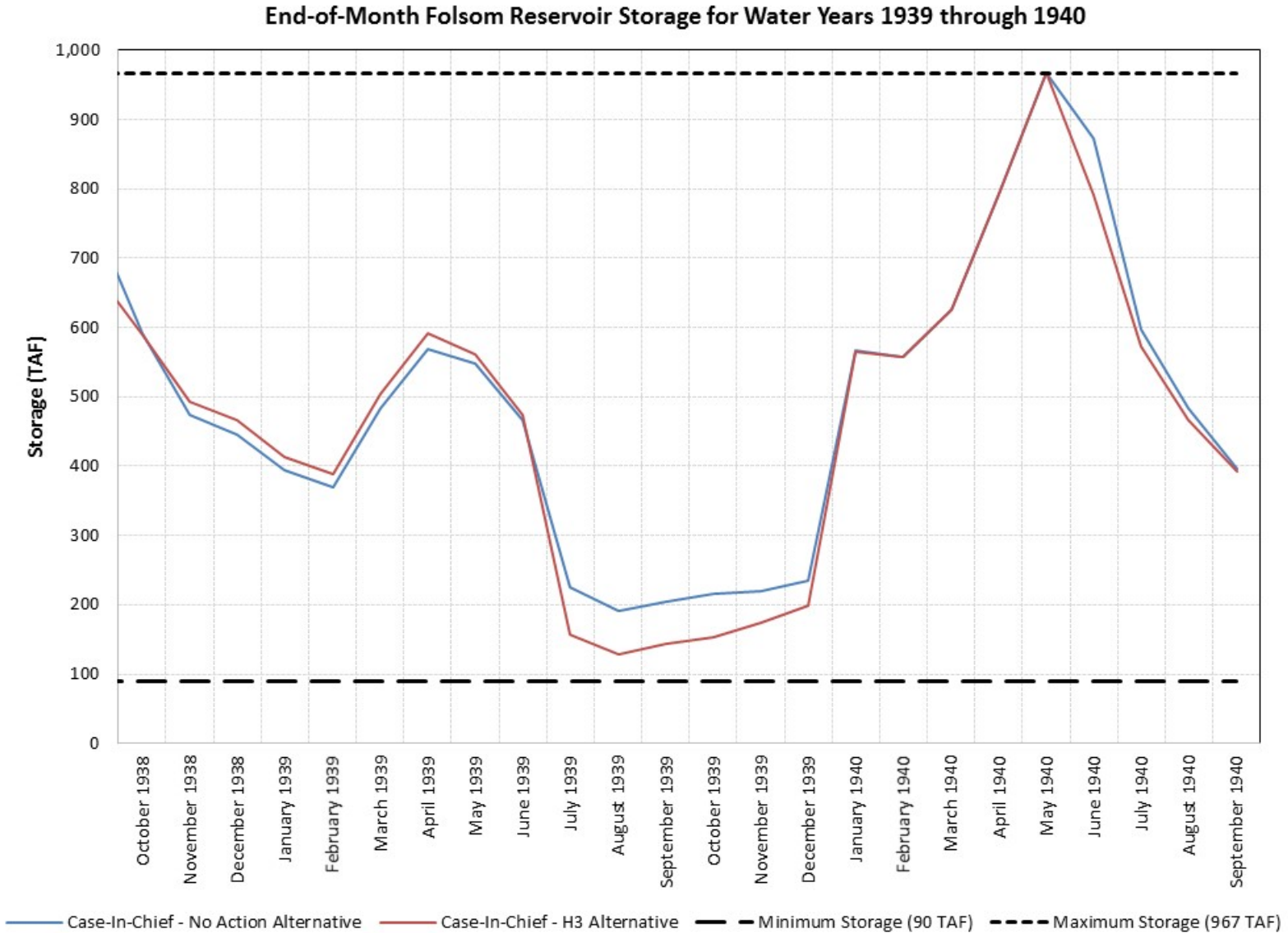


Case-in-Chief – No Action v. Case-in-Chief – H3 Alternative

End-of-Month Folsom Reservoir Storage

1939-1940

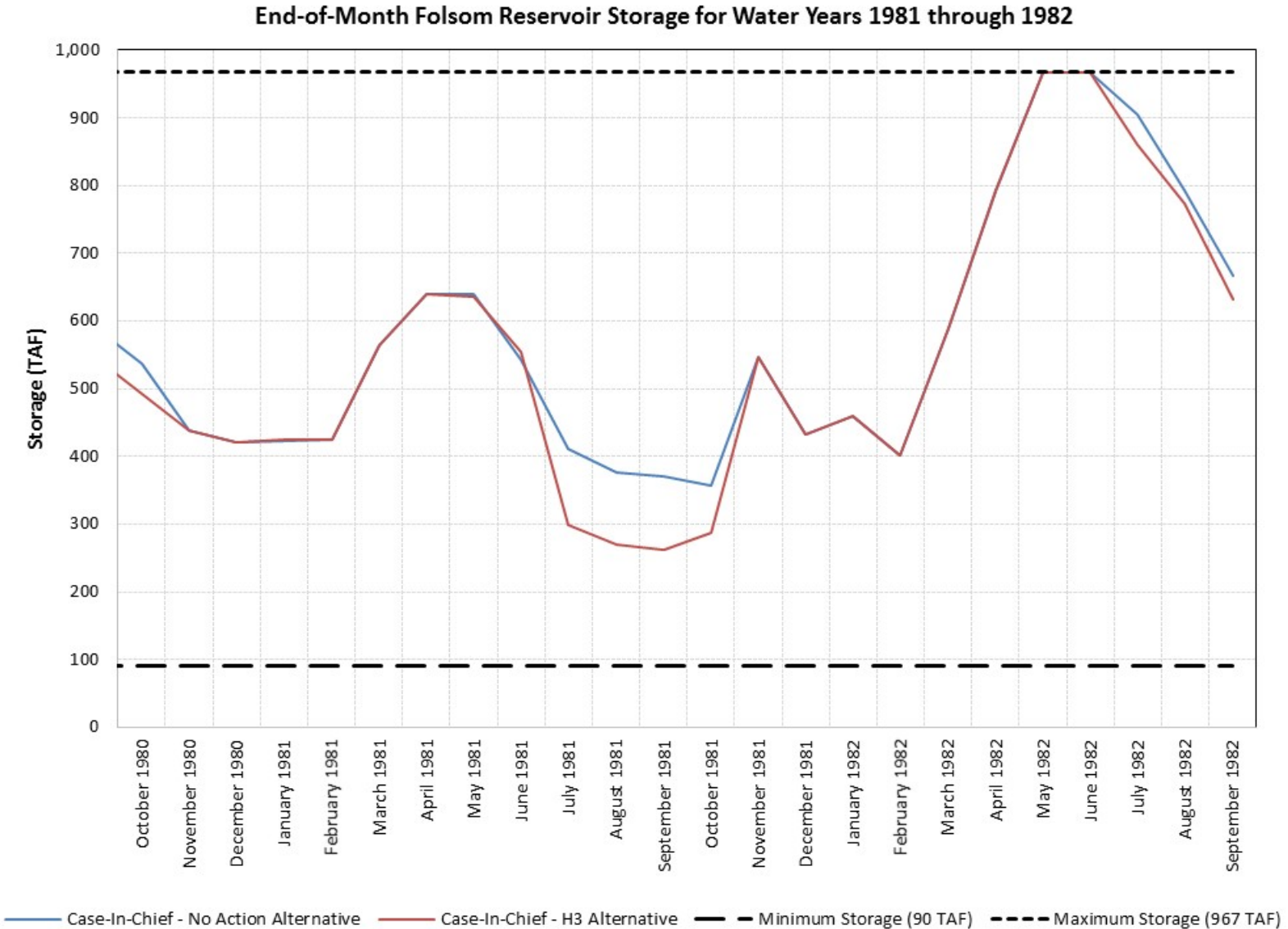
Water Year Type	Month	End-of-Month Folsom Storage		Difference (TAF)
		Case-In-Chief - No Action Alternative (TAF)	Case-In-Chief - H3 Alternative (TAF)	
Water Year 1939 - Below Normal Year	October 1938	592	590	-2
	November 1938	474	493	20
	December 1938	446	466	20
	January 1939	395	414	20
	February 1939	369	389	20
	March 1939	484	504	20
	April 1939	570	591	21
	May 1939	548	561	13
	June 1939	466	475	9
	July 1939	225	157	-68
	August 1939	191	128	-63
September 1939	205	143	-62	
Water Year 1940 - Above Normal Year	October 1939	215	154	-61
	November 1939	220	175	-45
	December 1939	235	199	-35
	January 1940	567	565	-2
	February 1940	557	557	0
	March 1940	626	626	0
	April 1940	792	792	0
	May 1940	967	967	0
	June 1940	873	791	-82
	July 1940	597	573	-24
	August 1940	484	467	-17
	September 1940	396	392	-4



Case-in-Chief – No Action v. Case-in-Chief – H3 Alternative

End-of-Month Folsom Reservoir Storage 1981-1982

Water Year Type	Month	End-of-Month Folsom Storage		Difference (TAF)
		Case-In-Chief - No Action Alternative (TAF)	Case-In-Chief - H3 Alternative (TAF)	
Water Year 1981 - Dry Year	October 1980	538	492	-46
	November 1980	437	439	2
	December 1980	420	421	1
	January 1981	423	424	1
	February 1981	425	425	0
	March 1981	563	564	0
	April 1981	641	640	-1
	May 1981	640	635	-5
	June 1981	542	555	13
	July 1981	411	299	-112
	August 1981	377	269	-107
September 1981	370	263	-107	
Water Year 1982 - Wet Year	October 1981	358	287	-71
	November 1981	546	546	0
	December 1981	433	433	0
	January 1982	459	459	0
	February 1982	402	402	0
	March 1982	590	590	0
	April 1982	792	792	0
	May 1982	967	967	0
	June 1982	967	967	0
	July 1982	905	860	-45
	August 1982	792	772	-20
	September 1982	667	631	-36

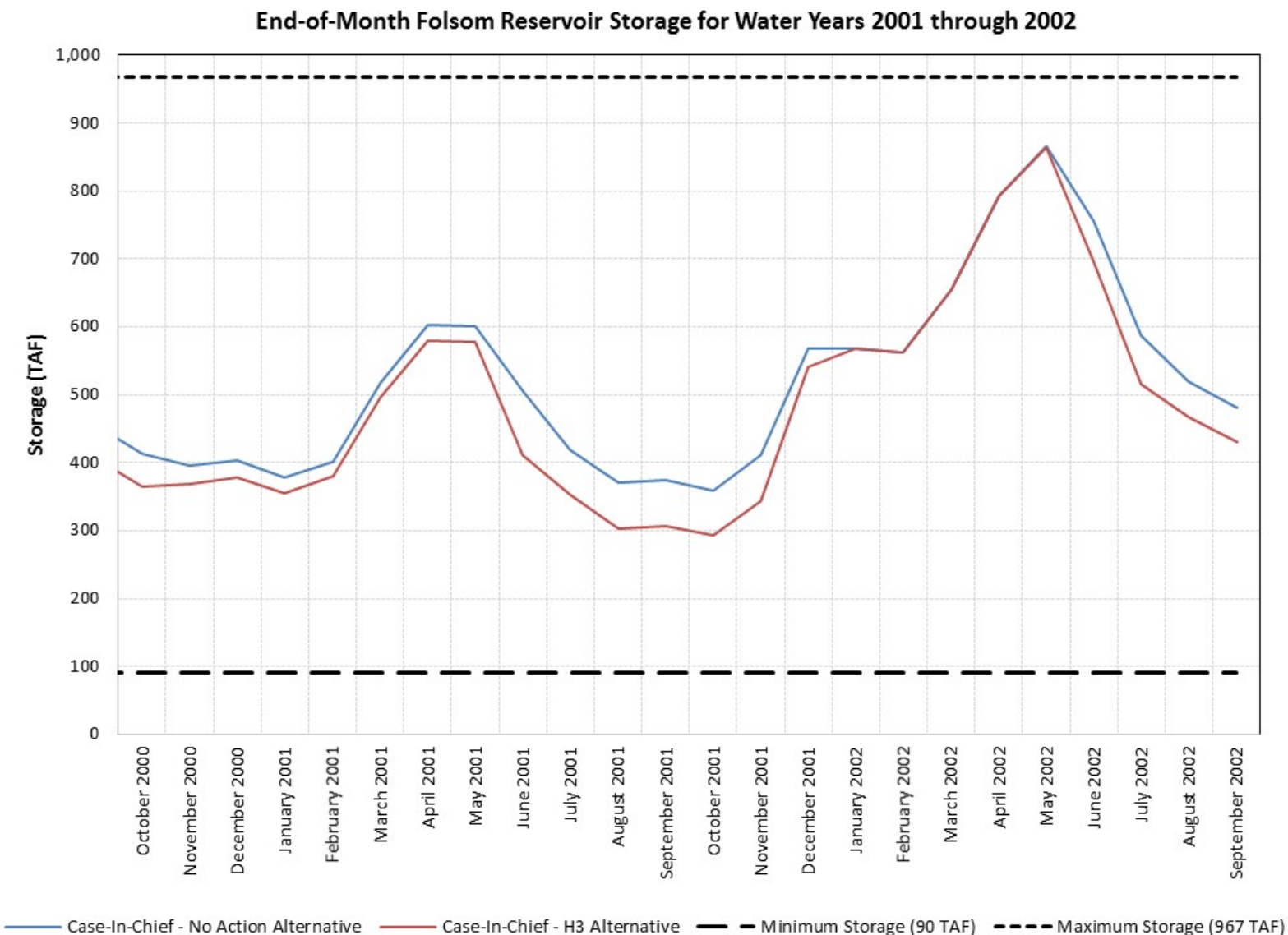


Case-in-Chief – No Action v. Case-in-Chief – H3 Alternative

End-of-Month Folsom Reservoir Storage

2001-2002

Water Year Type	Month	End-of-Month Folsom Storage		Difference (TAF)
		Case-In-Chief - No Action Alternative (TAF)	Case-In-Chief - H3 Alternative (TAF)	
Water Year 2001 - Dry Year	October 2000	413	365	-48
	November 2000	395	369	-27
	December 2000	403	378	-25
	January 2001	379	356	-23
	February 2001	402	380	-22
	March 2001	518	495	-22
	April 2001	602	579	-23
	May 2001	600	578	-22
	June 2001	506	411	-95
	July 2001	420	352	-67
	August 2001	370	303	-67
September 2001	375	307	-68	
Water Year 2002 - Dry Year	October 2001	358	293	-66
	November 2001	412	344	-68
	December 2001	567	542	-25
	January 2002	567	567	0
	February 2002	563	563	0
	March 2002	655	655	0
	April 2002	792	792	0
	May 2002	865	864	-2
	June 2002	755	695	-60
	July 2002	587	517	-70
	August 2002	520	468	-52
	September 2002	481	430	-51

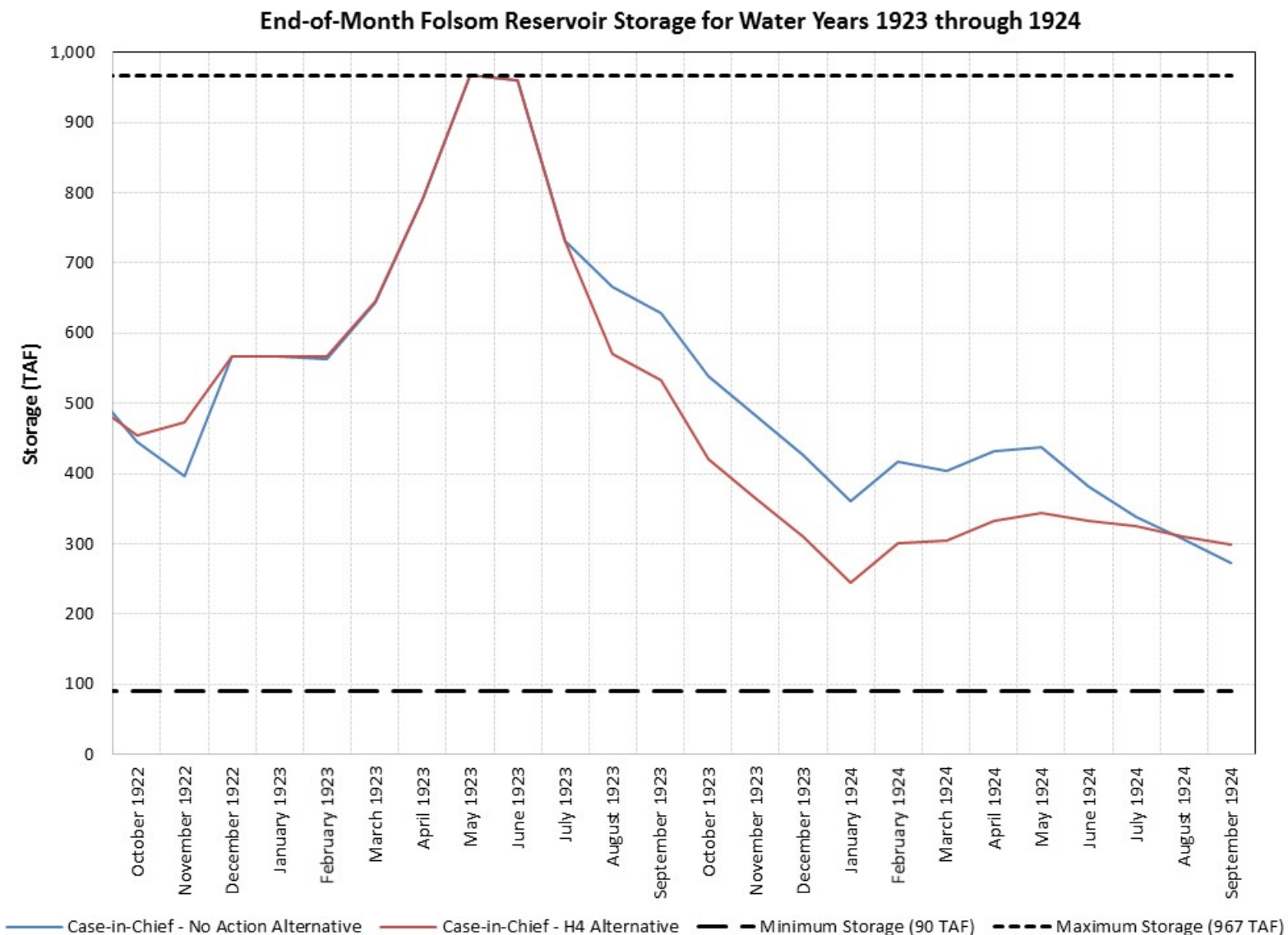


Case-in-Chief – No Action v. Case-in-Chief – H4 Alternative

End-of-Month Folsom Reservoir Storage

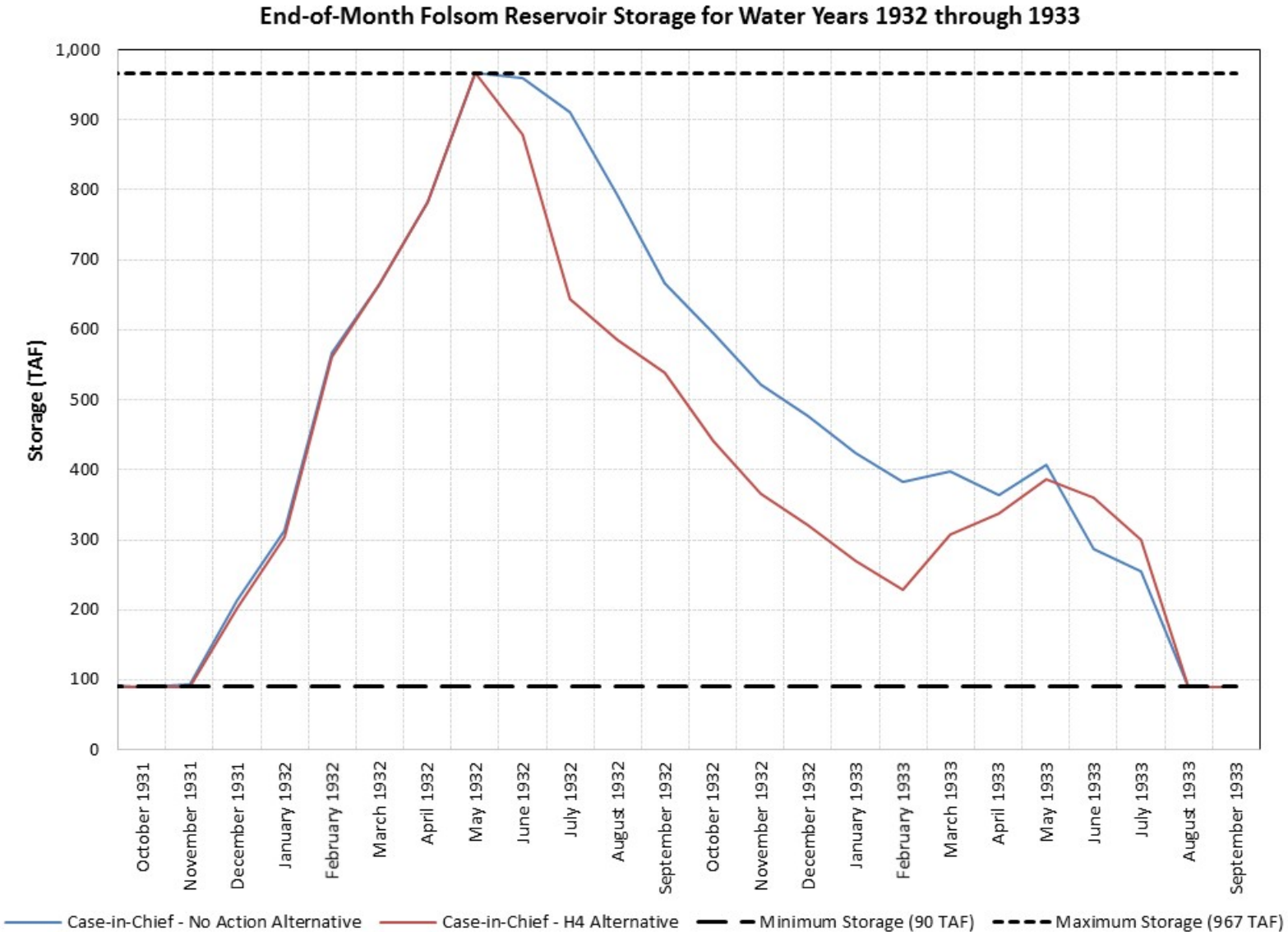
1923-1924

Water Year Type	Month	End-of-Month Folsom Storage		Difference (TAF)
		Case-in-Chief - No Action Alternative (TAF)	Case-in-Chief - H4 Alternative (TAF)	
Water Year 1923 - Below Normal Year	October 1922	445	455	11
	November 1922	396	474	77
	December 1922	567	567	0
	January 1923	567	567	0
	February 1923	564	567	3
	March 1923	643	646	3
	April 1923	792	792	0
	May 1923	967	967	0
	June 1923	960	960	0
	July 1923	733	733	0
	August 1923	667	571	-95
	September 1923	629	534	-95
Water Year 1924 - Critical Year	October 1923	538	420	-118
	November 1923	482	364	-118
	December 1923	426	311	-115
	January 1924	361	245	-115
	February 1924	418	300	-117
	March 1924	405	305	-100
	April 1924	432	333	-99
	May 1924	438	345	-93
	June 1924	381	333	-47
	July 1924	339	324	-15
	August 1924	306	310	4
	September 1924	273	300	27



Case-in-Chief – No Action v. Case-in-Chief – H4 Alternative End-of-Month Folsom Reservoir Storage 1932-1933

Water Year Type	Month	End-of-Month Folsom Storage		Difference (TAF)
		Case-in-Chief - No Action Alternative (TAF)	Case-in-Chief - H4 Alternative (TAF)	
Water Year 1932 - Critical Year	October 1931	90	90	0
	November 1931	94	90	-4
	December 1931	213	202	-11
	January 1932	314	303	-11
	February 1932	567	561	-6
	March 1932	664	664	0
	April 1932	784	784	0
	May 1932	967	967	0
	June 1932	961	878	-82
	July 1932	910	645	-265
	August 1932	792	585	-207
September 1932	666	538	-128	
Water Year 1933 - Critical Year	October 1932	595	442	-154
	November 1932	522	365	-157
	December 1932	477	321	-156
	January 1933	423	269	-154
	February 1933	382	229	-154
	March 1933	399	308	-91
	April 1933	363	338	-26
	May 1933	408	387	-21
	June 1933	288	361	73
	July 1933	255	299	45
	August 1933	90	90	0
	September 1933	90	90	0

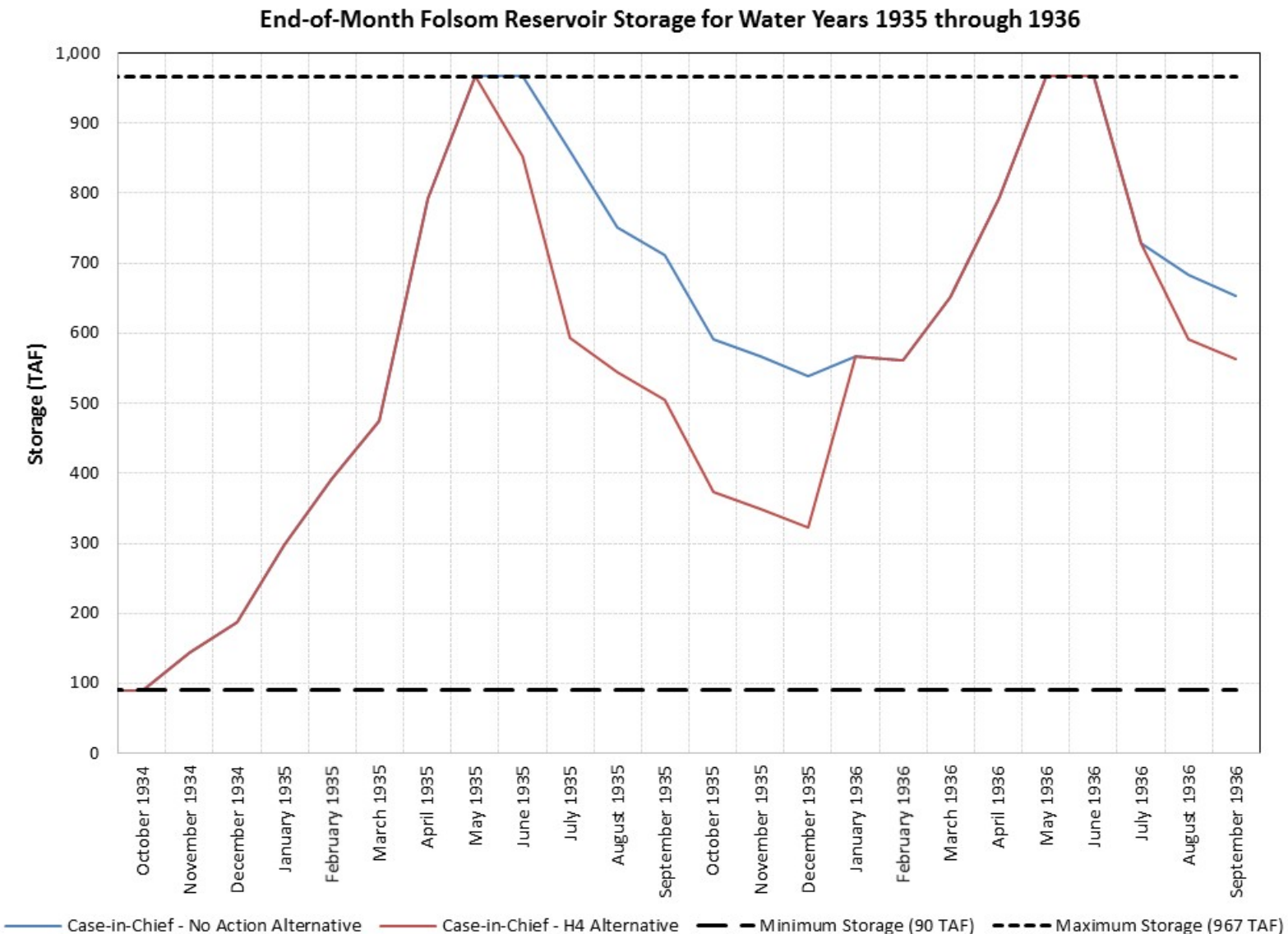


Case-in-Chief – No Action v. Case-in-Chief – H4 Alternative

End-of-Month Folsom Reservoir Storage

1935-1936

Water Year Type	Month	End-of-Month Folsom Storage		Difference (TAF)
		Case-in-Chief - No Action Alternative (TAF)	Case-in-Chief - H4 Alternative (TAF)	
Water Year 1935 - Dry Year	October 1934	90	90	0
	November 1934	144	144	0
	December 1934	188	188	0
	January 1935	297	298	0
	February 1935	392	392	0
	March 1935	474	474	0
	April 1935	792	792	0
	May 1935	967	967	0
	June 1935	967	853	-114
	July 1935	860	594	-267
	August 1935	751	544	-207
September 1935	711	504	-207	
Water Year 1936 - Below Normal Year	October 1935	592	373	-219
	November 1935	567	349	-218
	December 1935	540	322	-218
	January 1936	567	567	0
	February 1936	562	562	0
	March 1936	651	651	0
	April 1936	792	792	0
	May 1936	967	967	0
	June 1936	967	967	0
	July 1936	728	728	0
	August 1936	683	592	-91
	September 1936	653	562	-91

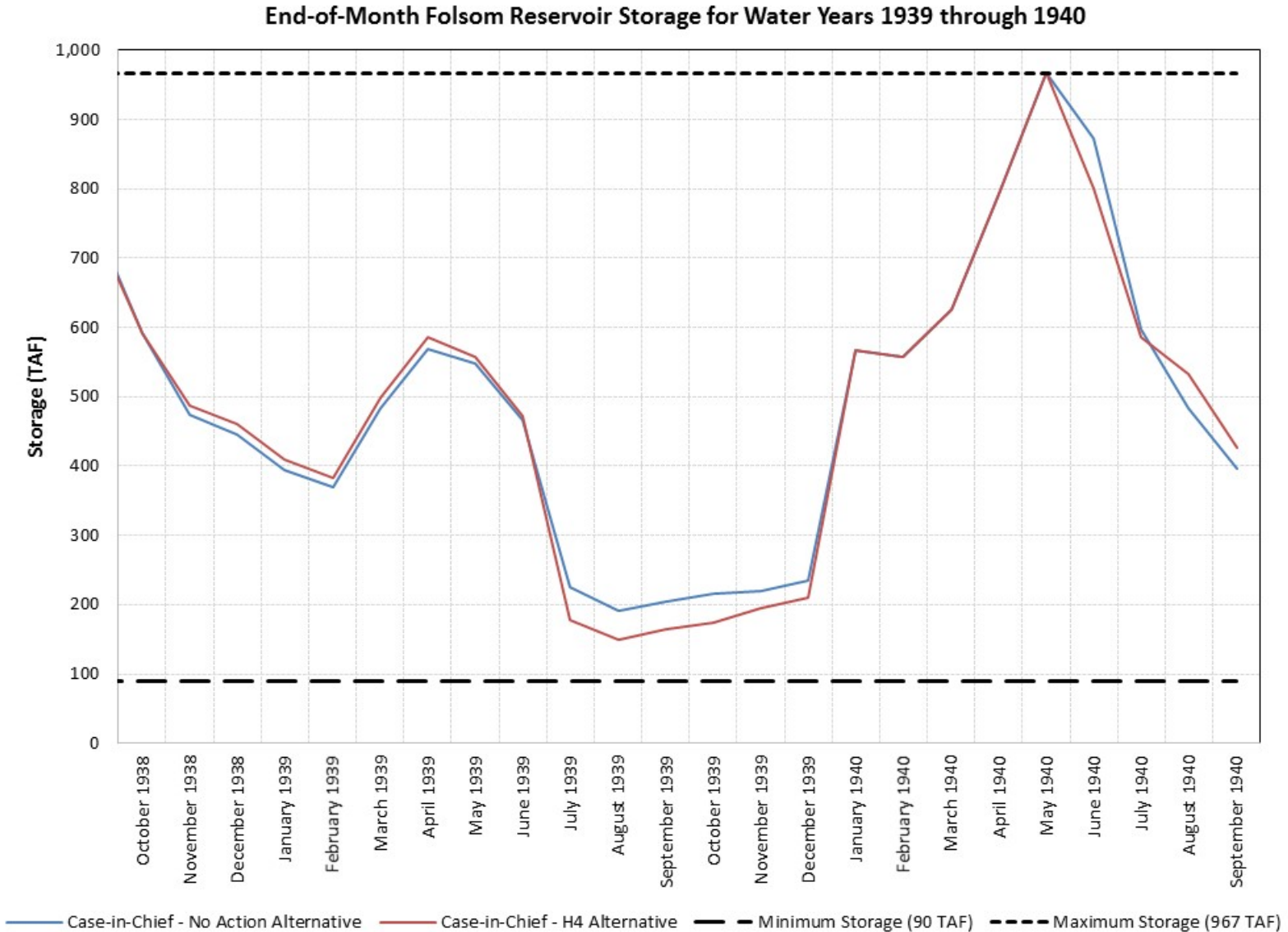


Case-in-Chief – No Action v. Case-in-Chief – H4 Alternative

End-of-Month Folsom Reservoir Storage

1939-1940

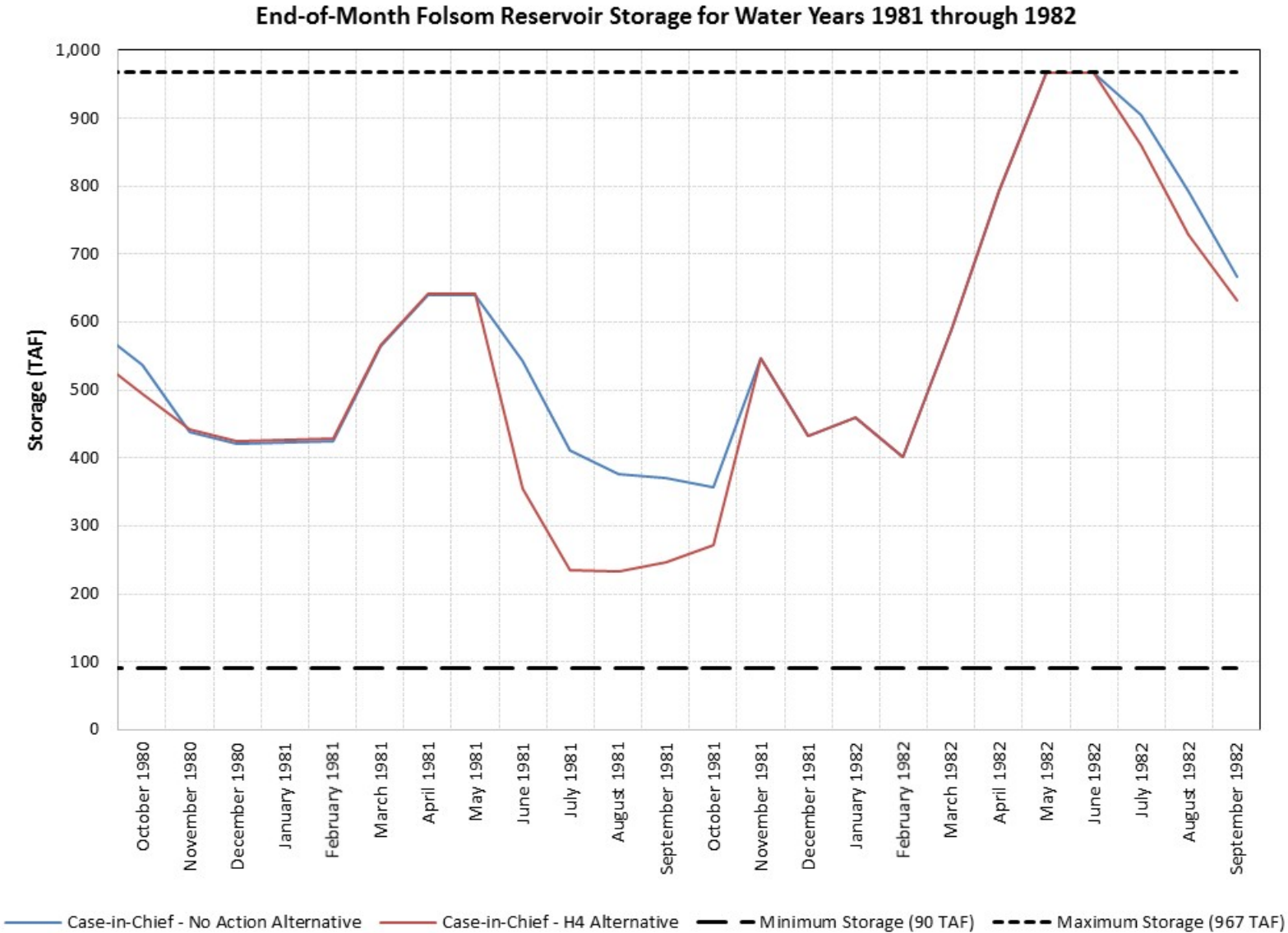
Water Year Type	Month	End-of-Month Folsom Storage		Difference (TAF)
		Case-in-Chief - No Action Alternative (TAF)	Case-in-Chief - H4 Alternative (TAF)	
Water Year 1939 - Below Normal Year	October 1938	592	592	0
	November 1938	474	488	14
	December 1938	446	460	14
	January 1939	395	409	14
	February 1939	369	383	14
	March 1939	484	498	14
	April 1939	570	587	17
	May 1939	548	557	9
	June 1939	466	471	5
	July 1939	225	178	-46
	August 1939	191	150	-42
September 1939	205	164	-41	
Water Year 1940 - Above Normal Year	October 1939	215	175	-41
	November 1939	220	196	-25
	December 1939	235	210	-25
	January 1940	567	567	0
	February 1940	557	557	0
	March 1940	626	626	0
	April 1940	792	792	0
	May 1940	967	967	0
	June 1940	873	800	-73
	July 1940	597	586	-11
	August 1940	484	533	49
September 1940	396	427	31	



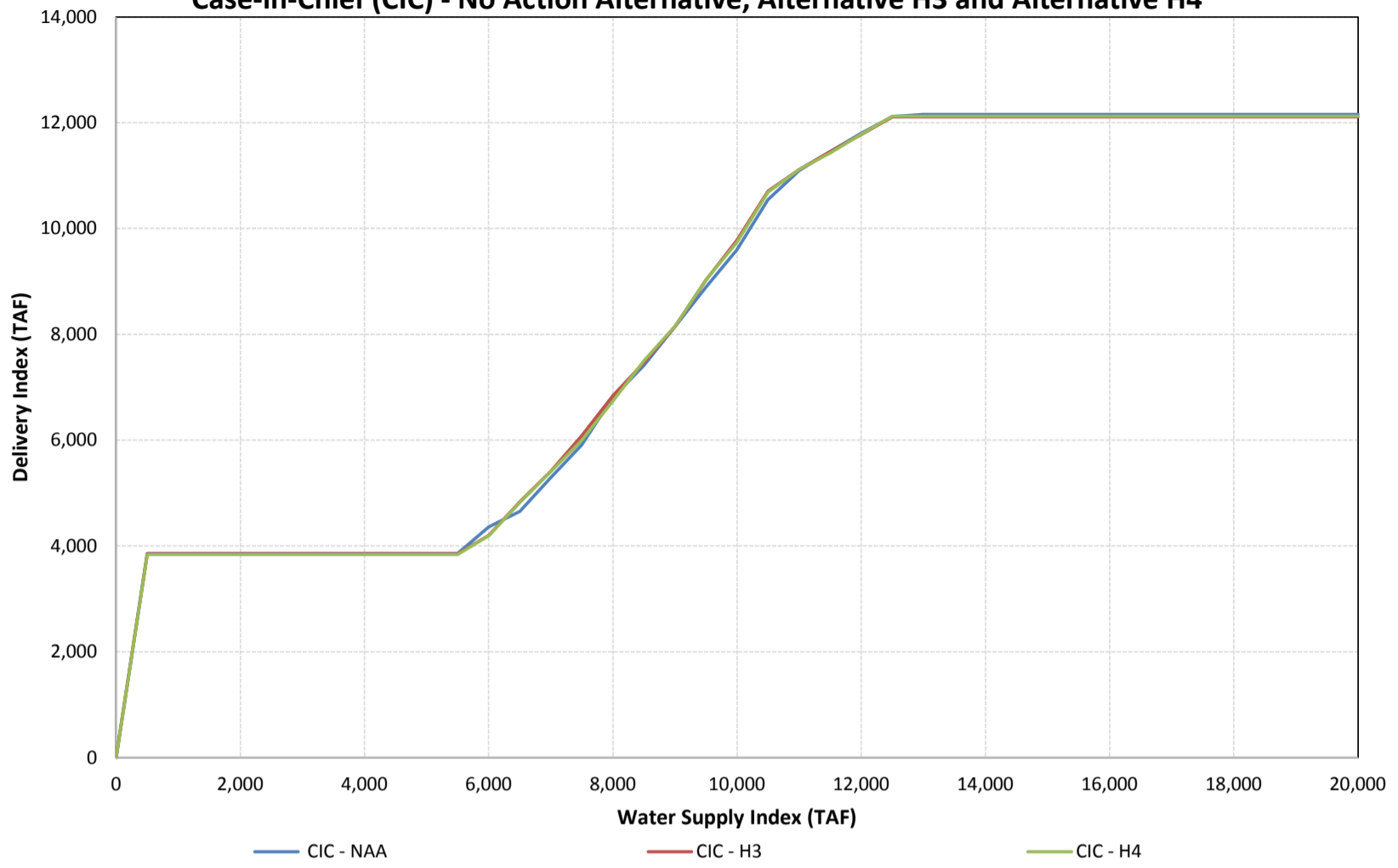
Case-in-Chief – No Action v. Case-in-Chief – H4 Alternative

End-of-Month Folsom Reservoir Storage 1981-1982

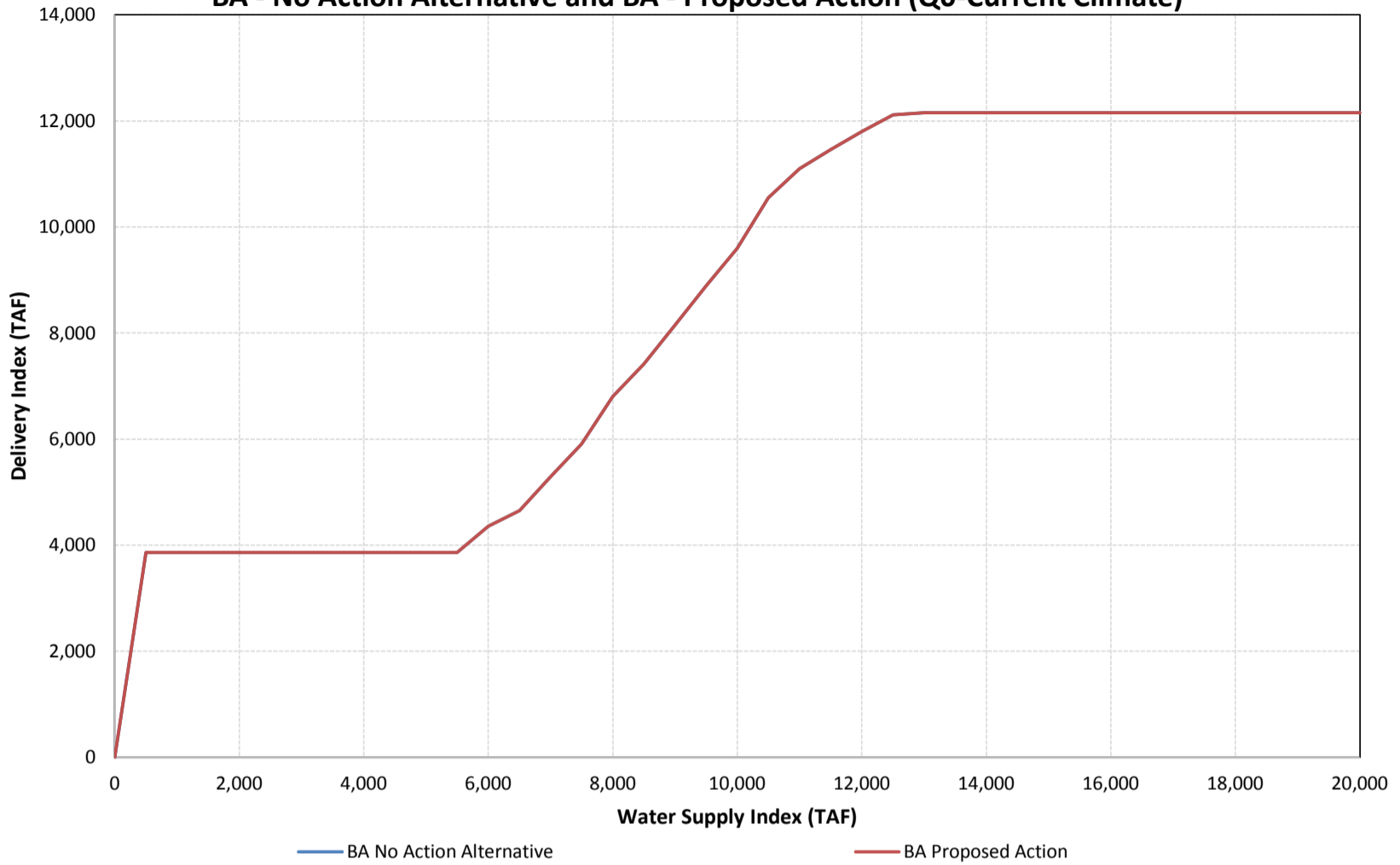
Water Year Type	Month	End-of-Month Folsom Storage		Difference (TAF)
		Case-in-Chief - No Action Alternative (TAF)	Case-in-Chief - H4 Alternative (TAF)	
Water Year 1981 - Dry Year	October 1980	538	494	-44
	November 1980	437	441	4
	December 1980	420	424	4
	January 1981	423	426	3
	February 1981	425	428	3
	March 1981	563	566	3
	April 1981	641	642	2
	May 1981	640	641	1
	June 1981	542	355	-187
	July 1981	411	235	-176
	August 1981	377	233	-144
September 1981	370	247	-123	
Water Year 1982 - Wet Year	October 1981	358	271	-86
	November 1981	546	546	0
	December 1981	433	433	0
	January 1982	459	459	0
	February 1982	402	402	0
	March 1982	590	590	0
	April 1982	792	792	0
	May 1982	967	967	0
	June 1982	967	967	0
	July 1982	905	859	-45
	August 1982	792	728	-64
	September 1982	667	632	-36



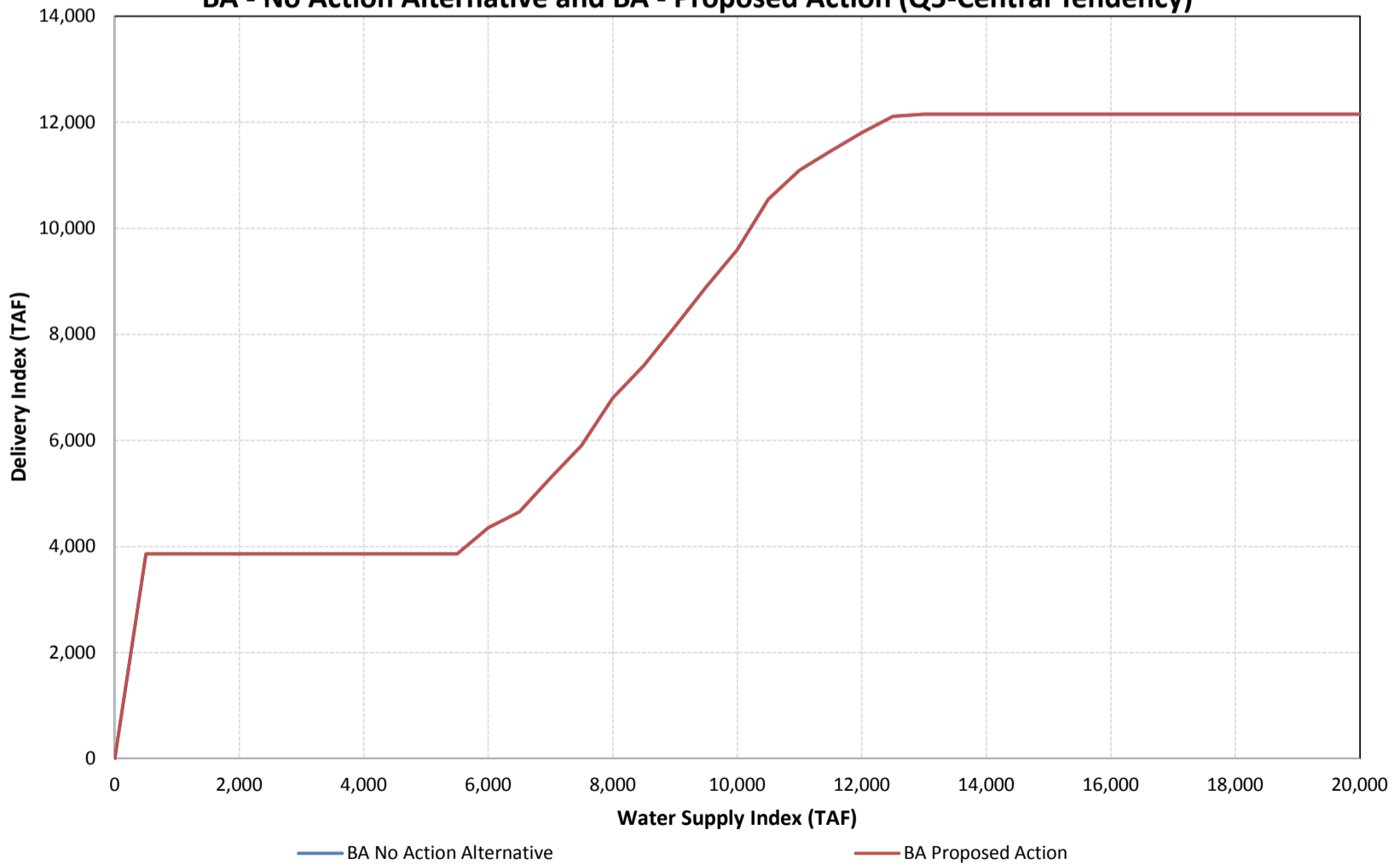
**Comparison of CVP WSI-DI Curves for
Case-in-Chief (CIC) - No Action Alternative, Alternative H3 and Alternative H4**



**Comparison of CVP WSI-DI Curves for
BA - No Action Alternative and BA - Proposed Action (Q0-Current Climate)**



**Comparison of CVP WSI-DI Curves for
BA - No Action Alternative and BA - Proposed Action (Q5-Central Tendency)**



STATEMENT OF SERVICE

**CALIFORNIA WATERFIX PETITION HEARING
Department of Water Resources and U.S. Bureau of Reclamation (Petitioners)**

I hereby certify that I have this day submitted to the State Water Resources Control Board and caused a true and correct copy of the following document(s):

California WaterFix Hearing – Modeling Curves and Results for Sur-Rebuttal

to be served **by Electronic Mail** (email) upon the parties listed in Table 1 of the Current Service List for the California WaterFix Petition hearing, dated June 14, 2017, posted by the State Water Resources Control Board at

http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/service_list.shtml:

I certify that the foregoing is true and correct and that this document was executed on June 14, 2017.

Signature: _____/s/

Name: Terry M. Olson

Title: Legal Assistant

Party/Affiliation: Cities of Folsom, Roseville, Sacramento Suburban Water District, San Juan Water District

Address: 1011 22nd Street
Sacramento, CA 95816