

Appendix I

Comments and Responses

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Appendix I

Comments and Responses

This appendix contains responses to comments received on the Draft Environmental Impact Statement (EIS), including all written comments received during the comment period and oral comments submitted at public meetings. The comment letters are included in Appendix H.

Table I-1 presents commenters and associated agencies or groups that submitted comments on the Draft EIS.

Table I-1. List of Commenters

Commenter	Agency/Group	Date	Comment Identification Number
Federal Agencies			
Maria C. Rae	National Oceanic and Atmospheric Administration, National Marine Fisheries Service	01/30/2015	FA01
Kathleen Martyn Goforth	United States Environmental Protection Agency	03/13/2015	FA02
Local Agencies			
Marcus Yasutake, Richard Plecker, Jim Abercrombie, Einar Maisch, Michael Peterson, Steve Sorey, Shauna Lorange	City of Folsom, City of Roseville, El Dorado Irrigation District, Placer County Water Agency, Sacramento County Water Agency, Sacramento Municipal Utility District, San Juan Water District	03/13/2015	LA01
Ed Kriz	City of Roseville	12/8/2014	LA02
Jim Mulligan	City of Roseville	12/8/2014	LA03
Carol Garcia and Edward Costa	City of Roseville and San Juan Water District	03/13/2015	LA04
James Peifer	City of Sacramento Department of Utilities	02/04/2015	LA05
Walter McNeill	Clear Creek Community Services District	03/13/2015	LA06
Jerry Brown	Contra Costa Water District	12/23/2014	LA07
Jeff Quimby	Contra Costa Water District	03/13/2015	LA08
Leonard Moty	County of Shasta	02/24/2015	LA09
Anthea Hanson	Del Puerto Water District	03/13/2015	LA10
Alexander Coate	East Bay Municipal Utility District	12/23/2014	LA11
Michael Tognolini	East Bay Municipal Utility District	03/13/2015	LA12
Thomas Cumpston	El Dorado Irrigation District	03/13/2015	LA13
Kelley Taber	Glenn-Colusa Irrigation District	03/13/2015	LA14
John Mallyon	James Irrigation District	03/12/2015	LA15
Einar Maisch	Placer County Water Agency	03/12/2015	LA16

Commenter	Agency/Group	Date	Comment Identification Number
Michael Peterson	Sacramento County Water Agency	03/12/2015	LA17
Dan Nelson	San Luis & Delta-Mendota Water Authority	03/13/2015	LA18
Beau Goldie	Santa Clara Valley Water District	12/22/2014	LA19
Cindy Kao	Santa Clara Valley Water District	12/15/2014	LA20
Cindy Kao	Santa Clara Valley Water District	03/13/2015	LA21
Jeffrey Sutton	Tehama-Colusa Canal Authority	03/16/2015	LA22
Public Meeting Comments			
Ed Kriz	City of Roseville	12/08/2014	PM01
Walt McNeil	Clear Creek Community Services District	12/08/2014	PM01
Dan Corcoran	El Dorado Irrigation District	12/08/2014	PM01
Bill Luce	Friant Water Authority	12/16/2014	PM03
Oscar Williams	O&J Farms	12/10/2014	PM02
Greg Zlotnick	San Luis Delta-Mendota Water Agency	12/08/2014	PM01
Jason Nishijima	Santa Clara Valley Water District	12/08/2014	PM01
Mark Rhodes	Westlands Water District	12/16/2014	PM03
Hank Wallace	N/A	12/10/2014	PM02

Common Responses

Multiple comments were received on some issues. The Common Responses below provide responses to these groups of comments.

Common Response 1: Final Policy

Commenters expressed interest in Reclamation initiating additional stakeholder discussions before completing the Final EIS and selecting the Preferred Alternative. Reclamation has provided many opportunities for the Central Valley Project (CVP) contractors', as well as the general public's, involvement during the seven stakeholder workshops and throughout the environmental review process, and has met or exceeded the public involvement requirements of the National Environmental Policy Act (NEPA) as outlined in Chapter 22. Reclamation will publish a Notice of Availability (NOA) for the Final EIS in the Federal Register. CVP contractors and the public will have a 30-day period after publication of the Final EIS in which they can provide additional comment to Reclamation's Mid-Pacific Regional Director prior to the Record of Decision (ROD) being finalized.

Common Response 2: Availability of Folsom Lake Water Supplies

Commenters discussed the difficulty of accessing supplies from Folsom Lake in dry years and expressed concern that this factor is a constraint to the availability of non-CVP supplies for some contractors. Reclamation is aware of the diversion capacity limitations that exist for the Folsom Lake municipal and industrial (M&I) intake and El Dorado Irrigation District's (ID) intakes. The ability to

divert water from Folsom Lake during periods when Reclamation may be allocating and delivering water in consideration of meeting public health and safety (PHS) demands is a valid concern. In early 2014, diversion capacity concerns led Reclamation to work cooperatively with American River contractors to investigate procuring a barge and pump system to allow M&I diversions when the water surface elevation was forecast to create diversion capacity issues. Physical solutions such as lowering intakes or pumping water into the M&I intakes may be necessary if the water surface elevation in Folsom Lake limits the ability to divert water from the reservoir. Additional information on the water surface elevation in Folsom Lake under each alternative has been provided in Appendix B to allow contractors to better understand the potential frequency of diversion capacity limitations under the alternatives.

Common Response 3: Availability of Non-CVP Water Supplies

Commenters expressed concerns that the EIS does not account for changes in the availability of non-CVP supplies during dry years, when considering the amount of non-CVP supplies available to help meet contractors' PHS needs. The EIS relied on, as noted in the citations provided in Appendix A, each contractor's most recent Urban Water Management Plan (UWMP), or other best available information, for data on the 2030 non-CVP supplies availability under different hydrologic conditions. A summary of this data and associated assumptions were made available for contractor review and verified with the contractors through the M&I WSP stakeholder workshop process. Some contractor data for non-CVP supplies has been updated in this Final EIS based on comments provided on the Draft EIS, as discussed in the responses to individual comments below.

These values for non-CVP supplies were used with the CalSim II model results of CVP allocations and compared against the PHS need calculations to estimate the potential for unmet PHS need in the future. As noted in the EIS, in years when the M&I WSP is implemented and considerations for meeting PHS need are possible, after request by a contractor, Reclamation would make use of the most recent contractor data available on water demands, non-CVP supplies, and population, such as data from the contractor's most recent Water Management Plan and or updates to that data. All calculations would be done on a year-by-year basis, based on current conditions. The availability of a contractors' non-CVP supplies would be taken into account by the values presented by the contractor in the year an adjustment is requested.

Common Response 4: CVP Water as a Supplemental Supply

Commenters expressed concerns that the EIS designated the CVP as a supplemental supply for water service contractors, to be used secondarily to any non-CVP supplies the contractors may have. The 2001 Draft M&I Water Shortage Policy (WSP), as amended (presented in Appendix J), states that, "Term and Condition 1 is intended to encourage contractors to use non-CVP water first and rely on CVP water as a supplemental supply." Chapter 2.3 reflects that in the description of Alternative 1, the No Action Alternative.

Chapter 2.6.3 has been revised to clarify that, under Alternative 4, Reclamation expects contractors, at their discretion, to use CVP water in conjunction with their other non-CVP supplies to meet demands during all years, including water shortages. The text of Alternative 4, presented in Appendix M, also reflects this Reclamation expectation.

Chapter 2.7.3 has also been revised to clarify that, under Alternative 5, Reclamation expects contractors, at their discretion, to use CVP water in conjunction with their other non-CVP supplies to meet demand during all years, including water shortages. The text of Alternative 5, presented in Appendix N, has not been changed, in order to preserve the document as provided to Reclamation by a set of M&I contractors, but Reclamation does intend for the same expectation to be present under Alternative 5.

Common Response 5: Process for Requesting Adjustment to Allocations to Assist in Meeting PHS Need

Commenters requested clarification of the process for requesting an adjustment to CVP allocations to assist in meeting PHS need. Under Alternatives 1, 4, and 5, an M&I water service contractor may request an adjustment to its CVP allocation during a Condition of Shortage to assist in meeting PHS demands. The trigger point, or M&I allocation, for when that request can be made varies by alternative, but the process for requesting a potential adjustment would be the same across Alternatives 1, 4, and 5. This request for an adjustment to the CVP allocation would be initiated by the contractor. The contractor would provide data requested by Reclamation to perform the calculation of PHS need and provide data on the contractor's non-CVP supplies available in that year. Reclamation intends for its PHS need calculation to be consistent with the State's. The availability of a contractors' non-CVP supplies would be taken into account by the values presented by the contractor in the year an adjustment is requested. All calculations would be done on a year-by-year basis, based on current conditions. Reclamation would review the data, clarify any questions with the contractor, and determine whether CVP water supply conditions allow additional allocation to that contractor. The amount of CVP water that could be made available as additional supply to assist in meeting PHS need would depend upon the availability of CVP water in that year. Individual contractor and Reclamation water supply circumstances vary year by year, so all circumstances cannot be anticipated in the EIS.

Under Alternatives 2 and 3, there are no provisions for additional water supply to assist in meeting PHS need.

Common Response 6: Minimum CVP Water Supply Guarantee

Commenters expressed concerns that the M&I water service contractors would not have any defined minimum CVP supply under the EIS's alternatives, compared to the assumptions in the 2005 environmental assessment (EA) of the 2001 Draft M&I WSP where contractors' PHS need was treated as a minimum CVP supply. Reclamation cannot and does not operate the CVP to deliver a

required minimum amount of water to water service contractors. Reclamation can only operate and deliver water based on the water supply available. In fact, the 2001 Draft M&I WSP, as amended by Alternative 1B of the 2005 EA (see Appendix J), states, "The capability of the CVP to meet the water supply levels addressed by this policy is subject to the availability of CVP water supplies." Under all alternatives, Reclamation will deliver water subject to the availability of CVP water supplies.

Detailed Comments and Responses

Individual responses to comments are presented in the following section.

Comment Letter FA01, Maria C. Rea, National Marine Fisheries Service

Comment FA01-01

Comment

Thank you for the opportunity to comment on the Central Valley Project (CVP) Municipal and Industrial (M&I) Water Shortage Policy (WSP) Draft Environmental Impact Statement (EIS). The Draft EIS addresses updating the existing 2001 Draft CVP M&I WSP that would be used by Reclamation to: (1) define water shortage terms and conditions for applicable CVP M&I water service contractors, as appropriate; (2) establish CVP water supply levels that, together with the M&I water service contractors' drought water conservation measures and other water supplies, would assist the M&I water service contractors in their efforts to protect public health and safety during severe or continuing droughts; and (3) provide information to M&I water service contractors for water supply planning and the development of drought contingency plans. The alternatives evaluated in this EIS utilize different methodologies for allocating available CVP water supplies to CVP water service contractors during shortage conditions. This EIS evaluates potential impacts of the M&I WSP over a 20-year period, 2010 through 2030.

Of particular interest to NOAA's National Marine Fisheries Service (NMFS) was Chapter 10 Aquatic Resources, which presented the existing aquatic resources within the area of analysis and discusses potential effects on aquatic resources from the proposed alternatives. NMFS offers the following general comments pertaining to the draft EIS:

1. The CalSim II model was the assessment method used to analyze potential effects of the alternatives on biologic aquatic resources. CalSim II provided average monthly river flows, monthly reservoir storages and elevations, exports, and Delta parameters [Delta outflow, location of X2, and south of Delta exports through the CVP and State Water Project (SWP) Delta facilities] for the alternatives. While analysis of these parameters and their

potential affects to listed fish species are important and necessary, the Draft EIS lacked an analysis of proposed alternatives effects on water temperature and how changes in water temperature could potentially affect listed fish species. Specifically, changes to storage and operations at Shasta Reservoir have the potential to result in elevated water temperatures that could have lethal and sub-lethal effects on egg incubation and juvenile rearing of listed salmon in the upper Sacramento River. In addition, storage and operations changes at Folsom Reservoir have the potential to result in effects to California Central Valley steelhead due to the inability to consistently provide suitable temperatures for the various life stages in the American River. Reclamation has the Reclamation Temperature Model and the upper Sacramento River Water Quality Model to analyze the temperature variability in Trinity, Lewiston, Whiskeytown, Shasta, Keswick, and Folsom reservoirs and the Trinity River, Clear Creek, and the upper Sacramento River. NMFS suggests Reclamation incorporate these models and conduct an analysis of how the proposed changes in flows for each alternative affects temperature, and how potential changes in water temperature could affect listed fish species.

Response

Reclamation reviewed additional model output of upper Sacramento and American river operations to better understand the magnitude of the changes to determine if additional temperature analyses were necessary.

Upper Sacramento River Operations

For operations on the upper Sacramento River, National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) lists the general factors that influence water temperature management in their 2009 Biological Opinion (BO) for Chinook salmon (National Marine Fisheries Service [NMFS] 2009) as:

1. the volume of cold water available by April 15;
2. temperature control device operational flexibility;
3. mixing Shasta Lake releases and Spring Creek Power Plant releases; and
4. the location of the temperature compliance point.

Additionally, when defining the actions in their Reasonable and Prudent Alternative, NOAA Fisheries targets Shasta Lake end-of-September storage of 2.2 million acre-feet (MAF) for the purpose of protecting temperatures in the subsequent year. NOAA Fisheries also states that end-of-April storage of 3.8 MAF is the approximate storage level necessary to meet temperature compliance at Balls Ferry, while end-of-September storage of 3.2 MAF can indicate a potential to meet temperature compliance at Jelly's Ferry the following year.

NOAA Fisheries states that these storage levels typically provide the volume of cold water necessary to meet temperature compliance at specific locations.

Reclamation reviewed model output for Shasta and Trinity lake operations for all alternatives to understand the magnitude of the change created by the alternatives. Figures I-1 through I-4 illustrate the probability of exceedance for end-of-April and end-of-September storage in Shasta and Trinity lakes, respectively, for each of the alternatives analyzed in the EIS.

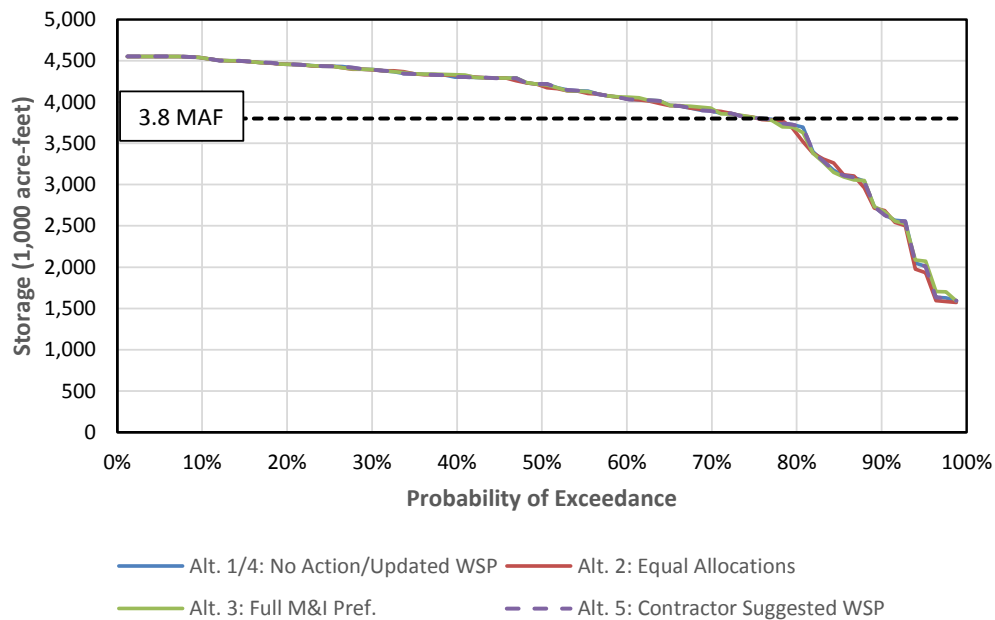


Figure I-1. End of April Storage in Shasta Lake.

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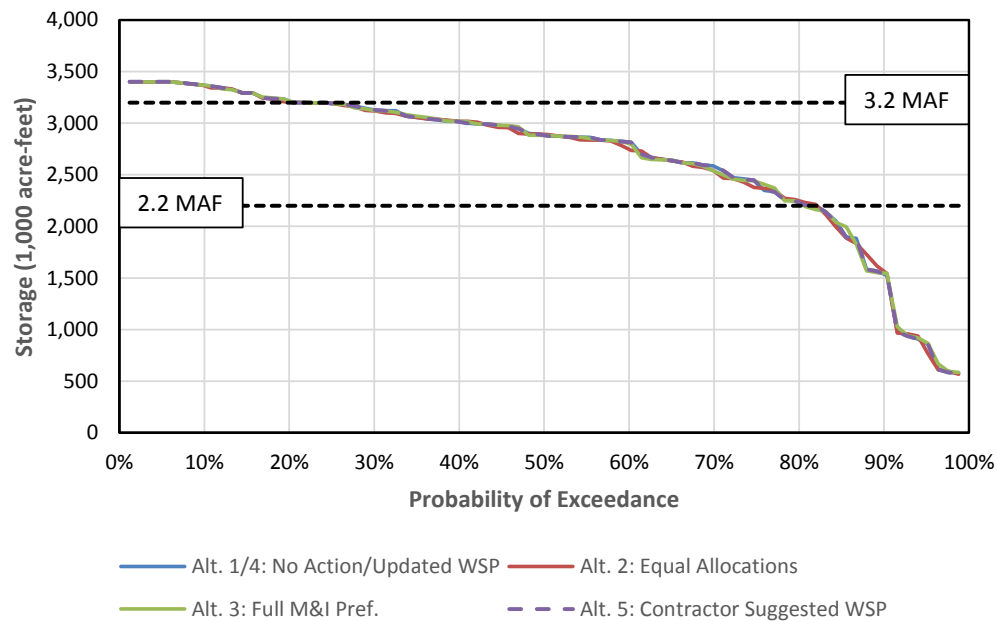


Figure I-2. End of September Storage in Shasta Lake.

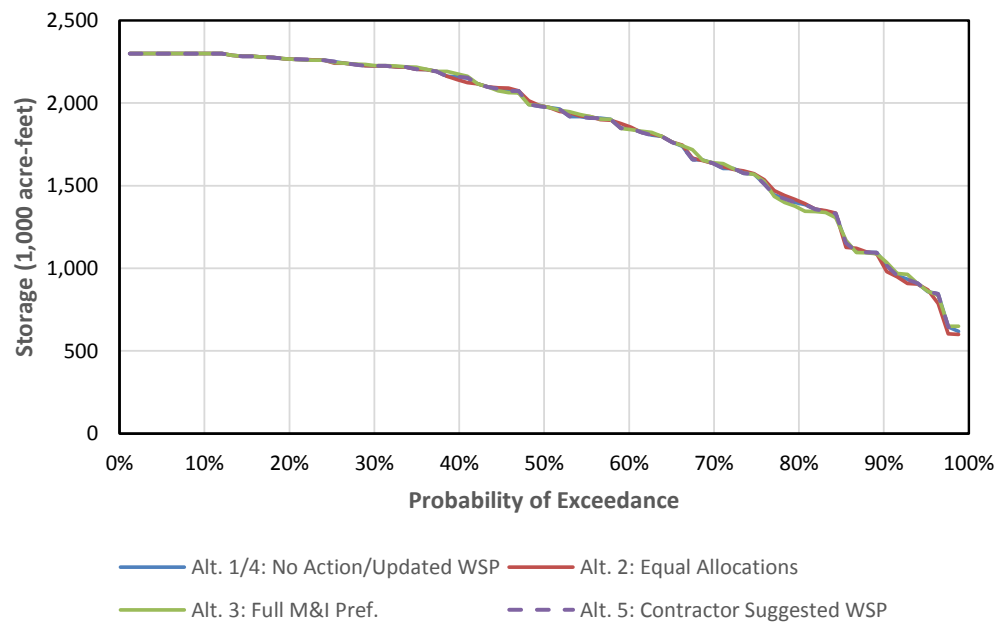


Figure I-3. End of April Storage in Trinity Lake.

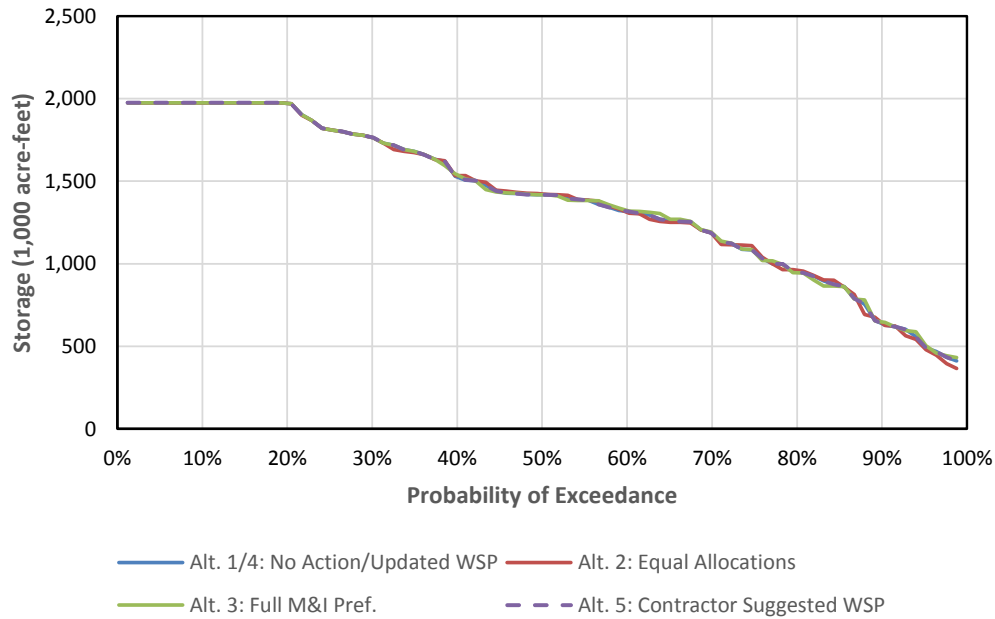


Figure I-4. End of September Storage in Trinity Lake.

The results summarized in Figures I-1 through I-4 for Shasta and Trinity lake operations show a relatively narrow range of storage conditions, and associated cold water volume, across the range of alternatives evaluated. The probability of storage in Shasta Lake being at or above key levels identified in NOAA Fisheries' 2009 BO is relatively constant for both end-of-April and end-of-September storage. As a result, associated changes in water temperature in the Sacramento River would be expected to be commensurately small and within the range of existing variability.

In addition to reservoir storage levels, Reclamation reviewed the average monthly change in Trinity River imports to Keswick Reservoir through the Spring Creek Powerhouse, Shasta Lake release, and Keswick Reservoir release. Tables I-2 through I-4 summarize the average monthly flow by Sacramento Valley Water Year Type (40-30-30 Index) for the No Action Alternative and the change from the No Action Alternative under the action alternatives. Positive values indicate months when flows under the action alternative are greater than under the No Action Alternative. Negative, values indicate months when flows under the action alternative are less than flows under the No Action Alternative.

Table I-2. Average Monthly Spring Creek Powerhouse Flow (in cubic feet per second [cfs])

Alternatives 1 and 4: No Action and Updated M&I WSP												
Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	1,303	765	1,221	1,572	1,435	1,348	975	566	439	1,803	1,673	2,201
AN	1,517	596	416	1,138	1,349	1,115	865	234	217	1,325	1,861	2,098
BN	950	345	298	636	570	574	379	108	449	1,380	1,911	1,370
D	992	492	283	607	599	523	169	169	854	2,101	2,148	1,431
C	641	268	218	857	279	130	67	153	623	1,959	1,936	916
All	1,109	536	593	1,032	922	822	547	292	526	1,749	1,884	1,687
Change under Alternative 2: Equal Agricultural and M&I Allocation (Alternative 2 minus Alternative 1)												
W	0	-19	-1	-1	0	0	0	0	0	0	2	-24
AN	-54	-11	0	0	0	-3	1	0	-52	-5	0	0
BN	-2	-7	0	-16	13	-3	0	4	0	107	-63	-53
D	6	1	3	-8	0	1	14	3	-45	122	35	-29
C	25	54	-19	14	-45	0	0	70	3	-143	185	9
All	-3	-1	-2	-3	-4	-1	3	11	-17	23	25	-22
Change under Alternative 3: Full M&I Allocation Preference (Alternative 3 minus Alternative 1)												
W	0	-1	-1	1	0	19	0	0	0	-2	-1	-7
AN	-141	149	31	0	0	4	4	0	0	-18	0	-42
BN	-1	0	0	20	-11	7	-34	0	0	0	-18	0
D	1	-1	-3	24	0	-29	-25	7	-2	43	12	30
C	42	-2	-46	-28	-5	19	-15	-5	-20	0	45	-49
All	-15	21	-3	5	-3	4	-13	1	-3	6	6	-9
Change under Alternative 5: M&I Contractor Suggested WSP (Alternative 5 minus Alternative 1)												
W	0	0	0	0	0	0	0	0	0	0	0	0
AN	-2	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
D	0	0	0	0	0	0	0	0	-1	0	1	0
C	0	1	0	-1	-1	0	0	0	0	0	1	0
All	0	0	0	0	0	0	0	0	0	0	0	0

Table I-3. Average Monthly Shasta Lake Release (cfs)

Alternatives 1 and 4: No Action and Updated M&I WSP												
Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	5,311	7,161	10,108	14,578	16,989	14,880	8,528	8,936	10,096	11,108	9,398	10,571
AN	4,953	6,314	5,069	6,507	13,153	7,263	5,227	7,691	11,111	12,997	8,600	6,547
BN	5,156	5,686	4,899	3,609	5,383	4,224	4,849	6,897	10,336	11,746	8,111	3,974
D	4,714	4,932	3,666	3,284	3,164	3,225	5,553	7,089	10,428	11,307	7,508	3,960
C	4,915	4,831	3,465	2,607	3,603	3,354	6,326	6,711	9,835	10,315	7,234	3,688
All	5,043	5,955	6,095	7,293	9,452	7,701	6,441	7,675	10,320	11,421	8,330	6,397
Change under Alternative 2: Equal Agricultural and M&I Allocation (Alternative 2 minus Alternative 1)												
W	60	-83	-69	-71	13	1	2	1	6	-13	-1	-20
AN	-52	-39	19	10	34	14	1	62	55	12	-6	15
BN	-14	49	35	3	21	43	49	84	1	-220	55	37
D	-17	-46	27	34	31	0	69	115	100	-183	297	-62
C	-31	-106	10	35	6	3	162	-20	-156	94	-292	-126
All	1	-49	-6	-8	20	10	48	46	9	-67	31	-30
Change under Alternative 3: Full M&I Allocation Preference (Alternative 3 minus Alternative 1)												
W	10	-49	8	-43	-15	1	-20	-22	-23	-2	-19	37
AN	259	-63	-23	-14	39	-15	-5	-10	3	17	16	131
BN	-30	25	3	-16	14	-21	-5	-19	-9	88	7	6
D	-56	115	-27	-38	6	30	0	-74	3	95	-78	-72
C	-169	-27	-9	66	-46	17	5	23	41	-4	192	-27
All	-1	1	-8	-17	-2	4	-7	-25	-2	37	9	12
Change under Alternative 5: M&I Contractor Suggested WSP (Alternative 5 minus Alternative 1)												
W	0	0	-2	-1	-1	0	0	0	0	0	0	0
AN	1	0	0	-1	-1	0	0	-5	0	0	0	4
BN	0	1	0	0	-1	0	0	0	0	0	0	2
D	0	0	-1	-1	0	0	0	0	1	0	3	2
C	1	0	0	1	-1	0	0	0	0	2	-3	2
All	0	0	-1	0	-1	0	0	-1	0	0	0	2

Table I-4. Average Monthly Keswick Dam Release (cfs)

Alternatives 1 and 4: No Action and Updated M&I WSP												
Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	6,611	7,924	11,328	16,148	18,421	16,225	9,499	9,496	10,527	12,901	11,062	12,765
AN	6,465	6,897	5,484	7,643	14,501	8,375	6,088	7,918	11,320	14,312	10,452	8,638
BN	6,102	6,020	5,196	4,253	5,941	4,795	5,223	6,999	10,777	13,116	10,013	5,338
D	5,703	5,422	3,941	3,896	3,753	3,745	5,717	7,252	11,280	13,398	9,647	5,385
C	5,552	5,098	3,682	3,452	3,881	3,482	6,389	6,858	10,450	12,264	9,161	4,618
All	6,148	6,486	6,685	8,325	10,369	8,521	6,984	7,960	10,840	13,160	10,205	8,081
Change under Alternative 2: Equal Agricultural and M&I Allocation (Alternative 2 minus Alternative 1)												
W	60	-102	-70	-72	13	1	2	1	6	-14	1	-44
AN	-106	-50	19	10	34	10	2	62	3	6	-6	15
BN	-15	22	35	-22	44	40	49	88	1	-113	-8	-16
D	-11	-45	30	26	31	1	83	117	48	-54	332	-91
C	-5	-52	-9	49	-39	3	162	50	-154	-49	-97	-105
All	-2	-53	-8	-12	18	9	51	58	-9	-42	57	-50
Change under Alternative 3: Full M&I Allocation Preference (Alternative 3 minus Alternative 1)												
W	10	-50	8	-42	-15	20	-20	-22	-23	-4	-20	30
AN	118	85	7	-14	39	-11	-1	-10	3	-1	16	89
BN	-31	25	3	4	3	-14	-39	-19	-9	88	-11	6
D	-55	113	-31	-7	-1	1	-25	-67	1	137	-65	-47
C	-120	-30	-55	38	-51	36	-10	18	21	-4	237	-77
All	-14	21	-11	-11	-6	8	-20	-24	-5	43	15	2
Change under Alternative 5: M&I Contractor Suggested WSP (Alternative 5 minus Alternative 1)												
W	0	0	-2	-1	-1	0	0	0	0	0	0	0
AN	-1	0	0	-1	-1	0	0	-5	0	0	0	4
BN	0	1	0	0	-1	0	0	0	0	0	0	2
D	0	0	-1	0	0	0	0	0	0	0	3	2
C	1	1	1	0	-2	0	0	0	0	2	-2	2
All	0	0	-1	0	-1	0	0	-1	0	0	1	2

Tables I-2 through I-4 illustrate that the largest changes in Trinity River imports and Shasta Lake and Keswick Reservoir release, relative to the No Action Alternative, occur with Alternatives 2 and 3. Average monthly changes in most months and for most year types are less than five percent of the average monthly release from Keswick Reservoir. The relatively small monthly changes in flows (both positive and negative) would be expected to potentially result in only small changes in water temperatures and are within the range of existing variability.

American River Operations

Reclamation reviewed similar information on American River operations and compared end-of-April and end-of-September storage for all alternatives and average monthly Nimbus release by year type. These results are presented in Figures I-5 and I-6 and Table I-5.

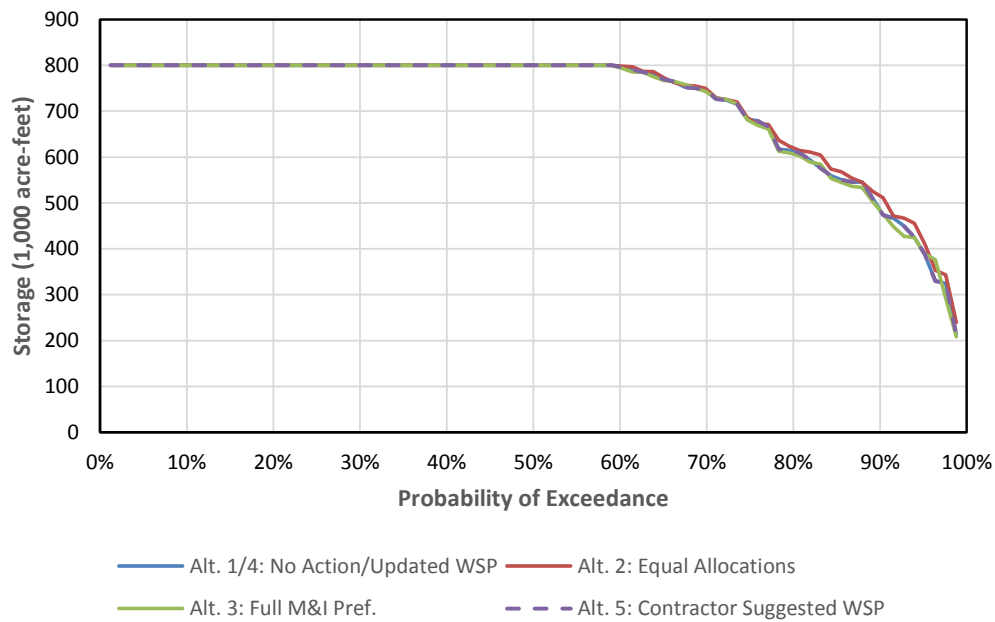


Figure I-5. End of April Storage in Folsom Lake

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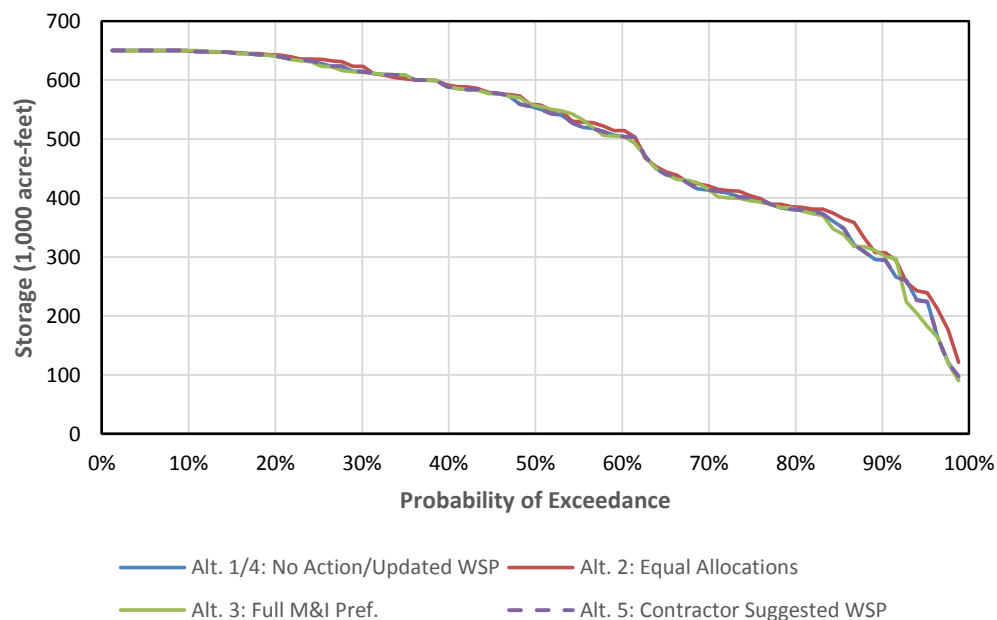


Figure I-6. End of September Storage in Folsom Lake

Table I-5. Average Monthly Nimbus Dam Release (cfs)

Alternatives 1 and 4: No Action and Updated M&I WSP												
Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	1,669	3,427	5,724	8,623	9,098	6,043	5,174	5,941	5,789	3,847	3,129	4,348
AN	1,621	3,392	3,021	4,550	6,139	5,308	3,452	3,599	3,231	4,402	2,344	3,402
BN	1,822	2,152	2,514	2,218	4,048	2,491	2,850	2,791	2,628	4,749	1,854	2,335
D	1,572	1,996	1,711	1,642	1,829	2,022	1,878	1,719	2,382	3,192	2,042	1,461
C	1,483	1,812	1,493	1,309	1,201	911	1,052	1,123	1,564	1,611	1,177	968
All	1,639	2,654	3,280	4,331	5,051	3,695	3,198	3,429	3,509	3,611	2,272	2,737
Change under Alternative 2: Equal Agricultural and M&I Allocation (Alternative 2 minus Alternative 1)												
W	17	20	30	31	16	3	2	8	9	4	-1	32
AN	86	11	47	94	25	3	9	13	18	16	2	15
BN	32	2	15	19	53	14	181	55	64	34	-28	108
D	-7	21	18	10	65	70	49	22	51	118	225	-16
C	15	34	60	41	1	2	3	5	-25	149	203	51
All	24	18	32	35	32	19	44	20	24	57	74	35

Change under Alternative 3: Full M&I Allocation Preference (Alternative 3 minus Alternative 1)												
W	3	-4	-18	-8	-7	-2	-5	-1	-2	-1	13	-28
AN	-54	3	-43	-13	-17	-12	-4	-2	-11	-1	-6	15
BN	-46	0	-5	43	-39	-19	-66	-54	-44	-10	-4	-74
D	-2	13	-3	0	-33	-56	-30	-32	-75	23	-199	-64
C	30	31	2	4	-31	-78	-59	-74	-51	3	-75	19
All	-11	7	-13	4	-23	-29	-29	-28	-34	3	-52	-31
Change under Alternative 5: M&I Contractor Suggested WSP (Alternative 5 minus Alternative 1)												
W	0	0	0	0	0	0	0	0	0	0	0	0
AN	3	-1	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	-1	0	0	0	0	0
D	0	0	0	0	0	0	0	0	0	1	0	0
C	0	0	0	0	0	0	0	0	0	1	-1	0
All	0	0	0	0	0	0	0	0	0	0	0	0

Folsom Lake storage, Nimbus releases, and lower American River flows show consistent small changes (both positive and negative) from the No Action Alternative for Alternatives 2 and 3. Under Alternative 2, the Equal Agricultural and M&I Allocation, storage in Folsom Lake is higher in approximately 20 percent of the years in both April and September and average monthly Nimbus release is consistently higher. These changes occur because CVP M&I allocations to American River Division contractors are lower and less water is diverted from Folsom Lake. This keeps storage higher in the reservoir and more water is released for a variety of different reasons such as increased flows under the Flow Management Standard, flood control releases, or to meet Delta water quality standards. Conversely, under Alternative 3, Full M&I Allocation Preference, Nimbus releases are consistently lower because CVP M&I allocations are higher and more water is diverted out of Folsom Lake by the American River Division contractors. Storage in Folsom Lake can also be lower under Alternative 3.

Temperature operations on the American River can be highly dependent on the ability to install the outlet shutters in Folsom Lake and the timing of when shutters are removed. The outlet shutters are used to help control the withdrawal elevation in the water column, and therefore water temperatures for releases into Nimbus and the American River. Figure I-7 illustrates the probability of exceedance for the water surface elevation in Folsom Lake for each month of all alternatives. The figure also includes the elevations of the outlet shutters as a reference for how elevation changes may affect shutter operations.

Figure I-7 illustrates the potential changes in shutter operations due to changes in storage in Folsom Lake. Shutters are typically installed in the late winter and spring as the water surface elevation rises. When the water surface elevation goes above the shutter elevation, it is likely that those shutters would be installed. The ability to install all the shutters increases Reclamation's ability to manage downstream temperatures in the summer and fall. Shutters are removed throughout the summer and fall as the water surface elevation falls. When the water surface elevation goes below the shutter elevations in summer and fall months the shutter would be removed. Shutters may also be removed during the summer and fall, prior to the water surface elevation going below the shutter elevation, to help meet temperature compliance objectives downstream. The monthly probability of exceedance figures illustrate small changes in the probability of the water surface being above shutter elevations in some months. For example, there is a slightly higher probability of the September water surface elevation being above elevation 392 feet, allowing two shutters to be down, under Alternative 2. Additionally, there is a slightly lower probability of the September water surface elevation being above elevation 366 feet, allowing one shutter to be down, under Alternative 3.

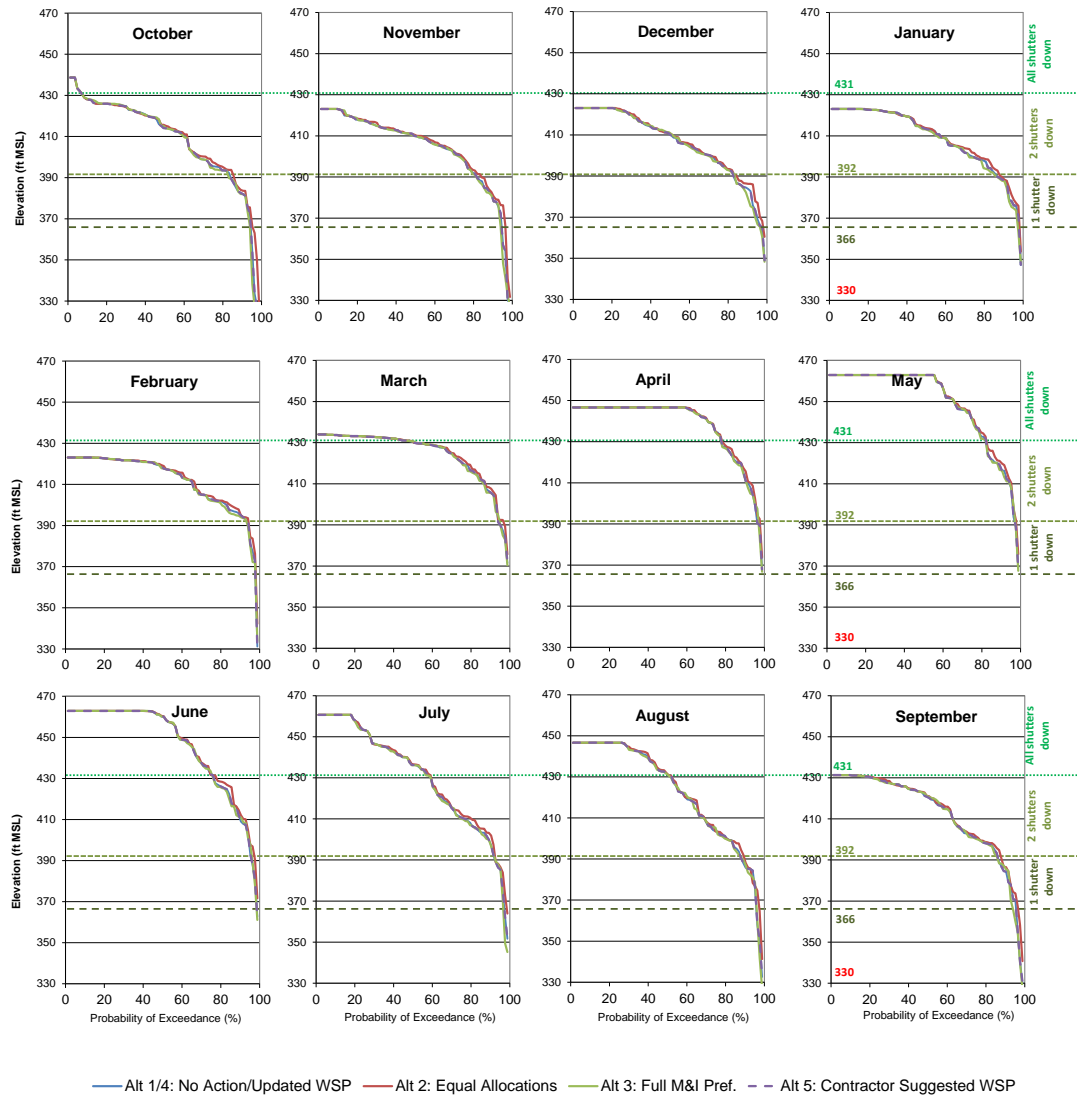


Figure I-7. Probability of Exceedance for the Monthly Water Surface Elevation in Folsom Lake

Comment FA01-02

Comment

2. NMFS also suggests including information on the measures that Reclamation are going to take to meet water temperature requirements in the 2009 CVP and SWP Long-term Water Operations Biological Opinion (NMFS BiOp) Reasonable and Prudent Alternative (RPA) Actions. This includes providing information on the discretionary and non-discretionary water contracts that provide Reclamation the flexibility to meet the protective requirements of Endangered Species Act listed fish species. For all of the alternatives analyzed in Chapter 10, Reclamation acknowledges that CVP deliveries would change in the Sacramento, American, and Delta Divisions through

2030 compared to existing conditions based on population, growth, and changes in land use. Reclamation also states that the changes in river flow and reservoir storage, especially in dry and critical water years, would not have an appreciable or observational effect on aquatic resources as compared to existing conditions and that minimum flow and storage requirements to protect aquatic resources would be met. However, even under existing conditions, especially in the dry and critical water years of 2013 and 2014, Reclamation has not been able to meet the water temperature requirements in the NMFS BiOp RPA.

Response

Reclamation strives to meet water temperature requirements in NOAA Fisheries' 2009 BO Reasonable and Prudent Alternative (RPA) on both the Sacramento and American rivers. Reclamation works collaboratively with NMFS and other fish agencies as part of the Sacramento River Temperature Task Group and the American River Group to develop and implement temperature management operation plans each year. As part of these operations, Reclamation exercises its discretion in allocating water to water service contractors and its use of stored water in reservoirs and unstored water available in the system. During critical droughts, compliance with water temperature requirements is more challenging as recognized in the description of RPA Action 1.2.1 for performance measures for upper Sacramento River temperature objectives. In Action 1.2.1 it is recognized that temperature compliance may not always be achievable at the Balls Ferry or even Clear Creek compliance point on the Sacramento River, and that extended drought may cause deviations in Reclamation's ability to meet NOAA Fisheries' performance measures.

Comment FA01-03

Comment

The Draft EIS should explain why New Melones Reservoir operations, Stanislaus River, and San Joaquin River flows were not included and analyzed as part of this Draft EIS.

Response

As discussed in Chapter 1.4.2, the M&I WSP does not apply to: 1) CVP water service or repayment contractors with contracts that do not reference the M&I WSP; 2) settlement, exchange, or other types of contracts or agreements in satisfaction of senior water rights; or 3) Central Valley Project Improvement Act (CVPIA) refuge contracts. New Melones Lake serves East Side Division contractors, who do not have a contract that references the M&I WSP and are therefore not subject to the M&I WSP. Operations of New Melones Lake and associated flows on the Stanislaus and San Joaquin rivers are not affected by the M&I WSP and are therefore not analyzed in this EIS.

Comment FA01-04

Comment

In addition, NMFS provides the following specific comments on the Draft EIS:

1. Page 10-31, Table 10-2 – For November, the difference between existing conditions, 5,668 cfs, and the No Action Alternative, 5,442 cfs, is -226 cfs, not -246 cfs. For May, the difference between existing conditions and the No Action Alternative is positive 41 cfs, not negative 41 cfs.

Response

Typographical errors in Table 10-2 have been corrected in the EIS. There is no change to the analysis or conclusions in the Final EIS.

Comment FA01-05

Comment

2. Pages 10-31 and 10-32, Tables 10-2 and 10-3 – NMFS suggests redoing the characterization of existing conditions. The September long-term average monthly flow in the Sacramento River below Keswick Dam in dry and critical water year types under existing conditions is not reflective of current operations. To establish existing conditions, the CalSim II model used 82 years of historical hydrology from water years 1922 through 2003 to provide average monthly river flow. This period does not take into account changes to operations due to the NMFS BiOp.

September is a critical time for Sacramento River winter-run Chinook salmon and Central Valley spring-run Chinook salmon egg, alevin, and fry development in the upper Sacramento River. Since the implementation of the NMFS BiOp in 2009, there have been recommendations by NMFS, the U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife through the Sacramento River Temperature Task Group to keep flows in September elevated (compared to previous years) in order to maintain temperatures below 56°F at the temperature compliance point, and to minimize dewatering of redds and stranding of juveniles. The table, below, compares the actual September average monthly flows and those modeled under existing conditions in the Draft EIS. Note that for the dry and critical water year types, actual September average monthly flows were higher than the existing condition in the Draft EIS. The differences in flow could have potentially significant and adverse effects to listed salmonids.

Year	Water Year Type	September Average Monthly Flow (cfs, actual)	September Average Monthly Flow (cfs, existing condition in DEIS)
2009	Dry	6,995	5,471 in Table 10-2
2010	Below Normal	7,410	
2011	Wet	9,738	
2012	Below Normal	8,268	
2013	Dry	6,932	5,471 in Table 10-2
2014	Critical	5,558	4,698 in Table 10-3

Response

The CalSim II model uses the historical hydrology and simulates operations under the existing regulatory requirements, including those in the 2009 NOAA Fisheries BO RPA and Water Rights Order 90-5 for flow in the Sacramento River below Keswick Dam. CalSim II does not simulate many of the day-to-day actions that are taken in the actual operation of the CVP and SWP, such as those recommendations for flows described by NOAA Fisheries. These recommendations are typically not included in the model because similar recommendations may or may not be made in future years, and Reclamation may or may not be able to operate to meet future recommended flows. CalSim II focuses on simulating operations to meet regulatory requirements of the CVP and State Water Plan (SWP). Additionally, CalSim II was used to evaluate the environmental effects of alternative CVP M&I WSPs. CalSim II was used in a comparative manner to identify changes in reservoir operations, flows, and water deliveries for each alternative. This is a more appropriate use of the CalSim II model and may identify potential changes in flow during the critical September period described by NOAA Fisheries.

Comment FA01-06

Comment

- Pages 10-35 and 10-36 – Reiterating the comment earlier, NMFS suggests including modeling results of the change in flows and how that affects water temperature. Even though there are required minimum flows in the lower American River, changes of up to 12% decreases in dry years and 39% decreases in critical years have the potential to further elevate water temperatures and negatively affect listed steelhead in the lower American River. In the majority of the years since the issuance of the NMFS BiOp, Reclamation has not been able to meet RPA Action II.2, which is to maintain a daily average water temperature of 65°F or lower at Watt Avenue Bridge from May 15 through October 31, to provide suitable conditions for juvenile steelhead rearing.

Response

See response to FA01-01 for further information on the modeled storage and flows in the Sacramento and American river systems and potential impacts on water temperature. Reclamation strives to meet water temperature requirements

in the NOAA Fisheries 2009 BO RPA on the American River. Reclamation works collaboratively with NMFS and other fish agencies as part of the American River Group to develop and implement temperature management operation plans each year. As part of these operations, Reclamation exercises its discretion in allocating water to water service contractors and its use of stored water in reservoirs and unstored water available in the system. During critical droughts, compliance with water temperature requirements is more challenging as recognized in the exceptions to RPA Action II.2, Lower American River Temperature Management. In Action II.2 it is recognized that temperature compliance may not always be achievable at Watt Avenue Bridge compliance point on the American River, and that limited cold water pool availability in Folsom Lake may cause deviations in Reclamation's ability to meet NOAA Fisheries' performance measures.

Comment FA01-07

Comment

4. Page 10-3 8, Old and Middle River Flows – Suggest including a table for changes of Old and Middle River (OMR) Flows for the No Action Alternative compared to existing conditions for dry and critical water years. All the other parameters analyzed for the No Action Alternative compared to existing conditions for dry and critical water years include a table (e.g. Delta outflow, X2, etc.) except for OMR Flows. In addition, “The greatest decreases in flows would occur...” is a bit confusing. Do decreases in flow mean more negative OMR or less negative OMR? A table would help alleviate the confusion and add transparency.

Response

Tables 10-11 and 10-12 have been added to provide the summary data on Old-Middle River (OMR) reverse flows. The text regarding "greatest decreases" has been clarified to read more clearly.

Comment FA01-08

Comment

5. Pages 10-40 to 10-52 – Suggest including more tables for the parameters analyzed for Alternatives 2 through 5 compared to the No Action Alternative or at least have the tables with data available in an Appendix. Appendix B, Attachment B has graphical outputs of the water model, however tables with data would be much more useful.

Response

Appendix O, Flow and Reservoir Data, has been added in the Final EIS to provide tables of relevant CVP reservoir storage and system flow data, as requested. The tables present the average monthly storage, or flow, by water year type, for each alternative and the action alternatives comparison to the No Action Alternative.

Comment FA01-09

Comment

6. Page 10-41, Table 10-14 – The No Action Alternative flows for all months are not consistent with the No Action Alternative flows in Table 10-3; they should be the same. As a result, this may affect the Alternative 2 difference flows. Also, the title of the table should be labeled “Critical” years, not “Dry” years.

Response

Typographical errors in Table 10-14 (now Table 10-16) have been corrected in the EIS. There is no change to the analysis or conclusions.

Comment FA01-10

Comment

7. Page 10-47, third sentence – The sentence is inaccurate. Replace "August and September with "July and August" so it reads "In July and August of critical water years..."

Response

Typographical errors have been corrected in the EIS. There is no change to the analysis or conclusions.

Comment FA01-11

Comment

8. Page 10-50, first sentence – The sentence is inaccurate. Delete "both" and "and critical water years," so instead it reads "In dry water years flow are about the same for all months except for August when flow would be about 10 percent less."

Response

Typographical errors have been corrected in the EIS. There is no change to the analysis or conclusions.

Comment FA01-12

Comment

Finally, NMFS requests to be a cooperating agency throughout the National Environmental Policy Act process for Reclamation's development of the CVP M&I WSP. The Council on Environmental Quality's (CEQ) regulations implementing NEPA define a cooperating agency as "any Federal agency other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major Federal action significantly affecting the quality of the human environment". NMFS qualifies for this designation under this definition as the project in question may affect NOAA trust resources. NMFS has jurisdiction under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.),

the Magnuson Stevens Fishery Conservation and Management Act (16 U.S. C. 1801-1882), and the Fish and Wildlife Coordination Act (16 U.S.C. 661).

Please contact Brycen Swart at (916) 930-3712, or via email at Brycen.Swart@noaa.gov, in the California Central Valley Area Office, if you have any questions regarding this letter.

Response

Reclamation and NOAA Fisheries have coordinated on the preparation of this Final EIS.

Comment Letter FA02, Kathleen Martyn Goforth, U.S. Environmental Protection Agency

Comment FA02-01

Comment

The Environmental Protection Agency has reviewed the Draft Environmental Impact Statement for the above referenced document. Our review is pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The Draft EIS evaluates the potential environmental impacts of Reclamation's proposal to implement an update to its 2001 Municipal and Industrial Water Shortage Policy, which defines water shortage terms and conditions and establishes allocations for Central Valley Project M&I water service contractors in severe or continuing droughts. The severity of the current drought and its negative effects on California's ecosystems, economies, and people highlight the need for an M&I Water Shortage Policy that provides clear guidelines for allocation of CVP water. Given the highly variable conditions of each water year and the many needs of the CVP contractors, EPA commends Reclamation for writing a document that clearly articulates the uncertainties inherent in water shortage planning and that discusses environmental impacts in the context of existing conditions, climate change, the regulatory environment, and the many large water infrastructure projects currently in the planning stages in California.

Based on our review, we have rated the Draft EIS and all alternatives as "Lack of Objections" (LO; see enclosed Summary of EPA Rating Definitions, ["LO" (Lack of Objections) – The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.]). We recommend that the Final EIS include clarifications and an update to help inform the decision making process. Please see the enclosed Detailed Comments.

Response

Responses have been provided to all detailed comments in the submitted comment letter. This comment is assumed to be an introductory comment that does not require a substantive response.

Comment FA02-02

Comment

When the Final EIS is released for public review, please send one hard copy and one CD to the address above (Mail Code: ENF 4-2). If you have any questions, please contact me at 415-972-3521 or contact Stephanie Skophammer, the lead reviewer for this project, at 415-972-3098 or at skophammer.stephanie@epa.gov.

Response

A hard copy and CD of the Final EIS will be provided to U.S. Environmental Protection Agency (EPA).

Comment FA02-03

Comment

Provide Additional Details Regarding the Project Description

The Draft EIS evaluates four Action Alternatives that represent a range of water shortage sharing conditions for CVP contractors. The Draft EIS indicates that Reclamation will identify a preferred alternative in the Final EIS. Chapter 1 states that possible decision outcomes include pursuing the No Action alternative or approving Alternative 2, 3, 4 or 5 (p. 1-12); however, Chapter 2 indicates that Reclamation is considering the potential "to mix and match elements of the alternatives, if needed, to create an alternative that would reduce environmental impacts and increase environmental benefits" (p. 2-2).

Recommendation: EPA encourages Reclamation to clearly define and describe the selected alternative and its component features in the Final EIS. If the selected alternative is a composite of elements of the alternatives identified in the Draft EIS, evaluate the selected alternative as a discrete alternative in the FEIS (rather than simply referencing the impacts of the individual elements) in order to determine whether the "mixing and matching" of elements would result in impacts that differ in any way from a simple compilation of the impacts of the individual elements.

Response

Chapter 2 identifies the Alternative 4 as the Preferred Alternative, which is described in detail in Chapter 2.6 and included in Appendix M.

Comment FA02-04

Comment

Section 1.8 of the Draft EIS indicates that, in addition to supporting decision making among Water Shortage Policy alternatives, "other uses of this document" include taking additional actions to implement the selected policy, including CVP water delivery reductions; applicable CVP long-term contract renewals; and real-time decisions to change upstream flows, Delta outflows, and pumping, consistent with existing CVP operating rules. This section is puzzling because there is no further discussion of these elements in Chapter 2 Description of Alternatives. Long term contract renewals usually require their own NEPA documentation and it is not clear which contract renewals are included in this EIS and how impacts from any such decision were carried through in the NEPA analysis.

Recommendation: Clarify section 1.8 of the EIS and discuss any additional aspects of the project alternatives in Chapter 2.

Response

Chapter 1.8 has been revised to remove the language that the Final EIS would be used as the environmental analysis for other Reclamation actions. Water service contract renewals are required to conduct separate environmental review.

Comment FA02-05

Comment

In general, the resource descriptions for Alternative 4 (Updated M&I Water Shortage Policy) state that there would be no difference between Alternative 4 and the No Action Alternative (see Table 3-1); however, the description of Alternative 4, beginning on page 2-12, indicates that some proposed changes to the Water Shortage Policy may have potential impacts. For example, one of the proposed actions is to change the water reductions to be based on historical use rather than Contract Totals (p. 2-15). Since no examples are given, it is unclear what impacts, if any, this would have on water supply.

Recommendation: In the Final EIS, evaluate the potential for the proposed methodology change that is proposed in Alternative 4 to have an impact on water supply.

Response

Under the No Action Alternative, M&I water service contractor allocations below 100 percent are based on historical use, so this is not a change under Alternative 4. See the 2001 Draft M&I WSP, as amended, provided in Appendix J. There are no changes in CVP deliveries to M&I water service contractors under Alternative 4 compared to the No Action Alternative, as discussed in Chapter 4.2.5.

Comment FA02-06

Comment

Update the Climate Change Discussion

On December 18, 2014, the Council on Environmental Quality released revised draft guidance for public comment that describes how Federal departments and agencies should consider the effects of greenhouse gas emissions and climate change in their NEPA reviews. The revised draft guidance supersedes the draft greenhouse gas and climate change guidance released by CEQ in February 2010, which is referenced in the DEIS under Regulatory Framework for the Climate Change chapter. This new draft guidance explains that agencies should consider both the potential effects of a proposed action on climate change, as indicated by its estimated greenhouse gas emissions, and the implications of climate change for the environmental effects of a proposed action.

Recommendations: Update the Regulatory Setting section of the Climate Change chapter to reflect the new CEQ draft guidance released on December 14, 2014.

Response

The Greenhouse Gases and Climate Change Chapter 9.1.2, Regulatory Setting, has been updated to include the revised draft Council on Environmental Quality (CEQ) guidance.

Comment Letter LA01, Marcus Yasutake, Richard Plecker, Jim Abercrombie, Einar Maisch, Michael Peterson, Steve Sorey, Shauna Lorange, City of Folsom, City of Roseville, El Dorado Irrigation District, Placer County Water Agency, Sacramento County Water Agency, Sacramento Municipal Utility District, San Juan Water District

Comment LA01-01

Comment

Together our agencies supply water to hundreds of thousands of people in the American River region. For many years, we have worked with the Bureau of Reclamation on the Central Valley Project Municipal and Industrial Water Shortage Policy (WSP), including attending a series of Reclamation workshops and providing comments on previous drafts of the WSP and Reclamation's 2005 Environmental Assessment for the WSP (2005 EA). We agree with Reclamation that a final WSP will add clarity and certainty to the availability of our region's CVP supplies during shortages in the future. We appreciate and support Reclamation's efforts to finalize the WSP.

The WSP Draft Environmental Impact Statement (DEIS) provides an extensive analysis of the WSP's impacts, but some parts of the DEIS require clarification or additional analysis before Reclamation adopts the Final Environmental Impact Statement (FEIS). Our agencies look forward to continuing to work with

Reclamation to develop a FEIS and the final WSP. Reclamation has not selected a preferred alternative for the final WSP. Because Reclamation's selection of an alternative should involve policy discussions with our agencies and other M&I contractors, our agencies' comments on the DEIS are not the proper forum to discuss selection of the final WSP alternative. Therefore, we request that, prior to issuing the FEIS, Reclamation initiate stakeholder discussions focused on which alternative should be selected.

We look forward to working with Reclamation to develop an FEIS and the final WSP.

Response

See Common Response 1.

Comment LA01-02

Comment

The FEIS Should Contain Modeling Results Showing Projected CVP Deliveries Under the Five Alternatives

The DEIS and its appendices do not contain modeling results showing projected CVP deliveries to individual municipal and industrial (M&I) contractors under the five alternatives. The closest materials in the documents are charts in the appendices showing modeled contract allocations under the alternatives. (See DEIS, App. B, beginning at pp. B-13.) However, these charts show only contract allocations broken up by North of Delta vs. South of Delta and CVP contract type.

One of our primary interests in the DEIS is to understand how the five alternatives would affect projected CVP deliveries to our agencies. The DEIS does not contain this information. Reclamation's analysis would be greatly improved if the FEIS were to include and analyze these modeling results. The lack of contractor-specific delivery information also makes it very difficult to assess the impact of each alternative as a potential policy option for the final WSP.

Response

Appendix B, Water Operations Model Documentation, has been revised to include tables of CVP allocations for M&I and agricultural water service contractors under each alternative, for each year of the model simulations. These tables can be used in combination with a contractor's total contract volume for M&I or agricultural water to determine annual deliveries by contractor under each alternative.

Comment LA01-03

Comment

The FEIS Must Account for the Physical Unavailability of CVP and Non-CVP Water Supplies When Folsom Reservoir Falls to Very Low Storage Levels

The winter of 2013-2014 demonstrated that, under conditions when a WSP's rules about supplies to meet public health and safety (PH&S) needs would become relevant, the physical availability of water may be a key consideration. For example, it is possible that, in such conditions, the physical capacity to divert water through Folsom Reservoir's M&I intake could be reduced or non-existent. That intake would become dry if the reservoir's water level were to decline to about 320 feet above mean sea level rise, which would be when there is about 100,000 acre-feet (AF) of water stored there. Several of our agencies would begin to have serious water-supply problems at reservoir storage volumes well above 100,000 AF. During the extremely dry winter of 2013-2014, the amount of water stored in the reservoir reached a low of 162,617 acre-feet in storage with a surface elevation of 357 feet on February 6, 2014. Based on this real-world experience, the physical availability of any water from Folsom Reservoir is a serious concern in PH&S conditions. The DEIS, however, does not appear to consider the physical availability of water as a possible constraint for either CVP or non-CVP supplies.

Several of our agencies rely on direct diversions of CVP and non-CVP water supplies from Folsom Reservoir's shared municipal intake as a primary water supply source. The DEIS's hydrologic modeling shows that Folsom Reservoir would fall to very low storage levels in some years, which would impair the shared municipal intake's capacity to divert any source of water. (DEIS, App. B, pp. B-43, B-56, B-69.) However, given that the DEIS concludes PH&S needs will be met in all years in the American River Division, the DEIS appears to assume CVP deliveries would continue to be available from Folsom Reservoir in these years. For example, the DEIS's modeling appendix indicates that the lowest M&I allocation north of the Delta would be 50% of adjusted historical use under the No Action Alternative. (DEIS, App. B, p. B-13, Figure B-4.) The FEIS, however, must account for the fact that physical inaccessibility of water would become a constraint in PH&S conditions and discuss the potential impacts to CVP contractors, including those that divert water directly from Folsom Reservoir. This is particularly crucial for any consideration of Alternative 2, which would impose more shortages on M&I contractors than the Alternative 1/No Action Alternative.

Response

See Common Response 2.

Comment LA01-04

Comment

The DEIS also does not appear to account for the potential physical unavailability of non CVP deliveries in very dry years because the DEIS assumes such supplies would be available when the WSP's PH&S rules would apply. The DEIS appears to assume that non-CVP supplies for all sources, like settlement-contract supplies that must physically be diverted from Folsom Reservoir through the shared municipal intake, will be fully available in very dry years. (See DEIS, pp. 4-23,

4-28, 4-33, 4-36, 4-38 (concluding American River PH&S needs met in nearly all years).) As discussed further in Section E below, it is unclear on what basis the DEIS makes that assumption and further explanation in the FEIS is required.

Response

See Common Response 2 and Common Response 3.

Comment LA01-05

Comment

The DEIS states that, in order to provide higher levels of M&I deliveries in PH&S conditions under Alternative 5, Reclamation must reoperate some project facilities. (DEIS, pp. ES-I I, 2-3, 2-16, 2-19.) However, the DEIS's Appendix B indicates that there is little, if any, difference between project operations under Alternative 1, the No Action Alternative, and Alternative 5. (DEIS, App. B, pp. B-29 to B-30.) In other words, the DEIS does not indicate what reoperation might occur and what its impacts might be. The lack of any predicted operational effect suggests that the DEIS does not clearly account for what would occur when project facilities such as Folsom Reservoir experience very dry conditions. This issue should be clarified in the FEIS.

Response

The Final EIS has been revised to remove the discussion of facility reoperation from the description of Alternative 5. No reoperation of project facilities was modeled or analyzed for Alternative 5.

Comment LA01-06

Comment

The FEIS Must Clarify Several Aspects of the WSP's Historical Use Calculations and Assumptions

The DEIS describes Reclamation's current approach to adjusting an M&I contractor's historical use in unconstrained years for the contractor's use of non-CVP water as part of its description of the Alternative 1/No Action Alternative as follows:

Adjusted for Non-CVP Water. An adjustment to the contractor's historical use quantity to account for water sources other than the CVP supplies used to satisfy M&I demand within the contractor's service area, subject to written documentation from the contractor that shows the extent to which use of the non-CVP water actually reduced the contractor's use of CVP water in other years. A contractor must show that the non-CVP water used in other years reduced the use of CVP water in these years. (DEIS, p. 2-7) The description cited above and the rest of the DEIS do not clearly explain how Reclamation would actually conduct the adjustment process. This description also becomes unclear when read with other portions of the DEIS. The DEIS states that Reclamation will only make an adjustment to an M&I contractor's historical use if the contractor "shows the

extent to which use of the non-CVP water actually reduced the contractor's use of CVP water in other years." (DEIS, p. 2-7 (emphasis added).) The DEIS later states that such an adjustment "would be based on documentation showing the extent to which use of the non-CVP water actually reduced the contractor's use of CVP water in the unconstrained historical years." (DEIS, p. 2-13 (emphasis added).) These descriptions of the policy are inconsistent. If the first statement of the policy is the correct one, it is not clear how a M&I contractor could document that its use of non-CVP water in one year reduced its use of CVP water in other years or why such a calculation would necessarily make any difference to the CVP's total supplies. For example, if a CVP contractor diverting water from Folsom Reservoir were to reduce its demand on the CVP by using non-CVP water in one year and then the reservoir were to spill in the subsequent winter, the contractor's use of the non-CVP water in the first year would make more water available to the CVP in that year, but would make no difference in the second year. Therefore, the FEIS should clarify and use examples to further describe how adjustments for use of non-CVP water would work.

Response

The Final EIS has been revised to clarify the definition of the historical use adjustment for the use of non-CVP supplies. An M&I water service contractor could request an adjustment to its historical use based on its use of non-CVP supplies in the last three unconstrained years used in the historical use calculation. The contractor may receive a one-to-one adjustment in acre-feet if documentation can be provided that the use of non-CVP water used in those three unconstrained years reduced the use of CVP water in those unconstrained years. This issue has been clarified in the Updated M&I WSP with the addition of information on the documentation required by M&I water service contractors when requesting an adjustment of historical use based on the use on non-CVP supplies in lieu of CVP water. See Attachment A to the Updated M&I WSP, included in Appendix M.

Comment LA01-07

Comment

The FEIS should also clarify how historical use adjustments differ under DEIS Alternatives 4 and 5. During shortages, DEIS Alternatives 1, 4 and 5 would base CVP allocations on an M&I contractor's historical use. (DEIS, pp. 2-6, 2-15, 2-18.) The DEIS acknowledges that there are differences between Alternative 4 and Alternative 5 in terms of how historical use adjustments would be made. (DEIS, pp. 2-16, 2-18.) However, because the DEIS assumes that, in Alternative 1/No Action Alternative, all M&I contractors would use their full contract amounts under 2030 conditions (DEIS, pp. ES-20 to ES-21, 2-20), it is not possible to tell from the DEIS how the different alternatives' varying historical use adjustments could affect deliveries prior to 2030. Therefore, the FEIS should clarify how implementing the different historical use adjustments under Alternatives 4 and 5 would affect deliveries to M&I contractors.

Response

The Final EIS does not analyze interim years between the existing conditions baseline (2010) and future baseline (2030). Using the assumption that by 2030, the demand for CVP water by M&I water service contractors is equal to their contract total, and therefore historical use also is equal to Contract Total, provides an analysis of the largest possible impacts on CVP deliveries from changes between alternatives. Also, it is not possible to develop a reasonable estimate of historical use in an interim year for hypothetical future unconstrained years.

Comment LA01-08

Comment

The DEIS Should Not Characterize the American River Division's CVP Supplies as Secondary or Supplemental

Under Alternatives 1, 4 and 5, when an M&I contractor's CVP allocation falls below certain thresholds, the CVP can make additional water available to meet the contractor's unmet PH&S needs. An M&I contractor's PH&S needs would be calculated using a formula that accounts for population, industrial, commercial and institutional demands. (DEIS, p. 2-8.) The DEIS states that, before the CVP will contribute additional water to meet PH&S demands, an M&I contractor must use its reduced CVP allocation and all available non-CVP supplies, such as alternative surface water or groundwater pumping. The DEIS states that contractors' CVP supplies are secondary or supplemental. (DEIS, pp. 2-8, 4-8 fn. 6.)

We disagree with the DEIS's characterization of CVP supplies as secondary or supplemental for M&I contractors in the American River Division. The American River and particularly Folsom Reservoir are the primary water sources for our region. Reclamation exercises essentially complete control over the reservoir's management. There is no other water source that can be the primary source for our region. This is particularly true for the areas within the Cities of Folsom and Roseville, San Juan Water District, and Sacramento Municipal Utility District's Rancho Seco property that cannot be served economically with pumped groundwater. The DEIS's statements that all CVP supplies must be treated as secondary or supplemental by contractors therefore do not reflect the reality of water supplies in our region. In particular, this characterization must be corrected in relation to Alternative 2, which would reduce CVP M&I allocations relative to current conditions.

Folsom, Roseville and San Juan previously confirmed with Reclamation the understanding that CVP water-service contract supplies can be primary supplies. In 2012, Folsom, Roseville and San Juan discussed this topic with Reclamation. During these discussions, Reclamation confirmed that it does not consider CVP water-service contract supplies to be a secondary or supplemental source of water. The agencies confirmed this discussion in an October 24, 2012 letter to Mike Finnegan, who then was Reclamation's Central California Area Manager. A copy

of that letter is enclosed. The FEIS therefore should correct its mischaracterization of CVP water-service contract supplies as secondary or supplemental and adjust Reclamation's environmental analysis according

Response

See Common Response 4.

Comment LA01-09

Comment

The FEIS's PH&S Demands Analysis Must Account for the Unavailability of Non-CVP Supplies in Critical Years

For the American River Division, the DEIS states that all M&I contractors in the division will be able to meet their PH&S needs in critical years by using reduced CVP allocations and non-CVP supplies. (DEIS, pp. 4-21 to 4-23, 4-36 to 4-37.) The DEIS appears to assume that, in critically dry years, all M&I contractors will have access to the full amount of their non-CVP supplies, including groundwater, and that all of those supplies will be available throughout the contractor's service area.

As noted above, given the known constraints on the physical availability of surface water from Folsom Reservoir, it is unclear why the DEIS assumes that non-CVP supplies would be fully available in critically dry years and further explanation in the FEIS is required.

Response

See Common Response 2 and Common Response 3.

Comment LA01-10

Comment

Moreover, groundwater is not equally available throughout the service areas of all the American River Division contractors. For example: (1) the City of Roseville can pump groundwater from the western portion of its service area to a portion of the rest of its service area, but not all of it; (2) San Juan Water District can rely on some of its retail suppliers using groundwater, but groundwater cannot be used throughout the District's service area; and (3) the City of Folsom has little ability to serve groundwater in much of its existing service area. Reclamation therefore should reexamine the DEIS's assumptions regarding the wide availability of groundwater within the American River Division. A re-examination of these assumptions is especially needed relative to Alternative 2, which would reduce CVP M&I allocations relative to current conditions.

Response

The Draft EIS analyzed impacts to M&I water service contractors, across all resource areas, on a CVP division basis or region basis, not by individual contractor. Groundwater impacts analyzed in Chapter 6 are aggregated by

hydrologic region, and specific local impacts (e.g., impacts specific to the City of Roseville) are not reported. Text in Chapter 6 has been revised to clarify that the groundwater resources reported may not be available uniformly across each division.

Comment LA01-11

Comment

Finally, the FEIS must clarify if an M&I contractor may request additional supplies to meet PH&S demands when the full extent of its non-CVP supplies are not available. If so, the process for making that request, and how Reclamation must respond to the request, should be detailed in the FEIS.

Response

See Common Response 5.

Comment LA01-12

Comment

The FEIS Must Clarify Reclamation's Approach to Unmet PH&S Demands and Supplies: The DEIS's description of PH&S demands and supplies is different than the treatment of PH&S demands and supplies in the 2005 EA. The DEIS's Alternative 1, the No Action Alternative, describes Reclamation's existing practice as implementation of the 2001 draft WSP, as modified by the 2005 EA. (DEIS, p. 2-4). There are, however, at least two differences between the 2005 EA and the policy described in Alternative 1. First, the 2005 EA quantifies a contractor's PH&S need based on a different formula than is used in the DEIS's Alternative 1. (Compare the 2005 EA, pp. 3-8, 4-1, with DEIS, p. 2-8).

Response

The amendments made to the 2001 Draft M&I WSP after the completion of the 2005 EA (resulting in Alternative 1, the 2001 Draft M&I WSP, as amended by Alternative 1B from the 2005 EA, referred to in the EIS as the "2001 Draft M&I WSP" or "2001 Draft M&I WSP, as amended") did not relate to PHS need calculations. The 2001 Draft M&I WSP, provided in Appendix J, defines PHS as, "M&I uses to which water is allocated consistent with criteria established by the State of California, or as established by Reclamation consistent with criteria applied by similarly situated California M&I water supply entities, as applicable, during declared water shortage emergencies." It continues to be Reclamation's intention that PHS calculations be consistent with State policy for the residential allowance. The 2015 "Central Valley Project and State Water Project Drought Contingency Plan, January 15, 2015 - September 30, 2015" indicates the State per capita allocation is 55 gallons per day, consistent with the values presented in the calculation of PHS in the Final EIS (Reclamation and Department of Water Resources 2015). Also, California Water Code Section 10608.20(b)(2)(A) states, "For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the

Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute." Chapter 2.3.5 has been revised to include a statement that Reclamation's PHS calculation will remain consistent with the State's approach.

Comment LA01-13

Comment

Second, unlike the 2005 EA, the DEIS indicates that no M&I contractor would have any defined minimum CVP supply. The 2005 EA quantifies an M&I contractor's "public health & safety quantity" that is treated essentially as a minimum level of CVP supply. (2005 EA, p. 3-8 to 3-10, 3-16, 3-18.) The 2005 EA states the following PH&S amounts for our agencies:

- Roseville's PH&S quantity was 24,000 AF (2005 EA, p. 4-21);
- San Juan Water District's PH&S quantity was 18,150 AF (2005 EA, p. 4-22);
- El Dorado Irrigation District's PH&S quantity was 5,663 AF (2005 EA, p. 4-20);
- Placer County Water Agency PH&S quantity was 26,250 AF (2005 EA, p. 4-24);
- Sacramento County Water Agency's PH&S quantity, including the demands of the City of Folsom, was 39,000 AF (2005 EA, p. 4-23); and
- Sacramento Municipal Utility District's PH&S quantity was 22,500 (2005 EA, p. 4-25).

In contrast, the DEIS's Alternative 1 states that Reclamation will only "attempt" to meet a contractor's unmet PH&S need after the contractor uses its non-CVP supplies. (DEIS, pp. 2-5, 2-8 ("M&I water service contractors are expected to first use their non-CVP supplies to meet their PHS demands").)

The FEIS should clarify whether Reclamation will adopt the 2005 EA's handling of PH&S demands and supplies or the DEIS's approach. If Reclamation adopts the DEIS's approach, then the FEIS must also evaluate the impacts to M&I contractors and their communities of implementing Reclamation's change from the 2005 EA's calculation of PH&S supplies.

Response

See Common Response 5 and Common Response 6. As stated in Chapter 2.3 of the EIS, this document provides updated environmental review of the 2001 Draft M&I WSP as amended by Alternative 1B of the 2005 EA, as the No Action Alternative. It is not an analysis of the 2005 EA, or a re-analysis of the alternatives and conditions described in the 2005 EA.

This Final EIS presents the projected deliveries to CVP contractors under the No Action Alternative and each action alternative, the PHS need calculation for each M&I water service contractor, and the potential impacts of each alternative. The process for adjustments to CVP allocations to assist with meeting PHS need is discussed in Common Response 5.

Comment LA01-14

Comment

The FEIS Must Analyze the Impact of Unmet PH&S Demands in Light of the Potential Non-Availability of CVP and Non-CVP Water Supplies: Under Alternatives 1 and 4, the CVP would only contribute additional water for PH&S demands to the extent those demands do not exceed 75% of the contractor's adjusted historical use. (DEIS, pp. 2-6, 2-15.) Under Alternative 5, the percentage would be 95%. (DEIS, p. 2-16.) As discussed above, the DEIS appears not to account for the limited physical availability of non-CVP supplies. Therefore there is the potential that some M&I contractors' PH&S demands will not be met under the WSP. If the availability of CVP and non-CVP supplies were to be so low that PH&S demands would not be met, it would likely result in the loss of significant amounts of landscaping, damage to community amenities like parks, numerous business closures, impairment of power generation and electrical grid management, and possible population migration away from the affected communities. The FEIS should analyze the resulting potential impacts to socioeconomics, recreation and visual resources for M&I contractors. This analysis is particularly necessary for Alternative 2, which would reduce CVP M&I allocations relative to current conditions.

Response

The commenter is incorrect in the interpretation of Alternative 5's treatment of contribution towards historical use. Alternative 5 does not allow contribution of additional water for PHS need to the extent those demands do not exceed 95 percent of the contractor's historical use. Instead, Table 2-8 indicates that M&I water service contractors can request an allocation adjustment for PHS need starting when their CVP allocation has been reduced to 95 percent of historical use. Under Alternatives 1 and 4, a contractor could request additional water for PHS need starting at allocations of 75 percent of historical use.

See also Common Response 2, Common Response 3, and Common Response 5.

The FEIS analyzes the potential for unmet PHS need for M&I water service contractors under each of the alternatives in Chapter 4. With the combination of CVP and non-CVP supplies, PHS need in the American River Division is met under all years under Alternatives 1, 3, 4, and 5. Under Alternative 2, the American River Division unmet PHS need ranges from less than one percent to five percent of PHS need in six percent of years.

For all contractors, socioeconomic impacts are discussed in Chapter 13. Chapter 16, Recreation, analyzes the changes to access to recreation resources in the study area as a result of changes in CVP deliveries. Chapter 19, Visual Resources, has been revised to include analysis of potential impacts to urban landscaping from reduced CVP deliveries.

Comment LA01-15

Comment

Finally, although the DEIS and WSP do not state that outdoor commercial irrigation is excluded from the calculation of PH&S needs, it appears that the PH&S calculations in Appendix A for several American River Division contractors have excluded outdoor commercial irrigation. The FEIS should clarify this point so its analysis can treat all M&I contractors' outdoor commercial irrigation demands consistently in PH&S conditions. The FEIS also should evaluate the socioeconomic and visual impacts of not delivering CVP water to meet those demands.

Response

For M&I water service contractors whose UWMPs specifically included separate demand for commercial landscaping, their PHS need has been updated in Appendix A to include that commercial landscaping into the commercial and institutional factor for PHS need. It remains the contractors' discretion on how to use their available supplies to meet the demands in their service area. Chapter 19, Visual Resources, has been revised to include analysis of potential impacts to urban landscaping from reduced CVP deliveries. Commercial irrigation does not substantially affect business revenue, employment, or other economic factors, so it is not discussed in Chapter 13, Socioeconomics.

Comment LA01-16

Comment

The FEIS Should Not Include EBMUD in the Analysis of Supplies and Demands of, and Impacts to, the American River Division:

Because East Bay Municipal Utility District's (EBMUD) CVP contract is grouped with the American River Division, the DEIS treats EBMUD as part of the division for environmental analysis purposes. However, EBMUD has a separate water system on the Mokelumne River that is the primary water supply for its service area. CVP supplies are only available to EBMUD under its CVP contract when storage in EBMUD's own reservoirs is projected to be below 500,000 AF. (2005 EA, p. 4-26.) Other American River Division contractors - such as the Cities of Folsom and Roseville and San Juan Water District - are primarily dependent on American River water supplies and do not have access to sufficient other water supplies to meet their demands. EBMUD's Mokelumne River supplies clearly are not available throughout the American River Division.

The DEIS's discussion of the water supplies available to the American River Division contractors, their levels of demand and the extent to which their PH&S needs can be met is skewed because that discussion includes the supplies and demands of EBMUD. (See DEIS, pp. 4-11 to 4-13.) The incorrect impression given by this discussion appears throughout the DEIS where the DEIS states, without qualification, that PH&S demands will be met throughout the American River Division. (See DEIS, p. 4-23.) Therefore, the FEIS's discussion of American River Division supplies and demands should be revised from the DEIS to separate EBMUD's supplies and demands from the supplies and demands of M&I contractors that are located adjacent to or near the American River. This revision is particularly necessary for Alternative 2, which would reduce CVP M&I allocations relative to current conditions.

Response

Results in the EIS are aggregated by CVP division and therefore East Bay Municipal Utility District (EBMUD) is included in American River Division. However, non-CVP supplies were determined by individual contractor. This analysis considered the facts described in this comment, namely that several American River Division contractors' only source of available water is the American River and EBMUD's Mokelumne River supplies are only available to EBMUD and not other American River Division contractors.

Comment LA01-17

Comment

The FEIS Should Clarify that Alternative 1, the No Action Alternative, is based in Part on Unsupported Assumptions in the 2005 EA, and, Therefore, Reclamation Cannot Implement Alternative 1. The DEIS states that Reclamation is deciding which of the five alternatives to implement. (DEIS, p. 1-12.) Alternative 1, the No Action Alternative, would continue use the 2001 Draft M&I WSP, as amended by the 2005 EA. As the DEIS admits, however, the 2005 EA made unsupported assumptions about how the WSP would apply to M&I contractors within the American River Division:

"The alternatives analysis in the EA was based on several assumptions. One assumption was that the American River Division M&I water service contractors would not participate in the M&I WSP because water supplies under drought conditions would be provided under a separate agreement between water users of the American River water supply, called the Water Forum Agreement. [...] Following publication of the Final EA in 2005, Reclamation received additional comments from several CVP water service contractors. The contractors indicated that the Water Forum Agreement was not being implemented as described in environmental document; therefore, the American River Division assumptions in the EA were no longer valid." (DEIS, p. 1-7.)

The FEIS therefore should correct the description of Alternative 1, state that Reclamation will not implement Alternative 1 and revise its analysis of the DEIS's action alternatives accordingly.

Response

As stated in Chapter 2.3 of the EIS, this document provides updated environmental review of the 2001 Draft M&I WSP as amended by Alternative 1B of the 2005 EA, as the No Action Alternative. It is not an analysis of the 2005 EA, or a re-analysis of the alternatives and conditions described in the 2005 EA.

The CEQ's 2005 "Regulations For Implementing The Procedural Provisions of the National Environmental Policy Act" are included in the Code of Federal Regulations (CFR) under Title 40, Parts 1500-1508. Part 1502.14 requires that EISs "present the environmental impacts of the proposal and the alternatives in comparative form....In this section agencies shall: (d) Include the alternative of no action."

43 CFR Part 46 contains the Department of the Interior's (DOI's) regulations for "Implementation of the National Environmental Policy Act Of 1969." Part 46.30 defines the No Action Alternative:

"No action alternative.

(1) This term has two interpretations. First "no action" may mean "no change" from a current management direction or level of management intensity (e.g., if no ground-disturbance is currently underway, no action means no ground-disturbance). Second "no action" may mean "no project" in cases where a new project is proposed for implementation.

(2) The Responsible Official must determine the "no action" alternative consistent with one of the definitions in paragraph (1) of this definition and appropriate to the proposed action to be analyzed in an environmental impact statement. The no action alternative looks at effects of not approving the action under consideration."

The existing draft policy is currently guiding Reclamation's allocations of CVP water to agricultural and M&I water service contractors during a Condition of Shortage and would continue to be used by Reclamation if none of the proposed action alternatives is implemented. Alternative 1 represents Reclamation's "current management direction," which includes applying the 2001 Draft M&I WSP to the American River Division contractors, as has been done since 2008.

Comment LA01-18

Comment

The FEIS Should Address Issues with the DEIS's Groundwater Analysis: Several issues with the DEIS's groundwater analysis should be corrected in the FEIS. These corrections are particularly necessary for the DEIS's analysis of

Alternative 2, which would result in reduced CVP M&I deliveries relative to current conditions. The DEIS states that groundwater accounts for less than 30 percent of the annual supply for agricultural and urban purposes in the Sacramento Valley. This statement obscures significant differences in the reliance on groundwater between those two types of water uses. (DEIS, p. 6-14.) The FEIS should clarify that urban agencies in the Sacramento Valley may rely on groundwater more heavily.

Response

While the EIS does state that groundwater accounts for less than 30 percent of the annual supply used for agricultural and urban purposes in the Sacramento Valley, it also notes that urban pumping in the Sacramento Valley increased from approximately 250 thousand acre-feet (TAF) annually in 1961 to 800 TAF annually in 2003. This statement identifies the increased reliance of groundwater pumping by urban agencies.

Comment LA01-19

Comment

The DEIS also states that it uses a "conservative assumption" that "M&I water service contractors [would] choose to meet all the unmet PH&S need by temporarily increasing the use of groundwater." (DEIS, p. 6-56.) This assumption is inappropriate for several reasons. As discussed above, multiple M&I contractors in the American River Division have little or no groundwater available to them as alternative supplies. The DEIS's apparent assumption that groundwater would be freely available to meet M&I contractors' unmet PH&S demands therefore is not supportable. (See DEIS, p. 6-57.)

Response

The discussion of groundwater impacts in Chapter 6 has been revised and the prior discussion of additional groundwater pumping for unmet PHS need has been removed. The Draft EIS analyzed impacts to M&I water service contractors, across all resource areas, on a CVP division basis or region basis, not by individual contractor. Groundwater impacts analyzed in Chapter 6 are aggregated by hydrologic region, and specific local impacts are not reported. Text in Chapter 6 has been revised to clarify that the groundwater resources reported may not be available uniformly across each division.

Comment LA01-20

Comment

The DEIS's assumption that M&I contractors would only pump additional groundwater to meet PH&S demands also is incorrect. (DEIS, p. 6-62.) To the extent that implementation of the WSP would result in CVP supplies being inadequate in wetter years, at least some M&I contractors probably would pump additional groundwater where it is available in those years as well. The error in the DEIS's assumption about M&I groundwater pumping is demonstrated by its

assumption that agricultural contractors would respond to implementation of a full M&I preference under Alternative 3 by pumping more groundwater in many years. (DEIS, p. 6-67.) The DEIS does not explain why it assumes that M&I contractors would pump less often in response to water-supply shortages.

Response

The impacts analysis in Chapter 6 has been revised to discuss how frequently M&I contractors may need to utilize all of their available non-CVP supplies, including groundwater, in order to meet critical water demands, defined as PHS need. Depending upon the alternative and a contractor's particular set of and availability of non-CVP supplies, that situation could occur under non-dry as well as dry years.

The effects to agricultural water service contractors of Alternative 3 are discussed in Appendix D, Statewide Agricultural Production Model Documentation. Under Alternative 3, M&I water service contractors are given priority, consequently Alternative 3 shows an increase in groundwater pumping relative to the No Action Alternative to offset the decreased surface water provided by the CVP. More detail is provided in Appendix D, Chapter D.5.4.

Comment LA01-21

Comment

The FEIS's groundwater analysis should be expanded to include more than impacts on land subsidence and some water quality issues. (See DEIS, p. 6-58.) The DEIS does not address, for example, potential migration of contaminant plumes that could occur if CVP deliveries to M&I contractors were reduced or were insufficient to meet demands. There are at least two well-known contaminant plumes in the Sacramento metropolitan area - originating from Aerojet property south of the American River and from the former McClellan Air Base north of that river - that could migrate if increased groundwater pumping were to occur in that area as assumed by the DEIS. The FEIS should address the potential migration of these plumes as a result of the WSP's implementation.

Response

Long-term changes to groundwater levels and/or flow patterns could induce migration of reduced quality groundwater into previously unaffected areas. However, M&I contractors in the Sacramento region have water quality monitoring protocols and basin management objectives in place to identify any potential migration of these plumes. Sacramento Groundwater Authority (SGA) and Sacramento Central Groundwater Authority (SCGA) have networks of water quality monitoring wells in place to:

- Provide monitoring to ensure a safe and reliable drinking water supply; and
- Provide early notice of potential contaminant plume migration.

SGA has identified approximately 400 monitoring wells in and around the former McClellan Air Force Base for integration into the SGA monitoring effort (SGA 2008). Sacramento County Water Agency (SCWA) is in the process of identifying a subset of the sentry wells located in and around the Mather Field for integration into their monitoring effort. SCGA along with SCWA will also coordinate with the U.S. EPA and the Regional Water Quality Control Board, which oversees Aerojet and Boeing's remediation efforts and with Sacramento County Environmental Management Department for the leaking underground storage tank cleanup efforts, to identify existing dedicated monitoring wells in the basin (SCGA 2006).

Comment LA01-22

Comment

The FEIS Should Correct Issues with the DEIS's Cumulative Impacts Analysis: The DEIS's conclusion that implementation of Bay-Delta Conservation Plan (BDCP) Alternative 4 would not result in any reductions in CVP deliveries to M&I contractors obscures the serious impacts to water supplies from Folsom Reservoir that BDCP projects to occur by 2060 as a result of the continued implementation of Delta water quality requirements with climate change. (DEIS, p. 4-40.) As discussed in the comments on the draft BDCP EIR/EIS by the North State Water Alliance and the American River Water Agencies (These letters are available at <http://goo.gl/OuFfXa> and <http://goo.gl/0djHBE>, respectively), these projections are not reliable and, if implemented, would violate numerous contracts and water rights. For example, the City of Folsom and San Juan Water District's supplies under their contracts with Reclamation that reflect their American River water rights from the 1850s would not be available if Folsom Reservoir were to be drained as projected in the BDCP EIR/EIS. The current DEIS may not rely on the draft BDCP EIR/EIS to reliably analyze what water-supply impacts would occur with the combined implementation of Reclamation's draft M&I shortage policy and BDCP.

Response

The original Bay Delta Conservation Plan (BDCP) was considered in this cumulative analysis until April 2015, when California Governor Jerry Brown announced the revision of the plan. In July 2015, the California Department of Water Resources (DWR) and Reclamation released a Notice of Availability for the Partially Recirculated Draft EIR/Supplemental Draft EIS on the BDCP, proposing the California WaterFix as the preferred alternative. California WaterFix is proposed to fix California's aging water delivery system to help protect the state's economy and public safety. The State now proposes to restore more than 30,000 acres of Delta habitat separately through another venture called California EcoRestore (California Natural Resources Council 2015). Given uncertainty with the configuration of the BDCP alternatives and the revised environmental documentation currently under review, the cumulative analysis throughout the EIS has been revised to remove the quantitative information and analysis of the original BDCP alternatives. It would be speculative to consider

this project at any more than a conceptual level because this project and its effect are not defined in sufficient detail to allow meaningful analysis.

Comment LA01-23

Comment

Similarly, the DEIS's statement that implementation of Alternative 2 with cumulative projects such as BDCP and the SWRCB's draft San Joaquin River water quality control plan amendments will not have an adverse cumulative effect "given the plan's limited effect on Delta exports" seems to indicate that Reclamation has limited the scope of its analysis on this point to M&I contractors that receive Delta exports. (DEIS, p. 4-41.) The FEIS should correct this statement because such a limitation would be inappropriate given the numerous M&I contractors located upstream of the Delta.

Response

See response to Comment LA01-22.

Comment LA01-24

Comment

Additional Issues That Should be Fixed or Clarified in the FEIS. In addition to the comments in the sections above, a number of additional issues with the DEIS should be fixed or clarified in the FEIS. These additional issues are as follows, in the order in which they appear in the DEIS:

- The DEIS is inconsistent as to what years are included in the DEIS's historical use modeling for the American River division. (Compare DEIS, p. 2-7 and p. 4-11.) This inconsistency should be clarified.

Response

The footnote in Chapter 4.1.3.1 has been revised to present the correct unconstrained years.

Comment LA01-25

Comment

The FEIS should fix the DEIS's incorrect suggestion that the State Water Resources Control Board's (SWRCB) approval is necessary for changes to the use of pre-1914 appropriative water rights. (DEIS, p. 4-4.) The SWRCB's approval is not necessary for changes to such rights.

Response

Clarifying text has been added regarding changes to pre-1914 appropriative water rights.

Comment LA01-26

Comment

Contrary to its description, Figure 4-2 on the DEIS's page 4-7 depicts Delta Division contractors, rather than Shasta and Trinity River Division contractors.

Response

Figure 4-2 has been revised to present the correct division map.

Comment LA01-27

Comment

Figure 4-6 shows M&I contractors in the American River Division, but does not include the City of Folsom. (DEIS, p. 4-12.) The City should be included because it contracts for CVP water-service supplies through a subcontract with SCWA. The CVP water-service contract between Reclamation and SCWA recognizes that the City would obtain water under that contract. (Contract 6-07-20-W1372, pp. 3:20-4:4, 5:4-9, 7:10-13, 15:2-10, Exh. B-2.) Similarly, a calculated PH&S demand amount for the City has been incorrectly omitted from the contractor data in Appendix A, and the City's PH&S demands do not appear to be included in SCWA's demand amount. (See DEIS, App. A, p. A-1.)

Response

The City of Folsom receives CVP deliveries through a subcontract held with SCWA. As such, the City is not a separate CVP water service contractor and is not included on Figure 4-6 that displays CVP M&I contractors in the American River Division. As indicated in the response to comment LA17-04, the City of Folsom's PHS need and non-CVP supplies have been added to Appendix A and the analysis of unmet PHS need presented in Chapter 4.

Comment LA01-28

Comment

The total American River Division contract and use numbers included in Figure 4-7 on DEIS page 4-12 do not match the total American River Division contract and use numbers in Appendix A. (See DEIS, App. A, p. A-1.) The FEIS should correct the discrepancy and its analysis should be adjusted accordingly.

Response

Figure 4-7 has been revised to be consistent with the data in Appendix A. There is no change to the analysis or conclusions in the Final EIS.

Comment LA01-29

Comment

The DEIS's description of American River Division contractors' non-CVP supplies on page 4-28 do not match the total of those supplies stated in the DEIS's

Appendix A. (See DEIS, App. A, p. A-1.) The FEIS should correct the discrepancy and its analysis adjusted accordingly.

Response

The values in Chapter 4 have been updated to be consistent with Appendix A. There is no change to the analysis or conclusions in the Final EIS.

Comment LA01-30

Comment

The DEIS states Alternative 2 is modeled to produce higher flows in the lower American River. (DEIS, p. 4-29.) The FEIS should explain why these higher flows are projected to occur, and when flows would increase.

Response

The text in Chapter 4 has been revised to be consistent with the related discussion in Appendix B.

Comment LA01-31

Comment

The DEIS incorrectly characterizes what water CVP contractors may transfer under the CVPIA. (See DEIS, p. 6-3.) In particular, the DEIS states that, under Central Valley Project Improvement Act (CVPIA) section 3405, "Transfer will be limited to water that would be consumptively used or irretrievably lost to beneficial use." (DEIS, p. 6-3.) This description of CVPIA section 3405 is incorrect for CVP contractors in the CVP's area of origin. CVPIA section 3405(a)(1)(M) states that the otherwise applicable requirement that a transfer be limited to consumptive use or irretrievable loss under section 3405(a)(1)(I) "shall be deemed" to be met for "transfers between Central Valley Project contractors within counties, watersheds, or other areas of origin, as those terms are utilized under California law." For transfers among such contractors, section 3405(a)(1)(M) also deems to be met section 3405(a)(1)(A)'s otherwise applicable requirement that a transfer be limited to "the average annual quantity of water under contract actually delivered to the contracting district or agency during the last three years of normal water delivery prior to the date of enactment of this part." The FEIS should contain language that correctly characterizes CVPIA's conditions for transfers of CVP supplies among contractors in the area of origin.

Response

The M&I WSP does not explicitly include groundwater substitution transfers; therefore, this section on federal regulations pertaining to water transfers has been removed from Chapter 6.

Comment LA01-32

Comment

The City of Roseville is operating under its third interim CVP water-service renewal contract, but the contract number stated for the City in Appendix A ends in "IR-1," indicating a first renewal contract. (See DEIS, App. A, p. A-1.) The FEIS should correct this error.

Response

Appendix A has been revised to list the City of Roseville's contract number as 14-06-200-3474A-IR3.

Comment LA01-33

Comment

The DEIS's Appendix B contains an error in the reservoir storage level data for Folsom Reservoir. (DEIS, App. B, p. B-15, Table B-3.) It appears that the lines for some of the reservoirs listed in Table B-3 may be transposed.

Response

Errors in Appendix B tables occurred during formatting of the Draft EIS and have been corrected in Appendix B of the Final EIS.

Comment LA01-34

Comment

Once again, our agencies appreciate Reclamation's efforts to finalize the WSP. Because we understand that Reclamation intends to finalize the WSP by the end of this year, we reiterate our request that Reclamation initiate stakeholder discussions on the selection of the final WSP alternative as soon as reasonably possible. We appreciate your attention to these comments and look forward to further discussions with Reclamation regarding the DEIS and the WSP Alternative that Reclamation will select in the FEIS.

Response

See Common Response 1.

Comment Letter LA02, Ed Kriz, City of Roseville

Comment LA02-01

Comment

Thanks for the meeting this afternoon and the information on the EIS project. As you know, the current deadline for comments is January 12th, 2015. While I appreciate the desire to move this effort forward and get it completed the requested review schedule is quite constrained and bridges both Thanksgiving and Christmas/New Year holidays. I am requesting an extension to February 20th for agencies to have time for a more thorough review.

Response

Reclamation published the Notice of Availability of the Draft EIS and public meetings in the Federal Register (Volume [Vol.] 79, Number [No.] 223) on November 19, 2014. Public meetings were held between December 8, 2014 and December 17, 2014 in the cities of Sacramento, Willows, Fresno, and Oakland, California. At these meetings, verbal and written comments on the Draft EIS were accepted.

To ensure the public had ample opportunity to provide written comment on the Draft EIS and in response to public request the public comment period was extended through March 13, 2015. Reclamation filed a Notice of Public Review and Comment Period Extension in the Federal Register (Vol. 80, No. 6) on Friday, January 9, 2015.

All written comments received on the Draft EIS, and all verbal comments received during the public meetings, by March 13, 2015 are considered and addressed in this Final EIS.

Comment Letter LA03, Jim Mulligan, City of Roseville

Comment LA03-01

Comment

Please extend the comment period beyond January 12, 2015 so the holidays don't impact public comment response.

Response

See response to Comment LA02-01.

Comment LA03-02

Comment

Please integrate the EIS schedule with the COA re-negotiation process as changes to the COA that balance and benefit the CVP would potentially change the EIS alternatives analysis. It seems hasty to finalize an M&I Shortage Policy based on a flawed COA.

Response

Negotiating a potentially revised Coordinated Operations Agreement (COA) is likely to be complex, involve multiple parties and interests (including DOI and Congressional representatives in Washington, D.C.), and take perhaps several years to complete. Therefore, because the timelines for completing the COA negotiations (years) and the M&I WSP EIS (fall 2015) are so vastly different, Reclamation has determined to proceed with completing the CVP M&I WSP Final EIS and Record of Decision. If and when negotiating a revised COA is completed and results in changes to the M&I WSP, then at that time an assessment would be made regarding the need to prepare a supplemental document under NEPA.

Comment Letter LA04, Carol Garcia and Edward J Costa, City of Roseville and San Juan Water District

Comment LA04-01

Comment

This letter provides comments on the draft environmental impact statement (DEIS) for the Central Valley Project (CVP) Municipal and Industrial Water Shortage Policy (Shortage Policy) specifically from the City of Roseville and San Juan Water District. This letter focuses on an issue relatively unique to the City and the District, namely the effect of a term in the Bureau of Reclamation's water-right permits for Folsom Dam and Reservoir - Term 14 - on CVP water-service contract allocations from water in that reservoir.

Before providing these comments, we would like to express our appreciation for Reclamation's efforts to manage the limited water supplies that have been available to it at Folsom Reservoir during the on-going drought. As you know, the City and the District depend on diversions directly from the reservoir as our primary water supplies. To preserve those supplies, Reclamation has taken significant steps to preserve water stored in the reservoir. We particularly appreciate that Reclamation's projected operations for 2015 would maintain storage in the reservoir at, if not comfortable levels, at least levels would remain above our water-supply intake this year.

It is important to our agencies that Reclamation complete a Shortage Policy that states how Reclamation will allocate water to CVP municipal and industrial water-service contractors in drier years. Reclamation has been developing a Shortage Policy for many years and we commend your efforts to complete it. Our agencies stand ready to work with Reclamation to make the Shortage Policy and the environmental impact statement for it as good as they can be.

In that vein, we would like to identify, as relevant to Reclamation's consideration of the DEIS and a final Shortage Policy, a point on which we disagree with Reclamation. As you probably are aware, our agencies and others have exchanged with Reclamation several letters concerning Term 14 and the obligations to our agencies that Reclamation accepted in its water-right permits for Folsom Dam and Reservoir. Those letters and their attachments are enclosed with this letter. As they discuss in more detail, Term 14 states, subject to some conditions, that Reclamation will ensure that the "present and prospective" needs of qualifying contractors in Placer, Sacramento and San Joaquin Counties are "fully met" from water that Reclamation diverts under its water-right permits for Folsom Dam and Reservoir. The water-right decision that granted those permits to Reclamation, Decision 893, stated that those permits would allow Reclamation to "adequately supply" communities "naturally dependent" on the American River. As our previous letters have discussed, based on Term 14's language and Decision 893, we believe that Reclamation must prioritize CVP water-service contract deliveries from Folsom Reservoir to our agencies and other agencies

whose water-service contracts are protected by Term 14. The DEIS identifies our concerns about Term 14 as an issue of known controversy, but does not indicate that allocating water according to that water-right permit term is part of the Shortage Policy's purpose and need. The DEIS also does not contain a project alternative that would involve such an allocation. We therefore believe that the DEIS and its Shortage Policy alternatives are inconsistent with Reclamation's water-right permits for Folsom Dam and Reservoir and the laws that apply to the DEIS and the Shortage Policy.

We provide these comments in hopes of advancing the Shortage Policy to a successful resolution. We know that Reclamation is facing difficult questions during the continuing drought and appreciate your efforts that have improved our water-supply reliability. If you have any questions about this letter, please do not hesitate to contact Rich Plecker, the City's Environmental Utilities Director, at rplecker@roseville.ca.us or Shauna Lorange, the District's General Manager, at slorange@sjwd.org.

Response

It is important to look at Term 14 of the State Water Resources Control Board (SWRCB) Decision-893 in its entirety. That article reads, "14. Deliveries of water under permits issued pursuant to Applications 13370 and 13371 shall be limited to deliveries for beneficial use within Placer, Sacramento and San Joaquin Counties and shall not be made beyond the westerly or southerly boundaries thereof, except on a temporary basis, until the needs of those counties, present or prospective, are fully met provided, however, that agreements in accordance with Federal Reclamation laws between permittee and parties desiring such service within said counties are executed by July 1, 1968" (SWRCB 1958a). Also instructive is the last paragraph of the March 21, 1958 letter from the State Water Rights Board transmitting D-893 to "Applicants, Protestants, and Other Interested Parties," which states, "Also, the Board has ordered that conditions be inserted in permits of the United States which will preclude the contracting for water service on a permanent basis outside of the counties of Placer, Sacramento and San Joaquin until the water users within those counties have had a reasonable opportunity, 10 years, to obtain a water supply from the United States at Folsom and Nimbus Reservoirs" (SWRCB 1958b). It is clear that Term 14 was intended by the SWRCB to give applicants for water rights on the American River from the three prescribed counties just a preference to obtain a water service contract with Reclamation within a 10-year (later extended) window. The method adopted by SWRCB provided a measure of certainty for the government and for the contracting entities on the American River in order that Reclamation could operate Folsom Dam knowing how much water it had available for meeting demands downstream of the American River.

Comment Letter LA05, James Peifer, City of Sacramento Department of Utilities

Comment LA05-01

Comment

The purpose of this letter is to provide comments on the Central Valley Project Municipal and Industrial Water Shortage Policy Draft Environmental Impact Statement (DEIS). We apologize for sending our written comments after the deadline. Our water counsel Martha Lennihan did communicate them to you by telephone before the deadline, and we appreciate the opportunity to have had that dialogue. The City of Sacramento (Sacramento) provides municipal and industrial water supply to over 475,000 residents and 137,000 customer accounts. In addition, Sacramento is also a wholesale water supplier to a number of local water agencies. Sacramento has an operating contract (often referred to as a settlement contract) with Bureau of Reclamation dated June 28, 1957. The DEIS indicates in the tables on Pages ES-7 and 4-11 that Sacramento is a water service contractor subject to the Municipal and Industrial Water Shortage Policy (M&I WSP.) The DEIS should be revised to remove Sacramento from the tables identifying it as a water service contractor, and accurately classify the City as a settlement contractor. The hydrologic and other analyses performed for the environmental review should accordingly accurately treat the City's water rights and supply. We appreciate the opportunity to offer this comment. Please call me at (916) 808-1416 if you have any questions.

Response

The erroneous reference to City of Sacramento as a CVP water service contractor has been removed from the Final EIS. The City of Sacramento contract was not included in the modeling or analysis in the Draft EIS.

Comment Letter LA06, Walter McNeill, Clear Creek Community Services District

Comment LA06-01

Comment

Thank you for the opportunity for Clear Creek Community Services District to submit comments on the Central Valley Project Municipal and Industrial Water Shortage Policy Draft Environmental Impact Statement that was released for review on November 14, 2014. As you may recall, Clear Creek Community Services District was represented and made comments at the public meeting in Sacramento that was held on Monday, December 8, 2014. This letter is being submitted to both reiterate the oral comments made at this public meeting and to offer additional comments on the CVP M&I WSP Draft EIS.

Clear Creek Community Services Districts submits the following comments for consideration by the United States Bureau of Reclamation:

1. The CVP M&I Water Shortage Policy should be renamed the “CVP M&I and Agricultural Water Shortage Policy” or simply the “CVP Water Shortage Policy” so that its true intent – to provide a policy for water shortages that applies to both municipal and industrial and agricultural water – is clear from the title. As is evident from the alternatives addressed in the Draft EIS, agricultural water is impacted first and most dramatically by the so-called “Municipal and Industrial” Water Shortage Policy. The table of declining allocations of M&I water & Ag water side-by-side could not be a clearer illustration of how M&I water allocations and Ag water allocations are inextricably intertwined and combined in this policy.

Response

The contracts between Reclamation and the water service contractors obligate the contractor to adhere to the, "then-existing Project M&I Water Shortage Policy" in Article 12. Therefore, to remain consistent with existing contracts, Reclamation will continue to name the policy the CVP M&I WSP.

Comment LA06-02

Comment

This misnomer has apparently confused even members of Congress – House Bill HR 5781 (the California Emergency Drought Relief Act of 2014, passed by the House on December 9, 2014), Section 204 – Allocations for Sacramento Valley Contractors – mandates agricultural water allocations of 50% to 100% in any “dry” to “wet” year that is not preceded by a “dry” year – an allocation that seemingly flies in the face of the agricultural shortage provisions in the CVP “M&I” Water Shortage Policy. Indeed, HR 5781 even contains provisions that state that it shall not “affect or limit the authority of the Secretary to adopt or modify municipal and industrial water shortage policies” – an indication that the drafters are ignorant of the fact that any legislation affecting the allocation of agricultural water necessarily impacts the draft “M&I” water shortage policy currently being implemented by the USBR.

Response

House Bill (H.R.) 5781 was passed by the House of Representatives and referred to the Senate Committee on Energy and Natural Resources. The bill did not make it out of committee. It would be speculative for the Final EIS to consider pending federal legislation in its analysis.

See also response to comment LA06-01.

Comment LA06-03

Comment

One unfortunate consequence of the deceptive name given to this policy is the suppressed representation and participation of Ag contractors in the process of formulating the policy options and in the public participation in the environmental review for this draft EIS. I have spoken directly with representatives of numerous Ag contractors and asked why they were not involved in the process, but received the reply that to their understanding this is only a policy for M&I water. I believe this misconception is widespread among Ag contractors and unfortunately undercuts the legitimacy of the entire process.

Response

Reclamation has been in communication with CVP stakeholders, both M&I and agricultural water service contractors, since August 2009 about its effort to update the 2001 Draft M&I WSP. Between May 2010 and June 2012, Reclamation conducted seven M&I WSP Stakeholder Workshops, to which both M&I and agricultural water service contractors were invited and attended. Reclamation announced the availability of the Draft EIS to both M&I and agricultural contractors in November 2014 through its Notice of Availability in the Federal Register and through correspondence to the stakeholder email list.

See also response to comment LA06-01.

Comment LA06-04

Comment

2. No accommodation is made in any of the alternatives addressed by the EIS for the delivery of water to households – that means people – located on agricultural parcels receiving agricultural water. Many of the agricultural users in the Clear Creek Community Services District are small farmers who live with their families in households on their farms; that’s about 300 Ag water users and a little over a 1,000 people. They receive their water for household use as an “incidental” use of their Ag water, as is specifically provided for in our water service contract (that is a common feature of many water service contracts and has been a policy of Reclamation from its inception to aid the “family farm”).

When agricultural water allocations are reduced to 0%, these users are not only left without any water for their crops, but potentially without any water for themselves and their families. On at least two occasions in recent years Clear Creek CSD has been forced to buy water on the open private market (at considerable expense to the District) because the allocations of Ag water had gone down to 0%, and the District has to figure out some way to provide water to over a 1,000 people. The District has complained numerous times to Reclamation about this irrational and costly total denial of water to people who normally receive incidental Ag water, and I have commented several times in the

workshops for the development of the new WSP that this problem has to be corrected. Yet Reclamation has turned a deaf ear, and this draft EIS refuses to even identify the issue I have explicitly raised in your public process much less make any attempt to correct the problem. It should go without saying that the total denial of water to over 1,000 people is a severe “environmental impact” of the proposed WSP in all its versions. Presumably Clear Creek CSD is not alone and there are many other water service contractors with the same problem, even if on a lesser scale. The failure of the draft EIS to even discuss this issue, much less attempt provisions that would correct the problem, is inexcusable.

Response

Reclamation recognizes that there are agricultural water service contractors which also have incidental domestic users. In extreme drought events, like the current situation, where agricultural contractors are given a zero allocation, Reclamation has ensured that water districts have sufficient supplies under their M&I allocation, as applicable, to also provide sufficient supplies to cover the PHS needs of the incidental domestic users. Reclamation is not aware of any situation where agricultural water users with incidental domestic use have not been supplied sufficient water to meet PHS needs.

Alternative 4 has been edited to include clarifying language under Table 1 (see Appendix M). This is merely a clarifying edit which does not meaningfully change either the intent or analysis of alternatives in the EIS.

Comment LA06-05

Comment

3. Any of the water shortage policies that restrict the District’s water allocation to an amount less than its demands for beneficial use (and which are below its contractual amount of 15,300 acre feet) violates the District’s “area of origin” rights of first use as a “watershed of origin” and/or “county of origin” (see California Water Code §§11460, 10505, and 11128), given that the Clear Creek watershed in Shasta County generates over 112,000 acre feet of water annually – many times the contract quantity of the District. To be clear about this, the District is not suggesting that there needs to be any modification of its water service contract. The District is not asking for water above the contractual maximum amount of 15,300 acre feet. However, when Reclamation is unable to deliver the full amount of water demanded by all the various contractors in the CVP, the allocation process carried out administratively by Reclamation must comply with the State laws relating to “area of origin” pursuant to and as incorporated in the permits given to Reclamation by the State to operate the CVP in the first instance. As long as the water produced in the “area of Origin” for the District exceeds its demands for beneficial use, the WSP must honor the legal obligations imposed on Reclamation at the inception of the CVP to meet the District’s needs first in any administrative water shortage allocation process.

Response

It has long been settled and affirmed by SWRCB and courts that California's "area of origin" statutes do not require Reclamation to provide CVP contractors within areas of origin priority contract rights to stored water, because contracts between those CVP contractors and Reclamation contain provisions that specifically address allocation of water during shortage periods. California's "area of origin" statutes apply to holders of natural flow water rights, not CVP contractors. Reclamation complies with state law "area of origin" statutes in its initial diversions for CVP purposes.

Comment LA06-06

Comment

4. The limitation on conversion of Ag water to M&I water for shortage allocation purposes violates the contract rights of the District and effects a taking of its M&I water. This need to be understood in the context of what Reclamation has done CVP-wide without consideration of the impacts on Clear Creek CSD and its unique circumstances.

Alternative 1, the continued implementation of the current 2001 Draft M&I WSP, and Alternative 4, the "Updated M&I WSP", provide that Ag water converted or transferred after September 30, 1994 for M&I use would be subject to the Ag water shortage allocation, despite its actual use for M&I purposes. This essentially makes any water converted from Ag water to M&I water in order to accommodate a growing urban population completely unreliable and useless – as any such converted water will continue to be subject to an agricultural water allocation that could result in a 0% allocation to the new M&I users. It is essentially a check on the large Ag water contractors that use 99% of their contractual water for Ag purposes, to prevent them from turning into M&I water "banks" that sell off Ag water at mark-ups of 1000% (give or take) while fueling unconstrained new development made possible by a new source of urban M&I water. The possibility of such wholesale conversions of Ag to M&I water did not exist until about 2001 when Reclamation changed all of the existing exclusively Ag water service contracts in the CVPIA process (which authorized water only for "irrigation" purposes) to dual purpose contracts that allow water for either Ag or M&I purposes. The original (never finalized) September 11, 2001 WSP – limiting the conversion of Ag to M&I water – had to be put in place to, among other things, put a constraint on Reclamation's creation of this vast pool of potential M&I water that did not exist in the past.

However, Clear Creek CSD (unlike the Ag contractors with hundreds of thousands of acre feet of purely AG water prior to their contract conversions) has always been a "mixed use" contractor going back to a 1965 water service contract that allowed the District to use its entire contract quantity for either M&I or Ag use without constraint. Further, Clear Creek CSD (unlike any other CVP contractor we know of) filters and treats 100% of all of the water it takes from Reclamation, and all of the water it serves to customers is 100% potable water,

delivered 100% through pipes and meters (as opposed to canals and ditches common to Ag water delivery), with plans and long term population growth projections that indicate that eventually nearly 100% of the District's contract quantity will be used for M&I purposes, with investments in filtration capacity and land space provided on federal land for expansion of the treatment plant to accommodate 100% M&I water for its full contract quantity as the need develops over the life of its water service contract. Even the Ag water usage in Clear Creek CSD draws from the same major pipeline, which means that filtered treated potable water is being applied to fields and orchards for Ag water usage – a practice unheard of in the CVP and a fact that militates toward the ultimate conversion of all Ag water to M&I usage in the long term due to obvious economic and practical considerations. (The origin of this anomalous water usage lies in the unique circumstances of the creation of the Reclamation facilities that serve the District; suffice to say the current circumstances were not foreseen in 1965.) The WSP alternatives now being considered and their constraints on present and future Ag-to-M&I conversion are a betrayal of the historical promises and assurances of Reclamation to the District that its water was and is freely usable for either Ag or M&I, and legally the incorporation of such constraints on conversion into the water service contract via the WSP creates a breach of contract and a “takings” of the District's property interests. The conversion limitation in the WSP is then exacerbated by an artificial “cap” on M&I water placed in the “Terms and Conditions” of the WSP alternatives (see Alternative #4, Term and Condition No. 3) that constrains M&I water to the amount shown in a Water Needs Analysis developed in the year 2000 by the Bureau of Reclamation – without the knowledge of the District and without consultation with the District – that unilaterally and erroneously projected the District's future water demand for M&I to be 8,283 acre feet. However, in Appendix A to the draft EIS for the WSP, the Bureau (more accurately, though still unilaterally) predicts that the projected M&I demand for the District will be its full contract quantity of 15,300 acre feet. The NEPA environmental review is based on projected full contract quantity use of 15,300 acre feet of water as M&I – a calculation with which the District agrees and that Reclamation now describes as based on “more accurate data” (see p. 2-20 of the draft EIS); yet the actual WSP alternatives still contain the old inaccurate WNA analysis as a limiting factor on M&I use. The two-fold consequence is that the environmental analysis is conflicted/inaccurate, and Clear Creek CSD is falsely limited to 8,283 acre feet of M&I water – leaving it with contract and condemnation damages for the remainder of its contract water that it cannot use, sell or trade as M&I water.

Response

Within each CVP contractor's “Water Needs Assessment” for renewal of their long-term water supply contracts, which were completed in 2004-2005, CVP M&I water supply allocations pertain to the “Contractor's M&I Water Demand.” A contractor's maximum M&I Demand is shown under build-out conditions, which at the time was assumed to occur in 2025.

In order to provide the most conservative analysis of potential impacts in this environmental documentation, Reclamation assumed for 2030, the end point of this document's timeframe, that all M&I water service contractors, including "mixed use" contractors, will use their full Contract Total and historical use is therefore equal to the Contract Total. This does not supplant or supercede information in a contractor's contract.

In cases of severely strained water supplies, under Alternatives 1, 4, and 5, Reclamation will provide CVP water, subject to availability and as it is able, to help meet a contractor's unmet PHS need in conjunction with the contractor's other available supplies, whether the contractor officially receives CVP water designated as M&I or agricultural water, even if the agricultural allocation is zero. It is up to the contractor to request Reclamation to assist in meeting their unmet PHS requirement. Under Alternatives 2 and 3, there are no provisions for additional water supply to meet PHS need.

Comment LA06-07

Comment

5. One of the "Issues of Known Controversy" listed in Section 1.6 include an acknowledgment that "[t]he EIS should analyze the impacts to water service contractors who have limited access to alternative water supplies and to 'mixed use' contractors." Clear Creek CSD is one of these few "mixed use" contractors, but it appears that, yet again, none of the alternatives considered by the EIS analyze the impacts on such "mixed use" contractors, especially as to those individuals living on agricultural parcels, as indicated in above comment number 3, and the conversion of agricultural water to M&I water by "mixed use" contracts with growing urban populations, as indicated in above comment 4. The EIS continues to ignore the reality of a growing urban population in mixed-use water districts and the consequent need for increased M&I use as well as the environmental impacts of this increased use.

Response

See response to Comment LA06-04.

Comment LA06-08

Comment

6. Despite numerous and on-going complaints from CVP contractors in workshops and other Reclamation forums for discussion of the WSP that have occurred over the last 10 years, the WSP alternatives continue to punish contractors for the development of non-CVP water sources that may supplement rather than replace CVP water allocations. See for example Term and condition No. 1 in alternative No. 4, which states that Reclamation may "consider" the extent to which non-CVP water is available in making shortage allocations of CVP water if the non-CVP water is not solely used to replace CVP supplies. That is, a CVP contractor that may have other non-CVP water

available during a drought may also receive a lesser allocation of CVP water so that more needy water users without those alternatives can be given more water by Reclamation. Somehow Reclamation seems not to understand that this WSP discourages the development of alternative water sources and investment of capital in the facilities to that kind of water available, at a time when we should be looking for water anywhere we can find it. The Draft EIS needs to acknowledge this dis-incentive to water development and its adverse environmental consequences, compared to a policy that allows and encourages the development of new water sources.

Response

See Common Response 4 and Common Response 5.

Comment LA06-09

Comment

7. Reclamation claims that it has the privilege or authority to determine for the water service agency contractors whether is or is not a “water shortage emergency” for purposes of making allocations of M&I water below the 75% historical use level. This conflicts with Water Code §350 et seq. that puts that authority only in the hands of the individual water agencies. The draft EIS cannot perform accurate review on a false premise imbedded in the WSP. This need to be revised or the EIS may be found lacking.

Response

The CVP M&I WSP does not itself determine how much CVP supply is made available to water service contractors, but how to distribute the water determined to be available between agricultural and M&I water service contractors. As described in the “Biological Assessment for the Coordinated Operating Agreement between the Central Valley Project and State Water Project,” “The water allocation process for CVP begins in the fall when preliminary assessments are made of the next year's water supply possibilities, given current storage conditions combined with a range of hydrologic conditions. These preliminary assessments may be refined as the water year progresses. Beginning February 1, forecasts of water year runoff are prepared using precipitation to date, snow water content accumulation, and runoff to date. All of CVP's Sacramento River water rights contracts and San Joaquin Exchange contracts require that contractors be informed no later than February 15 of any possible deficiency in their supplies. In recent years, February 15 has been the target date for the first announcement of all CVP contractors' forecasted water allocations for the upcoming contract year” (Reclamation 2008a). Reclamation must first provide CVP water to meet all regulatory requirements mandated by the State Water Resources Control Board (Delta flow and water quality standards), CVPIA (specifically the “(b)(2) water” and refuge L2 water), and the RPA actions listed in the USFWS’s (2008) and NOAA Fisheries’ (2009) respective BOs on the Coordinated Operations of the CVP and SWP. Then, Reclamation must meet its contractual obligations to senior

water rights holders, and then to CVP agricultural and M&I water service contractors.

Comment LA06-10

Comment

8. It appears that the wrong map was used as Figure 4-2. Shasta Division and Trinity River Division Water Service Contractors. Instead of the Shasta and Trinity divisions, the Delta Division is pictured.

Response

Figure 4-2 has been revised to present the correct division map.

Comment Letter LA07, Jerry Brown, Contra Costa Water District

Comment LA07-01

Comment

The Contra Costa Water District (District) requests an extension of time for public review of the Draft EIS to March 13, 2015. I appreciate that Reclamation has provided regular updates on the status of the CVP M&I WSP and I am pleased that Reclamation is moving forward with finalization of the policy. The process toward finalization has been extraordinarily protracted, as evidenced by the fact that the current draft M&I WSP dates back to 2001. Efforts in 2003-2005 produced a draft revised policy and a NEPA environmental assessment but the proposed policy in those documents was not adopted. In reinitiating efforts towards a final M&I WSP in 2010, Reclamation held a number of stakeholder workshops and NEPA NOI meetings that extended into 2011. Subsequently, stakeholders were told that issues had arisen with the continuity of Reclamation's consultant contract, which led to delay of more than a year in work towards an M&I WSP. More recently, stakeholders were informed that the consultant's work had resumed and that a Draft EIS would be issued in 2014. But stakeholders did not anticipate that the window of time offered by Reclamation for public review would be only 45 days and span the end-of-year holiday period when many stakeholder employees and advisors take vacations. The fact that Reclamation has taken many years to develop and publish the Draft EIS should not cause a sudden and impractical rush towards closure at the expense of receiving adequate stakeholder and public comment. The Draft EIS is a document of substantial length and great detail that will require approximately three months for proper review. Accordingly, I am requesting that the review period be extended to Friday, March 13, 2015. Thank you for your consideration of this request. Please contact me at (925) 688-8034 if you have any questions.

Response

See response to Comment LA02-01.

Comment Letter LA08, Jeff Quimby, Contra Costa Water District

Comment LA08-01

Comment

The Contra Costa Water District (CCWD) appreciates the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for Central Valley Project (CVP) Municipal and Industrial (M&I) Water Shortage Policy (WSP). CCWD serves untreated and treated water to approximately 500,000 people throughout central and eastern Contra Costa County. CCWD is the first CVP contractor and the largest M&I contractor, and the CVP has historically been, and will continue to be, its primary water supply. In 1998, CCWD invested \$450 million to construct the Los Vaqueros Project to improve water quality for its customers and to provide emergency storage. Since then, CCWD's customers have invested an additional \$210 million to construct the Middle River Intake on Victoria Canal and the Los Vaqueros Reservoir Expansion Project to further protect delivered water quality and to improve water supply reliability.

CCWD opposes Alternative 2 (Equal Agricultural and M&I Allocation) and Alternative 3 (Full M&I Allocation Preference) in the DEIS. Alternative 2 does not give priority to delivering water supply relied upon by M&I contractors to meet Public Health and Safety requirements, and neither alternative represents a reasonable methodology for allocating water shortages among CVP contractors.

Response

Reclamation recognizes the range of M&I WSP alternatives that are the subject of this EIS are of interest to many people, and opinions and viewpoints about the alternatives vary. Reclamation will consider all public input regarding the alternatives analyzed in the EIS when making its decision.

Comment LA08-02

Comment

CCWD supports Alternative 1, the No Action Alternative in the DEIS inasmuch as it is the current policy being implemented, which is described on Page 2-4 as the "2001 Draft M&I WSP, as modified by Alternative 1B from the 2005 EA". The No-Action Alternative and 2001 M&I WSP reflect Reclamation's historical practice over many decades in allocating water during shortages to sustain urban areas during periods of drought and to protect public health. CCWD also supports further evaluation of Alternatives 4 and 5 in the DEIS. Alternatives 1, 4, and 5 should all be modified to remove inconsistencies between the DEIS and the current Draft WSP related to considerations for allocations under Public Health and Safety conditions, described in the following comments.

Response

See response to Comment LA08-01.

Comment LA08-03

Comment

The DEIS notes that Reclamation will strive to meet "unmet" Public Health and Safety demand, considering the availability of an agency's non-CVP supplies. The approach of providing only for unmet PH&S demands provides a disincentive for contractors to invest in new non-CVP supplies, and penalizes agencies that already have made such investments. While it is recognized that extraordinary conditions may warrant adjustments to CVP allocations, adjustments for available non-CVP supplies should be the exception, not the rule, and should not be applied where the CVP is the primary supply. CCWD requests the following clarifications to the DEIS and WSP regarding Public Health and Safety. The proposed changes are consistent with historical practice and the 2001 Draft WSP.

Page 2-8

During water shortage conditions, Reclamation will strive to deliver CVP water to M&I water service contractors at not less than their [] PHS water supply level, provided that sufficient CVP water is available, if: 1) the Governor declares an emergency drought condition due to water shortage; or 2) Reclamation, in consultation with the contractor, determines that an emergency exists due to water shortage. [insert: At times of extraordinary circumstance, Reclamation may determine that it is necessary to vary the allocation of M&I water among contractors, taking into consideration a contractor's available non -CVP water.] At that time, the PHS level and unmet need would be determined by the contractor and reviewed by Reclamation.

The PHS water criteria in this analysis are used to estimate the water that is needed for consumption, for operation of necessary water and wastewater facilities, and to avoid economic disruption. The PHS needs will be calculated using the M&I water service contractor's domestic, commercial, institutional, and industrial demands and system losses. [delete: M&I water service contractors are expected to first use their non CVP supplies to meet their PHS demands.]

Reclamation would [delete: then] use CVP water to assist the M&I water service contractor to meet [delete: the unmet need portion of] their respective PHS demand. Unmet need is calculated as the difference between a contractor's PHS demand and its [insert: reasonably] available non-CVP supplies. CVP water provided for PHS needs would be non-transferable.

Response

See Common Response 4 and Common Response 5.

Comment LA08-04

Comment

The M&I Contractor Data Summary in Appendix A of the DEIS shows CCWD's estimated 2010 Public Health and Safety level as 70,827 acre-feet. It is noted that this value was calculated by Reclamation based on information contained in CCWD's 2010 Urban Water Management Plan. CCWD provides CVP water to retail customers and on a wholesale basis to municipal customers within its service area. The calculated PH&S amount in the DEIS only considers CCWD's retail customers and does not include commercial, institutional, and industrial demands for CCWD's municipal customers. The 2010 estimated Public Health and Safety Value should be updated to 79,500 acre-feet. This value includes 80% of commercial/institutional and 90% of industrial demands for CCWD's municipal customers.

Response

The value presented in Appendix A for Contra Costa Water District's (CCWD) estimated 2010 PHS need has been revised to 79,500 acre-feet (AF).

Comment LA08-05

Comment

Once Reclamation has had the opportunity to review the comments received on the DEIS for the M&I WSP, CCWD looks forward to participating in a public stakeholder process to select a policy alternative to be adopted in a final M&I WSP. It is critically important that CCWD and the other M&I contractors are consulted throughout the process and have an opportunity to engage in a transparent, collaborative discussion before Reclamation finalizes the M&I WSP.

Thank you for your consideration of CCWD's comments. Please call me at (925) 688-8310 if you have any questions.

Response

See Common Response 1.

Comment Letter LA09, Leonard Moty, County of Shasta

Comment LA09-01

Comment

This letter is in reference to the Central Valley Project Municipal and Industrial Water Shortage Policy Draft Environmental Impact Statement (Draft EIS). We encourage the Bureau of Reclamation to provide further analysis and discussion of recreation and the cold water pool. Shasta County is home to Shasta Lake, keystone of the Central Valley Project (CVP) and a significant recreation asset to our community. This document purports to guide Reclamation's management of this critical resource. Cold water pool considerations have gravely impacted CVP operations. The City of Shasta Lake's drinking water supply has been curtailed.

Transfers have been denied. This document should examine these impacts. It falls short in several respects. Chapter 10, Aquatic Resources, lists many endangered fish. These presumably drive cold water needs. There is a lack of discussion of the timing of their cold water demand. There is no quantification of the relative size of the cold water pool in Shasta Lake or the relative impacts of the various alternatives. In fact, the Draft EIS makes it appear that there will be no such impacts. And yet, the cold water pool has been cited in many adverse water supply actions in recent years. If the cold water pool is driving decision making, it should be carefully analyzed in this document.

Response

See response to Comment FA01-01.

Comment LA09-02

Comment

Chapter 16, Recreation, does not adequately evaluate local recreation impacts. Shasta Lake brings \$60M into the local economy each year - when it's full. Per Table 3-1, the No Action alternative cannot deliver even public health and safety water in ten percent of all years. Even this small change will have far-reaching impacts on available recreational opportunities and the economy. The Draft EIS fails to analyze these. Shasta County hosts key elements of the CVP. We greatly value its contributions to the local region and to the state as a whole. It needs to be carefully managed to maximize these benefits. This document is the avenue to do so. We look forward to appropriate modifications and improvements in future drafts to achieve these goals.

Response

Chapter 16 evaluated impacts to recreation and concluded based on the analysis that there would be no significant impacts to recreation from the storage and elevation in Shasta Lake. Based on this conclusion, it is assumed that there would be no notable changes in visitation and recreation spending in the county. Economic effects are related to visitor spending. If visitation would not change, there would not be any economic effects. Based on the recreation analysis, economic effects related to recreation would not occur and are not discussed in Chapter 13. Potential economic effects from changes in deliveries to M&I water service contractors, including when unmet PHS need may occur, are discussed in Chapter 13.

Comment Letter LA10, Anthea G. Hansen, Del Puerto Water District

Comment LA10-01

Comment

Del Puerto Water District ("Del Puerto" or "District") respectfully submits the following comments on the United States Bureau of Reclamation's ("Reclamation") Central Valley Project ("CVP") Municipal and Industrial

("M&I") Water Shortage Policy Draft Environmental Impact Statement, dated November 2014 ("DEIS").

Del Puerto is located south of the Delta and contracts for 140,210 acre-feet ("af") of CVP water used almost exclusively for irrigation and agricultural uses in the District. Over half of the District's 45,000 irrigable acres are planted to permanent crops. CVP water is the sole or predominant water supply for District farmers. CVP supplies are, thus, critical to the economic well-being and indeed survival of District farmers, particularly in years of shortage. South of the Delta contractors in particular, like Del Puerto, are already suffering the most for lack of water due to various constraints on CVP operations. (E.g., DEIS, 1-13 ["Water allocations south of the Delta have been most affected by changes in operations due to the CVPIA and the BOs."].) Even further reductions to Del Puerto's CVP supplies, in times of shortage, could result in dire consequences for farmers in the District. Therefore, the District has a vital interest in any CVP M&I Water Shortage Policy ("WSP"), and Reclamation's consideration and review of the same (including alternatives) as required by law including the National Environmental Quality Act, 42 U.S.C 4371 et seq. (1970); 40 COFFER. § 1500.01-1508.28, ("NEPA"). Unfortunately, however, as explained previously and below, it appears that the alternative WSPs considered in the DEIS are contrary to law, including Reclamation Law, and have not been evaluated as required by NEPA. Among other problems, impacts to CVP agricultural contractors like Del Puerto have been underestimated and alternative supplies available to M&I contractors have not been adequately considered despite Del Puerto's many prior requests. Thus, Del Puerto objects to adoption of any WSP based on the seriously flawed and inadequate DEIS.

Response

See Comment LA10-02 through Comment LA10-20, and their associated responses, which explain these points in greater detail.

Comment LA10-02

Comment

Prior Comments

Del Puerto encloses and incorporates herein by this reference its prior proposed WSP comments, including, but not limited to, Del Puerto's comments dated April 22, 2005, on Reclamation's Draft Environmental Assessment and Finding of No Significant Impact for the CVP M&I Water Shortage Policy, apparently finalized in 2005 ("2005 Final EA"). The DEIS acknowledges the inadequacy of the 2005 Final EA for evaluating the WSP:

"Because the assumptions supporting the 2005 Final EA have become outdated and due to significant changes in the Delta and CVP/SWP operations, Reclamation decided to undertake the M&I WSP EIS to provide an updated M&I WSP that best recognizes the needs of various segments of the water user

community and how those needs could be addressed in times of shortage." (DEIS, ES-5.) (Emphasis added.)

Del Puerto agrees with Reclamation that adoption of a WSP is a major federal action significantly affecting the quality of human environment, for which an EA is inadequate and an EIS is required. (Pacific Coast Federation of Fisherman's Association v. United States Department of Interior, 929 F.Supp.2d.1039, 1047 (2013) ["Pacific Coast"], citing 42 U.S.C. § 4332(2)(C).)

In addition, while the DEIS states that the 2001 M&I WSP, as modified by Alternative 1B of the 2005 Final EA, "is currently guiding Reclamation's allocation of water," the DEIS acknowledges that it is only a "Draft" which has apparently never been adopted by Reclamation. (E.g., DEIS, ES-11, Table ES-3.) This Draft WSP is the "no action" alternative in the DEIS (id.), even though its implementation without adoption may violate the Administrative Procedures Act. For these and other reasons, Del Puerto's prior WSP comments remain relevant and should be considered by Reclamation.

Response

Comments by Del Puerto Water District in this letter are presented below in Comment LA10-03 through Comment LA10-28, with accompanying responses.

Comment LA10-03

Comment

M&I Priority Conflicts with the Law

The Draft WSP and action alternatives described in the DEIS are illegal, because they are in conflict with federal Reclamation Law [Footnote: The draft/proposed policies also conflict with established California water policy which is that use of water for irrigation is a higher use than M&I uses. (Water Code§ 106.)], including Section 9(c) of the 1939 Act (43 U.S.C. § 485(c)) which provides in part:

“No contract relating to municipal water supply or miscellaneous purposes or to electric power or power privileges shall be made unless, in the judgment of the Secretary, it will not impair the efficiency of the project for irrigation purposes.”

A policy that gives priority to M&I uses in times of shortage is contrary to Reclamation Law, because the effect is to make contracts relating to municipal water supplies that impair the efficiency of the project for irrigation purposes.

Moreover, notwithstanding the fact that the District (and others) have repeatedly advised Reclamation that the Draft WSP conflicts with Reclamation Law, DEIS continues to sweep this important and controversial issue under the rug. The DEIS fails to explain Reclamation's authority for imposing the same or other WSPs described in the DEIS that give priority in times of shortage to M&I users over irrigation users like Del Puerto, where the farmers depend upon their CVP

supply for irrigation purposes particularly in times of shortage and in light of current regulatory restraints that adversely impact delivering CVP water south of the Delta.

The proposed action needs to be revised, if possible, so that it does not conflict with the law including Reclamation Law. Otherwise, the proposed action is ill-advised and illegal and the entire DEIS is tainted.

Response

Congress has authorized use of CVP facilities for municipal and domestic purposes. California Water Code Section 106 states, "It is hereby declared to be the established policy of this State that the use of water for domestic purposes is the highest use of water and that the next highest use is for irrigation." The proposed CVP M&I WSP is neither inconsistent with 43 U.S.C. Sec. 485h(c), nor California law.

Comment LA10-04

Comment

The Proposed Action and its Purpose and Need Are In Conflict

NEPA CEQ Regulations require an EIS to include a "purpose and need" of the proposed action for which alternatives are considered. (40 COFFER. § 1502.13.) This is a critical component of an EIS because it determines the scope and character of the proposed action and alternatives. (Mandelker, NEPA Law and Litigation (2014 Edition), § 10.28, p. 673.) Reclamation's own NEPA Handbook acknowledges that an EIS's purpose and need statement is a "critical element that sets the overall direction of the process and serves as an important screening criterion for determining which alternatives are reasonable," and that the proposed action is "the general response to the purpose and need and has a number of alternatives." (Reclamation's NEPA Handbook (Feb. 2012), pp. 8-5, -6.) Thus, the proposed action should not be in conflict with purpose and need for the same.

The DEIS defines the "proposed action" as "adoption of an updated M&I WSP and implementation of guidelines," and would include provision of "information to M&I water service contractors for their use in water supply planning and development of drought contingency plans." (DEIS, 1-5.)

However, the "Purpose and Need" for the proposed action is more broadly stated to be to "provide detailed, clear, and objective guidelines for the allocation of available CVP supplies to [all] CVP water service contractors during shortage conditions." (DEIS, 1-7.) In addition, the DEIS states that "the updated to the M&I WSP is needed to [all] water managers and entities that receive CVP water to help them better plan for and manage available CVP water supplies, and to better integrate the use of CVP water with use of other available non-CVP water supplies." (Id)

Contrary to the purpose and need, the proposed action will apparently only provide needed information and guidance to "M&I water services contractors." Particularly if the WSP Reclamation ultimately adopts allocates less water to agricultural than to M&I contractors in times of shortages, it is the agricultural contractors and their managers that will most need information and assistance including with respect to what non-CVP supplies will be available to them.

The proposed action must be revised to be consistent with the purpose and need. The revised proposed action should not be for the sole benefit of CVP M&I contractors at the expense of CVP agricultural contractors. Rather, to be consistent with the purpose and need, the proposed action should also include providing CVP agricultural contractors with information and assistance necessary to cope with low water supply and shortage conditions, including mitigation as necessary to protect agricultural public health and safety during severe or continuing droughts.

Response

Chapter 1.2 has been revised to remove "M&I" in two instances, and now the section reads, in part:

"The updated M&I WSP would be used by Reclamation to:

- Define water shortage terms and conditions for applicable CVP water service contractors, as appropriate;
- Determine the quantity of water made available to CVP water service contractors from the CVP that, together with M&I water service contractors' drought water conservation measures and other non-CVP supplies, would assist the M&I water service contractors in their efforts to protect public health and safety during severe or continuing droughts; and
- Provide information to CVP water service contractors for their use in water supply planning and development of drought contingency plans."

The purpose of the CVP M&I WSP, as stated in Chapter 1.3.2, is to provide "detailed, clear, and objective guidelines for the allocation of available CVP water supplies to CVP water service contractors during Conditions of Shortage," and the CVP M&I WSP is "needed by water managers and the entities that receive CVP water to help them better plan for and manage available CVP water supplies..." This statement of purpose and need applies to both agricultural and M&I water service contractors; however, it does not guarantee a lack of preference between the two types of contractors.

Comment LA10-05

Comment

The Environmental Baseline / No Action Alternative Is Flawed

NEPA requires an EIS to compare the impacts of proposed action alternatives against a "no action" alternative, or baseline, to allow policy makers and the public to compare the environmental consequences of the status quo to the consequences of the proposed action. (Ctr. for Biological Diversity v. US. Dept. of Interior, 623 F.3d 633, 642 (9th Cir. 2010)).

The DEIS contains an inappropriate baseline. The status quo should not be continued implementation of the Draft WSP because it is only a draft that Reclamation has never legally adopted, and its continued implementation would be illegal at least without further action. Comparing the consequences of proposed alternative WSPs with a draft/illegal WSP is illogical.

Response

As discussed in the response to Comment LA01-17, the CEQ's 2005 "Regulations For Implementing The Procedural Provisions of the National Environmental Policy Act" require that EISs "present the environmental impacts of the proposal and the alternatives in comparative form....In this section agencies shall: (d) Include the alternative of no action." The DOI regulations for implementing NEPA allow definition of the No Action Alternative as "'no change' from a current management direction or level of management intensity...." The existing draft policy is currently guiding Reclamation's allocations of CVP water to agricultural and M&I water service contractors during a Condition of Shortage and would continue to be used by Reclamation if none of the proposed action alternatives is implemented.

The use of a No Action Alternative baseline that assumes an allocation preference for M&I water service contractors in times of shortage is further supported by the historical record. Reclamation has been allocating CVP water supplies with a preference for M&I contractors since the 1970s, well before the 2001 Draft M&I WSP. Table I-6 presents the historical CVP allocations for agricultural and water service contractors from 1977, when allocation shortages first occurred, through 2005, the time of the EA. In all but two years, allocations for M&I water service contractors were the same or higher than those of agricultural water service contractors. Therefore, the No Action Alternative represents no change from the current management direction, and no change from historical operations before the 2001 Draft M&I WSP was in place, and is therefore compliant with both CEQ and DOI regulations regarding NEPA.

Table I-6. Historical CVP Allocations for Agricultural and M&I Water Service Contractors

Allocation as a "Percent of Supply"				
	North of Delta		South of Delta	
Year	Agricultural	M&I	Agricultural	M&I
1977	25	25-50	25	25-50
1990	50	50-75	50	50-75
1991	25	25-50	25	25-50
1992	25	75% of historical use	25	75% of historical use
1993	100	100	50	75% of historical use
1994	35	75% of historical use	35	75% of historical use
1995	100	95	100	100
1996	100	100	95	100
1997	90	90-100	90	90-100
1998	100	100	100	100
1999	100	95	70	95
2000	100	100	65	90
2001	60	85	79	77
2002	100	100	70	95
2003	100	100	95	100
2004	100	100	70	95
2005	100	100	85	100

Source: Reclamation 2015a.

Comment LA10-06

Comment

In addition, the DEIS's no-action alternative effectively assumes the existence of the very policy being proposed, which violates NEPA. (See, *Pacific Coast*, supra, citing *Friends of Yosemite Valley v. Kempthorne*, 520 F.3d 1024, 1026-27 (9th Cir. 2008) (finding NEPA violation where the "no-action" alternative assumed the existence of the very plan being proposed); *North Carolina Wildlife Fed's v. North Carolina Dept. of Transp.*, 677 F.3d 596, 603 (4th Cir. 2012) ("courts not infrequently find NEPA violations where an agency miscalculates the 'no build' baseline or where the baseline assumes the existence of the proposed project").)

Response

See response to Comment LA10-05. Comment LA10-07

Comment

Here, the proposed action is essentially adoption of an M&I WSP. In order to provide Reclamation and the public with a true understanding of the impacts of such a policy (at least one that takes water from irrigation uses in times of shortage), the DEIS should have compared the impacts of such policy against conditions without such a policy. The DEIS, however, contains no such evaluation, but rather assumes the existence of some M&I WSP in every comparison and scenario studied.

Response

See response to Comment LA10-05. Comment LA10-08

Comment

Also, the DEIS does not even compare the action alternatives against existing conditions. Rather, except for the no-action alternative, the alternatives are only compared against arguably speculative conditions predicted to exist far into the "future." (DEIS, 2-14 ["No Action Alternative represents a project of current conditions to the most reasonable future conditions that could occur during the life of the proposed federal action without any action alternative being implemented.].) This practice is questionable. However, even if this practice is permissible under NEPA [Footnote: This practice is generally impermissible under the California Environmental Quality Act. (*Neighbors for Smart Rail v. Exposition Metro Line Const. Authority* (2013) 57 Cal.4th 439.)], the DEIS should also compare the action alternatives against existing conditions which are not speculative and readily understandable by the public. This is particularly important since, as the DEIS admits, water supply conditions today are significantly different (indeed, worse) than those existing at the time of the 2005 Final EA and presumably much different from those predicted based on (questionable) modeling to exist far into the future. While the DEIS is intended to inform Reclamation's decision on "the M&I WSP alternative that best meets the purpose and need based on a full understanding of the environmental consequences of each alternative (DEIS, 1-12)," the DEIS only provides a partial understanding at best.

Response

See response to Comment LA 10-05 regarding the No Action Alternative baseline.

Chapter 3.4.2.2 of the Draft EIS has been revised to include a citation to support the comparison of the action alternatives to the No Action Alternative, not existing conditions. The CEQ's "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," which is considered by the courts to be as applicable as the NEPA regulations themselves, states:

"Section 1502.14(d) [of 40 Code of Federal Regulations [CFR]] requires the alternatives analysis in the EIS to 'include the alternative of no action.' There are two distinct interpretations of 'no action' that must be considered, depending on the nature of the proposal being evaluated. The first situation might involve an action such as updating a land management plan where ongoing programs initiated under existing legislation and regulations will continue, even as new plans are developed. In these cases 'no action' is 'no change' from current management direction or level of management intensity. To construct an alternative that is based on no management at all would be a useless academic exercise. Therefore, the 'no action' alternative may be thought of in terms of continuing with the present course of action until that action is changed.

Consequently, projected impacts of alternative management schemes would be compared in the EIS to those impacts projected for the existing plan. In this case, alternatives would include management plans of both greater and lesser intensity, especially greater and lesser levels of resource development....The analysis provides a benchmark, enabling decision makers to compare the magnitude of environmental effects of the action alternatives." (CEQ 1981)

Therefore, Reclamation has compared the action alternatives against the No Action Alternative, as appropriate.

Comment LA10-09

Comment

The baseline is also flawed because the DEIS fails to account for legal provisions, discussed above, that prevent M&I contracts from impairing the efficiency of the CVP for irrigation purposes. The DEIS should incorporate and account for the effects of these legal considerations in its baseline and analyses; otherwise, neither Reclamation nor the public will be fully informed of the true effects, whether beneficial or adverse, of the proposed alternative WSPs.

Response

See response to Comment LA10-03.

Comment LA10-10

Comment

The DEIS's calculation of the effects of the proposed action by reference to a flawed baseline - implementation of the "Draft" M&I WSP - is an error that infects much of the entire DEIS. Moreover, as explained below, the DEIS's assessment of impacts to surface water, groundwater, and agricultural resources is based on an incorrect calculation and understatement of the magnitude of impacts on agricultural users like the farmers in Del Puerto, and to make matters worse impacts on Del Puerto are even further underestimated since they are judged against a flawed baseline, i.e., a non-approved, draft M&I WSP that gives a shortage priority to M&I contractors at the expense of agricultural contractors. Use of an inappropriate baseline, therefore, not only taints and invalidates the DEIS's analysis of impacts, but also serves to further underestimate the adverse impacts to Del Puerto and other agricultural contractors.

Response

See response to Comment LA10-05. Comment LA10-11

Comment

Lack of Reasonable Range of Alternatives

NEPA requires that, in addition to analyzing the environmental consequences of a proposed action, agencies "rigorously explore and evaluate" alternatives. (See 40

COFFER, §§ 1502.1, 1502.14(a), (b), (d); 42 U.S.C. § 4332(d)(C)(iii), (2)(E).) Alternatives are the "heart" of an EIS, and an EIS must include a reasonable range of alternatives. (*City of Carmel-By-The-Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997.)) The "purpose and need" for the proposed action necessarily dictates the range of "reasonable" alternatives. (*Id.*; *Pacific Coast*, *supra*, p. 1057.)

As mentioned above, the "purpose and need" for the proposed action is to consider adoption of a water supply shortage policy for the benefit of all CVP contractors. However, the DEIS considers at least four alternatives shortage allocation policies that benefit M&I contractors at the expense of agricultural contractors, but none that benefit agricultural contractors. This is important for a number of reasons, including the fact that several CVP M&I contractors have banked supplies that may be available in times of CVP shortages when some or all agricultural contractors lack such supplies or other alternative supplies.

Response

As explained in Chapter 2 of the Draft EIS, NEPA requires EISs to identify a reasonable range of alternatives and provide guidance on the identification and screening of such alternatives. NEPA includes provisions that alternatives meet (or meet most of) the purpose and need and be potentially feasible. For this EIS, Reclamation, as the Lead Agency, followed a structured, documented process to identify and screen alternatives for inclusion in the EIS.

NEPA allows development of representative alternatives that bound the full range of reasonable alternatives. 43 CFR Part 46.420(c) states that the range of alternatives, "includes all reasonable alternatives, or when there are potentially a very large number of alternatives then a reasonable number of examples covering the full spectrum of reasonable alternatives." This approach was used in the selection of alternatives and ensured that the full range of potential changes in water allocations and resulting environmental impacts from these alternative M&I WSPs were evaluated in the Final EIS. The bounding alternatives also facilitate a trade-off analysis of different water shortage sharing conditions between agricultural and M&I water service contractors.

Alternative 2, Equal Agricultural and M&I Allocation as described in Chapter 2.4 of the Final EIS, was developed to provide an alternative under which M&I and agricultural water service contractors would receive the same allocation, as a percentage of Contract Total. This alternative would provide greater CVP allocations to agricultural water service contractors than the No Action Alternative.

The purpose of the CVP M&I WSP, as stated in Chapter 1.3.2, is to provide "detailed, clear, and objective guidelines for the allocation of available CVP water supplies to CVP water service contractors during Conditions of Shortage," and the CVP M&I WSP is "needed by water managers and the entities that receive CVP water to help them better plan for and manage available CVP water supplies..."

This statement does not guarantee that there will be a "benefit" to all CVP contractors.

Comment LA10-12

Comment

The DEIS also seems to assume, erroneously, that only CVP M&I contractors have public, health and safety needs ("PHS") and ignore PHS needs of agricultural contractors.

Response

As stated in Appendix B, historical M&I delivery data provided by Reclamation's area offices showed several contractors that primarily deliver agricultural water have delivered small volumes of M&I water¹ in recent years. The EIS baseline CalSim II model was modified to simulate delivery of this M&I water, subject to M&I allocations and PHS calculations. Delivery of small volumes of M&I water were added to Tehama-Colusa Canal deliveries, the upper Delta-Mendota Canal deliveries, and San Luis Unit deliveries. Annual volumes of 2030 M&I delivery by these primarily agricultural water service contractors were estimated based on historical M&I delivery data and estimated regional growth rates. Contractual limits on agricultural deliveries were reduced by the volume of M&I water identified. The M&I deliveries for these primarily agricultural water service contractors were incorporated into the environmental analysis for each alternative considered in the Final EIS.

Comment LA10-13

Comment

Reasonable alternatives could include, for example, M&I contractors securing alternative water sources in times of shortage through: (1) seller/buyer transfers under the CVPIA; (2) water reallocation programs; and (3) water banking programs. At a minimum, there should be at least one (1) alternative that provides a larger volume of CVP water to agricultural contractors than urban contractors in times of shortage. [Footnote: We note that the DEIS includes one "M&I Contractor Suggested WSP" (DEIS, 2-16), but the DEIS does not indicate that it includes even one of the alternatives previously suggested by agricultural contractors although the water shortage policy has been under discussion since at least 2001.] Unfortunately, however, the DEIS fails to explore or evaluate these or similar alternatives which may avoid or reduce impairment of CVP supplies of agricultural contractors in times of shortage, and is invalid for that reason. (See, e.g., *Southern Utah Wilderness Alliance v. Norton*, 237 F.Supp.2d 48, 53-54

¹ The use of the term "M&I water" refers to incidental domestic use for agricultural water service contractors, and has no connection to the different rates that are charged for agricultural or M&I water.

(D.D.C. 2002) [oil and gas exploration, failed to consider alternatives less damaging to soils].)

Therefore, the DEIS is also invalid because it fails to consider a reasonable range of alternatives.

Response

Alternative 2, Equal Agricultural and M&I Allocation as described in Chapter 2.4, was developed to provide an alternative under which M&I and agricultural water service contractors would receive the same allocation, as a percentage of Control Total. This alternative would provide greater CVP allocations to agricultural water service contractors than the No Action Alternative.

See response to Comment LA10-11 regarding the range of alternatives considered.

Comment LA10-14

Comment

Failure to Adequately Evaluate All Potential Impacts of the Proposed Action Including Impacts to Agricultural Water Service Contractors South of the Delta

NEPA prohibits uninformed agency action. Thus, NEPA requires Reclamation to take a "hard look" at the environmental consequences of its proposed federal action, and one important ingredient of an EIS is the discussion of steps that can be taken to mitigate adverse environmental consequences. (*Robertson v. Methow Valley Citizens Council*, 109 S.Ct. 1835, 1846-47.) An EIS must consider direct, indirect and cumulative impacts from the WSP, as well as mitigation, to agricultural contractors. (*Id.*; 40 COFFER. §§ 1502.16, 1508.7, 1508.8, 1508.27(a), (b).) An EIS must be based on "high quality" information and shortcomings of scientific information relied upon must be discussed as well as areas of controversy. (See, 40 C.F.R. § § 1500.1(b), 1502.1, 1502.12, 1502.22, 1502.24; *Alliance for the Wild Rockies v. Bradford*, 720 F.Supp.2d 1193 (D. Mont. 2010) [flaws in study must be discussed].) "Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." (40 COFFER. § 1500.1(b).) Unfortunately, the DEIS fails to meet these and other like standards.

Response

While NEPA requires analysis of direct, indirect, and cumulative impacts, NEPA does not require that mitigation measures be adopted for all impacts. This Final EIS is based on the best available data and best available planning tools at the time the Notice of Intent (NOI) was filed. The Final EIS provides explanation of the data collection effort in Chapter 2.8, a summary of the M&I water service contractor data in Appendix A, and explanation of the modeling tools in Appendix B Water Operations Model Documentation, Appendix C Delta Water Quality Model Documentation, Appendix D Statewide Agricultural Production

Model, and Appendix G M&I Economic Model Documentation. Assumptions and limitations of all models are discussed in their respective model documentation appendix. Areas of controversy are discussed in Chapter 1.6.

Reclamation has been in communication with CVP stakeholders, both M&I and agricultural water service contractors, since August 2009 about its effort to update the 2001 Draft M&I WSP. Between May 2010 and June 2012, Reclamation conducted seven M&I WSP Stakeholder Workshops, to which both M&I and agricultural water service contractors were invited and attended. Reclamation announced the availability of the Draft EIS to both M&I and agricultural contractors in November 2014 through its NOA in the Federal Register and through correspondence to the stakeholder email list. Public meetings were held between December 8, 2014 and December 17, 2014 in the cities of Sacramento, Willows, Fresno, and Oakland, California. At these meetings, verbal and written comments on the Draft EIS were accepted. The public comment period was extended from January 12, 2015 to March 13, 2015 to ensure the public had ample opportunity to provide written comment on the Draft EIS. All written comments received on the Draft EIS, and all verbal comments received during the public meetings, by March 13, 2015 are considered and addressed in this Final EIS.

Comment LA10-15

Comment

For example, the DEIS used the Statewide Annual Production model (SWAP) to determine groundwater and economic impacts of each alternative. (DEIS, 6-55, 56, and 57.) While the SWAP is discussed in the DEIS and in Appendix D, so far as we can tell the DEIS fails to disclose to the public that the SWAP has been criticized in peer-review as underestimating impacts from reduced deliveries to agricultural contractors. As provided at page 25 of the paper prepared by Professor David Sunding, et al., dated October 24, 2012, titled "An Assessment of Models for Measuring the Economic Impact of Changes in Delta Water Supplies," regarding groundwater extraction [Footnote: In addition to groundwater extraction issues, Professor Sunding's paper also criticizes the SWAP's problematic water requirement data, land use data, aggregation and calibration, and makes recommendations to alleviate the errors produced by the SWAP. (Sunding, An Assessment of Models for Measuring the Economic Impact of Changes in Delta Water Supplies (October 24, 2012), pp. 24-28.) Professor Sunding's paper is enclosed herewith and incorporated herein by this reference.]:

"Groundwater Extraction

SWAP is not integrated with any groundwater model, and treats groundwater availability as exogenous. Thus, it does not capture the fact that if there is significant groundwater extraction the groundwater table may fall and pumping costs may rise. In reality, groundwater costs are endogenous in the long run, and will influence the shallow value of surface water.

We would add that to the extent that the SWAP does not account for variability in the quality of groundwater and its ability to serve as a suitable replacement supply for all types of crops, then the model would tend to underestimate the impacts of reductions in surface supplies." (Emphasis added.)

Aside from whether the model is sufficiently credible to support the DEIS's analysis of the impacts of the various alternatives, at a minimum, the DEIS should (but fails) to inform Reclamation and the public of all its shortcomings and limitations. These include, but are not limited to, that the model underestimates adverse impacts to agricultural contractors south of the Delta and others, and that the model fails to accurately account for the interaction between surface and groundwater and thus "does not account for changes in groundwater pumping caused by fluctuations in surface water deliveries." (Sunding, p 1.) In addition, the DEIS should disclose and discuss the effects on the DEIS's analysis and conclusions of the following SWAP model criticisms and concerns: "the SWAP model is a structural programming model that relies on a large number of assumptions," and it "is non-econometric and does not produce standard errors that allow the analyst to assess the statistical significance of results." (Id.)

Response

The report by Sunding and Auffhammer (2012) (the Brattle Report) is not a peer-reviewed economic publication, nor is it a peer-review of the Statewide Agricultural Production (SWAP) model. It is a report prepared by The Brattle Group consultancy for SWRCB providing a high-level summary of many models used to evaluate Delta economics, one of which is the SWAP model. This Brattle Report study has not been subject to peer-review by other economists, and has not been reviewed by economists who are familiar with the economic theory used in the SWAP model, including the primary developers of the SWAP model. Moreover, the Brattle Report omits over 30 years of peer-reviewed economic research which supports the SWAP model methods, and policy reports describing its implementation.

The SWAP model (and its predecessor the Central Valley Production model [CVPM model]) is widely used for analysis of agricultural impacts and benefits resulting from changes in water supply in California. The Brattle Group, under the direction of David Sunding, relies on the SWAP model for the BDCP *Statewide Economic Impact Report* (The Brattle Group 2013). Reclamation uses the SWAP model for the North of Delta Offstream Storage investigation (Reclamation 2013). The predecessor of the SWAP model, the CVPM model, is based on the same fundamental economic theory and data as the SWAP model. The CVPM model has been used for many years, first for the CVPIA (Reclamation 1997) and most recently for the Upper San Joaquin River Basin Storage Investigation (Reclamation 2008b).

The SWAP model does not underestimate the effect of water deliveries on agriculture. In fact, the SWAP model is widely accepted as an accurate tool to evaluate such impacts, as stated by David Sunding in the Brattle Report: "On

balance, we find that the SDBSIM and SWAP models produce credible estimates of the economic impact of changes in Delta water deliveries.” The caveats raised in the Brattle Report are notable in the fact that they do not criticize the economic theory or methods underlying the SWAP model, but focus on the shortcomings of the basic data available for any analysis of water and agriculture in California.

SWAP can and has been integrated with groundwater models including the Central Valley Hydrologic Model (CVHM) and C2VSim for policy analysis where the change in groundwater pumping is likely to be significant over the time horizon of the analysis

Comment LA10-16

Comment

Also regarding groundwater extraction, Professor's Sunding's paper notes that "it is uncertain if the model accounts for the availability of groundwater, the installed capacity to pump, and/or the ability to transport groundwater to places without availability/capacity." (Id.) In this regard, we note that there is no evidence that the SWAP or the DEIS's impact analysis takes into account the proposed action in light of California's recent Sustainable Groundwater Management Act (SB 1168, 1319 and AB 1739) [Footnote: See, e.g., Water Code §10720, et seq.], which undoubtedly will limit the availability of groundwater to off-set CVP losses to agricultural contractors resulting from a pro-M&I WSP and will lead to additional economic impacts.

Response

The commenter has a misinterpretation of the conclusions in the Brattle Report. The SWAP model does account for groundwater availability through regional estimates of installed pumping capacities. The ability to move groundwater between regions in the Central Valley is generally prohibited, and not allowed with the SWAP model framework.

The Sustainable Groundwater Management Act (SGMA) is not modeled in this Draft EIS because the future level of development considered is based on projected 2030 conditions. SGMA does not require that “sustainability” goals are “achieved” until 2042; thus, they are not considered in this analysis. In addition, DWR is still working to define what constitutes sustainable management, so there are no current guidelines for likely management rules, and therefore no defensible basis on which to model implications of the SGMA at this time.

Comment LA10-17

Comment

The farmers within Del Puerto stand to be acutely affected by the proposed action and have limited access to affordable alternative water supplies, which is in stark contrast to CVP M&I contracts that do have access to such supplies. For those farmers with access to suitable quality groundwater, a WSP that gives priority to M&I users would require them to increase groundwater pumping, which will

cause energy impacts and could contribute to land subsidence. Alternatively, a WSP that gives priority to M&I users would require District farmers to fallow lands which could lead to air quality impacts. While the DEIS acknowledges these impacts (to some extent), the full extent of these impacts have not been studied and are unknown because, among other things, the baseline is flawed and the SWAP model "understates" impacts from reductions in CVP supplies to agricultural contractors.

Response

The commenter is correct that M&I users generally have more flexible supply sources than individual growers. However, Reclamation does not consider all contractors' alternative supplies when CVP allocations are made. The M&I WSP does account for the non-CVP water supplies of M&I water service contractors when considering requests by those contractors for additional water to assist in meeting PHS need during a Condition of Shortage.

See response to Comment LA10-05.Comment LA10-18

Comment

In addition to underestimation of proposed action impacts to CVP agricultural contractors and their constituents, the DEIS also appears to ignore other potential impacts altogether. For example, the DEIS fails to evaluate the potential growth-inducing impacts of providing M&I contractors with additional supplies in times of shortage.

Response

Chapter 21.3 of the Draft EIS states that NEPA (40 CFR 1502.16(b) and 1508.8(b)) requires analysis of direct and indirect impacts of growth-inducing impacts from projects. 40 CFR 1502.16(b) requires the analysis of indirect effects. Under NEPA, indirect effects as stated in Section 1508.8(b) include reasonably foreseeable growth inducing effects from changes caused by a project. Direct growth inducing impacts are usually associated with the construction of new infrastructure, housing, or commercial development. A project which promotes growth, such as new employment opportunities or infrastructure expansion (i.e., water supply or wastewater treatment capabilities) could have indirect growth inducing effects. Generally, growth inducing impacts would be considered significant if the ability to provide needed public services by agencies is hindered or the potential growth adversely affects the environment.

The M&I WSP addresses drought conditions when CVP supplies are insufficient to meet demands. The M&I WSP would not directly or indirectly affect growth beyond what is already planned and accounted for in Contract Totals defined in CVP water service contracts. Therefore, the M&I WSP would have no growth inducing impacts. None of the alternatives evaluated a condition where M&I water service contractors were modeled to receive CVP supplies greater than their existing Contract Totals.

Comment LA10-19

Comment

For these, and other reasons [Footnote: Del Puerto joins in the comments on the DEIS submitted by San Luis & Delta-Mendota Water Authority.], the DEIS fails to contain an adequate compilation and disclosure of relevant, accurate and complete data and information, including baseline information, for adequate disclosure of environmental impacts sufficient for Reclamation to make an informed decision on whether to adopt a WSP.

Response

Reclamation has used its best efforts to identify and disclose as much relevant information as possible in the EIS based on the review of the best available information at the time of the issuance of the Notice of Intent as well as new information that has been developed throughout the EIS process. One of the goals of scientific analysis is to develop new information and to increase the certainty of conclusions (i.e., reduce scientific uncertainty). Using best available information, however, cannot remove all scientific uncertainty from a decision. No amount of investigation, hypothesis testing, or modeling would ensure perfect knowledge since scientific uncertainty is inherent in any analysis of present and future conditions.

Comment LA10-20

Comment

For the above reasons, the proposed action to adopt a M&I WSP (including the no-action alternative) that gives priority to M&I contractors in times of shortage is contrary to law, including Reclamation Law, and the DEIS does not comply with the requirements of NEPA. Therefore, Del Puerto objects to the same, and Reclamation should not finalize the DEIS. If Reclamation is inclined to continue consideration of adoption of a WSP, then Reclamation should first revise the proposed action and WSP alternatives such that they are in compliance with the law and consistent with the statement and need - which is to propose a shortage policy for the benefit of all contractors - and then redraft and revise the DEIS and re-circulate the same for public review and comment in compliance with law including NEPA.

Del Puerto thanks Reclamation for the opportunity to comment on the proposed shortage policy. It bears repeating that such policy is of critical importance to the District and its farmers who are almost totally reliant upon CVP supplies in times of shortage, particularly in light of the current drought and regulatory constraints on delivery of CVP water supplies to south of Delta contractors.

Response

See responses to Comments LA10-02 through Comment LA10-19.

Comment LA10-21

Comment

The following comments on the above referenced draft policy are provided on behalf of the Del Puerto Water District ("District").

We understand from your statements at the October 28, 2010 workshop that Reclamation will prepare a separate new document under the National Environmental Policy Act (NEPA) that will analyze and evaluate the effects of this proposed policy on Irrigation contractors. Because we believe the water supply Impacts on south of the Delta Irrigation contractors will be significant, we would ask that the extent of this reduction be modeled and clearly identified. Furthermore, this new documentation needs to analyze and measure the effects of this policy against the true, no-policy, no-M&I preference alternative. We look forward to this analysis and reserve our right to comment on this new document.

Response

This comment was a comment originally submitted during the 2010-2011 Stakeholder Workshops. This comment was resubmitted for consideration on the Draft EIS. All issues raised in this previously submitted comment were also brought up in the comment author's 2015 comment letter. See responses to Comment LA10-01 through Comment LA10-20.

Comment LA10-22

Comment

We have already commented on prior drafts of this policy, both verbally and in writing, and have attached our comment letters of November 30, 2000, January 9, 2001 and November 26, 2001 for your consideration in this current regard. We have also attached our letter dated April 22, 2009 that provided our comments on a prior proposed Draft EA/FONSI your consideration.

This proposed policy is similar to prior draft policies, making only minor modifications, and would have substantially the same negative Impacts on Irrigation contractors as noted in this prior correspondence. As pointed out therein, this proposed policy cannot be justified and enforced in light of Section 9(c) of the 1939 Act. Furthermore, we see nothing in this latest draft that addresses either how this proposed policy can be pursued in light of the applicable law for Reclamation providing municipal water supplies, or how Reclamation intends to mitigate the obvious impacts this proposed policy would have on irrigation contractors.

Accordingly, we encourage you to reconsider this draft policy and develop a new policy that does not interfere with the irrigation purpose of the Project, as described in the attached correspondence. Additionally, we hope and trust that the further evaluation of this proposed policy under NEPA will evaluate, among other things, the true effects of this proposed policy on CVP agricultural contractors located south of the Delta such as the District, particularly in light of

the current regulatory constraints on the movement CVP water supplies through the Delta.

Thank you for the opportunity to comment on this proposed policy. If you have any questions regarding our position, please contact me.

Response

This comment was a comment originally submitted during the 2010-2011 Stakeholder Workshops. This comment was resubmitted for consideration on the Draft EIS. All issues raised in this previously submitted comment were also brought up in the comment author's 2015 comment letter. See responses to Comment LA10-01 through Comment LA10-20.

Comment LA10-23

Comment

We understand that you are considering finalizing a policy regarding M&I water shortages and are seeking comments on a draft prepared on November 20, 2000 draft and circulated at a workshop held on November 21, 2000. Although there have been a number of draft policies over the years, we understand that this is the first time that such a policy is intended to be finalized.

As you know the Del Puerto Water District's contract for 140,210 acre-feet of CVP water is used almost exclusively for irrigation within the District. About half of the irrigated acreage within the District is planted to permanent crops. The reliability of the District's water supplies to irrigate these plantings is crucial to our survival.

We understand that some M&I Contractors are suggesting that the final policy be modified from that set forth in the November 20th draft in several respects for the primary purpose of providing greater reliability to M&I Contractors. Insofar as the inevitable result of such changes would be to reduce deliveries to agricultural Contractors, we urge you to reject such suggestions.

In fact, we fail to understand how the M&I Shortage Policy as set forth in a November 20th draft and in prior drafts can be justified and enforced in light of Section 9(c) of the 1939 Act (43 USC §465h(c)) which provides in part:

"No contract relating to municipal water supply or miscellaneous purposes or to electric power or power privileges shall be made unless, in the judgment of the Secretary, it will not impair the efficiency of the project for irrigation purposes."

We acknowledge that some priority should be given for M&I purposes that are needed to protect public health and safety, and that fish and wildlife purposes should also be subject to "human health and safety" requirements as has been provided for by Section 3406(b)(2)(C) of the CVPIA. We also acknowledge that there are a few M&I Contractors which historically have had various M&I priority provisions in their contracts which reasonably could have been entered

into with a Secretarial determination that such priorities would not impair the efficiency of the project for irrigation purposes.

Unfortunately, times have changed since those contracts were entered into. Today, the practical effect of granting any such M&I priority is to reduce the quantity of water available for irrigation purposes in many, if not most, years, as opposed to only occasionally during extreme drought conditions. We believe that new contracts and policies should provide an equal footing between irrigation and M&I uses except to the extent that water is needed to meet M&I public health and safety demands during extreme droughts.

We would point out that M&I Contractors do have alternatives if they wish to achieve greater reliability than is otherwise available from the project. They can consider and pursue water reallocation programs, such as Santa Clara has done with the San Luis Delta-Mendota Water Authority and certain of its members. They can also develop and/or participate in water banking programs, such as Santa Clara and other urban agencies have done with Semitropic Water Storage District. The effect of the November 20th draft policy, made worse if modified as suggested by some M&I Contractors, would be to provide M&I Contractors with more water at the expense of irrigation supplies. We believe that M&I Contractors should share equally in the water losses to the project resulting from on-going regulatory constraints. To do otherwise only accommodates and encourages urban growth with less expensive CVP supplies to the detriment of hard working farmers and precious agricultural lands.

We would also like to note that the State Water Project has eliminated M&I priorities under the Monterey Amendments. In the same way that these amendments both allowed for transfer of state water supplies from agriculture to M&I and provided that they would be treated equally in times of shortage, so too should federal supplies provided under CVPIA transfer provisions treat the apportionment of shortages between agricultural and M&I users (i.e. equally).

Accordingly, we urge you to reconsider the draft M&I policy and develop a policy which does not impair the irrigation purposes of the Project, except to the extent that supplies are required to meet health and safety needs of our urban areas in times of extreme drought. Furthermore, if you should proceed with a policy similar to that presented in the November 20, 2000 draft, we implore you not shift additional burdens to irrigation as has been suggested by some M&I Contractors. Thank you for the opportunity to comment on this draft policy.

Response

This comment was a comment originally submitted during development of the 2001 Draft M&I WSP. This comment was resubmitted for consideration on the Draft EIS. All issues raised in this previously submitted comment were also brought up in the comment author's 2015 comment letter. See responses to Comment LA10-01 through Comment LA10-20.

Comment LA10-24

Comment

We understand that you intend to finalize a policy regarding M&I water shortages and are seeking comments on a draft policy dated December 22, 2000.

Our reading of this most recent draft shows little and no substantial change from the November 20th draft on which we commented by letter dated November 30, 2000 (copy attached). The current draft policy continues to raise serious and complex legal and policy issues, and by this letter we reiterate and incorporate the comments and concerns detailed in this previous letter.

While we appreciate the fact that proposed policy continues to limit its applicability only to the quantities of projected M&I demand as of September 1994 and maintains that irrigation water converted to M&I use after that date will be subject to the same shortage allocation as irrigation water, our comments and concerns still have not been adequately addressed.

As you know, this draft policy fundamentally reallocates agricultural water service supplies to urban contractors, thereby placing an additional burden on agricultural contractors and the rural communities they support. To our knowledge there has been no analysis of the impacts associated with such a policy and, consequently, no exploration of possible mitigation measures has been undertaken. Without such analysis and consideration, we remain seriously opposed to any policy that would further impair the efficiency of the project for irrigation purposes.

Thank you for the opportunity to provide additional comment on this draft policy.

Response

This comment was a comment originally submitted during development of the 2001 Draft M&I WSP. This comment was resubmitted for consideration on the Draft EIS. All issues raised in this previously submitted comment were also brought up in the comment author's 2015 comment letter. See responses to Comment LA10-01 through Comment LA10-20.

Comment LA10-25

Comment

This letter conveys the comments of the Del Puerto Water District on the draft CVP M&I Water Shortage Policy as noticed in the Federal Register on October 30, 2001.

The current September 11, 2001 draft policy continues to raise serious and complex legal and policy issues, and by this letter we incorporate the comments and concerns detailed in our letter dated November 30, 2000 and reiterated in our letter of January 9, 2001 (both attached). The concerns expressed in these letters

remain inadequately addressed and are, in fact, exacerbated by new language and concepts in the current proposed policy.

We note here that while the proposed policy purports to limit its applicability only to the quantities of projected M&I demand as of September 1994 and maintains that irrigation water converted to M&I use after that date will be subject to the same shortage allocation as irrigation water, new language has been added that would allow the conversion of subsequently transferred, assigned or converted agricultural supplies to M&I reliability provided that there are either no, or fully mitigated, adverse effects. We continue to maintain that the proposed policy fundamentally reallocates agricultural water service supplies to urban contractors and further submit that there is no mitigation possible for the inevitable resulting loss of agricultural water supplies. The adverse effects of such a policy on agricultural water supplies are magnified by the application of deeper shortages on an ever-smaller base supply. To include such language is tantamount to suggesting that one can farm without water. There is no justification or rationale for such language. If M&I contractors know that the reliability of converted water retains its original agricultural status as it must to avoid additional impacts, they are in a position to plan for and acquire the quantities they need to assure the desired level of reliability.

Response

This comment was a comment originally submitted during development of the 2001 Draft M&I WSP. This comment was resubmitted for consideration on the Draft EIS. All issues raised in this previously submitted comment were also brought up in the comment author's 2015 comment letter. See responses to Comment LA10-01 through Comment LA10-20.

Comment LA10-26

Comment

The proposed policy is also of serious concern insofar as it provides for adjustments in "historical use" based on "population growth" and/or the "number or demand of industrial, commercial, and other entities the contractor serves". Reclamation has never similarly considered increasing contract supplies or reliability to agricultural contractors based on increased acreage planted to permanent crops or the number of farms or farm families served. The point here is that the proposed policy quite clearly favors urban growth and water supply demand at the direct and ever-increasing expense of irrigation water supplies.

Response

This comment was a comment originally submitted during development of the 2001 Draft M&I WSP. This comment was resubmitted for consideration on the Draft EIS. All issues raised in this previously submitted comment were also brought up in the comment author's 2015 comment letter. See responses to Comment LA10-01 through Comment LA10-20.

Comment LA10-27

Comment

We reiterate that adoption of this proposed policy cannot be justified or enforced in light of Section 9(c) of the 1939 Act (43 USC §485(c)) which provides in part:

"No contract relating to municipal water supply or miscellaneous purposes or to electric power or power privileges shall be made unless, in the judgment of the Secretary, it will not impair the efficiency of the project for irrigation purposes."

The District remains seriously opposed to this and any other policy that would further impair the efficiency of the project for irrigation purposes.

Thank you for the opportunity to provide comment on this proposed policy.

Response

This comment was a comment originally submitted during development of the 2001 Draft M&I WSP. This comment was resubmitted for consideration on the Draft EIS. All issues raised in this previously submitted comment were also brought up in the comment author's 2015 comment letter. See responses to Comment LA10-01 through Comment LA10-20.

Comment LA10-28

Comment

The Del Puerto Water District (District) submits the following comments on the Draft Environmental Assessment for the Central Valley Project M&I Water Shortage Policy dated March of 2005.

The Del Puerto Water District is a CVP contractor located south of the Delta. Its contract providing for up to 140,210 acre-feet of CVP water is used almost exclusively to serve irrigation purposes within the District. CVP water is the sole source of supply for the vast majority of District users. Fully one half of the District's 40,000 irrigated acres are planted to permanent crops. The reliability of the District's water supplies to irrigate these plantings is crucial to our survival and that of the agricultural communities in which we live and who depend upon these supplies for their economic well-being. As such, the District has a vital if not crucial interest in the proposed policy and the subject documents.

Comments

The EA is a seriously flawed document that in no way supports a finding of no significant impact. We strongly urge the Bureau of Reclamation to withdraw the proposed Draft EA and the proposed FONSI, to reconsider the purpose and need for such a policy in view of Reclamation law and to prepare a legally adequate analysis of all of the alternatives.

Previous draft policies, going back to the 1993 draft interim policy up to and including that of September 11, 2001, have raised serious legal issues and policy

concerns which the District has detailed in our letters dated November 30, 2000, January 9, 2001 and November 26, 2001 (attached). Not only does it appear that the issues and concerns expressed in our previous comment letters have been totally ignored, they are, in fact, exacerbated by new language and concepts contained in the now proposed alternative.

The newly proposed policy no longer limits its applicability to the quantities of CVP water identified for M&I uses as of September 30, 1994 (as did the September 2001 proposal), but it increases the already significant impact on agricultural water supplies of the prior proposal by applying the policy to the quantities identified under Water Needs Assessments predicated on the amount of water that M&I Contractors estimate could be beneficially used by the year 2025. (Page 1-3) According to the subject documents, these assessments show many M&I contractors equaling or exceeding their full Contract Totals by the year 2025 (Page 1-3) thereby magnifying the policy's adverse effect on agricultural water supplies through the application of ever-greater shortages on an ever-smaller base of irrigation supplies.

The proposed policy fundamentally and, by its own repeated acknowledgement, reallocates agricultural water service supplies to urban Contractors and offers no mitigation for the resulting loss of agricultural water supplies. (ES-3, 3-2)

We reiterate our previous claim that adoption of the proposed policy cannot be justified or enforced in light of Section 9(c) of the 1939 Act (43 USC §485(c)) which provides in part:

"No contract relating to municipal water supply or miscellaneous purposes or to electric power or power privileges shall be made unless, in the judgment of the Secretary, it will not impair the efficiency of the project for irrigation purposes."

While the District has been willing to acknowledge that some priority should be given for M&I purposes that are needed to protect public health and safety, and that fish and wildlife purposes might also be subject to "human health and safety" requirements as has been provided for by Section 3406(b)(2)(C) of the CVPIA, we would also point out that the reason that the OCAP 2004 described the allocation of CVP water supply for the 253 water service contracts and the Sacramento River Settlement Contracts in the following manner:

"Those water service contracts had many varying water shortage provisions. In some contracts, M&I and agricultural use shared shortage equally. In most of the larger M&I contracts, agricultural water was shorted 25% of its contract entitlement before M&I water was shorted, and then both shared shortages equally." (Page 1-1, 2)

is because there are only a few water service contracts which reasonably could have been entered into with a Secretarial determination that such priorities would not impair the efficiency of the project for irrigation purposes.

We would also grant that "as the CVP system was being developed there were no shortage allocation because actual demands were less than the water supply each year."

(Page I-2) Unfortunately, as the subject document points out, "water allocations to contractors located south of the Delta have been most affected by changes in operations by legislative and regulatory changes." (Page 2-1) Today, the practical effect of granting any such M&I priority is to further reduce the quantity of water available for irrigation purposes to contractors located south of the Delta in many, if not most, years, as opposed to only occasionally during extreme drought conditions. The Draft EA seriously errors when it states that the alternatives will result in "changes for Irrigation CVP water service contractors" in only "9 of the 72 years" modeled. (Page 5-45) It will, in fact, have a significant impact in virtually every year, especially for south of the Delta irrigation contractors. The extent of the total reduction should be modeled and clearly identified in the analysis.

We continue to contend that new contracts and the policies referenced in them, in accord with Reclamation Law and historical contractual language and understanding, should provide an equal footing between irrigation and M&I uses except to the extent that water is needed to meet M&I public health and safety demands during extreme droughts or as can be provided without impact to irrigation supplies.

In this regard, the EA seriously errors in establishing a No Action Alternative baseline as that defined by the operational criteria fat the OCAP 2004. (Page ES-3) To our knowledge, no previous draft policy establishing anything other than an equal sharing of shortages between M&I and irrigation water has been the subject of environmental review and the impacts to irrigation supplies of the current No Action Alternative have never been analyzed. The No Action Alternative as the environmental baseline used to measure the impacts of the policy is both legally inadequate and improperly defined. The subject analysis thoroughly masks and minimizes the effects of the proposed alternative, particularly for South of the Delta water contractors, by failing to measure its effects against the no-policy, no-M&I preference alternative.

Even without the appropriate baseline analysis, the adverse effects of such a policy on agricultural water supplies are significant. To mention that concepts to increase M&I CVP water service contract deliveries include: "storage of additional water during wet years" along side of reductions of deliveries to irrigation CVP Water Service Contractors, and then, to immediately dismiss this concept as "not possible with existing facilities", not only begs the question but ignores and serves to dismiss out- of-hand a number of viable concepts. (Pages ES-3, 3-2)

Other alternatives available to M&I Contractors if they wish to achieve greater reliability than is otherwise available from the project are 1) including willing

seller/willing buyer transfers provided for under CVPIA, 2) water reallocation programs, such as Santa Clara Valley Water District (SCVWD) has done with the San Luis Delta-Mendota Water Authority and certain of its members, and 3) the development and/or participation in water banking programs, such as SCVWD and other urban agencies have done with Semitropic Water Storage District.

To base a proposed FONSI on the following statement:

“At the expected frequency of no or very little CVP irrigation water deliveries associated with this alternative, it is likely that farmers without affordable and accessible alternative water supplies will be subject to significant financial burdens. Farmers may fallow crops, resulting in lost farm revenue and related jobs. Farmers with permanent crops would be most vulnerable to losing high valued investments. Loss of agricultural employment would affect lower income population and minority populations more than other populations in the state.” (Page 5-45, emphasis added) is not only justifiable, it is quite simply incomprehensible.

To adopt such a policy is tantamount to suggesting that one can farm without water. There is no justification or rationale for such taking the proposed policy position. If M&I contractors know that the reliability of existing and converted water supplies retains its original agricultural status, as it must to avoid these unacceptable and significant impacts, they are in a position to plan for and acquire the quantities they need to assure the desired level of reliability.

Reclamation has never similarly considered increasing contract supplies or reliability to agricultural contractors based on increased acreage planted to permanent crops or the number of farms or farm families served. The point here is that the proposed policy quite clearly favors urban growth and water supply demand at the direct and ever-increasing expense of irrigation water supplies.

The District remains seriously opposed to this and any other policy that would further impair the efficiency of the project for irrigation purposes.

In addition to these and the attached comments, the District wishes to incorporate by reference the comments provided you by and on behalf of Westlands Water District.

Your thoughtful consideration of these comments is appreciated.

Response

This comment was a comment originally submitted on the 2005 Environmental Assessment. This comment was resubmitted for consideration on the Draft EIS. All issues raised in this previously submitted comment were also brought up in the comment author's 2015 comment letter. See responses to Comment LA10-01 through Comment LA10-20.

Comment Letter LA11, Alexander Coate, East Bay Municipal Utility District

Comment LA11-01

Comment

The East Bay Municipal Utility District (EBMUD) requests an extension of time for public review of the M&I WSP Draft EIS to March 13, 2015.

EBMUD is currently reviewing the Draft EIS and plans to submit comments. While we appreciate Reclamation's recent decision to extend the public comment period deadline from January 12, 2015 to January 30, 2015, the additional 2 weeks is not sufficient for contractors to adequately review and prepare comments on a document as significant and complex as the Draft EI.

The M&I WSP has been in draft form since 2001, and it has been two years since the stakeholder workshops regarding finalization of the policy substantially ended, with delay in progress resulting from administrative issues associated with Reclamation's consultant contract. Recently, stakeholders were informed that the consultant's work had resumed and that a Draft EIS would be issued in 2014. We were surprised Reclamation elected not to hold a stakeholder workshop prior to the release of the Draft EIS and issued the Draft EIS on November 19, 2014 for a public review period of only 45 days, spanning the end-of-year holiday period when key staff are unavailable to adequately review the document.

The Draft EIS is a document of substantial length and detail that will require approximately 90 days for proper review. Given that Reclamation's current schedule does not show the M&I WSP being finalized in time to affect 2015 CVP allocations, we respectfully request that the review period be extended to March 13, 2015.

Response

See response to Comment LA02-01.

Comment Letter LA12, Michael Tognolini, East Bay Municipal Utility District

Comment LA12-01

Comment

The East Bay Municipal Utility District (EBMUD) appreciates this opportunity to review and provide comments on the Central Valley Project (CVP) Municipal and Industrial Water Shortage Policy (M&I WSP) Draft Environmental Impact Statement (DEIS) prepared by the U.S. Bureau of Reclamation (Reclamation). EBMUD supplies water to nearly 1.4 million people in the East Bay. EBMUD's 332-square mile water service area encompasses incorporated and unincorporated areas within Alameda and Contra Costa Counties. EBMUD's Mokelumne River and East Bay watershed sources of supply are sufficient in most years. However,

to reliably meet the needs of its customers in dry years, EBMUD uses CVP water under its Long Term Renewal Contract (LTRC) with Reclamation [Footnote: Contract No. 1406-200-5183A-LTR1, dated April 10, 2006.] in addition to its Mokelumne and East Bay supplies.

EBMUD's LTRC is a unique, dry-year-only contract that resulted from 40 years of planning, negotiations, litigation, and collaboration with stakeholders. EBMUD takes delivery of CVP water in dry years through the Freeport Regional Water Facility (Freeport Facility), which includes an intake located on the Sacramento River. The Freeport Facility was completed in 2010 in partnership with Sacramento County Water Agency and cost EBMUD ratepayers over \$480 million to construct CVP water is central to our drought planning. Every EBMUD water supply planning document - including those related to the signing of the LTRC and the construction of the Freeport Facility relies on the use of CVP supplies integrated with EBMUD's other supplies to meet the water supply reliability needs of its customers. Accordingly, the M&I WSP is of critical importance to EBMUD. We have been involved in the stakeholder process since 2003 and support Reclamation's efforts to finalize a policy that provides detailed, clear, and objective guidelines for the allocation of available CVP water supplies to CVP water service contractors during water shortage conditions. EBMUD's primary interest is to ensure that the finally adopted M&I WSP recognizes the unique terms of EBMUD's LTRC and maintains our investment in Freeport. We appreciate Reclamation's efforts to complete environmental review of the M&I WSP as the next step in the process towards finalizing a policy. EBMUD's comments on the DEIS are provided in the following sections.

Response

Reclamation recognizes the range of potential alternatives that are the subject of this EIS are of interest to many people, and opinions and viewpoints about the WSP alternatives vary. Reclamation will consider all public input regarding the alternatives analyzed in the EIS when deciding how to proceed and finalizing the ROD.

Comment LA12-02

Comment

Separate process for finalizing M&I WSP once environmental review is complete:

Section 12(d) of EBMUD's LTRC authorizes Reclamation to amend or modify the M&I WSP "only through a public notice and comment procedure." We understand that Reclamation has not yet committed to initiate that procedure before adopting a final M&I WSP. We acknowledge that Reclamation held stakeholder scoping meetings in 2003-2005 and again in 2010-2011, and that it is now soliciting public comment on the DEIS. Both public processes are important milestones on the path to a final M&I WSP. But neither is a substitute for a public notice and comment process that occurs after environmental review is complete. Following completion of environmental review, Reclamation should

initiate a separate, transparent public process to elicit comment on policy alternatives before a final M&I WSP is adopted. EBMUD and other M&I contractors participated in Reclamation stakeholder meetings on the M&I WSP beginning in 2003. Efforts in 2003-2005 produced a draft revised policy and a National Environmental Policy Act (NEPA) environmental assessment (2005 EA). However, the policy proposed in those documents was not adopted. In reinitiated efforts towards a final M&I WSP in 2010, Reclamation held a number of stakeholder workshops and NEPA scoping meetings that extended into 2011. Reclamation abruptly put these discussions on hold due to contracting issues with Reclamation's consultant. Without further public process, stakeholders were informed in 2014 that a DEIS on the M&I WSP would be released for public comment.

EBMUD believes the stakeholder scoping process was a beneficial exchange of ideas, but we do not view those workshops as an adequate or complete "public notice and comment procedure" called for in the LTRC that could serve as the basis for Reclamation to select a policy alternative and adopt a final M&I WSP.

Furthermore, the DEIS comment period is not the appropriate vehicle for final stakeholder input on the policy. The DEIS inadequately describes the alternative policies, makes erroneous assumptions, and contains other technical deficiencies identified in this letter. Therefore, we have been able to form only an inadequate and incomplete understanding of the impacts of each proposed policy alternative on the environment and our water supply. The alternatives proposed in the DEIS also remain subject to change. While we are fully prepared to comment on the environmental analysis set forth in the DEIS, we strongly believe that CVP contractors should be allowed the opportunity to comment on the policy implications of the various alternatives after all environmental documentation is final and the impacts of each policy alternative have been fully disclosed and analyzed. The process would also benefit from Reclamation's identification of the specific alternative it proposes to adopt as the final policy.

Response

See Common Response 1.

Comment LA12-03

Comment

Inaccurate, inconsistent and incomplete description of alternatives: The DEIS does not include complete descriptions of the policy as it would read under each proposed alternative. For example, the DEIS describes Alternatives 1, 4 and 5 as previous versions of the draft M&I WSP but did not include the text of these previous versions of the draft M&I WSP. The full text of the M&I WSP, as it would read under each proposed alternative, should be included in the EIS so the assumptions for each alternative are clearly identified and we can understand exactly how the policy would be implemented and what is being modeled and analyzed for each alternative.

Response

Appendices J through N present each of the M&I WSP alternatives.

Comment LA12-04

Comment

The narrative description of the alternatives also includes inaccurate and inconsistent statements that do not match the referenced draft policies. These inaccuracies and inconsistencies should be corrected and the environmental analysis revised accordingly as appropriate. The inaccuracies and inconsistencies include the following:

- Alternative 1 (No Action Alternative): The DEIS includes multiple statements that the concept of "unmet" contractor public health and safety (PHS)² is incorporated within the No Action Alternative (NAA) because it is in the baseline of the draft M&I WSP dated September 11, 2001 as modified by Alternative 1B from the 2005 EA (see, e.g., DEIS §§2.3 and 2.3.5). This is inaccurate. The DEIS describes "unmet need" as "the difference between a contractor's PHS demand and its available non-CVP supplies." Neither the 2001 nor the 2005 documents mentions this concept. In addition, neither the 2001 nor the 2005 versions of the M&I WSP allow for a reduction in PHS deliveries based on the availability of non-CVP supplies to the CVP contractor. The concept of unmet PHS was not introduced until a 2010 draft policy that has never been adopted nor been subject to NEPA review. If Reclamation continues to describe the NAA as the current 2001 draft M&I WSP as modified by Alternative 1B of the 2005 EA, then the NAA should not include any reduction in PHS deliveries by the amount of non-CVP supplies.

Response

Chapter 2.3.4 has been revised to clarify Reclamation's definition of "unmet PHS need" and the process for requesting adjustments for PHS need. See Common Response 5. The No Action Alternative, the 2001 Draft M&I WSP as amended, allows for varying M&I water service contractor deliveries based on contractors' non-CVP supplies in Term and Condition 7, which states, "At times of extraordinary circumstance, Reclamation may determine that it is necessary to vary the allocation of M&I water among contractors, taking into consideration a contractor's available non-CVP water." Reclamation considers these "extraordinary circumstances" to occur once agricultural water service contractor allocations have been reduced to 20 percent or less of Contract Total. The M&I water service contractor allocations under those circumstances are shown in Table 2-2.

Comment LA12-05

Comment

Alternative 4 (Updated M&I WSP): The DEIS states that Alternative 4 is the October 21, 2010 Updated Working Draft Policy (Working Draft Policy). However, the description for calculating PHS in the DEIS for Alternative 4 is inconsistent with the referenced Working Draft Policy. Section 3.3.1 of the Working Draft Policy includes a detailed explanation of the PHS calculation which does not include the concept of unmet PHS or reduction in PHS deliveries based on a contractor's availability of non-CVP supplies. The Working Draft Policy was, at most, ambiguous as to any role that non-CVP supplies would have in the PHS calculation. Alternative 4 is inconsistent with the Working Draft Policy in that it fully incorporates the concepts of unmet PHS and reductions in PHS deliveries based on a contractor's availability of non-CVP supplies into the PHS calculation.

Response

Alternative 4 is presented in Appendix M. It represents the Updated M&I WSP, the 2010 "Working Draft Policy" with clarifying revisions made to address comments from stakeholders received after Stakeholder Workshop 4 was held in November 2010 and from public comments on the Draft EIS. In the Updated M&I WSP, Figure 1 (see Section 3.1, Implementation Procedures - General) presents the sequence of steps that Reclamation will use to determine CVP supplies for M&I contractors during a Condition of Shortage. This flow chart includes a step where Reclamation determines whether a contractor has a PHS need that is unmet by its combination of non-CVP supplies and its CVP allocation. This provides an opportunity for an adjustment to the CVP allocation, up to a maximum amount and provided that there is available CVP water for an additional allocation.

See also Common Response 4 and Common Response 5.

Comment LA12-06

Comment

Alternative 5 (M&I Contractor Suggested WSP): The DEIS states that Alternative 5 is the November 22, 2010 M&I contractor redline-strikeout of the October 18, 2010 draft M&I WSP. The DEIS states that Alternative 5 requires reservoir reoperation, whereas the actual redline-strikeout does not, and the modeling analysis does not indicate whether there is any reservoir reoperation.

Response

The Final EIS has been revised to remove facility reoperation from the description of Alternative 5. No reoperation of project facilities was modeled or analyzed for Alternative 5.

Comment LA12-07

Comment

CVP as a secondary supply for purposes of identifying unmet contractor PHS need EBMUD has significant concerns with the language in the DEIS and referenced policies that suggest that CVP M&I water supplies are secondary, or backup water supplies for purposes of identifying unmet contractor PHS needs. The DEIS (p. 4-8) states "CVP supplies are considered secondary or supplemental for the purpose of identifying unmet PHS need. CVP supplies are provided to satisfy PHS demands after the contractor has utilized all other available non-CVP supplies." We strongly dispute Reclamation's relatively recent notion that CVP supplies are a supply of last resort. We also believe this method of calculating CVP deliveries is fundamentally inconsistent with EBMUD's unique, dry-year-only LTRC contract. Furthermore, it unnecessarily risks the reliability of the East Bay's drought water supplies and undermines the substantial investment EBMUD made in the Freeport Facility in reliance on the LTRC. EBMUD believes that, provided water is available to be allocated, the M&I WSP should ensure that EBMUD will be allocated at least its full documented PHS need.

EBMUD's unique, dry-year only LTRC represents decades of working with Reclamation to develop a contract that provides EBMUD with additional water reliability in dry years and addresses stakeholder concerns. EBMUD first entered into Contract No. 14-06-200-5183A with Reclamation dated December 22, 1970 for a water supply of up to 150,000 acre-feet (AF) every year from a point of diversion on the Folsom South Canal. For over 30 years, EBMUD made payments in accordance with its water service contract without receiving water. After decades of litigation and negotiation, Reclamation and EBMUD executed Amendatory Contract No. 14-06-200-5183A-1 dated July 20, 2001 (superseded by the LTRC in 2006).

The LTRC, as compared with the 1970 contract, places major limits on the delivery of CVP water to EBMUD. First, it allows EBMUD to take CVP water only in dry years when EBMUD's total system storage is forecasted to be below 500,000 AF. Second, the LTRC reduces the quantity available to EBMUD from 150,000 AF to 133,000 AF in any single year, not to exceed a total of 165,000 AF during any consecutive three-year period. EBMUD agreed to sacrifice access to CVP water during normal and wet conditions, reduce its total CVP contract amount, and take delivery from the Sacramento River in exchange for a predictable and reliable quantity of CVP water during dry years when it is needed most.

EBMUD's CVP supply is a key component of our overall portfolio approach to meeting the current and future water supply needs of our customers. EBMUD's Mokelumne system is severely limited during droughts. The CVP supply is intended to provide additional drought supply that reduces the potential for severe water rationing and economic losses during droughts, in combination with

continued use of stored Mokelumne supplies and aggressive conservation and recycling programs.

Response

See Common Response 4.

Comment LA12-08

Comment

With these considerations in mind, we turn to Reclamation's proposal to treat CVP water as a "secondary" source and providing only "unmet" PHS needs during critical droughts.

Response

See Common Response 4.

Comment LA12-09

Comment

EBMUD's unique, dry-year only contract should be recognized in the DEIS and any M&I WSP. As described above, EBMUD's LTRC has terms and conditions for quantity that are specific to EBMUD and providing additional water to meet EBMUD customer needs in dry years only. Based on the expectation of a reliable and predictable supply from the CVP, EBMUD invested over \$480 million to construct the Freeport Facility.

EBMUD's entire drought planning process is based on using CVP water alongside Mokelumne water. Our planning contemplates the use of enough CVP water during all years of a multi-year drought to ensure that sufficient stored Mokelumne water will be available in the last year of the drought. This concept was understood by Reclamation when it signed the EBMUD LTRC as a dry year only contract with a 3-year delivery cap of 165,000 AF. Based on this understanding, EBMUD designed and built its Freeport Facility with a capacity reflecting the water available under contract. As a practical matter, if EBMUD uses all its non-CVP supplies first, its Freeport system does not have sufficient capacity to meet all of EBMUD's needs once the other supplies are gone.

Therefore, as described in the Freeport EIR/EIS, EBMUD's CVP and other supplies must be used in an integrated way during all stages of a drought to meet the public health and safety needs of EBMUD customers. An M&I WSP that requires EBMUD to use all other sources of water before it can access CVP water under its LTRC to meet PHS needs would undermine four decades of careful planning and negotiations, severely diminish the significant investments made by EBMUD ratepayers to construct the Freeport Facility, and result in a significant impact to water supply reliability for EBMUD customers.

Response

See Common Response 4.

Comment LA12-10

Comment

There is no basis for an M&I WSP that treats CVP water as a "secondary or supplemental" supply. We are aware of nothing in the authorizing legislation for the CVP that would suggest that CVP water supplies are "secondary or supplemental" to other water sources. Nor are we aware of anything in any existing duly-adopted Reclamation policy or our LTRC that so characterizes the priority of CVP M&I water supplies. In fact, as far as we are aware, this concept is novel, with no precedent in law or contract.

Accordingly, Reclamation should revise the DEIS to delete the referenced language on page 4-8 and clarify that the M&I WSP is not intended to serve as a shift in federal policy nor to imply that the CVP is a "secondary" or "supplemental" source of supply.

Response

See Common Response 4.

Comment LA12-11

Comment

Treating CVP M&I supplies as "secondary or supplemental" is inconsistent with California water policy and actions. To the extent the M&I WSP and DEIS purposely identify CVP M&I supplies as "secondary or supplemental" they are inconsistent with existing California water policy. California water policy encourages the diversification of water supplies through conjunctive use, recycling and reclamation, increased storage, and conservation. The M&I WSP is incompatible with California water policy to the extent it functions in a manner that relegates CVP water to "secondary" status to be used only as a supply of last resort during drought, rather than conjunctively with other sources as part of a diversified portfolio. Moreover, a policy that mandates the use of all non-CVP supplies first to meet PHS needs discourages contractors from developing additional, likely higher priced, water supplies if Reclamation's response will be to allocate even less CVP water to M&I contractors for PHS needs. Ultimately, Reclamation's policy harms both the CVP and future water supply reliability of the state by providing a disincentive for M&I contractors to properly plan and manage for future water supply shortages.

Response

See Common Response 4.

Comment LA12-12

Comment

The environmental impacts of contractors relying more heavily on non-CVP supplies to meet PHS needs should be properly analyzed in the DEIS. Reclamation's policy of treating CVP water as a secondary supply and requiring

contractors to rely more heavily on non-CVP supplies to meet PHS needs will foreseeably result in adverse environmental impacts that have not been analyzed in the DEIS.

Response

See Common Response 4.

Comment LA12-13

Comment

There is not enough detail in the DEIS and policies to understand how the actual PHS calculation would be performed. On a practical level, the quantity of CVP water provided for PHS needs to be predictable. The PHS methodology described in the DEIS is not detailed enough for agencies, like EBMUD, to calculate the quantity of CVP water that would be provided to meet EBMUD's unmet PHS need. We recognize that the working draft version of M&I WSP dated October 18, 2010 outlines implementation guidelines, and Appendix A of DEIS includes M&I Contractor Data Summary with planning data. However, there are ambiguities on how the actual calculation would be performed, including how, when, how often, and by whom a contractor's non-CVP supplies would be calculated, and the source of data that would be used for the calculation. Additional process detail is required in the DEIS and M&I WSP to understand the calculations and assumptions for unmet PHS that are being used to analyze the potential environmental effects of the alternatives.

Response

Appendices J through N present each of the M&I WSP alternatives. See Common Response 5 and Common Response 6.

Comment LA12-14

Comment

Mischaracterization of American River Division contractors' position on Term 14

Section ES.7. Issues of Known Controversy (p. ES-34) of the DEIS lists issues and concerns raised during the public scoping process as documented in the M&I WSP Public Scoping Meeting Summary Report (Reclamation 2011). The last bullet incorrectly states, "The American River Division contractors disagree with Reclamation's interpretation of Term 14 of SWRCB Decision 893 and believe it should provide them with additional supply reliability beyond what the M&I WSP provides in their water service contracts." EBMUD, an American River Division contractor, strongly agrees with Reclamation's interpretation of Term 14 and furthermore believes that this issue has already been settled and has no place in the M&I WSP. The statement on Term 14 should be revised to correctly identify the contractors within the American River Division who disagree with Reclamation's interpretation of Term 14.

Response

The text in Chapters ES.7 and 1.6 have been clarified to list the American River Division contractors that have raised issue with Reclamation's interpretation of Term 14.

Comment LA12-15

Comment

Reclamation previously stated that it would consider a contractor's access to non-CVP supplies when making PHS allocations only during "extraordinary circumstances during severe and continuing drought" and that Reclamation "would consider public health and safety to be a priority." (December 19, 2005 FONSI.) Each alternative proposed in the DEIS deviates unacceptably from that standard. In fact, the alternatives proposed in the DEIS would require that CVP deliveries be reduced in proportion to the quantity of non-CVP supplies available to the contractor each and every time a PHS calculation is done, even if water exists in the Project to satisfy the PHS need. EBMUD believes this goes well beyond the purpose of the M&I WSP, and that it is not consistent with Reclamation's obligations, especially as relates to our unique dry-year contract.

Response

See Common Response 4 and Common Response 6.

Comment LA12-16

Comment

Therefore, EBMUD cannot fully support any DEIS alternative as currently proposed.

Response

See response to Comment LA08-01.

Comment LA12-17

Comment

However; EBMUD would support a modified version of Alternative 5 (M&I Contractor Suggested WSP) that clarifies that a contractor's access to non-CVP supplies will not be taken into account as part of PHS calculations except during severe water shortage conditions when it is determined there is not enough CVP water physically available to meet even the minimum PHS needs of the M&I contractors. To lend clarity and predictability to that determination, the M&I WSP should include a clear, objective process that Reclamation will follow to determine whether sufficient water is available for PHS needs and, if it is not, how Reclamation will quantify and impose cutbacks below the level of a M&I contractor's demonstrated PHS need.

Response

See Common Response 4, Common Response 6, and response to Comment LA08-01.

Comment LA12-18

Comment

EBMUD opposes Alternative 2 (Equal Agricultural and M&I Allocation) and Alternative 3 (Full M&I Allocation Preference) in the DEIS. Alternative 2 does not give priority to delivering water to meet M&I public health and safety requirements and does not reflect Reclamation's longstanding policy of recognizing a municipal preference when allocating shortages between M&I and Agricultural contractors. Neither Alternative 2 nor 3 represent a reasonable methodology for allocating water shortages among CVP contractors.

Response

See response to Comment LA08-01.

Comment LA12-19

Comment

Limitations on Modeling Tools to Identify Impacts: Appendix B of the DEIS describes modeling tools and assumptions used in the analysis of the DEIS alternatives. Each alternative was simulated in a Claim II model of the CVP and State Water Project (SWP) to determine effects on water supply to CVP contractors, operations of CVP and SWP facilities, and environmental effects. Although Claim II is a widely accepted "simulation by optimization" model, it is more suitable for comparative analyses but not for absolute analyses. The DEIS should recognize and describe the limitation of Claim II in quantifying the water supply impacts for each alternative. Specific EBMUD comments on the review of the modeling analysis and results are provided as Attachment 1.

Response

Additional text has been added to Appendix B regarding the fact that CalSim II is more appropriately used for doing comparative analysis, and not in an absolute sense. Analysis performed in support of this EIS was done in a comparative sense by looking at the difference in water service allocations and project operations between alternatives. These comparisons help illustrate changes in deliveries and environmental conditions as a result of an alternative. The reader is cautioned against using CalSim II results for determining expected water supply reliabilities.

Comment LA12-20

Comment

Similarly, the Least Cost Planning Simulation Model (LCPSIM) was used to estimate the economic benefits and costs of water supply for the Bay Area, including EBMUD. Limitations to the LCPSIM model and its aggregation assumption underestimates impacts of water supply shortages to the Bay Area.

Appendix G recognizes this limitation, but Chapter 13 of the DEIS should also describe this tendency to underestimate economic impacts from water shortages. We appreciate this opportunity to provide comments on the M&I WSP DEIS. If you have any questions about these comments, please contact me at (510) 287-0125.

Response

The text recommended by the comment has been added to Chapter 13.

Comment LA12-21

Comment

Page B-5. Appendix B. 2nd paragraph. 2nd sentence. A key piece of language from EBMUD's LTRC was omitted from the description in Appendix B of the DEIS. EBMUD requests that additional text be added (as indicated by the bold text) as consistent with the corresponding section of the LTRC (LTRC Sec. 3.1, page 13, lines 257-259). Accurate representation of this key constraint of the LTRC is critical to modeling the terms of the contract correctly and understanding the unique terms and conditions of EBMUD's dry-year only contract. " .. ,and not more than 165 TAF in any period of three consecutive years that EBMUD's total system storage forecast remains below 500,000 acre-feet."

Response

Appendix B has been revised to include the requested text.

Comment LA12-22

Comment

Table B-3. Page B-15. Appendix B. Numerical results presented in this table are in error and need to be corrected. Since this table represents the results for the No Action Alternative (NAA), the sections that follow where modeling results are presented for each alternative are, therefore, in question. Furthermore, the data presented in the table is not adequately defined or described; e.g., are these representing long-term averages over the full period of hydrology simulated? In order to properly interpret impacts, results should be summarized by year types similar to the water quality modeling results in Appendix C.

Response

The data formerly presented in Appendix B Table B-3 has been corrected and revised in Tables B-4 through B-18 to provide a summary of average monthly values for key system parameters in the CVP and SWP by Sacramento Valley Water Year Type.

Comment LA12-23

Comment

Inappropriate Presentation of Modeling Results. In wetter year-types where supplies are plentiful and allocations to both irrigation and M&I contractors are

relatively high, there is not much difference in the alternatives, and thus the results appear to be quite similar. However, once water supplies are constrained by hydrologic conditions (i.e. in Below Normal to Critically Dry year-types) we expect to find the maximum differences in the results among the alternatives as this is where the various assumptions under each of the alternatives differ the most. Hence, presenting results that are averaged over all year-types - from wettest to driest - obfuscates expected changes in drier periods. The results discussion would benefit from summarizing changes in model results by year-types (as in Appendix C) or to focus the analysis on drought periods when supplies are limited over the hydrologic period-of-record.

Response

Additional modeling results and summarizes have been included in Appendix B to present additional clarity on results during dry years.

Comment LA12-24

Comment

General comment on Appendix B modeling results from Claim II output. Additional discussion on the results of each alternative in Appendix B is needed. The modeling results data presented are not adequately defined as described in the previous comment. A narrative results discussion is needed that explains where and why differences occur under each of the alternatives relative to the NAA and specifically how these differences relate to the key M&I WSP assumptions that are unique to each alternative. In particular, a discussion of the key differences represented by the two bookend alternatives, Alternatives 2 and 3 is needed. The narrative discussion of the results needs to adequately describe model output and figures and/or tables included in the document that are relied upon to summarize the potential environmental impacts of the alternatives.

Response

Appendix B has been revised to include additional description of the modeling results.

Comment LA12-25

Comment

Appendix B plots provided on pages B-41 through B-79, general comment. Several comments follow from the plots that are included in the DEIS as Attachment B Comparison of No Action Alternative with Action Alternatives. A narrative discussion of these results is needed to accompany the figures presented that describes what is plotted, why, and what the results show especially in the context of the policy analyzed under a given alternative. The results discussion is foundational to understanding the environmental impacts discussed elsewhere in the document.

Response

Appendix B tables and figures have been revised to better convey the differences between alternatives.

Comment LA12-26

Comment

Appendix B plots provided on pages B-41 through B-79, general comment. Several comments follow from the plots that are included in the DEIS as Attachment B Comparison of No Action Alternative with Action Alternatives. The figures need to be reformatted so the modeling results information can be clearly understood. For example, in the case of Figure 9 for Alternative 2 page B-49, the two dashed lines representing Delta Exports for the NAA (red dashed line) and the Equal Allocations Alternative 2 (blue dashed lines) are plotted on the chart in such a way that it is difficult to understand if the solutions are identical (plotting on top of each other) in WY1922 and then they deviate from each other in WY 1923 or if the "Delta Exports -NAA" time series is simply missing in WY1922 but then included in WY1923 which would appear to be an error or typo. In contrast with this example, the comparison chart for X2 includes an additional time series within the figure that represents the difference in X2 for the alternative shown relative to the NAA with its own ordinate scale on the right side of the figure. Similar to the X2 chart, all figures should be formatted in such a way that the modeling results can be clearly identified and understood.

Response

Appendix B tables and figures have been revised to better convey the differences between alternatives.

Comment LA12-27

Comment

Appendix B plots provided on pages B-41 through B-79, general comment. Several comments follow from the plots that are included in the DEIS as Attachment B Comparison of No Action Alternative with Action Alternatives. Inspection of these charts suggest that a careful review and quality check is necessary. For example, see Figure 10 on page B-50 that represents Jones Pumping for the NAA with Alternative 2. Upon visual inspection the two time series appear to be identical; any differences are relatively small. Figure 23 on Page B-63 shows the same chart, but replaces Alternative 2 results with Alternative 3. Visual inspection of Figure 23 also suggests the two solutions are identical, any changes are negligibly small; however, across comparison of Figure 10 and 23 which purportedly represent the same NAA show pumping patterns that differ (see for examples WYs 1926, 1933, and 1934-1935). Either the NAA is different or the plots are ineffective in properly conveying the results.

Response

Appendix B tables and figures have been revised to better convey the differences between alternatives.

Comment Letter LA13, Thomas D Cumpston, El Dorado Irrigation District

Comment LA13-01

Comment

As you know, El Dorado Irrigation District holds a Municipal and Industrial (M&I) Water Supply Contract for Central Valley Project (CVP) water from the CVP's American River Division. American River Division M&I contractors, including the District, have submitted a joint letter commenting on the Draft Environmental Impact Statement (Draft EIS) Reclamation has prepared for its proposed CVP M&I Water Shortage Policy. The District is writing separately to supplement those joint comments by providing the District's perspective on some of the points raised, and addressing some issues that are specific to the District.

The joint comments noted that in dry years, both CVP and non-CVP supplies in Folsom Reservoir can become physically unavailable to contractors, and that the Draft EIS fails to take these circumstances into account when assessing contractors' public health and safety needs. The joint comments state the their intake is dewatered at 320 feet above mean sea level (msl), and that problems begin well before that point. Although the District has its own Folsom intakes at various elevations, their ability to deliver the District's Folsom Reservoir CVP and non-CVP supplies is even more constrained. When the water level reaches 350 feet msl, the District's available pumps can no longer meet the capacity of its water treatment plant, causing potential shortages during peak demands. When the water level reaches 331 msl, the District has zero pumping capacity. As stated in the joint comments, the Draft EIS overlooks this serious physical constraint.

Response

See Common Response 2.

Comment LA13-02

Comment

The joint comments also noted that the Draft EIS should not characterize the American River Division's CVP supplies as secondary or supplemental. This is certainly true for the District, given that: 1) about half of our total supplies can only be accessed from Folsom Reservoir; 2) infrastructure constraints sharply limit the extent to which supplies in the eastern portion of our service area can be delivered to the west, particularly during the peak summer months; and 3) it is not physically, technologically, nor economically feasible to lift non-CVP supplies from Folsom Reservoir to serve the eastern, upslope service area, which extends to nearly 4,400 feet in elevation.

Therefore, as the joint comments note, the Draft EIS fails to sufficiently account for the unavailability (hydrologically, legally, and physically) of non-CVP supplies in critically dry years, nor for significant infrastructure and topographic constraints that limit the District's capacity to serve any specific supply to any point within its service area. To assess the full extent of the District's "unmet" public health and safety needs in a critical year, this analysis should be amended.

Response

See Common Response 2 and Common Response 4.

Comment LA13-03

Comment

The joint comments note that the Draft EIS assumes that M&I contractors could meet public health and safety needs by increasing the use of groundwater. This assumption is completely unwarranted for the District. Its service area in the Sierra Nevada foothills overlies fractured rock geology; the District has no groundwater supplies, there are no reliable groundwater supplies for municipal and industrial uses, and it will never be feasible to attempt to develop such supplies in the future - especially in the midst of a drought. The District is and necessarily will remain 100% reliant upon surface water supplies in all years.

Response

See response to Comment LA01-10 and LA01-19.

Comment LA13-04

Comment

The District disagrees with the methodology and calculations of non-CVP water available to it now and in the future, as summarized in Appendix A of the Draft EIS and relied upon in various parts of the main document. First, as the past year has shown, a more accurate measure of critical-year supplies is to look at the third year of a multi-year drought. By instead defining a critical year as a single dry year, rather than the third year in a multi-year drought, the Draft EIS overstates the District's 2010 non-CVP supplies. Using the proper methodology, Table 5-3 of the District's Urban Water Management Plan (UWMP) shows that 2010 critical-year non-CVP supplies should be 50,080 acre-feet (af), not 57,080 af.

Response

Appendix A has been revised to reflect the data provided in Comment LA13-04, and unmet PHS need has been revised to take these changes into account.

Comment LA13-05

Comment

The 2030 normal-year non-CVP supply calculation improperly includes 7,500 af of subcontracted CVP water (the P.L. 101-514 "Fazio" water supply). Instead of 107,140 af of non-CVP supply, the correct number (using the District's UWMP)

is 99,640 af. The 2030 calculation of dry- and critical-year non-CVP supplies erroneously repeats 2010 numbers. The correct numbers, under the District's UWMP, are 72,080 af for the dry year and 55,580 af for the critical year.

Response

Appendix A and Chapter 4 have been updated to correct these numbers.

Comment LA13-06

Comment

The District appreciates Reclamation's efforts to finalize the CVP M&I Water Shortage Policy, and we support the joint comment letter's request to initiate immediate stakeholder discussions on the selection of a final policy alternative so that the decision can be made before the end of 2015, as planned. With the drought showing no signs of abating, this is critically important work.

Response

See Comment Response 1.

Comment Letter LA14, Kelley M Taber, Glenn-Colusa Irrigation District

Comment LA14-01

Comment

This letter is written on behalf of the Glenn-Colusa Irrigation District (GCID) regarding the draft environmental impact statement (DEIS) for the proposed CVP Municipal & Industrial Water Shortage Policy (M&I WSP). GCID has reviewed the DEIS and has unanswered questions and concerns about the potential effect on GCID's water supply.

Introduction and Background - GCID is located in the central portion of the Sacramento Valley on the west side of the Sacramento River and is the largest irrigation district in the Sacramento Valley, encompassing approximately 175,000 acres. The service area extends from northeastern Glenn County near Hamilton City to south of Williams in Colusa County. GCID's main facilities within its service area include a 3,000 cfs surface water pumping plant and fish screen structure at Hamilton City, California, a 65-mile main canal, and approximately 900 miles of lateral canals and drains that serve its approximately 175,000 acre service area. GCID also conveys water to three national wildlife refuges in the Sacramento Valley as part of a 50-year agreement between GCID and the US Bureau of Reclamation (Reclamation).

GCID holds both pre- and post-1914 appropriative water rights to divert water from the natural flow of the Sacramento River. GCID also has adjusted pre-1914 water rights under the Angle Decree, issued in 1930 by the Federal District Court, Northern District of California, to divert water from the natural flow of Stony Creek, a tributary to the Sacramento River. The GCID surface water supply

entitlement for the irrigation season is currently addressed in a Sacramento River Settlement Contract (SRSC) originally entered into with Reclamation in 1964, and renewed in 2005 for another 40-year term. (SRSC No. 14-06-200-0855A-R-1 (GCID Settlement Contract)). This contract provides an agreement between GCID and the United States on the diversion of water from both the Sacramento River and Stony Creek from April 1 through October 31 of each year. The GCID settlement Contract provides for a maximum total diversion of 825,000 acre-feet/year, of which 720,000 acre-feet is deemed Base Supply and 105,000 acre-feet is Project Water, as defined under the contract. During designated critical and dry years, when forecasted natural inflow to Shasta Reservoir is less than 3.2 million acre-feet, GCID's total contract supply is reduced by 25 percent pursuant to the shortage provisions of the contract, resulting in a minimum quantity of 618,000 acre-feet per irrigation season available for diversion under the contract.

The GCID Settlement Contract does not limit GCID from diverting water for beneficial use during the months of November through March, to the extent authorized under California law. GCID holds a water right permit in the amount of 182,900 acre-feet (up to 1,200 cfs) during the period November 1 to March 31 of each year. In addition, the GCID service area is relatively large and contains a number of small tributaries to the Sacramento River. GCID holds water rights to divert surface water from Hunters Creek, Funks Creek, and Colusa Basin Drain.

Comments on DEIS - The DEIS states that the purpose of updating the 2001 Draft M&I WSP is to "provide detailed clear and objective guidelines for the allocation of available CVP water supplies to CVP water service contractors during water shortage conditions." (DEIS, p. ES-5.) The No Action Alternative provides the baseline for assessing the proposed policy's environmental effects. (DEIS, p. ES-11.) According to the DEIS the No Action Alternative represents the continuation of the current 2001 Draft M&I Water Shortage Policy, as modified by an alternative (Alternative 1B) of a 2005 environmental assessment. This existing draft policy is described as currently guiding Reclamation's allocation of water to agricultural and M&I water service contractors. (DEIS, p. ES-11).

Components of PHS Demand - A key element of the current and proposed policies is the provision that "Reclamation will strive to deliver CVP water to M&I water service contractors at not less than their unmet PHS water supply level, provided CVP water is available, if: 1) the Governor declares an emergency drought condition due to water shortage, or 2) Reclamation, in consultation with the contractor, determines that an emergency exists due to water shortage. At that time the PHS level and unmet need would be determined by the contractor and reviewed by Reclamation." (DEIS, p.2-8) The criteria used to estimate the "public health and safety" (PHS) needs are the "amount of water required for consumption, for operation of necessary water and wastewater facilities and to avoid economic disruption." (DEIS, p. ES-13, emphasis added.) These components of PHS demand are further defined by factors set forth in Table 2-4, which identify PHS demand to include industrial uses at 90 percent of projected water demand, and commercial and industrial uses at 80 percent of projected

demand. The unmet need is calculated as the difference between a contractor's PHS demand and its available non-CVP supplies. The DEIS states that Reclamation would not reallocate water from agricultural contractors or environmental releases to meet unmet M&I PHS needs. (DEIS, p.2-8.)

To the extent the components of PHS demand include anything more than a reasonable allowance for domestic use and essential public services, the PHS demand definition is unreasonable and overly broad. PHS should be very limited to the minimum gallons per day per equivalent dwelling unit to address essential domestic and sanitation needs.

Response

During times of water shortage when available CVP supplies are not sufficient to supply full deliveries, Reclamation must reduce deliveries to water service contractors. It is well settled law in California that the highest and best use of water is for domestic purposes. California Water Code Section 106 states, "It is hereby declared to be the established policy of this State that the use of water for domestic purposes is the highest use of water and that the next highest use is for irrigation." Under the No Action Alternative and Alternatives 3, 4 and 5, Reclamation has prioritized M&I water deliveries over those to agricultural water users in times of shortage. Accordingly, under the No Action Alternative and Alternatives 4 and 5, Reclamation has developed a calculation to determine M&I contractors' PHS need when deliveries are curtailed. The PHS criteria estimate the water needed by M&I contractors for consumption, for operation of necessary water and wastewater facilities, and to avoid economic disruption.

Comment LA14-02

Comment

Effects on the Sacramento River Settlement Contract Supply - The DEIS states that the proposed M&I WSP does not apply to Sacramento River settlement contractors. However, the DEIS does not explain whether the proposed policy or any alternative has the potential, directly or indirectly, to effect water supply or allocations to senior water rights holders, including Sacramento River settlement contractors. The surface water supply analysis (DEIS, Chapter 4), discusses impacts only in terms of potential surface water supply reductions to water service contract holders. The DEIS should explain how the existing M&I WSP influences overall CVP allocations, and how, to the extent to which, decisions to allocate water for M&I uses, including PHS purposes, could potentially affect Reclamation's decisions to seek reductions in diversions by the Sacramento River settlement contractors. If there is no possibility that the application of the proposed policy, or any alternative, could increase the risk (and amount) of reduced contract diversions by the Sacramento River settlement contractors, the DEIS should say so.

Response

See response to Comment LA06-09. As stated in Chapter 1.4.2, the M&I WSP does not apply to "settlement, exchange, or other types of contracts or agreements in satisfaction of senior water rights." As described in response to Comment LA06-09, the amount of water available for CVP water service contractors is determined after water has been allocated to Sacramento River settlement contractors and others. The provisions and implementation of a CVP M&I WSP does not apply to, or affect the allocations to, Sacramento River settlement contractors.

Comment LA14-03

Comment

Although there is insufficient information in the DEIS for GCID to understand how the proposed policy or various alternatives would affect the reliability of GCID's annual diversion under its senior water right and in accordance with the GCID Settlement Contract, GCID opposes any alternative that has the effect, directly or indirectly, of reducing GCID's ability to divert its entitlement in accordance with the terms of the GCID Settlement Contract.

Response

See response to Comment LA14-02.

Comment Letter LA15, John Mallyon, James Irrigation District

Comment LA15-01

Comment

The James Irrigation District ("District") appreciates the opportunity provide comments to the U.S. Bureau of Reclamation ("Reclamation") on the Central Valley Project ("CVP") Municipal and Industrial Water Shortage Policy ("M&I WSP") Draft Environmental Impact Statement ("Draft EIS") dated November 2014.

The District is a member of the San Luis & Delta-Mendota Water Authority ("SLDMWA") and shares the concerns of the SLDMWA regarding the Draft EIS. The District has also reviewed comments made by the Del Puerto Water District ("Del Puerto WD") and is in agreement with its position. Accordingly, the District joins in all of the comments submitted by the SLDMWA and the Del Puerto WD.

The District concurs with Reclamation that the adoption of the M&I WSP is a major federal action which necessitates the preparation of an EIS. For this reason, it is imperative that the EIS: (1) address the compatibility of the M&I WSP with federal Reclamation law and California water policy; (2) be consistent with its stated purpose and need; (3) contain an appropriate baseline or "no action" alternative; (4) include a reasonable range of alternatives; (5) consider all factors that guide allocation of CVP water; and (6) adequately evaluate all potential

impacts of the proposed action and alternatives. The comments provided by the SLDMWA and Del Puerto WD indicate that the Draft EIS fails to properly address these areas and the District requests that Reclamation modify the Draft EIS accordingly.

Proper allocation of CVP water in times of shortage is of critical importance to all CVP contractors and the District recognizes the difficulty in developing the M&I WSP and assessing its complex impacts. Thank you for your consideration of the District's comments.

Response

This comment references support of comments submitted by both the San Luis Delta Mendota Water Authority (LA18) and the Del Puerto Water District (LA 10). Please refer to the comment responses to their comments, particularly responses to Comment LA 10-03, Comment LA 10-02, Comment LA 10-04, Comment LA 10-06, and Comment LA 10-11. Furthermore, the FEIS includes discussion of the M&I WSP compatibility with federal Reclamation law and California Water Policy (Chapter 1), a purpose and need (Chapter 1), a No Action Alternative (Chapter 2), a reasonable range of alternatives (Chapter 2), considers all factors that guide allocation of CVP water (Chapter 2), and adequately evaluates all potential environmental impacts (Chapters 3 through 20).

Comment Letter LA16, Einar Maisch, Placer County Water Agency

Comment LA16-01

Comment

Placer County Water Agency (PCWA) appreciates this opportunity to provide these comments on the Draft Environmental Impact Statement (DEIS) for the Central Valley Project Municipal and Industrial Water Shortage Policy (Shortage Policy). PCWA is a signatory, along with other American River municipal and industrial water service contractors, to a comment letter that identifies specific deficiencies with the DEIS. The purpose of this letter is to request that the United States Bureau of Reclamation (Reclamation) clarify that Reclamation does not consider Central Valley Project (CVP) municipal and industrial (M&I) water supplies to be supplemental water supplies and affirm that CVP M&I water supplies are part of the primary water supply relied upon by M&I water service contractors throughout the American River region.

Background on PCWA

Established in 1957, PCWA is a public agency encompassing the entire 1,500 square mile boundary of Placer County. Placer County is a large and geographically diverse county encompassing elevations from 100 feet on the Sacramento Valley Floor to over 9,000 feet at the crest of the Sierra Nevada near Lake Tahoe, and its water supplies are a mix of surface water and groundwater supplies. In the past decade, it has been one of the fastest growing areas of the

State of California, growing approximately 23% in the last decade to more than 360,000 residents.

PCWA is the primary water resource agency in Placer County, responsible to secure, develop, manage, and protect water rights in Placer County thereby ensuring an adequate water supply for the county and its residents. PCWA holds extensive surface water entitlements within Placer County from its Middle Fork American River Hydroelectric Project. PCWA also holds contracts for water delivery from PG&E's Drum Spaulding Hydroelectric Project and the Reclamation's Central Valley Project (CVP) at Folsom Reservoir. PCWA provides retail and wholesale water service to approximately 250,000 people in western Placer County.

The Shortage Policy Incorrectly Characterizes CVP Supplies as "Supplemental"

PCWA's concern with the Shortage Policy stems from language in both the Shortage Policy and DEIS suggesting that Reclamation considers CVP M&I water supplies to be back-up water supplies, secondary to all other water supplies available to PCWA. For example, Reclamation's Shortage Policy provides that the allocation of M&I water based on a contractors' recent historical use of CVP M&I supplies "is intended to encourage contractors to use non-CVP water first and rely on CVP water as a supplemental supply." (2001 Draft Policy, p.3.) In addition to the language in the 2001 Draft Policy, the DEIS implies that CVP supplies are considered supplemental to other available sources:

CVP supplies are considered secondary or supplemental for the purpose of identifying unmet contractor PHS (The DEIS defines PHS as minimum public health and safety water supply needs [DEIS, p.ES-11, Table ES-3) need. CVP supplies are provided to satisfy PHS demands after the contractor has utilized all other available non-CVP supplies.

(DEIS, p.4-8, fn.6.)

The alternatives contained in the DEIS also suggest CVP supplies are supplemental to other sources of water, explaining that M&I water contractors are required to meet all of their PHS demands with non-CVP supplies. (See e.g. DEIS, §ES.5.1.1, §2.3.5.) This language raises serious concerns for PCWA and other M&I water service contractors who consider their CVP M&I supply as a stable and reliable source of water and not simply as a "supplemental" source when all other supplies have been exhausted.

There is nothing in the authorizing legislation for the CVP nor is there anything in existing Reclamation policy or CVP water service contracts that provides CVP M&I water supplies are "supplemental" to other sources of water. Accordingly, Reclamation should make clear that the Shortage Policy is not intended to serve as a shift in federal policy and nothing in the Shortage Policy is intended to imply that CVP M&I supplies are "supplemental" water supplies. We specifically

request Reclamation revise or delete the referenced language to preclude any misinterpretation on this point; and insert a statement same or similar to the following: “Nothing in this policy or supporting environmental analysis should be interpreted to imply that Reclamation considers CVP contract water supply as supplemental or secondary to contractors’ other sources of supply”.

PCWA’s contract with Reclamation was never intended to be a “supplemental” supply. PCWA’s contract is the result of competing water right applications for water from the American River. In State Water Resources Control Board (SWRCB) Decision 893, the SWRCB provided that certain water right applications competing with the application of the United States be denied on condition that Reclamation contract with water users in the American River region in order that the needs of the region be met with CVP water supplies. The provision of CVP M&I water supply to PCWA is currently provided for pursuant to Interim Renewal Contract 14-06-200-5082A-IR2, which is effective through February 29, 2016 pending Reclamation approval of a long-term renewal contract. PCWA considers its contract with Reclamation to be a part of PCWA’s portfolio of water supplies available to meet the long-term needs of its 250,000 customers, and not a “supplemental” supply.

Response

See Common Response 4.

Comment LA16-02

Comment

The Shortage Policy is Inconsistent with California Water Policy

To the extent the Shortage Policy and the DEIS purposefully identify CVP M&I supplies as “supplemental,” they are inconsistent with existing California water policy. California water policy encourages the diversification of water supplies through conjunctive use, recycling and reclamation, increased storage, and conservation. Any expression of policy by Reclamation that CVP M&I supplies are only supplemental to other available sources is contrary to that policy. In addition, any policy that mandates the use of all non-CVP supplies first discourages the development of additional, diverse water supplies. Existing CVP M&I water service contractors would be faced with the real possibility that the development of alternate sources of supply would only decrease the reliability of their CVP M&I supply. Thus, in order to protect their CVP M&I water supply, water services contractors are encouraged to avoid developing alternate water supplies and instead continue to rely primarily on CVP M&I supplies. The Shortage Policy must not discourage diversification and development of alternate water supplies and should clearly articulate that CVP M&I supplies are part of a portfolio of water supplies relied upon by M&I water service contractors.

Response

See Common Response 4.

Comment LA16-03

Comment

The Shortage Policy Lacks Objective Implementation Criteria

Neither the Shortage Policy nor the DEIS contain sufficient information or criteria that explain when the Shortage Policy would be effective. It is unclear, for example, whether the determination to implement the Shortage Policy in any given year is a discretionary action by Reclamation, or whether there is an objective level of water supplies below which the Shortage Policy applies. In particular, neither the Shortage Policy nor the DEIS discloses the criteria or process by which Reclamation would reduce M&I allocations below 75%. Without criteria to explain when the Shortage Policy would be implemented, it is difficult to determine the nature and extent of the impacts associated with the Shortage Policy itself. The DEIS must be revised to indicate the circumstances under which the Shortage Policy will be applied and explain how the frequency of the application of the Shortage Policy relates to the impacts of the policy.

Response

See response to Comment LA06-09 regarding Reclamation's CVP water allocation process.

Appendix B Figures B-4, B-7, and B-10 provide probability of exceedance charts for M&I water service contractor allocations for Alternatives 1, 2, and 3, respectively. There are no allocation differences between Alternatives 4 and 5 and Alternative 1, the No Action Alternative. Tables B-2, B-19, B-37, and B-55 present the modeled annual M&I water service contractor allocations over the CalSim II hydrologic period of record for Alternatives 1, 2, 3, and 5, respectively.

Comment LA16-04

Comment

The Shortage Policy is Arbitrary

The implementation of the concept of CVP M&I supplies as “supplemental” supplies was seen in CVP M&I water allocations last year and again this year. Instead of making consistent reductions based upon contract allocations, Reclamation has taken it upon itself to use the Shortage Policy to balance outcomes. So, while an appropriate “shortage policy” might be to reduce all M&I contract allocations to particular percentage of contract amount, Reclamation has taken the additional step of reducing allocations based upon the prior three years use of CVP M&I water. Then Reclamation went further yet, proposing additional allocation reductions in severe water shortage conditions based upon whether or not Reclamation deemed that an M&I contractor had sufficient non-CVP supplies to meet minimum health and safety needs as determined by Reclamation. Reducing allocations based upon recent use or based upon Reclamation's concept of sufficient alternative supplies is a wholly arbitrary method of reducing contract allocations, unsupported in law or adopted policy. This idea of balanced

“outcomes” inappropriately dismisses contract commitments and only serves to ensure that those that have used the most or have done the least to develop alternative supplies are given a larger allocation of CVP M&I supply. PCWA looks forward to the opportunity to continue to work with Reclamation to develop an M&I Shortage Policy that recognizes existing contractual and legal commitments, ensures the promises to the American River region are kept, while attempting to maximize the yield of the CVP so that excess water can continue to be provided to other areas of the State.

Response

Several of the alternatives include the provision for contractors to request, when allocations to M&I water service allocations have been reduced to a certain percentage, adjustments to their historical use which is used as the basis for the allocation, or adjustments for additional water to assist in meeting PHS need when allocations are even lower. See Common Response 5.

When making allocation adjustments for historical use or unmet PHS need, Reclamation takes into account the differences between contractors because Reclamation realizes there are variations between contractors and their particular water supply conditions. Reclamation believes the allocation of CVP supplies during a Condition of Shortage should be based on need, and Reclamation allows flexibility to assess and manage contractor needs and where needs exist.

Comment Letter LA17, Michael L Peterson, Sacramento County Water Agency

Comment LA17-01

Comment

The Sacramento County Water Agency (SCWA) holds Contracts No. 6-07-20-W1372 and No. 14-06-200-5198B-IR1 with the Bureau Reclamation (Reclamation). SCWA's Contracts entitles it to receive up to 52,000 acre-feet per year for municipal and industrial uses throughout the Contracts Use Area in central Sacramento County. SCWA is acutely interested in Reclamation's proposed Central Valley Project Municipal and Industrial Water Shortage Policy (2010 WSP) because SCWA believes a formal policy will provide SCWA with the clarity it needs for long-term water supply planning purposes. To ensure a clear and defensible policy, SCWA encourages Reclamation to clarify the following points in its Draft Environmental Impact Statement (DEIS), and to address them in its final EIS.

A. Historical Use

1. DEIS May Miscalculate M&I Water Delivery Obligations in Shortage Years.

The DEIS is unclear as to how Reclamation will treat the use of non-CVP supplies in calculating historical use under the proposed alternatives. Without clarity as to how Reclamation will adjust historical use based on use of non-CVP

supplies, it is not clear how such adjustments would affect deliveries to M&I contractors.

Under Alternative 1, 4, and 5, M&I water service contractor reductions would be based on historical use. Historical use is determined by calculating the average quantity of CVP water put to beneficial use during the last three years of water deliveries that were unconstrained by the availability of CVP water. The DEIS states that historical use would be adjusted for non-CVP water use according to the factors described in Chapter 2.3.2, Historical Use. (DEIS at p. 2-13.) The DEIS, at Chapter 2.3.2, states that the contractor must show "the extent to which use of the non-CVP water actually reduced the contractor's use of CVP water in other years. A contractor must show that the non-CVP water used in other years reduced the use of CVP water in these years." (DEIS at p. 2-7.) Assuming "other years" refers to years other than the last three unconstrained years, the DEIS is internally inconsistent. In Chapter 2.6, the DEIS states that "adjustments for use of non-CVP water supplies would be based on the documentation showing the extent to which use of the non-CVP water actually reduced the contractor's use of CVP water in the unconstrained historical years." (DEIS at p. 2-13.) Thus, it is not clear whether a contractor must show that use of non-CVP water in years other than unconstrained years reduced CVP water use in those same years or whether use in unconstrained years reduced CVP water use in the same unconstrained years.

Further complicating matters is the fact that a third alternative may exist. The reference to "other years" may mean that a contractor must show how use of non-CVP water in one year establishes a CVP water "credit" for use in another year. (See 2010 WSP, at p. 2-5 ["The contractor must fully document use of non-CVP water to clearly show how much that water use actually reduced the contractor's use of CVP water in other years"].) In fact, the 2005 Environmental Assessment (EA) provides an example calculation showing a crediting process.

The M&I Contractor Suggested Water Shortage Plan (WSP), evaluated as Alternative 5 in the DEIS, addresses this issue with a specific amendment. The M&I Contractors suggested language that would require a contractor to document use of non-CVP water to show how much non-CVP water use actually reduced the contractor's use of CVP water in each historical unconstrained year. (M&I Contractor's Suggested WSP at Ch. 2.1.2, Ch. 3.2.) The DEIS, however, does not accurately state the M&I Contractors suggested approach to adjusting historical use based on non-CVP water use. The DEIS simply states that adjustments to historical use will be calculated using the same factors described in Chapter 2.3.2, Historical Use. (DEIS at p. 2-18.) As noted above, the term "other years," as used in Chapter 2.3.2, appears to refer to years other than the unconstrained years.

SCWA requests that Reclamation clarify these various inconsistencies regarding adjustments to historical use so that the DEIS clearly reflects Reclamation's CVP delivery obligations in shortage years.

Response

The Draft EIS has revised Chapter 2.3.2 to clarify inconsistencies regarding adjustments to historical use to reflect that "other years" means the same as "unconstrained years."

Comment LA17-02

Comment

2. Lack of Clarity Has Unintended Consequences

Without clearly articulating how Reclamation will treat the use of non-CVP supplies in calculating historical use under the proposed alternatives, M&I Contractors may continue to be penalized for using non-CVP supplies, and may be driven to use CVP supplies to build a record of historical use. Contractors are penalized for diversifying their water supplies because they cannot count on receiving credit for such supplies under the 2010 WSP. Further, driving contractors to use CVP supplies first is counterproductive to the M&I policy. The 2010 WSP specifically states that the provision allowing adjustments to historical use is "intended to encourage contractors to use non-CVP water first and rely on CVP water as a supplemental supply." To the extent that the DEIS drives contractors to use CVP supplies to build historical use, one of the key purposes of the adjustment provision is thwarted.

Response

See Common Response 4.

Comment LA17-03

Comment

3. Showing An Actual Reduction in CVP Water Use

The DEIS is unclear as to the showing required to prove that non-CVP water use actually reduced CVP water use, and may be inconsistent with the interpretation of Reclamation staff. In 2014, following the procedures in the 2001 Water Shortage Policy (2001 WSP), which are similar to those in the 2010 WSP with respect to adjustments to historical use, SCWA requested adjustments to historical use based on non-CVP water use. Reclamation staff told SCWA that, in order to get credit for non-CVP water use, the contractor must first schedule CVP water then proceed to use 11011-CVP water in lieu of scheduled CVP water. Neither the 2001 WSP, the 2010 WSP, nor the DEIS say as much. Further, the 2010 WSP and DEIS use the same language as the 2001 WSP regarding the necessary showing. Thus, M&I Contractors remain concerned that without clearly articulating the showing required for an adjustment in historical use, M&I contractors will continue to be penalized for using non-CVP supplies. Further, if the DEIS is inconsistent with Reclamation's interpretation of this provision, the DEIS may miscalculate Reclamation's CVP delivery obligations in shortage years.

Response

The Updated M&I WSP provides information on the documentation required to be provided by M&I water service contractors when requesting an adjustment to historical use based on the use of non-CVP supplies to meet demand in the unconstrained years. This information is included as an attachment to the Updated M&I WSP, Alternative 4, in Appendix M. There are no provisions for adjustments to historical use under Alternatives 2 and 3. This procedural issue does not affect the environmental effects analysis.

Comment LA17-04

Comment

The DEIS overestimates the quantity of non-CVP water available to SCWA (both Contracts), and does not include the City of Folsom's quantity of non-CVP water (Contract No. 6-07-20-W1372). The place of use for SCWA's CVP supply is Zone 40 (both Contracts) and portions of the City of Folsom (Contract No. 6-07-20-W1372 only), so the only non-CVP supplies that should be considered in the DEIS are those that are available in Zone 40 and the City of Folsom depending on Contract. For 2010, it appears that the DEIS included 6,000 acre-feet of groundwater pumping to serve areas outside of Zone 40. The actual non-CVP supply quantities available in 2010 for Zone 40 were: Normal Year: 35,000 acre-feet; Dry Year: 36,232 acre-feet; Critical Year: 39,930 acre-feet. For 2030, the DEIS included 11,198 acre-feet of water supplies to serve areas outside of Zone 40. The actual non-CVP supply quantities available in 2030 for Zone 40 are: Normal Year: 59,300 acre-feet; Dry Year: 54,000 acre-feet; Critical Year: 81,300 acre-feet. SCWA requests that Reclamation correct these figures for Zone 40. The City of Folsom's figures will be forth coming under a separate comment letter from the City.

SCWA appreciates the opportunity to comment on the DEIS and looks forward to these issues being addressed by Reclamation in the final EIS.

Response

Appendix A has been revised to reflect the data provided in Comment LA17-04, and unmet PHS need has been revised to take these changes into account.

Comment Letter LA18, Dan Nelson, San Luis & Delta-Mendota Water Authority

Comment LA18-01

Comment

The San Luis & Delta-Mendota Water Authority [Footnote: The Water Authority was formed in 1992 as a joint powers authority. The Water Authority's member agencies collectively hold contracts with Reclamation for the delivery of approximately 3.3 million acre-feet of CVP water. CVP water provided to the Water Authority's member agencies supports approximately 1.2 million acres of agricultural land, as well as more than 100,000 acres of managed wetlands,

private and public, in California's Central Valley. The Water Authority's member agencies also use CVP water to serve more than 1 million people in the Silicon Valley and the Central Valley.] ("Water Authority") appreciates the opportunity to provide the following comments on the November 2014, Central Valley Project ("CVP") Municipal and Industrial Water Shortage Policy ("Policy") Draft Environmental Impact Statement ("Draft EIS"). The Water Authority submits these comments, not to challenge the legal adequacy of the Draft EIS or to recommend the United States Bureau of Reclamation ("Reclamation") adopt a particular alternative. The Water Authority provides comment on two aspects of the Draft EIS: (1) the Purpose and Need Statement, and (2) environmental parameters, specifically the location of X2 and flow in Old and Middle River.

Purpose and Need Statement

The Draft EIS provides that the purpose of the proposed policy "is to provide detailed, clear, and objective guidelines for the allocation of available CVP water supplies to CVP water service contractors during water shortage conditions." (Draft EIS, ES-5.) This purpose statement is not limited to allocation of CVP water to municipal and industrial water users and is not constrained to allocation after satisfying non-consumptive uses of CVP water (fish and wildlife). As a result of the broad purpose statement, important factors that guide the allocation of CVP water are absent from consideration in the Draft EIS. They include: (1) the manner in which Reclamation exercise its discretion when operating the CVP to meet regulatory requirements, and (2) limitations on water available to American River Division contractors.

Response

See Comment LA18-02 and Comment LA18-03, and their corresponding responses, which describe these issues in more detail.

Comment LA18-02

Comment

Discretionary Decisions on Operation of the CVP

Since at least 1992, the United States has been making policy decisions that impact the allocation of CVP water. Those decisions are discussed briefly in the Draft EIS. On page 1-13 of the Draft EIS, it provides:

Increasing constraints have been placed on CVP operations by legislative requirements including implementation of the [Central Valley Project Improvement Act ("CVPIA")] and the requirement under Section 3406(b)(2) for 800,000 AF of water for fish and wildlife purposes, Endangered Species Act requirements including BOs covering protections of the winter-run chinook salmon and the delta smelt, and the SWRCB's Decision D-1641, partially implementing the Sacramento-San Joaquin Bay-Delta WQCP. These constraints have removed some of the capability and operational flexibility required to

actually deliver the water to CVP contractors especially in dry years and sequential dry years. Water allocations south of the Delta have been most affected by changes in operations due to the CVPIA and the BOs. It is the combination of these factors which define the limits of water allocation. (Draft EIS, p. 1-13 (emphasis added).)

These statements are correct but do not reflect that the disproportionate impact to users of CVP water located south of the Delta is due to discretion the United States exercises. They do not reflect the fact that the United States thus has alternatives to meeting the requirements of the CVPIA, Endangered Species Act, and Decision 1641. As examples, there have been many times when the United States could have either dedicated additional CVP water for flow upstream of the Delta, pursuant to CVPIA section 3406(b)(2), or released more water from upstream reservoirs to meeting outflow requirements imposed under Decision 1641, instead of limiting pumping at the C.W. “Bill” Jones Pumping Plant. If either of those alternatives were taken, more water would be available for allocation south of the Delta. As such, if the Draft EIS is intended to provide “detailed, clear, and objective guidelines for the allocation of available CVP water supplies to CVP water service contractors”, as reflected in the purpose statement, the Draft EIS should more meaningfully consider, as part of the Policy, the discretionary decisions made by Reclamation when operating the CVP to meeting legal requirements.

Response

While it is true that Reclamation does have some limited discretion in meeting certain legal requirements, it is equally true that Reclamation must still meet those legal requirements. San Luis Delta-Mendota Water Agency (SLDMWA) suggests two examples of discretion: the use of CVPIA Section 3406(b)(2) water; and outflow requirements under SWRCB Decision 1641. In the case of CVPIA Section 3406(b)(2) water, Reclamation consults with fishery agencies to determine the best use of this water based on system conditions and the objectives of CVPIA. This process can result in additional releases from CVP reservoirs and/or reductions in pumping at Jones Pumping Plant. In the case of Delta outflow requirements under D-1641, Reclamation considers the system conditions, including water in storage in CVP facilities, when operating the CVP. Reclamation balances the delivery of water to its contractors, both north and south of the Delta, with reservoir storage levels. In these decisions Reclamation has only limited discretion because CVP reservoirs such as Shasta and Folsom lakes are operated during much of the year for downstream temperature management and the protection of listed species. In some instances there are required levels of carryover storage for these species specified in BOs. Therefore, there are limits to the volume of water that can be released from these reservoirs for meeting Delta water quality or outflow requirements in D-1641. Generally, and as discussed in Chapter 1, when making allocations, Reclamation exercises its limited discretion to balance the numerous and competing demands on the CVP and deliver water to its contractors.

Comment LA18-03

Comment

Limitations on Water Available to American River Division Contractors

The Draft EIS does not reflect an important limitation on allocation of water to American River Division contractors. “Available CVP water supplies” for all American River Division contractors, including East Bay Municipal Utilities District, is limited to the quantity of water available from Folsom Reservoir. (See attached letter from Acting Regional Director Kirk C. Rodgers to Interested Parties, dated July 20, 2001.) Accordingly, the Draft EIS should recognize this limitation and that allocation of water to the American River Division may differ from CVP contractors in other divisions due to those other divisions have water available from different or more diverse sources.

Response

EBMUD is identified in the Draft EIS as an American River Division contractor, as shown on page 4-11. American River Division allocations have differed from the allocations to other M&I water service contractors north of the Delta, as shown in Table 4-1. In any given year, M&I water shortage allocations may differ between CVP divisions due to regional CVP water supply availability, system capacity, or operational constraints.

While it is correct that Reclamation’s ability to make water available to American River contractors (including EBMUD) is limited to the amount of water available from Folsom Reservoir, EBMUD, however, can only divert CVP water when the total amount of water in their system is less than 500,000 AF. EBMUD’s current contract with Reclamation (No. 14-06-200-5183A-LTR1, “Long Term Renewal Contract Between the United States and East Bay Municipal Utility District Providing for Project Water Service from the American River Division”), states, “At Freeport on the Sacramento River, the Contractor [*EBMUD, italics added*] shall be entitled to take delivery of up to a total of 133,000 AF of Project Water for M&I purposes in any Year in which the Contractor’s March 1 forecast of its October 1 Total System Storage, as revised monthly through May 1 is less than 500,000 acre-feet based on a 50 percent exceedance, or any different reasonable exceedance used by the Contractor to declare rationing within the Contractor’s Water Service Area, or as otherwise agreed to by the parties (referred to as the TSS forecast).” Article 1(z.1) of EBMUD’s Contract defines Total System Storage as “the quantity of untreated water stored in Pardee, Camanche, San Pablo, Upper San Leandro, Briones, Lafayette, and Chabot Reservoirs, and any quantity of water that has been moved from said reservoirs to other untreated water storage facilities operated for the benefit of Contractor in the same Year” (Reclamation and EBMUD 2006).

Comment LA18-04

Comment

It is important to note that, although limited to water from Folsom, the American River Division contractors are not entitled to either a priority to water available from Folsom or Reclamation re-operating Folsom Reservoir for the benefit of their non-CVP water rights. For many years, certain American River Division contractors have asserted they have a priority under their water service contracts to CVP water based on area of origin protections, (Water Code 11128, 11460), and a condition of State Water Resources Control Board Decision 893. Those American River Division contractors have also asserted Reclamation must re-operate the CVP for their benefit based on the terms of contracts regarding American River Division contractors' non-CVP water rights. Throughout the period those assertions have been made, the United States has properly and repeatedly rejected them.

The claimed priority under the area of origin protections is contrary to the plain words of the Water Code, a point reflected in *Tehama-Colusa Canal Authority v. US. Dept. of Interior*, 721 F.3d 1086 (9th Cir. 2013), cert. denied, 13-836, 2014 WL 138371 (U.S. Mar. 24, 2014) and Attorney General Opinion No. 53-298, dated January 5, 1955.

The condition from Decision 893, cited by American River Division contractors, does not provide American River Division contractors with a priority. The terms of the water service contracts they hold with Reclamation govern. This reading of Decision 893 is recognized in the cover letter the State Water Resources Control Board used when transmitting Decision 893 and is consistent with *Tehama-Colusa Canal Authority v. US. Dept. of Interior*, 721 F.3d 1086 (9th Cir. 2013), cert. denied, 13-836, 2014 WL 138371 (U.S. Mar. 24, 2014).

And, although certain American River Division contractors hold contracts with Reclamation concerning non-CVP water rights, the contracts do not require Reclamation treat the American River Division contractors in a manner that harms other CVP contractors. Contracts previously identified by American River Division contractors include a commitment by Reclamation to convey non-CVP water through Folsom Reservoir. That commitment, however, does not require re-operation of Folsom Reservoir for the benefit of the American River Division contractors. In the contracts, Reclamation agreed to use "reasonable efforts" to ensure access to the non-CVP water. And, even that commitment is tempered, as Reclamation will use reasonable efforts provided they are consistent with overall operation of the CVP. [Footnote: See, e.g., Contract No. 14-06-200-5515A, Art. 3(d) (providing "[t]he United States shall make all reasonable efforts, consistent with the overall operation of the Project, to maintain sufficient flows and level of water from the Folsom Reservoir and in the Canal to furnish water to the City at the delivery points ..."); Contract No. 14-06-200-4816A, Art. 3(f) (providing "[t]he United States shall make all reasonable efforts, consistent with the over-all operation of the Project, to maintain sufficient flows and levels of water in the

Canal to furnish water to the Company at the full designed capacity of the turnout established as the delivery point...”).]

Response

Reclamation's interpretation of Decision D-893 is discussed in the response to Comment LA04-01.

Comment LA18-05

Comment

The Draft EIS conducts its aquatic resources impact assessment by relying, in part, on calculations and comparisons of various parameters derived from the CalSim II and Delta Simulation models. The Draft EIS suggests that changes in these parameters can be used as indicators of effects to aquatic resources, such as fish. For instance, the Draft EIS uses calculated changes in the computed position of the Delta salinity gradient known as “X2” to assess potential impacts to aquatic resources. (See Draft EIS p. 10-30.) Another parameter the Draft EIS relies on is the extent of flow alteration in the Old and Middle River portions of the Delta (“OMR”). The use of the calculated difference in X2 and OMR flows as biological metrics should be done with caution. Data and studies that consider the impact of changes in X2 or OMR flow have a high degree of scientific uncertainty and do not establish a mechanistic relationship to fish populations.

Regarding X2, for instance, there is still much uncertainty regarding the observed biological responses of fish and other biota to X2. The reported X2 relationships with Delta biota are simple correlations. And, as with such statistically derived relationships, biological responses to X2 do not necessarily reflect direct causal relationships. In fact, in very few cases has anyone developed a mechanistic understanding of the relationship. One exception is the splittail whose population increases when river flows inundate floodplains and expand spawning and rearing habitat; a phenomenon that is significantly correlated with X2 position, but not driven by X2 position in and of itself. Thus, simply using a comparison of calculated X2 positions is an imprecise way to assess impacts to aquatic resources.

Response

Reclamation understands there are uncertainties associated with using model-based hydrologic indicators for analysis of effects on fish species, fish habitat, and the aquatic ecosystem. However, relationships between these indicators and fish species/aquatic habitat have been identified and the approach to analysis presented in Chapter 10 is scientifically accepted by Reclamation and commonly used to analyze projects that have the potential to result in changes in CVP and SWP operations. Additional discussion regarding the limitations of using hydrologic indicators has been added to the approach to analysis and assumptions section of Chapter 10 to more fully qualify these assumptions.

Comment LA18-06

Comment

Similarly, there are large uncertainties with the reported relationships between changes in OMR flows and effects on different fish species. There are numerous factors that influence entrainment and survival in the southern Delta including the influence of tides and instantaneous velocities, swimming ability, the location of the fish in the water column, turbidity, and previous distribution of the fish, to name a few. Simply evaluating OMR flows in isolation will provide little insight into potential impacts to fish due to changes in OMR flows. For all of these reasons, if Reclamation continues to use these parameters to assess impacts to aquatic resources, Reclamation must revise the Draft EIS to reflect the limitations/uncertainties of the science.

Thank you in advance for your consideration of the Authority's comments.

Response

See response to comment LA18-05.

Comment Letter LA19, Beau Goldie, Santa Clara Valley Water District

Comment LA19-01

Comment

The Santa Clara Valley Water District (District) requests an extension of time for public review of the Draft EIS to March 13, 2015. I am pleased that Reclamation is moving forward with finalization of the Central Valley Project (CVP) Municipal and Industrial Water Shortage Policy (M&I WSP). The process toward finalization has been extraordinarily protracted, as evidenced by the fact that the current draft M&I WSP dates back to 2001. Efforts in 2003-2005 produced a draft revised policy and a NEPA environmental assessment but the proposed policy in those documents was not adopted. In reinitiating efforts towards a final M&I WSP in 2010, Reclamation held a number of stakeholder workshops and NEPA NOI meetings that extended into 2011. Subsequently, stakeholders were told that issues had arisen with the continuity of Reclamation's consultant contract, which led to delay of more than a year in work towards an M&I WSP. More recently, stakeholders were informed that the consultant's work had resumed and that a Draft EIS would be issued in 2014. But stakeholders did not anticipate that the window of time offered by Reclamation for public review would be only 45 days and span the end-of-year holiday period when many stakeholder employees and advisors take vacations. The fact that Reclamation has taken many years to develop and publish the Draft EIS should not cause a sudden and impractical rush towards closure at the expense of receiving adequate stakeholder and public comment. The Draft EIS is a document of substantial length and great detail that will require approximately three months for proper review. Accordingly, I am requesting that the review period be extended to Friday, March 13, 2015.

Response

See response to Comment LA02-01.

Comment Letter LA20, Cindy Kao, Santa Clara Valley Water District

Comment LA20-01

Comment

The Municipal and Industrial (M&I) Shortage Policy is of critical importance to the Santa Clara Valley Water District (District). It provides an important degree of reliability for our imported CVP supplies, particularly during dry years. The District supports Reclamation's efforts to finalize the M&I Shortage Policy and sees the recent release of the Draft Environmental Impact Statement (Draft EIS) as a positive step in that process. Our preliminary, cursory review of the Draft EIS identified several inaccurate statements, and as a result we feel that more time to review the document is warranted. For instance, on page 4-18 the Draft EIS makes the following statement about the San Felipe Division: "In critically dry water years, contractors would not rely on CVP deliveries to meet PHS demand given their ability to access sufficient non-CVP supplies to meet these demands." This is completely false. In 2014, nearly all of the surface water delivered to the District's drinking water treatment plants was imported from the Delta, with the majority of that supply provided by the CVP. There are other comments of concern in the document as well which make it clear that time is needed to identify and correct potential inaccuracies. The current deadline for submittal of public comments is January 12, 2015. Given the size of the document, complexity of issues, and the upcoming holidays, we request that the deadline for submitting comments be extended by 60 days.

Response

See response to Comment LA02-01.

Comment Letter LA21, Cindy Kao, Santa Clara Valley Water District

Comment LA21-01

Comment

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the Central Valley Project (CVP) Municipal and Industrial (M&I) Water Shortage Policy (WSP). The Santa Clara Valley Water District (District) is the primary water resources management agency for Santa Clara County, providing wholesale water supply, stream stewardship and flood protection for the County's 2 million residents and the vital high-tech economy known as "Silicon Valley." Santa Clara County has been called the "economic engine" of the Bay Area, with over 200,000 workers commuting daily from other parts of the region and from the San Joaquin Valley for employment. The District also serves agricultural water users in the southern portion of the County.

The importance of the WSP to Santa Clara County cannot be overstated. The District is committed to extending the benefits of CVP M&I supplies through sound water management, aggressive conservation, recycling and other measures, but a solid policy is needed to support these efforts. The quantity of CVP water delivered to Santa Clara County is small relative to the total quantity of CVP supplies conveyed south of the Delta, while it serves as a foundational supply in the water portfolio that fuels an \$80 Billion economy, sustains large residential communities, and protects Santa Clara County from land subsidence. The District cannot support any policy that significantly degrades the reliability or quantity of this supply.

The importance of providing reliable M&I water supplies was recognized at the beginning of the CVP, when early contracts for M&I water supply contained protective terms. In the 1990's, in response to the Central Valley Project Improvement Act which motivated early renewal of contracts, Reclamation initiated a public process regarding urban water supply reliability. Since at least as early as 1993, the U.S. Bureau of Reclamation (Reclamation) has put forth interim policies of providing "75% of M&I Reliability" to M&I contractors and has been operating under a draft WSP since 2001. The 2001 draft WSP was the result of extensive discussions among Reclamation, M&I contractors and irrigation water service contractors. The District continues to support the fundamental principles set forth in the 2001 WSP.

In general, the District finds that the DEIS meets applicable National Environmental Policy Act (NEPA) requirements. It describes a reasonable range of alternative impacts of these alternatives. However, there are several shortcomings and erroneous assumptions in the DEIS that undercut the key purposes and importance of the policy. Most of our detailed comments fall within the following broad themes.

- A. Purpose and need description is incomplete.
- B. Importance of CVP supplies to the District is understated.
- C. CVP supplies should not be considered supplemental.
- D. Availability of substitute supplies is overstated.
- E. Economic impacts of water shortages are underestimated.
- F. EIS alternatives.

The District's overall comments are provided below, with specific, detailed comments provided in Attachment 1.

- A. Purpose and Need Description is Incomplete

A key purpose of the M&I WSP, as stated in the 2001 draft M&I WSP as well as in the October 21, 2010 Working Draft M&I WSP, includes establishing a minimum water supply level that (a) with M&I contractors' drought water conservation measures and other water supplies would sustain urban areas during droughts, and (b) during severe or continuing droughts would, as much as possible, protect public health and safety. This purpose is supported by California law but is lost in the description of the purpose and need as described in Section 1.3.2 of the DEIS. Santa Clara requests that the document be revised to include this purpose.

Response

The purpose of the CVP M&I WSP, as stated in Chapter 1.3.2, is to provide "detailed, clear, and objective guidelines for the allocation of available CVP water supplies to CVP water service contractors during Conditions of Shortage," and the CVP M&I WSP is "needed by water managers and the entities that receive CVP water to help them better plan for and manage available CVP water supplies..." This purpose and need statement is appropriate for the Final EIS because the environmental analysis evaluates the tradeoffs between allocation methodologies to both M&I and agricultural water service contractors.

In Chapter 1.2, Proposed Action, the EIS states that Reclamation would use an updated M&I WSP to "determine the quantity of water made available to CVP water service contractors from the CVP that, together with the M&I water service contractors' drought water conservation measures and other non-CVP water supplies, would assist the M&I water service contractors in their efforts to protect public health and safety during severe or continuing droughts..." As discussed in Common Response 6, Reclamation cannot and does not operate the CVP to deliver a required minimum amount of water to the water service contractors. Reclamation can only operate and deliver water based on the water supply available. Under all alternatives, Reclamation will deliver water subject to the availability of CVP water supplies.

Comment LA21-02

Comment

California law recognizes the importance of municipal water use in times of shortages, giving it a higher priority to meet minimum health and safety needs. Water that may otherwise be subject to curtailment due to water shortages may be diverted for minimum health and safety needs. (23 CCR§ 878.1(a)(1).) This exception to curtailment recognizes "the essential nature of water in sustaining human life" and provides that "use even under a more senior right for any other purpose when domestic and municipal supplies required for minimum health and safety needs cannot be met is a waste and unreasonable use under the California Constitution, Article X, § 2." {23 CCR§ 878.1(b).}

The District also requests that the purpose and need statement for the M&I WSP be modified to reflect the importance of providing reliable supplies to urban areas

in general. It is the clear policy of the State of California that water for municipal and domestic use, including furnishing drinking water for human consumption, is of the highest priority. (Water Code §§ 106, 1245, and 1460; see also *Gould v. Stafford* (1888) 77 Cal. 66, 68; *Smith v. Corbit* (1897) 116 Cal. 587, 592; *Deetz v. Carter* {1965} 232 Cal.App.2d 851, 854, 856; *City of Santa Maria v. Adam* {2012} 211 Cal. App. 4th 266, 297.) The right of a municipality to acquire and hold rights to the use of water should be protected to the fullest extent necessary for existing and future uses. {Water Code § 106.5.)

Response

See response to Comment LA06-09 and Comment LA21-01.

Comment LA21-03

Comment

B. Importance of CVP Supplies to the District is Understated

Since implementation of the District's long term CVP contract began in 1987, CVP supplies have been essential to the District's ability to minimize the risk of subsidence in Santa Clara County and to recover the region's over drafted groundwater basins. CVP supplies have also provided the largest and most reliable single source of water for the District's three drinking water treatment plants. Together with a smaller quantity of SWP supplies, CVP supplies provide, on average, half the water delivered to the groundwater recharge system. Historically, Santa Clara County has experienced up to 14 feet of land subsidence in some places, resulting in sea water intrusion, increased flood risks, and damaged infrastructure. As a result of past subsidence, residential communities, major business campuses, and wastewater treatment facilities are currently below sea level and are protected from flooding by levees. One example is the San Jose-Santa Clara Regional Wastewater facility, which cleans and treats the wastewater of more than 1.5 million people and serves a business sector with more than 17,000 main sewer connections. Sewer lines and storm drains operate based on gravity flow and can be significantly compromised by localized and regional subsidence. Similarly, water supply pipelines as well as the valley's dense network of buildings and roads are also susceptible to infrastructure damage from continued land subsidence. Preventing additional subsidence in the heart of the Silicon Valley is a public health and safety concern and a priority for the District, one that relies heavily on allocations from both the CVP and SWP to offset groundwater pumping.

The risk of subsidence and public health and safety impacts is real as evidenced by recent conditions. In 2014, the CVP M&I allocation of 50% of historic use was critically important in providing enough supply to prevent permanent subsidence from resuming in Santa Clara County. Even with that supply, however, groundwater levels temporarily exceeded subsidence thresholds for several months. The District's calculations indicate that, as of the end of February 2015, combined non-project water supplies are insufficient to meet public health

and safety needs for indoor residential and commercial and industrial use and to maintain groundwater levels above subsidence thresholds. This year, the District is very reliant on allocations of CVP supplies from Reclamation to help meet its public health and safety needs.

In addition to providing essential dry year relief, CVP deliveries are extremely important in maintaining a reliable water supply in all year types and provides a foundational supply upon which the District builds its supply portfolio and planning efforts. Given that the 75% reliability target for M&I allocations has been in place since the early days of the District's CVP contract and eventually took the form of the 2001 draft WSP that Reclamation has been substantially implementing for the past 14 years, the District has incorporated the WSP into both its short term and long term water supply planning. All of the District's short and long-term water supply planning decisions, budgeting, and water supply projects rely on the expectation that the policy will continue in substantially the same form into the future. Any degradation in the ability of the policy to protect the reliability of M&I supplies will impair the District's ability to meet both short and long-term water supply needs of the people and economy of Santa Clara County.

Response

See Common Response 3 and Common Response 6.

Comment LA21-04

Comment

C. CVP supplies should not be considered supplemental supplies: The District is concerned with language in the WSP and DEIS implying that CVP supplies are meant to be "supplemental" to other sources available to M&I contractors. The policy indicates that allocation of M&I water based on a contractor's recent historical use of CVP M&I supplies "is intended to encourage contractors to use non-CVP water first and rely on CVP water as a supplemental supply." (2001 Draft Policy, p. 3). This perspective is also reflected in the description of the DEIS alternatives that requires non-CVP supplies to be used first prior to allocation of CVP supplies for public health and safety. The District is not aware of any information in the authorizing legislation for the CVP or in any CVP water service contract that provides CVP M&I water supplies are "supplemental" to other sources of water. In fact, an important purpose of the District's CVP water service contract was to provide CVP supplies for use in lieu of local groundwater pumping in order to control groundwater overdraft. CVP supplies are a foundational supply for Santa Clara County and for a number of other CVP contractors as well. As such, the District requests that Reclamation eliminate any language from the preferred alternative indicating that CVP M&I supplies are supplemental supplies, and that related statements are removed from the EIS as well.

Response

See Common Response 4.

Comment LA21-05

Comment

D. Availability of Substitute Supplies is Overstated

The DEIS states in numerous places in the document that the District does not need CVP supplies in dry years because it has access to non-project supplies to make up any reductions in CVP allocations. This assumption not only contradicts the District's position that CVP supplies are not supplemental to other supplies, but it is erroneous. The reality is that non-project supplies are also extremely limited in dry years. For example, in 2014, the State Water Project allocation was only 5%, while dry local conditions resulted in extremely deficient local supplies in which evaporation from local reservoirs exceeded inflows during winter months. By 2015, groundwater reserves were depleted such that subsidence is now a significant concern, and the District is highly reliant on CVP deliveries to help meet its public health and safety needs.

Response

The Final EIS has been revised to remove misstatements in Chapters 4 and 6 that no CVP allocations would be necessary to M&I water service contractors because of non-CVP supplies. While Reclamation cannot operate the CVP to deliver a required minimum amount of water to the water service contractors, Reclamation does have provisions to allow M&I water service contractors to request an adjustment to CVP allocations during a Condition of Shortage to assist in meeting PHS need. See Common Response 3 and Common Response 5.

Comment LA21-06

Comment

Water shortages also impair the District's ability to retrieve water supplies that it previously stored in the Semitropic water banking program in Kern County to help meet critical demands. These supplies are normally delivered directly from the Delta through an exchange with SWP supplies. When SWP allocations are low, a condition that occurs concurrently with low CVP allocations, it is not guaranteed that there will be sufficient supplies to support the District's requested banking withdrawals when they are needed most.

In addition, the availability of water through spot market purchases is reduced in dry years, making securing transfer supplies very challenging. Transfers must meet certain requirements, and regulatory approvals are difficult to secure. Water that can be transferred typically must be conveyed during a brief window of time during which the ability to convey the water may be limited.

Much of the available transfer supplies are secured through transfer pools with other SWP and CVP contractors located south of the Delta, and the District's

share in these pools is small. Transfer pools for North of Delta purchases by the San Luis and Delta Mendota Water Authority typically allocate the District water based only on the portion of its contract that provides irrigation water, which amounts to a 2% share. The District has agreed to this approach primarily because in most years it has historically been able to rely on implementation of the M&I shortage policy to provide some level of stability in its CVP deliveries, and therefore has been willing to relinquish transfer opportunities to irrigation contractors.

Response

See Common Response 3 and Common Response 5.

Comment LA21-07

Comment

E. Economic Impacts of Water Shortages are Underestimated

The DEIS underestimates the adverse economic impacts of water shortages on the District. It mistakenly assumes that the District has enough non-CVP water supplies that there will be no need for significant demand reduction measures in dry years. First, the assumption that sufficient non-CVP water supplies will always be available is not realistic for the District and other M&I contractors as described previously.

Response

See Chapter 4 for the evaluation of projected CVP deliveries to San Felipe Division contractors under each alternative. The Draft EIS relied on, as noted in the citations provided in Appendix A, each contractor's most recent UWMP, or the best available information, to quantify the 2030 non-CVP supplies availability under different hydrologic conditions. A summary of this data and associated assumptions were made available for contractor review and verified with the contractors through the M&I WSP stakeholder workshop process.

These values were used with the CalSim II model results of CVP allocations and compared against the PHS need calculations to estimate the potential for unmet PHS need in the future. As noted in the Draft EIS, in years when the M&I WSP is implemented and PHS need is being considered, Reclamation would make use of the most recent contractor information available on water demands, non-CVP supplies, and population, such as data from the contractor's most recent Water Management Plan and or updates to that data. See Common Response 5.

Comment LA21-08

Comment

Second, the DEIS should recognize, based on at least a qualitative analysis, that M&I water users could experience adverse economic impacts caused by reductions in water availability that are significantly higher than the estimated impacts disclosed by the DEIS. According to a recent study, water reductions of

10 to 30 percent, if imposed on commerce and industry in Santa Clara County, could result in a decrease in the local sales revenue of about \$900 million to more than \$10 billion, a loss of 3,000 to 53,000 jobs, and \$260 million to \$4.1 billion in payroll losses (Sunding, David. 2010. Economic Analysis of Water Shortage in Santa Clara County. <http://www.valleywater.org/Newsroom/Library.aspx>).

Shortages can also lead to groundwater overdraft and land subsidence which can damage infrastructure and increase flooding risk. A portion of costs incurred due to historic subsidence between 1960 and 1975 is estimated at \$750 million (in 2013 dollars) and includes costs to remediate and repair damage to critical infrastructure, including sewer systems and storm drains, and to prevent flooding. If subsidence were to resume with today's infrastructure and population, the economic costs would be far greater.

Demand reductions measures also come with an economic cost. Over the past year the District has invested about \$25 million to support higher rebates to encourage conservation, expand outreach to raise awareness about the drought and promote immediate water savings, launch a Water Waste Inspector program to respond to reports of water waste, make improvements to water supply facilities to boost performance, and improve onsite water efficiency improvements.

The District is also anticipating significant expenditures in 2015 to pursue supplemental water supplies, including transfers, recovery of banked water, and development of additional recycled water supplies. These costs are in addition to payment of fixed costs required by the District's SWP and CVP contracts regardless of the quantity of water received. These additional costs come at the same time as reductions in revenue due to limited water supplies and implementation of water use reduction measures. The District expects lost revenues to total \$20-25 million during the current drought.

The DEIS should also disclose more prominently that the DEIS estimates of Bay Area M&I economic impacts caused by shortages are likely underestimated due to the numerous technical limitations of the "LCPSIM" economic model (used to estimate Bay Area economic impacts) that are noted in Chapter 13 and Appendix G.

Response

A qualitative discussion has been added to Chapter 13 indicating that Least-Cost Planning Simulation model (LCPSIM) likely underestimates potential impacts and describing what additional economic effects could occur. As stated in Response to Comment LA21-33, a discussion of indirect impacts of conservation above what is assumed in LCPSIM has been added to Chapter 13. Chapter 6 evaluated effects to groundwater resources and did not conclude mitigation is necessary for potential subsidence impacts. CVP contractors provide Reclamation with an estimate of non-CVP supplies when requesting an allocation

adjustment for assistance in meeting PHS need; these estimates should consider avoidance of potential subsidence and effects of groundwater overdraft.

Comment LA21-09

Comment

The DEIS evaluates a reasonable range of alternatives, including the bookends of Alternative 2 (equal agricultural and M&I allocations] and Alternative 3 (allocation of full contract amounts to M&I contractor District does not support implementation of either bookend, but is supportive of Alternative 5, the redline-strikeout version of the policy, as modified to incorporate the public health and safety component of the No Action Alternative and the changes requested in Section C.

Response

See response to Comment LA08-01.

Comment LA21-10

Comment

The description of Alternative 5 in the DEIS should be corrected to eliminate the mistaken requirement that the alternative requires modification to CVP operations in the form of increased carryover in CVP storage facilities {see comment 13 in Attachment 1).

Response

The Final EIS has been revised to remove facility reoperation from the description of Alternative 5. No reoperation of project facilities was modeled or analyzed for Alternative 5.

Comment LA21-11

Comment

Among the options, the District supports Alternative 5 as providing the most clear and reasoned guidance on implementation of the policy when public health and safety issues are not a concern. The method for calculating historic use outlined in Alternative 5 most accurately incorporates the results of stakeholder meetings held by Reclamation from 2010 to 2012. However, the District requests that the determination of public health and safety in Alternative 5 be replaced with the approach in the draft September 11, 2001 M&I WSP that states, under emergency conditions, "Reclamation will provide a water supply at the public health and safety level to all CVP M&I contractors ... "and that, only at times of extraordinary circumstance, "Reclamation may determine that it is necessary to vary the allocation of M&I water among contractors, taking into consideration a contractor's available non-CVP water." The draft September 2001 WSP recognizes that adjustments to public health and safety allocations for available non-CVP supplies should be the exception rather than the rule, consistent with the respective outlined in Section C.

Response

See Common Response 6 and response to Comment LA08-01.

Comment LA21-12

Comment

Both Alternatives 4 and 5 as written reduce the reliability of CVP supplies under emergency water supply conditions relative to the No Action Alternative by requiring as standard practice that non-project supplies be deducted from a contractor's calculated public health and safety need before Reclamation provides CVP supplies to help meet those needs. This unfairly penalizes those contractors who have invested in developing non-project supplies, or who have expended dollars to purchase transfer supplies in order to increase the reliability of their systems, and disincentive contractors from investing in new projects.

Response

See response to Comment LA21-05.

Comment LA21-13

Comment

The DEIS does not appropriately describe the large impacts of Alternative 2 on the District's economy, environment, and public health and safety. Because the total contract amount for agriculture south of the Delta is large (approximately 1.81 million acre-feet) compared to the total M&I contract amount south of the Delta (about 177 thousand acre-feet total), Alternative 2 would result in enormous impacts to Santa Clara County and other urban areas south of the Delta. Attachment 2 illustrates this point by showing how historic Ag and M&I allocations south of the Delta would have differed if those allocations were equalized. Between 1999 and 2014, if there was no M&I preference (Alternative 2), the Ag allocation would have increased on average about 3% and at most 5%, while M&I allocations would have decreased on average about 26% and up to 46%. The reliability of the District's CVP supplies would be severely compromised, and the resulting loss in supply would affect the District's ability to meet treatment plant demands, recharge its groundwater basin, and prevent the return of land subsidence. In dry years, it is likely that there will be insufficient supplies to meet Santa Clara County's public health and safety needs.

Response

Chapters 4 and 13 have been revised to provide more description of the impacts of Alternative 2 on the San Felipe Division contractors.

Comment LA21-14

Comment

Alternative 3, under which M&I contractors receive a 100 percent allocation whenever water is available, is also not acceptable to the District because it

provides unreasonable allocations of supply to M&I contractors when insufficient water is available to CVP.

Response

See response to Comment LA08-01.

Comment LA21-15

Comment

Attachment 2 also illustrates how implementation of the Ag and M&I allocation tables (Tables 2 and 3 in Alternatives 4 and 5) under the WSP, which are identical in the No Action Alternative, Alternative 4, and Alternative 5, have relatively small impacts on the CVP Ag allocation compared to Alternative 2. The District appreciates Reclamation's efforts to finalize the M&I WSP and requests that, prior to finalization of the M&I WSP, Reclamation provides contractors the opportunity to discuss the selection of a preferred alternative through a transparent stakeholder process.

Response

See Common Response 1.

Comment LA21-16

Comment

Comment No.1, Page ES-11. The Alternative 5 description are not accurately identified in Table ES-3 or in the subsequent narratives for these alternatives, nor are the Policy versions that they represent included in the DEIS. Alternative 4 should be identified as the 2010 Working Draft Water Shortage Policy and Alternative 5 should be identified as the M&I Contractor's Redline-Strikeout version of the Water Shortage Policy. Recommended Revision: Identify and reference in Table ES-3 and the description of Alternative 4 and Alternative 5 that these alternatives represent the 2010 Working Draft Water Shortage Policy and the M&I Contractor's Redline Strikeout version of the Water Shortage Policy, respectively. Include both these documents in the DEIS.

Response

Appendices J through N present each of the M&I WSP alternatives.

Comment LA21-17

Comment

Comment No. 2, Page ES-4. The purpose and need statement does not include the CVP M&I Water Shortage Policy's importance for the protection of public health and safety and is therefore incomplete. Recommended Revision: Revise the purpose and need statement to include the protection of public health and safety as described in the M&I contractor's 2010 redline strikeout version of the WSP.

Response

See response to Comment LA21-01.

Comment LA21-18

Comment

Comment No.3, Page ES-11 through ES-20. There are inconsistencies and inaccuracies in the alternative descriptions. The DEIS states that October 21, 2010 Updated Working Draft policy is Alternative 4. However, the description of the factors used in determining PHS in the EIS for Alt 4 is not consistent with what is in the actual Working Draft Policy. This is also the case for Alt 5, which is supposed to identify the M&I Contractor redline-strikeout of the policy as the alternative. The EIS also states that Alt 5 requires reservoir reoperation, whereas the actual redline-strikeout does not, and the modeling analysis does not indicate there is any reservoir reoperation. Recommended Revision: Correct these inconsistencies.

Response

Appendices J through N present each written alternative. Alternative 4 represents the Updated M&I WSP, with clarifying revisions made to address comments from stakeholders received after Stakeholder Workshop 4 was held in November 2010 and public comments on the Draft EIS.

The Final EIS has been revised to remove facility reoperation from the description of Alternative 5. No reoperation of project facilities was modeled or analyzed for Alternative 5.

Comment LA21-19

Comment

Comment No. 4, Page ES-13. The methodology for determining a contractor's public health and safety demands as stated in the DEIS is inconsistent with M&I contractors' understanding of how this need is requested and calculated. The DEIS incorrectly states that Reclamation would determine the demand, in consultation with the contractor. The 2010 redline strikeout-version of the WSP states that the contractor will determine the public health and safety demand and request Reclamation to meet it. Recommended Revision: Revise the EIS to reflect the procedure for requesting and determining PHS demands as described in the 2010 redline strikeout version of the WSP.

Response

Under the No Action Alternative, it is in Reclamations purview to review the PHS need with M&I water contractors during the consideration of additional allocations to assist in meeting PHS need. Alternative 1, the 2001 Draft M&I WSP as amended, is provided in Appendix J. Alternative 1 states, "The contractor will calculate the public health and safety level using criteria developed by the State of California and submit the calculated level to Reclamation along with adequate support documentation *for review*. [emphasis added]" Chapter

2.3.5 reflects this understanding with the statement, "...the PHS need would be determined by the contractor and reviewed by Reclamation."

In relation to Alternative 4, Chapter 2.6.3 states that "Alternative 4 includes a provision that would enable an M&I water service contractor to calculate its PHS need, subject to Reclamation review and approval." Alternative 4, presented in Appendix M, also states, "...the public health and safety need would be determined by the contractor and reviewed by Reclamation."

In Alternative 5, presented in Appendix N, the M&I contractors did strike the statement from the 2010 Working Draft Updated M&I WSP that, "...the public health and safety level would be determined by the contractor and reviewed by Reclamation." Chapter 2.7.3 has been revised to remove the statement "Alternative 5 includes a provision that would enable an M&I water service contractor to calculate its PHS demands, subject to Reclamation review and approval" to be consistent with the Alternative 5 text.

Alternatives 2 and 3 have no provisions for additional allocations for PHS need.

Comment LA21-20

Comment

Comment No. 5, Page ES-34. Section ES.7 lists "issues of known controversy," but does not explain how the DEIS resolves these issues. Recommended Revision: Explain or cross-reference how the DEIS resolves "issues of controversy," in particular the assertions of certain American River Contractors regarding Term 14.

Response

The Final EIS and range of WSP alternatives analyzed may not fully resolve all areas of controversy previously identified by CVP contractors and stakeholders. The ROD will disclose any remaining issues to be addressed or areas of controversy, based on the alternative chosen to be implemented.

Comment LA21-21

Comment

Comment No.6, Page ES-35. Section ES.8 is supposed to discuss "issues to be resolved." However, it merely states that the FEIS will present the preferred alternative. Under 40 CFR 1502.12, issues to be resolved include, but are not limited to, the choice among alternatives. Recommended Revision: In Section ES.8, discuss all major issues to be resolved in the future related to the M&I Shortage Policy.

Response

Chapter 2 identifies the preferred alternative, Alternative 4. The ROD will disclose any remaining issues to be addressed or areas of controversy, along with the final decision on the alternative to be implemented.

Comment LA21-22

Comment

Comment No. 7, Page 1-14 to 1-15. The DEIS states that Reclamation is expected to use the EIS "as the environmental analysis" for actions to implement the selected alternatives, including "applicable long-term contract renewals." Recommended Revisions: Clarify how the EIS will be used to support NEPA compliance for long-term contract renewals. Clarify which contract renewals are "applicable."

Response

Section 1.8 has been revised to remove the assumption that the Final EIS would be used as the environmental analysis for other Reclamation actions. Water service contract renewals are required to conduct separate environmental review.

Comment LA21-23

Comment

Comment No. 8, Page 2-3. Section 2.2, "Alternatives Considered but Not Carried Forward," does not discuss an alternative proposed action suggested during scoping by certain American River contractors. This alternative would give these contractors a preference for M&I water based on incorrect interpretations of certain water rights permits and decisions. The DEIS does not explain the legal and contractual reasons making this alternative infeasible. Recommended Revisions: Add a description of the alternative suggested by certain American River contractors. Explain the legal and contractual reasons for rejecting this alternative as infeasible. Specifically explain why the contractors' interpretations of Term 14 of the water rights permits for Folsom Dam Operation, Water Right Decision 893, and State Water Resources Control Board Cases are incorrect, and that a preference for the American River contractors is not created.

Response

The interpretation of Term 14 held by some of the American River Division contractors is recognized in Chapter 1.6 as an issue of known controversy. An alternative that includes this interpretation was not suggested for analysis in the Draft EIS as a separate alternative. Reclamation's interpretation of Term 14 and Decision 893 is addressed in Comment LA04-01.

Comment LA21-24

Comment

Comment No. 9, Page 2-8. The DEIS states that Reclamation will strive to meet M&I contractor's unmet PHS needs using available CVP storage, after first reducing a contractor's PHS need by their available non-CVP supplies. This methodology creates an inequitable distribution of benefits amongst M&I contractors and provide a disincentive to invest in alternative sources. This is inconsistent with how M&I contractors perform long term planning. Recommended Revisions: Revise the PHS calculation used in the DEIS to not

limit an M&I contractor's access to CVP PHS supplies due to their efforts to secure non-CVP supplies.

Response

See Common Response 4.

Comment LA21-25

Comment

Comment No. 10, Page 2-8 and 6-66. The CalSim II modeling used in the DEIS assumes that M&I contractors would make up deficiencies in public health and safety deliveries through additional groundwater pumping. This incorrectly assumes that this source of supply is available to meet M&I contractor demands throughout their service area. Recommended Revisions: Include an analysis of the availability of groundwater supplies in each M&I contractor's service plan.

Response

See response to Comment LA01-10.

Comment LA21-26

Comment

Comment 11, Page 2-8 and 6-66. The DEIS recognizes the risk of land surface subsidence in M&I service areas due to increased groundwater pumping resulting from reductions in CVP deliveries to M&I contractors. However, the public health and safety demand components listed in Table 2-4 do not include criteria related to demands necessary to reduce this risk, nor are the potential impacts of subsidence included in the impacts analysis. Recommended Revisions: Include the demands needed to avoid land surface subsidence in the PHS demand components listed in Table 2-4. Include an analysis of the potential impacts to M&I contractors due to land surface subsidence.

Response

See Common Response 5.

Comment LA21-27

Comment

Comment 12, Page 2-12. There are inconsistencies and inaccuracies in the alternative descriptions. The DEIS states that the October 21, 2010 Updated Working Draft policy is Alternative 4. However, the description of the factors used in determining PHS in the DEIS for Alt 4 is not consistent with what is in the actual Working Draft Policy. This is also the case for Alt 5, which is supposed to identify the M&I Contractor's redline-strikeout of the policy as the alternative. Recommended Revision: Correct these inconsistencies.

Response

Appendices J through N present each written alternative. Alternative 4 represents the Updated M&I WSP, with clarifying revisions made to address comments from stakeholders received after Stakeholder Workshop 4 was held in November 2010 and public comments on the Draft EIS.

Comment LA21-28

Comment

Comment 13, Page 2-16. The second bullet on this page states that Alternative 5 requires modification to CVP operations by providing increased carryover in CVP storage facilities to meet the next year's unmet PHS demands. However, Table B-11 (results of Claim II modeling) shows no change in monthly reservoir storage levels between Alternative 5 and No Action. More fundamentally, this bullet, even if it were accurate, is not a fundamental component of Alternative 5, but rather a description of the potential impact of Alternative 5 on surface water. Discussion of surface water impacts of Alternative 5 should appear only in Chapter 4 (surface water impacts). Note that none of the other alternatives descriptions include surface water impacts such as changes in reservoir operations.

Response

The Final EIS has been revised to remove facility reoperation from the description of Alternative 5. No reoperation of project facilities was modeled or analyzed for Alternative 5.

Comment LA21-29

Comment

Comment 14, Page 2-16. The third bullet on this page states that compared to Alternative 4, Alternative 5 increases the upper limit for the reallocation of agricultural contractor water to M&I contractors to meet at least the unmet PHS demands from 75% to 95% of historic use. This bullet indicates that in years when the M&I contractor allocations would be 95 percent of historical use or less, water would be reallocated from agricultural contractors to provide the greater of the allocations percentage of historical use or the PHS need. However, the Alternative 5 description does not explain how this will be implemented. Would it be implemented in revised implementation Guidelines? Recommended Revisions: Please explain the process for implementing the increased upper limit for the reallocation to M&I contractors from 75% to 95%.

Response

Alternative 5 does not allow contribution of additional water for PHS need to the extent those demands do not exceed 95 percent of the contractor's historical use. Table 2-8 indicates that M&I water contractors can request an allocation adjustment to assist in meeting PHS need starting when their CVP allocation is 95 percent of historical use. Under Alternatives 1 and 4, a contractor could request

additional water for PHS need starting at allocations of 75 percent of historical use.

The second bullet in Chapter 2.7 has been revised to clarify that under Alternative 5, requests for additional allocation to assist in meeting PHS need could be made by contractors once CVP allocations have been reduced to 95 percent or less of historical use. This is indicated in Alternative 5, Table 1. As described in Chapter B.7 of Appendix B, the CalSim II model analyzed this alternative by attempting to deliver 100 percent of any unmet PHS need in all years. This was done without the need to modify reservoir operations to increase carryover in CVP reservoirs to meet unmet PHS need in subsequent years.

Comment LA21-30

Comment

Comment 15, Page 2-16, 2-17. The DEIS does not consistently describe the relatively minor impacts of Alternative 5 on agricultural water contractors. The DEIS states providing a greater level of security to M&I contractors under Alternative 5 "may mean" that water allocations to agricultural contractors would need to be reduced. It does not explain the circumstances under which Alternative 5 would result in reduced CVP deliveries to agricultural contractors. Table B-10 shows minor reductions, the "majority of which" are related to meeting unmet PHS needs to the City of Avenal. Recommended Revision: Delete the statement about potential changes in reservoir operations from the Alternative 5 description.

Response

The Final EIS has been revised to remove facility reoperation from the description of Alternative 5. No reoperation of project facilities was modeled or analyzed for Alternative 5.

Comment LA21-31

Comment

Comment 16, Page 2-16, 2-17. The DEIS states providing a greater level of security to M&I contractors under Alternative 5 "may require" changing the timing and frequency of releases from CVP reservoirs. It also does not explain which CVP reservoirs would be modified. Table B-11 shows no change in monthly reservoir storage levels between Alternative 5 and No Action. Recommended Revisions: Delete the statement about potential changes in reservoir operations from the Alternative 5 description.

Response

The Final EIS has been revised to remove facility reoperation from the description of Alternative 5. No reoperation of project facilities was modeled or analyzed for Alternative 5.

Comment LA21-32

Comment

Comment 17, Page 3-5. The DEIS states that the No Action Alternative serves as a basis (baseline) for impact comparison for the action alternatives. NEPA does allow this approach, but there is no citation to supporting legal authority.

Recommended Revisions: Cite legal authority supporting the use of the No Action Alternative as the baseline. This includes CEQ's "Forty Most Asked Questions Concerning CEQ's NEPA Regulations," Number 3. It also includes CEQ's *NEPA and CEQA Handbook*, p.30.

Response

See response to Comment LA10-08.

Comment LA21-33

Comment

Comment 18, Page 3-5. The approach to indirect effects analysis assumes that M&I contractors would be able to provide alternative water supplies to lessen the effects of CVP water shortages, whereas agricultural contractors may have to resort to crop idling to reduce demand. It does not consider that M&I contractors may not be able to find alternative water supplies, and that demand reduction measures such as further water conservation measures or even water rationing could be implemented. Note that for socioeconomic impacts, the LCPSIM model used to analyze Bay Area economic effects includes indoor conservation, outdoor conservation, and recycling as M&I contractor responses to CVP water supply shortages. Recommended Revisions: Revise the indirect effects analysis approach to recognize that M&I as well as agricultural contractors may need to implement demand reduction measures to lessen the effects of CVP water shortages. The indirect impact analysis in each of the resource chapters (especially Socioeconomics) should discuss the indirect effects of various M&I demand reduction measures.

Response

LCPSIM includes a level of water conservation in the estimate of increased costs incurred by water agencies. A discussion of indirect economic impacts of additional conservation during extreme drought conditions has been added to Chapter 13.

Comment LA21-34

Comment

Comment 19, Page 4-18. On page 4-18 and in Figure 4-15 the DEIS indicates that San Felipe Division contractors would not rely on CVP deliveries to meet PHS demands in critically dry years because of their ability to access non-CVP supplies. For SCVWD, this conclusion was based on supply data included in our 2010 UWMP and PHS demands provided to Reclamation in 2012. Based on recent experience in 2014 and 2015, SCVWD's access to non-CVP supplies

during critical dry years is much lower than anticipated, and SCVWD has had to aggressively pursue supplemental water supplies from both agricultural and urban agencies north and south of the Delta. Also, the methodology for calculating PHS demands needs to be modified to reflect availability of these alternative supplies in different parts of the County. For example, SCVWD has no control of SFPUC's Hetch-Hetchy supplies, which are only available in a limited area in the northern part of the County. Recommended Revisions: Revise the DEIS to reflect that a contribution of CVP supplies is in fact required to meet PHS demands in critical dry years and that the estimates for non-CVP supplies available to meet PHS demands will vary under different hydrologic conditions. Refer to the PHS requests SCVWD submitted on February 13, 2015, which documents the availability of non-CVP supplies and the methodology for calculating PHS demands. Include an analysis of the availability of alternative supplies in different parts of each contractor's service areas.

Response

Figure 4-15 has been revised to include the amount of CVP water that would be delivered to the San Felipe Division in critical years. The text in Chapter 4 has been revised to indicate that these contractors would still receive CVP supplies during critical years. See Common Response 5.

Comment LA21-35

Comment

Comment 20, Page 4-19 and Appendix A. Figure 4-15 incorrectly shows San Felipe Division M&I historic use to be 115,026 AF. As described in the data SCVWD submitted to Reclamation on April 5, 2012, the M&I historic use for SCVWD alone is 152,500 AF. Recommended Revision: Revise Figure 4-15 to reflect that SCVWD's historic use is 152,500 AF.

Response

Figure 4-15 has been revised to reflect the correct 2030 CVP M&I demand.

Comment LA21-36

Comment

Comment 21, Page 4-37. Table 4-28 shows differences in CVP deliveries to South of Delta M&I contractors under Alternative 5 compared to No Action. Rows for above normal, below normal, and critically dry years show a total of 1 TAF difference, but do not show a month in which this difference occurs. Recommended Revisions: Correct Table 4-28 for these years so that the month columns add to the total column. Check all tables in the water supply section to make sure that the month columns add to the total column. For example, Table 4-16 (South of Delta M&I contractors under No Action) appears to have similar additional errors.

Response

The CVP delivery tables presented in Chapter 4 report delivery volumes in TAF. As such, months with modeled deliveries below 500 AF indicate as 0 AF, but when summed in the total line round to approximately 1 TAF. Presenting changes in CalSim modeled deliveries at a finer level of detail than 1 TAF would imply a level of accuracy not appropriate for this model.

Comment LA21-37

Comment

Comment 22, Page 4-39. The DEIS states that under Alternative 5, agricultural contractors would seek alternative water supplies or idle crops if CVP water deliveries are reduced compared to No Action. However, as previously mentioned. Table B-10 shows very minor reductions, the "majority of which" are related to meeting unmet PHS needs to the City of Avenal. Recommended Revisions: Please change the surface water impact analysis (all other DEIS impact analysis relying on this analysis) to indicate that Alternative 5 would result in very minor reductions to agricultural water contractors, the "majority of which" are related to meeting unmet PHS needs to the City of Avenal.

Response

Detail has been added to the Alternative 5 analysis in Chapter 4 to clarify that reductions in south of Delta agricultural deliveries compared to the No Action Alternative are less than 500 AF in all water years.

Comment LA21-38

Comment

Comment 23, Page 13-29. The DEIS states that in the Bay Area region, some contractors are in a better position to respond to reductions in CVP water allocation than others. It does not discuss the circumstances of individual contractors such as SCVWD. Appendix G (P.G-4) explains that this "aggregation assumption" likely understates total economic costs and impacts of reduced CVP water allocations to the Bay Area Region. Recommended Revisions: In Chapter 13, state that the "aggregation assumption" likely understates total economic costs and impacts of reduced CVP water allocations to the Bay Area Region.

Response

The text recommended by the comment has been added to Chapter 13.

Comment LA21-39

Comment

Comment 24, Page 13-29. Pages G-4 and G-5 list several other limitations to the LCPSIM model that could understate Bay Area Region economic impacts. In particular, the model does not estimate the impacts of commercial and industrial water shortages. These limitations are not expressly mentioned in Chapter 13.

Recommended Revisions: In Chapter 13, summarize other limitations of the LCPSIM model that could understate Bay Area Region economic impacts.

Response

The text recommended by the comment has been added to Chapter 13.

Comment LA21-40

Comment

Comment 25, Page 13-29. The DEIS states that if alternative M&I water supplies were not available to respond to reductions in CVP water allocation, additional economic effects could occur, such as business decisions to reduce production or employment, or site facilities outside the region. It does not discuss the likelihood of such effects or their potential magnitude. **Recommended Revisions:** Discuss the likelihood and potential magnitude of economic effects caused by business decisions if alternative M&I water supplies were not available.

Response

Businesses consider many factors, including water availability and costs, regarding production and employment levels and facility sites; therefore, it is difficult to assess the magnitude of impacts. Text has been added to indicate that effects would be more than those estimated by LCPSIM.

Comment LA21-41

Comment

Comment 26, Page 13-29. The Alternative 2 indirect effects analysis refers to Chapter 3 for a discussion of potential actions that M&I contractors may take in response to CVP water shortages. As mentioned in the comment for p. 3-5, Chapter 3's description of the approach to indirect impact analysis does not consider that M&I contractors may not be able to find alternative water supplies, and that demand reduction measures could be implemented. **Recommended Revisions:** Include a discussion of the indirect effects of various M&I demand reduction measures in the indirect economic impact analysis.

Response

LCPSIM includes a level of water conservation in the estimate of increased costs incurred by water agencies. A discussion of indirect economic impacts of additional conservation during extreme drought conditions has been added to Chapter 13.

Comment LA21-42

Comment

Comment 27, Page 13-35. The DEIS states that the economic effects of Alternative 5 would be similar to or less than economic effects of No Action. It does not explain how the economic effects could be less. **Recommended**

Revisions: Explain how the economic effects of Alternative 5 could be less than No Action.

Response

Chapter 13 has been revised to include further explain effects of Alternative 5 relative to the No Action Alternative.

Comment LA21-43

Comment

Comment 28, Page 13-37. The DEIS states that cumulative projects would offset adverse economic impacts of Alternative 2 on M&I contractors by providing increased water supplies, particularly during dry and critical years. This statement is inconsistent with conclusions about BDCP alternatives in Chapter 4. (See comments on page 4-41). Recommended Revisions: Revise the discussion of the water supply impacts of cumulative projects to be more project-specific, and consistent with Chapter 4.

Response

The cumulative effects discussion Chapter 13 has been revised to be consistent with changes made in Chapter 20, Cumulative Effects Methodology, related to the BDCP and other cumulatively-considered water supply projects. These projects are still in the planning phases and thus, the cumulative effects have been discussed conceptually.

Comment LA21-44

Comment

Comment 29, Page 20-4 through 20-13. The descriptions of the cumulative projects do not include estimates of the effects of each project on increasing or reducing CVP water deliveries. Without this information, conclusions in prior chapters about adverse cumulative impacts related to surface water, water quality, and socioeconomics are not well-supported. Recommended Revisions: Describe or estimate the effect of each cumulative project on CVP water deliveries to the extent feasible based on available information in planning and environmental documents. Use this information to develop more refined cumulative impact analyses for surface water, water quality and socioeconomics.

Response

Given the uncertainty over the likelihood of any specific future cumulative project being implemented, the timing of projects that will be implemented, and in some cases the ultimate configuration of that cumulative project, the cumulative analysis completed in this EIS considered whether cumulative projects would improve or worsen water supply conditions in the area of analysis. This qualitative analysis approach was utilized to avoid any over or understatement of future water supply conditions.

Comment LA21-45

Comment

Comment 30, Page A-2. The Table in Appendix A incorrectly states that SCVWD's 2030 projected CVP M&I demand is 119,400 AF. This is explained on page B-6 where the DEIS states that SCVWD intends to maintain the current split between agricultural and M&I deliveries in the future. The source of this intention is unclear. On April 5, 2012 SCVWD submitted data to Reclamation in which we stated our intent for our 2030 projected CVP M&I demand to be 152,500 AF. Recommended Revisions: Change the 2030 project CVP M&I demand for SCVWD in Table A-2 to 152,500 AF and delete the statement on page B-6.

Response

Text in Appendices A and B has been revised remove the reference to a lower projected 2030 CVP M&I demand. The analysis was performed assuming Santa Clara Valley Water District's (SCVWD's) 2030 CVP M&I demand was 152,500 AF, as requested.

Comment Letter LA22, Jeffrey P Sutton, Tehama-Colusa Canal Authority

Comment LA22-01

Comment

The Tehama Colusa Canal Authority (TCCA), on behalf of itself and the 17 CVP Agricultural Water Service Contractors that it serves, respectfully submits these comments on the Draft EIS for the Central Valley Project Municipal and Industrial (M&I) Water Shortage Policy. I hope you will disregard that these comments are submitted a bit late. Due to the overwhelming challenges associated with the historic drought conditions currently being experience, and a second year in a row of zero allocations for TC Contractors, these comments were not able to be finalized for submission on Friday.

1. TCCA objects to the M&I Water Shortage Policy as a matter of law, nowhere in California law, nor federal law, does it provide for a priority of water for municipal and industrial purposes over water for agricultural purposes. California v. US makes clear that the USBR must follow state water rights, this policy flies in the face of and is inconsistent with the state of California's water rights priority system, area of origin laws, and county of origin laws, particularly as it relates to exchange and settlement contractors.

Response

See responses to Comment LA06-05 and Comment LA10-03.

Comment LA22-02

Comment

2. The EIS neglects to adequately examine the impacts to health and safety associated with depriving water to agricultural due to the priority for M & I uses. Rural agricultural communities throughout the CVP service area are reliant on water supplied by the CVP to maintain their local economies, including the four county region on the Westside of the Sacramento Valley that is served by the TCCA. Reducing allocations as a result of this policy will have disastrous effects on these communities, resulting in a significant loss of jobs and economic activities, resulting in severe socioeconomic impacts that will result. This choice to prefer urban areas over rural areas is a violation of environmental justice, and neglects the impacts to this area where all of these communities qualify as disadvantaged communities. In rural areas, our farms are our "factories" (read "industry"). Selecting one industry of over another makes no sense in this context. A study during the Red Bluff Fish Passage Improvement Project illustrated that 16,000 jobs were produced as a result of the irrigation of the 150,000 acre TC service area. No adequate assessment is done to adequately assess these severe and numerous socioeconomic impacts that would result with the implementation of this policy.

Response

Congress has authorized use of CVP facilities for municipal and domestic purposes. It is well settled law in California that the highest and best use of water is for domestic purposes. California Water Code Section 106 states, "It is hereby declared to be the established policy of this State that the use of water for domestic purposes is the highest use of water and that the next highest use is for irrigation." Socioeconomic effects of the alternatives are discussed in Chapter 13 and the environmental justice effects of the alternatives are discussed in Chapter 14.

Comment LA22-03

Comment

3. The EIS further neglects to adequately assess the environmental impacts associated with reduced allocations of irrigation water to the agricultural lands that cannot be planted as a result of a reduction of CVP water to agriculture as a result of this policy. Throughout the TCCA service area, these agricultural lands also oftentimes serve as habitat to a variety of animals, waterfowl, reptiles, and other wildlife, including some that are endangered and/or threatened (i.e. Giant Garter Snake). The EIS completely fails to adequately assess the impacts associated with the causal relationship associated with the implementation of this policy on the Pacific flyway, and to other flora and fauna that would be negatively impacted.

Response

Chapter 11, Terrestrial Resources, specifically addresses the causal relationship between changes in allocations to agricultural contractors and the associated effects on aquatic and terrestrial habitats used by wildlife species. Chapter 11.1.3.1, “Terrestrial Habitat Types in the Area of Analysis” describes the habitat values of several different agricultural crops including: croplands, rice, and orchards and vineyards and Table 11-2 quantifies the total area of agricultural habitats within the area of analysis. Chapter 11.2, “Environmental Consequences,” analyzes potential effects to agricultural habitats, including changes in acreage of grain cultivation and the potential associated effects to special-status species that could occur, for each of the alternatives.

Comment LA22-04

Comment

4. The EIS fails to adequately assess the impacts of this policy on groundwater supplies and groundwater quality associated with its implementation. This policy would result in further allocation reductions to agricultural regions served by the CVP, this would cause growers, particularly those with permanent crops, to dramatically increase groundwater pumping, thereby causing negative impacts to groundwater levels, water quality, and potentially causing significant subsidence in some areas.

Response

Chapter 6 documents the potential increase in groundwater pumping due to reduced allocations to agricultural contractors. These increases in groundwater pumping are expected to impact groundwater levels that could lead to permanent land subsidence. However, impacts to groundwater quality due to migration of reduced quality groundwater is not likely to be a concern unless groundwater levels and/or flow patterns are substantially altered for a long period of time. Increases in groundwater pumping by agricultural contractors are expected to be short term withdrawals during the irrigation season and not likely to be a groundwater quality concern.

Comment LA22-05

Comment

5. The EIS fails to adequately assess the growth inducing impacts associated with the implementation of this policy. Further, by failing to adequately assess these impacts, the document fails to account for the increased water demands of M&I contractors with this increased growth, magnifying even further all of the impacts associated with the accompanying reduction of allocations to agricultural contractors.

Response

See response to Comment LA10-18

Comment LA22-06

Comment

6. Further, TCCA objects to any impacts and/or change in terms caused by the implementation that this proposed policy has on TC Contractors existing water service contracts that were renewed in 2-5, which required its own significant EIS/EIR and consultations.

Response

The EIS has been revised to remove the assumption that the M&I WSP would be incorporated into long-term water service contracts during the contract renewal process under the CVPIA. Water service contract renewals will be required to conduct separate and additional environmental review.

Comment LA22-07

Comment

7. All of the data relied upon in the EIS is from 2010, which fails to take into account the changed circumstances of the past five years and the recent occurrences related to impacts associated with reduced allocations to CVP agricultural water service contractors.

Response

Analysis relied upon in the Draft EIS was based on the historical hydrology from 1922 through 2003 and operations of the CVP and SWP under the existing regulatory requirements at the time the NOI was filed. This analysis included both wet and dry years, and periods of consecutive years of below average precipitation and runoff. During these consecutive dry years the analysis showed the potential for CVP agricultural service contract allocations for contractors north and south of the Delta to be low, and in some years zero. These results are similar to the actual allocations in the past five years that ranged from 100 percent allocation for north of Delta agriculture water service contracts in 2011 to zero percent allocation for the same contractors in 2014 and 2015. Therefore, the analysis included the potential impacts associated with reduced allocations to CVP agricultural water service contractors.

Comment LA22-08

Comment

Further, it neglects to take into account the upcoming results of the BOs that are currently being updated per court order and the associated NEPA efforts that are currently underway.

Response

Analysis performed for the Draft EIS included the BOs and other regulatory requirements of the CVP and SWP that are currently in place and where in place at the time the NOI was filed. Several lawsuits were filed challenging the validity of the 2008 USFWS and 2009 NOAA Fisheries BOs and Reclamation's

acceptance of the RPA included with each (Consolidated Salmonid Cases, Delta Smelt Consolidated Cases). The District Court issued findings that concluded Reclamation had violated NEPA by failing to perform any NEPA analysis before provisionally adopting the 2008 U.S. Fish and Wildlife Service (USFWS) RPA and 2009 NOAA Fisheries RPA. On December 14, 2010, the District Court found the 2008 USFWS BO to be unlawful and remanded the BO to USFWS. The District Court issued a similar ruling for the 2009 NOAA Fisheries BO on September 20, 2011. On March 13, 2014, the United States Court of Appeals for the Ninth Circuit affirmed in part and reversed in part the finding from the District Court on the USFWS BO. The Court of Appeals upheld the determination that Reclamation must complete NEPA analysis, but it reversed on all arguments related to the adequacy of the BO. On December 22, 2014, the United States Court of Appeals for the Ninth Circuit released similar findings related to the Consolidated Salmonid Cases and reversed the arguments about the adequacy of the BO. Reclamation is working to complete NEPA analysis on the BOs, but the 2008 USFWS and 2009 NOAA Fisheries BOs will guide Reclamation's operations.

Comment LA22-09

Comment

8. The EIS fails to consider an adequate array of alternatives. I would suggest that adding an alternative that provides for a priority for the historical level of minimum health and safety needs (25%) for M & I contracts, at which point Ag contractors would then receive the next volume of water allocations up to 25%, at which time all remaining allocations (Ag and M & I) would be increased from that point at evenly. It provides a priority for only the true human health and safety needs, and thereafter, it acknowledges that there is no priority for M & I water, and allocates to both uses evenly thereafter.

On behalf of the TCCA, I respectfully submit the foregoing.

Response

NEPA allows development of representative alternatives that bound the full range of reasonable alternatives. 43 CFR Part 46.420(c) states that the range of alternatives, "includes all reasonable alternatives, or when there are potentially a very large number of alternatives then a reasonable number of examples covering the full spectrum of reasonable alternatives." This approach was used in the selection of alternatives and ensured that the full range of potential changes in water allocations and resulting environmental impacts from these alternative M&I WSPs were evaluated in the Final EIS. The bounding alternatives also facilitate a trade-off analysis of different water shortage sharing conditions between agricultural and M&I water service contractors.

The alternative suggested by the commenter is a close variation of Alternative 2, Equal Agricultural and M&I Allocation. Alternative 2, as described in Section 2.4 of the Final EIS, was developed to provide an alternative under which M&I

and agricultural water service contractors would receive the same allocation, as a percentage of Control Total. This alternative would provide greater CVP allocations to agricultural water service contractors than the No Action Alternative.

Public Meeting PM01, Sacramento, California

Comment PM01-01, Walt McNeill, Clear Creek Community Services District

Comment

In reviewing the Draft EIS, there is not a place for or printed copies of the written alternatives. I found Alternatives 1, 4 and 5, but don't have 2 or 3. Did you develop those? Are they available as written documents?

Response

Appendices J through N present each written alternative.

Comment PM01-02, Greg Zlotnick, San Luis Delta-Mendota Water Agency

Comment

How do environmental water or refuge water fit into the policy?

Response

See response to Comment LA06-09.

Comment PM01-03, Greg Zlotnick, San Luis Delta-Mendota Water Agency

Comment

Is it discretionary or a mandate that it is called the "M&I" policy even though it applies to all contractors?

Response

The contracts between Reclamation and the water service contractors obligate the contractor to adhere to the, "then-existing Project M&I Water Shortage Policy" in Article 12. Therefore, to remain consistent with existing contracts, Reclamation will continue to name the policy the CVP M&I WSP.

Comment PM01-04, Greg Zlotnick, San Luis Delta-Mendota Water Agency

Comment

What are the key differences between Alternative 4 and Alternative 5?

Response

The key differences between Alternatives 4 and 5 are listed in Chapter 2.7.

Comment PM01-05, Dan Corcoran, El Dorado Irrigation District

Comment

What is the CalSim 2030 demand? Is that based on 2005 plans?

Response

The CalSim II 2030 demand is a projected level of demand in the future at approximately a 2030 level of development. The future level of demand analyzed in the Draft EIS assumes a build out condition wherein all CVP contractor's historical use is equal to the full contract amount. The demand is based on projects of land use and population changes into the future.

Comment PM01-06, Dan Corcoran, El Dorado Irrigation District

Comment

Where are the public health and safety values?

Response

Appendix A presents the PHS need for each M&I water service contractor.

Comment PM01-07, Dan Corcoran, El Dorado Irrigation District

Comment

What is in the 2030 CalSim set of assumptions?

Response

Please see Attachment A to Appendix B for a list of the assumptions used in the CalSim II modeling of CVP M&I WSP alternatives.

Comment PM01-08, Dan Corcoran, El Dorado Irrigation District

Comment

Were the Water Control Manual Update assumptions include in the model?

Response

The process to update the Water Control Manual for Folsom Lake is still underway. Therefore, the current flood control diagram and water control manual with the 1993 Sacramento Area Flood Control Agency diagram (the 400/670 diagram) were used in the analysis for the Draft EIS and all alternatives.

Comment PM01-09, Greg Zlotnick, San Luis Delta-Mendota Water Agency

Comment

What are the NEPA requirements for thresholds of significance?

Response

Per the CEQ NEPA Guidelines, unlike State agencies under the California Environmental Quality Act, Federal agencies are not required to make threshold determinations in an EIS, but instead an EIS discloses the context and intensity of impacts. By preparing an EIS, Reclamation has recognized that the alternatives may have significant impacts. CEQ regulations and guidelines are written to detail the contents and preparation procedures of EISs, thus individual agencies are provided the discretion in structuring individual methods for impact

determinations. Reclamation's Decision Process Guide discusses thresholds of significance and procedures to test for significance. Additional information can be accessed online at: <http://www.usbr.gov/pmts/economics/guide/relevan.html#tos>. For the CVP M&I WSP, unavoidable adverse impacts are disclosed. Chapter 3.4.4 defines unavoidable adverse impacts as "environmental consequences of an action that cannot be avoided, either by changing the nature of the action or through mitigation if the action is undertaken." For each proposed project alternative, a summary comparison of the unavoidable adverse impacts is included in Table 3-1.

Comment PM01-10, Ed Kriz, City of Roseville

Comment

What is the process to request an extension for the comment period?

Response

See response to Comment LA02-01.

Comment PM01-11, Jason Nishijima, Santa Clara Valley Water District

Comment

What is the projected date for the ROD?

Response

Reclamation anticipates finalizing the ROD in fall 2015.

Comment PM01-12, Jason Nishijima, Santa Clara Valley Water District

Comment

Until the ROD is signed, will the existing draft policy remain in effect?

Response

Reclamation will continue to operate under the 2001 Draft M&I WSP, as amended, until the ROD is signed and a new WSP is finalized.

Comment PM01-13, Walter McNeill, Clear Creek Community Services District

Comment

The nomenclature of the policy is "Municipal and Industrial Water Shortage Policy," but the legal effect is that it is a CVP water policy. It defines what both M&I and ag users get. There are many ag agencies that don't understand this applies to them or think it doesn't.

Response

See response to Comment PM01-13. Also, Reclamation has been in communication with CVP stakeholders, both M&I and agricultural water service contractors, since August 2009 about its effort to update the 2001 Draft M&I

WSP. Between May 2010 and June 2012, Reclamation conducted seven M&I WSP Stakeholder Workshops, to which both M&I and agricultural water service contractors were invited and attended. Reclamation announced the availability of the Draft EIS to both M&I and agricultural contractors in November 2014 through its NOA in the Federal Register and through correspondence to the stakeholder email list.

Comment PM01-14, Walt McNeill, Clear Creek Community Services District

Comment

There is a conflict between the benchmark in M&I use in Alternative 4 and the draft EIS projection for M&I use. In the actual policy language, it is still tied to Water Needs Assessment done in 2003, but Draft EIS page 2-20 states you have more accurate information. But the M&I contractor data has M&I use that exceeds contract total. The first problem with this is the Water Needs Assessment in 2003. We have been complaining about it and think it's mistakenly limiting our M&I use. But the Draft EIS we do agree with because we believe M&I use by 2030 will exceed contract total. The Water Needs Assessment essentially puts a cap on M&I use. The second problem is how accurate is the environmental analysis if you're doing the analysis on one standard versus another.

Response

Recent edits to Alternative 4 have removed the Term & Condition that stated, "This M&I WSP applies only to that portion of the CVP water identified for M&I uses under the Water Needs Assessments prepared for the CVP Long-Term Water Service Contract Renewals. Subject to these limitations, except as provided for public health and safety need (Term and Condition 7), irrigation water transferred or converted to M&I use would receive irrigation water reliability."

Reclamation's most recent Water Needs Assessment (2004/2005) provided projections of M&I demand to 2025; however, the study period of this environmental analysis is 2030. In order to provide the most conservative analysis of potential impacts in this environmental documentation, Reclamation assumed for 2030, the end point of this document's timeframe, that all M&I water service contractors, including "mixed use" contractors, will use their full Contract Total and historical use is therefore equal to the Contract Total. This does not supplant or supersede information in a contractor's contract. The Final EIS does not analyze any CVP contractor demands at amounts greater than their Contract Total.

Comment PM01-15, Walt McNeill, Clear Creek Community Services District

Comment

We'll identify in a list of concerns, previously identified, that of application to mixed use contractors and the lack of consideration for mixed use contractors. Our client is 50/50. The Draft EIS doesn't show any consistent approach for

mixed use contractors. Is allocation based on historical use or contract quantity? It doesn't say.

Response

Alternative 4 has been edited to include clarifying language that for any contract for both irrigation and M&I uses which does not set forth individual Contract Totals for each use, the M&I allocation will be determined by historical use. This is merely a clarifying edit which does not meaningfully change either the intent or analysis of alternatives in the EIS.

Comment PM01-16, Walt McNeill, Clear Creek Community Services District

Comment

There are no provisions for farm households living on farm parcels and subsisting on ag water. Our client has 300 farm families, approximately 1,000 people, whom would receive zero water allocation in some cases under this policy. How do we make this work in a common sense way? We'd like it to be addressed.

Response

See response to comment LA06-04.

Comment PM01-17, Walt McNeill, Clear Creek Community Services District

Comment

A blind spot in the environmental analysis is the policy will ratcheting up use of M&I water through the CVP. This is not identified or discussed in the document. If you were to list all M&I users and contractors use of contract supply, you would see that they use only 60-70% of contract totals and still have 30% left to grow and will only need and receive more water as their populations increase. We'll have ratcheting effect of increased M&I use. Overall because M&I has priority, that means reduction of water for Ag. This should be examined.

Response

Chapter 21.3 states that NEPA (40 CFR Sections 1502.16(b) and 1508.8(b)) requires analysis of direct and indirect impacts of growth-inducing impacts from projects. 40 CFR Section 1502.16(b) requires the analysis of indirect effects. Under NEPA, indirect effects as stated in Section 1508.8(b) include reasonably foreseeable growth inducing effects from changes caused by a project.

Direct growth inducing impacts are usually associated with the construction of new infrastructure, housing, or commercial development. A project which promotes growth, such as new employment opportunities or infrastructure expansion (i.e., water supply or wastewater treatment capabilities) could have indirect growth inducing effects. Generally, growth inducing impacts would be considered significant if the ability to provide needed public services by agencies is hindered or the potential growth adversely affects the environment.

The M&I WSP addresses drought conditions when CVP supplies are insufficient to meet demands. The M&I WSP would not directly or indirectly affect growth beyond what is already planned and accounted for in CVP water service contracts. Therefore, the M&I WSP would have no growth inducing impacts. None of the alternatives evaluated a condition where M&I water service contractors were modeled to receive CVP supplies greater than their existing contract amounts.

Comment PM01-18, Walt McNeill, Clear Creek Community Services District

Comment

The “M&I WSP” terminology confuses U.S. Congressmen. Congress has just introduced H.R. 5781, the California Emergency Drought Relief Act of 2015. The Act amounts to an ag water shortage policy to develop a similar allocation step down process, as if that would not have an impact on an M&I WSP. It would be very favorable for Ag contractors. They say it won’t affect the M&I WSP, but there is no clear line of separation between the two.

Response

See response to Comment LA06-02.

Public Meeting PM02, Willows, California

Comment PM02-01, Hank Wallace

Comment

The demand side of the policy sounds great, but where is the water coming from?

Response

See response to comment LA06-09.

Comment PM02-02, Hank Wallace

Comment

What are the baseline conditions?

Response

See response to comment PM01-07.

Comment PM02-03, Hank Wallace

Comment

Who built CalSim II? And how long has it been used for?

Response

CalSim II was jointly developed by Reclamation and DWR to simulate operations of the CVP and SWP. CalSim was originally developed in approximately 2000 and has been continually updated and refined since it was originally developed.

Additional information on the model and its assumptions is contained in Appendix B.

Comment PM02-04, Hank Wallace

Comment

In Glenn County, huge numbers of wells have gone in to beat any regulations on groundwater management. We shouldn't be pumping groundwater to make up needs because surface water is being used elsewhere. You should research each northern California county and get the well logs to gather a feeling of the amount of overdraft. We're going to have a mini-San Joaquin situation in Butte County. Wells are going dry, this is a drought issue. People are concerned water is going to San Joaquin, Oakland, and other moneyed interests. Before going ahead with the model take into consideration the past three years. Well drillers are going 24-7. Models need to account for the drought and current conditions. If this was accounted for it would make the document and policy stronger.

Response

Chapter 6.1.3 documents recent groundwater trends within the area of analysis and were taken into consideration in the impacts analysis. The CalSim II analysis relied upon in the Draft EIS was based on the historical hydrology from 1922 through 2003 and operations of the CVP and SWP under the existing regulatory requirements at the time the NOI was filed. This analysis included both wet and dry years, and periods of consecutive years of below average precipitation and runoff. During these consecutive dry years, the analysis showed the potential for CVP agricultural service contract allocations for contractors north and south of the Delta to be low, and in some years zero. These results are similar to the actual allocations in the past five years that ranged from 100 percent allocation for north of Delta agriculture water service contracts in 2011 to zero percent allocation for the same contractors in 2014 and 2015. Therefore, the analysis included the potential impacts associated with reduced allocations to CVP agricultural water service contractors. Results from the CalSim II model, which are similar to recent allocations seen north and south of the Delta, were then used as inputs to the SWAP model, which compares the long-run response of agriculture to potential changes in SWP and CVP irrigation water delivery, other surface or groundwater conditions, or other economic values or restrictions.

Comment PM02-05, Hank Wallace

Comment

What is expected flow into Shasta? There is a lot of water conservation that still could be considered in the M&I area.

Response

The commenter was asking about the inflow to Shasta Lake in this water year. As of April 17, 2015, the accumulated inflow for the 2015 Water Year to date is 2.728 MAF AF (Reclamation 2015b). Under the continuing drought conditions

of this year, M&I water service contractors have been allocated (as of April 17, 2015) 25 percent of their CVP historical use, or deliveries to assist in meeting PHS need, if available, whichever is greater. Many M&I water service contractors are also facing strict water use restrictions imposed by SWRCB to achieve the state-wide water use reductions required in Executive Order B-29-15, issued on April 1, 2015.

Comment PM02-06, Oscar Williams, O&J Farms

Comment

Who decides the final decision? Public vote or Reclamation?

Response

The Final EIS provides the environmental analysis of the M&I WSP alternatives. Not less than 30-days after the Final EIS is published, the Regional Director of Reclamation's Mid-Pacific Region will issue his decision on which alternative to implement, based on the environmental analysis and public comment. The ROD will be finalized in fall 2015.

Comment PM02-07, Oscar Williams, O&J Farms

Comment

If Alternative 2, 3, or 4 is accepted, where does Ag get water? Where will CA get water to grow if the Regional Director decides on one of these alternatives that say no water for Ag? That's a big responsibility for one man. There are 380,000 acres in this county of Ag land, \$42 billion in California. I own land right across from where GCID wants to put more wells 500 feet deep. What happens to my groundwater? There are 55,000 Ag wells in Glenn County.

Response

CVP agricultural water service contractors would continue to receive CVP water under all of the alternatives evaluated in this Final EIS. This document does not contain any alternatives whereby agricultural water service contractors would no longer receive CVP deliveries. The analysis evaluates alternatives that would provide different water shortage sharing conditions between agricultural and M&I water service contractors.

Glen-Colusa Irrigation District (GCID) is a Sacramento River Settlement Contractor. Reclamation provides water to meet Settlement Contractor obligations before water is made available to CVP water service contractors. Therefore, the CVP M&I WSP alternatives do not impact the water supply allocations to the Sacramento River Settlement Contractors, or the decisions those contractors take on use of non-CVP supplies. GCID actions are not discussed in this environmental analysis.

Comment PM02-08, Hank Wallace

Comment

GCID is putting wells in the ground because of potential reductions in Reclamation water. DWR has 126 wells in Glenn County alone. If Ag loses from these alternatives, what do we do?

Response

See response to Comment PM02-07.

Comment PM02-09, Oscar Williams, O&J Farms

Comment

I'm concerned about the effects of the Bureau of Reclamation, GCID, whoever is responsible for water, on my business.

Response

Chapter 13 evaluates economic impacts of the proposed alternatives. GCID is a Sacramento River Settlement Contractor. Their contracts for water from Reclamation are not affected by the M&I WSP; therefore, GCID actions are not discussed in this environmental analysis.

Comment PM02-10, Oscar Williams, O&J Farms

Comment

Whatever we can do to work together to get this stuff solved is good. No one has answers, potential solutions, and no money. Wish someone would.

Response

A response to this comment is not required under NEPA because the comment does not raise a significant environmental issue (NEPA Regulations 40 CFR Part 1503.4). Many comment authors expressed personal opinions, histories, or experiences which are not appropriately addressed as part of the NEPA process. This comment will be included as part of the record and made available to decision makers prior to a final decision on the selected alternative.

Public Meeting PM03, Fresno, California

Comment PM03-01, Bill Luce, Friant Water Authority

Comment

If the No Action Alternative is selected in the ROD, will Reclamation finalize and implement the 2001 draft WSP Policy and if so, doesn't that represent an action? So how is that a "no action?"

Response

This Final EIS identifies Alternative 4 as the preferred alternative. If the No Action Alternative is selected in the ROD, the 2001 Draft M&I WSP, as amended

by the 2005 EA, would be implemented or "finalized" and no longer be referred to as "draft." The only change that would occur if the ROD selects the No Action Alternative would be a matter of semantics where the 2001 Draft M&I WSP would then be referred to as a "final" or even just the "CVP M&I WSP" versus "Draft." There would be no change to the existing policy, and implementing an existing policy does not represent an "action." An "action" would be where a change in the existing policy is proposed/implemented.

Comment PM03-02, Bill Luce, Friant Water Authority

Comment

The 2001 Draft WSP exempted the Cross Valley Canal Unit because OCAP exempted them. The Bureau's 2008 BA also states the CVC won't come under the WSP, why? We'll probably make a written comment on this.

Response

The Final EIS does include the Cross Valley Canal (CVC) Unit contractors in the environmental analysis of the CVP M&I WSP alternatives to provide environmental coverage in the event Reclamation changes CVC contracts to include applicability of the M&I WSP.

Comment PM03-03, Mark Rhodes, Westlands Water District

Comment

We've been in limbo for a decade because of the administrative status and draft policy. There were actions taken this year by the State Board that were geared towards providing public health and safety. The Final EIS should address what occurred this year and the impacts to the project because it did affect CVO. It appears the actions by the State Board are similar to Alternative 4, is that true? Something in this EIS should address the impacts of this year. The actions of the State Board directly affect this policy. For the result of this year and decisions forced by the State Board, which alternative did come closest to what happened? We would like an answer by Reclamation. We think it is Alternative 4.

Response

Recent actions taken by Reclamation and DWR to request temporary urgency change petitions for Delta standards, and the resulting SWRCB actions to grant or deny those petitions, are not part of the CVP M&I WSP. These actions were taken in response to drought conditions in an attempt to balance the beneficial uses of water throughout the State during a period of extreme drought, including providing minimum public health and safety deliveries. These actions affected operations of both the CVP and SWP, but are not similar to a particular WSP alternative analyzed in the Draft EIS.

Comment PM03-04, Mark Rhodes, Westlands Water District

Comment

The East Side contractors, Friant Division, and refuges are said not to be affected by the WSP. But because things are intertwined, you can't really say that's true. Friant gave up water to give to the refuges. You need to explain what happened this year.

Response

East Side Division and the Friant Division are not subject to the M&I WSP. Contracts for CVP water in both divisions include separate policies and procedures for allocation of water when supplies are limited. It is true that these divisions can be affected by water shortages such as what has occurred in 2014 and 2015; however, these are not direct effects of the CVP M&I WSP. The call for water from the Friant Division in 2014 is addressed in the Reclamation contract with the San Joaquin River Exchange Contractors. See response to Comment LA06-09.

Comment PM03-05, Mark Rhodes, Westlands Water District

Comment

Make sure water in the water bank is considered in the calculation of non-CVP supplies for contractors in the San Felipe Division.

Response

The non-CVP supply values presented in Chapter 4 for the San Felipe Division and Appendix A for SCVWD include SCVWD's stored water in the Semitropic groundwater bank.

References

40 CFR 1502.16(b) Environmental consequences, Indirect effects and their significance

40 CFR 1503.4 Response to Comments

40 CFR 1508.8(b) Effects, Indirect effects

43 CFR 46.420(c) Terms used in an environmental impact statement, Range of Alternatives.

43 U.S.C. §485h(c) Furnishing water to municipalities; sale of electric power; lease of power privileges.

73 Federal Register 61314, Oct. 15, 2008 Implementation of the National Environmental Protection Act of 1969.

79 Federal Register 223, Nov. 19, 2014 Notice of Availability and Notice of Public Meetings for the Draft Environmental Impact Statement for Central Valley Project Municipal and Industrial Water Shortage Policy, Central Valley, California.

80 Federal Register 6, Jan. 9, 2015 Notice of Public Review and Comment Period Extension for the Draft Environmental Impact Statement for Central Valley Project Municipal and Industrial Water Shortage Policy, Central Valley, California.

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Appendix J

Alternative 1: 2001 Draft M&I WSP, as modified by
Alternative 1B of the 2005 EA

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Additional Considerations for Implementing the Draft Central Valley Project M&I Water Shortage Policy of September 11, 2001

- In determining projected M&I demand under paragraph 3 of the Draft M&I Water Shortage Policy (WSP), Reclamation may also rely on M&I Contractors' Water Needs Assessments completed for long-term contract renewals, as analyzed in the Municipal and Industrial WSP, Central Valley Project 2005 Environmental Assessment Alternative 1B.
- In determining M&I allocation reductions for years when the irrigation allocation is below 25% under paragraph 4 of the Draft M&I WSP 2001, Reclamation may also rely on, as guidance, Table 3-5 from the Municipal and Industrial WSP 2005 Environmental Assessment Alternative 1B (attached).
- NOTE: All references to contract total in Table 3-5 from the Municipal and Industrial WSP 2005 Environmental Assessment, except when the M&I allocation is 100%, should read historical use instead of contract total. The historical use amount is determined by averaging the amount of water the contractor took during the last three years of unconstrained flow (or 100%) M&I allocation.

Note: This version of the 2001 Draft M&I Water Shortage Policy was revised on July 17, 2014 in order to comply with Reclamation's Visual Identity requirements. Changes made were related to format and font, and the only content changes were made to Table 3.5 on the following page, denoted with strikeout and red text.

Table 3-5. ALTERNATIVE 1 WATER SHORTAGE ALLOCATIONS

Allocation Step	Allocation to Irrigation Users	Allocation to M&I Users
1	100 percent	100 percent
2	100 to 75 percent	100 percent
3	75 to 70 percent	100 to 95 percent
4	70 to 65 percent	95 to 90 percent
5	65 to 60 percent	90 to 85 percent
6	60 to 55 percent	85 to 80 percent
7	55 to 50 percent	80 to 75 percent
8	50 to 25 percent	75 percent
9	25 to 20 percent ^a	The Maximum of: (1) 75 to 70 percent of M&I CVP contract total (2) Public health and safety water quantities up to 75 percent of Contract Total Historical Use
10	20 to 15 percent ^a	The Maximum of: (1) 70 to 65 percent of M&I CVP contract total (2) Public health and safety water quantities up to 75 percent of Contract Total Historical Use
11	15 to 10 percent ^a	The Maximum of: (1) 65 to 60 percent of M&I CVP contract total (2) Public health and safety water quantities up to 75 percent of Contract Total Historical Use
12	10 to 5 percent ^a	The Maximum of: (1) 60 to 55 percent of M&I CVP contract total (2) Public health and safety water quantities up to 75 percent of Contract Total Historical Use
13	5 to 0 percent ^a	The Maximum of: (1) 55 to 50 percent of M&I CVP contract total (2) Public health and safety water quantities up to 75 percent of Contract Total Historical Use
14	0 percent ^a	The Maximum of: (1) 50 percent of M&I CVP contract total (2) Public health and safety water quantities up to 75 percent of Contract Total Historical Use

^a Allocations to Irrigation CVP contractors will be further reduced within the Contract Year to provide public health and safety water quantities to M&I CVP contractors within the same Contract Year, provided CVP water is available.

Allocations methodologies identical for Alternatives 1A and 1B.

DRAFT

Central Valley Project M&I Water Shortage Policy September 11, 2001

The CVP (Central Valley Project) is operated under Federal statutes authorizing the CVP and by the terms and conditions of water rights acquired pursuant to California law. During any year, there may occur constraints on the availability of CVP water for an M&I (municipal and industrial) contractor under its contract. Thus, the purposes of this policy are to:

- Define water shortage terms and conditions applicable to all CVP M&I contractors
- Establish a minimum water supply level that (a) with M&I contractors' drought water conservation measures and other water supplies would sustain urban areas during droughts, and (b) during severe or continuing droughts would, as much as possible, protect public health and safety
- Provide information to help M&I contractors develop drought contingency plans

Currently, many M&I contractors are not using the full M&I portion of their contract total. If the M&I water shortage allocation were applied to full contract entitlements, the resulting allocation for some contractors would exceed their current demand. M&I water demands within the CVP are continually increasing. Therefore, the provision for "75 percent M&I reliability" will be applied to a contractor's *historical use*, with certain adjustments, up to the CVP projected M&I demand as of September 30, 1994. Reclamation recognizes that as water conservation measures are implemented there is a hardening of demand that lessens an M&I contractor's ability to reduce demand during shortages.

The capability of the CVP to meet the water supply levels addressed by this policy is subject to the availability of CVP water supplies. M&I water shortage allocation may differ between divisions of the CVP. Generally, the allocation (percentage) to the various divisions will be the same, unless specific operational constraints on Reclamation require otherwise.

Reclamation explored the concept of two tiers of M&I water supply reliability as proposed by contractors in the CVPIA (Central Valley Project Improvement Act) Administrative Proposal on Urban Water Supply Reliability. Although Reclamation determined not to adopt two tiers, it will facilitate the sale of CVP water from willing sellers to M&I contractors when necessary.

Definitions

Historical use - The average quantity of CVP water put to beneficial use within the service area during the last 3 years of water deliveries, unconstrained by the availability of CVP water. Reclamation and the contractor will negotiate the calculated historical use, to be outlined in a contract exhibit that can be modified during the contract period (but that will not require formal contract amendment). Reclamation recognizes that certain circumstances may require adjustment of the historical use such as growth, extraordinary water conservation measures, or use of non-CVP water supplies. Also, Reclamation may agree to adjust the historical use on the basis of unique circumstances, after consultation with the contractor. An example of a unique circumstance is the year following a drought year, in which water users are still using extraordinary water conservation measures, or the converse, in which a contractor may use more water than historically used in order to recharge ground water.

Adjusted for growth - An adjustment to the contractor's historical use quantity to account for demand increases within the contractor's service area to include (but not be limited to) increases due to population growth and to the number or demand of industrial, commercial, and other entities the contractor serves, provided the contractor provides required documentation to Reclamation.

Adjusted for extraordinary water conservation measures - An adjustment to the contractor's historical use quantity to account for conservation measures that exceed applicable best management practices adopted by the California Urban Water Conservation Council. A water conservation measure considered extraordinary in 2001 may be a mandatory best management practice in 2010 and thus would not be considered extraordinary in 2010.

Adjusted for Non-CVP water - An adjustment to the contractor's historical use quantity to account for water sources other than the CVP used to satisfy M&I demand within the contractor's service area, subject to written documentation from the contractor that shows the extent to which use of the non-CVP water actually reduced the contractor's use of CVP water in other years.

Public health and safety - M&I uses to which water is allocated consistent with criteria established by the State of California, or as established by Reclamation consistent with criteria applied by similarly situated California M&I water supply entities, as applicable, during declared water shortage emergencies.

Terms and Conditions

1. Allocation of M&I water will be based on a contractor's historical use of CVP M&I water, adjusted for (a) *growth*, (b) *extraordinary water conservation measures*, and (c) *non-CVP water*, subject to Term and Condition 3. At the contractor's request, Reclamation will consult

with the contractor to adjust the contractor's historical use on the basis of (a) growth, (b) extraordinary water conservation measures, and (c) use of non-CVP water. Term and Condition 1 is intended to encourage contractors to use non-CVP water first and rely on CVP water as a supplemental supply. Reclamation will adjust the historical-use calculation to reflect the effect of non-CVP water used in lieu of use of the contractor's CVP water. Crediting for this non-CVP water will be based on 1 acre-foot for 1 acre-foot, unless Reclamation and the contractor agree otherwise in considering unique circumstances. The contractor must fully document use of non-CVP water to clearly show how much that water use actually reduced the contractor's use of CVP water in other years, and submit the documentation in writing to Reclamation.

2. For an M&I contractor to be eligible for the "minimum shortage allocation" of 75 percent of adjusted historical use, the contractor's water service contract must reference the M&I water shortage policy. In addition, the water service contractor must (a) have developed and be implementing a water conservation plan that meets CVPIA criteria and (b) be measuring such water consistent with section 3405(b) of the CVPIA. Reclamation intends to incorporate in all new, renewed, and amended water service contracts, a provision that references the CVP M&I water shortage policy.

3. This M&I water shortage policy applies only to that portion of the CVP water identified as projected M&I demand as of September 30, 1994, as shown for year 2030 on Schedule A-12 of the 1996 Municipal and Industrial Water Rates book and for those contract quantities specified in section 206 of Public law 101-514. Subject to these limitations, except as provided for public health and safety levels (Term and Condition 7), irrigation water transferred or converted to M&I use after September 30, 1994, will be subject to shortage allocation as irrigation water. For CVP water transferred or assigned, a CVP contractor may request that the CVP water so obtained be eligible for M&I reliability. Before Reclamation may approve such a request, the transferee or assignee must fully mitigate any adverse impacts to agricultural water supplies. Further, for CVP water converted, an M&I contractor may request a permanent conversion from agricultural shortage criteria to M&I shortage criteria, provided there are no adverse impacts to agricultural or other M&I water supply contracts .

4. Before allocation of M&I water to a contractor will be reduced, allocation of irrigation water will be reduced below 75 percent of contract entitlement, as shown here:

Irrigation Allocation	M&I Allocation
100%	100%
95%	100%
90%	100%
85%	100%
80%	100%

75%	100%
-----	------

5. When allocation of irrigation water has been reduced below 75 percent and still further water supply reductions are necessary, both the M&I and irrigation allocations will be reduced by the same percentage increment. The M&I allocation will be reduced until it reaches 75 percent of adjusted historical use, and the irrigation allocation will be reduced until it reaches 50 percent of contract entitlement. The M&I allocation will not be further reduced until the irrigation allocation is reduced to below 25 percent of contract entitlement, as shown in the following tabulation.

Irrigation Allocation	M&I Allocation
70%	95%
65%	90%
60%	85%
55%	80%
50%-25%	75%

6. When allocation of irrigation water is reduced below 25 percent of contract entitlement, Reclamation will reassess both the availability of CVP water supply and CVP water demand. Due to limited water supplies, during these times M&I water allocation to contractors may be reduced below 75 percent of adjusted historical use.

7. Reclamation will deliver CVP water to an M&I contractor at not less than a *public health and safety* water supply level, provided CVP water is available, if (a) the Governor declares an emergency due to water shortage applicable to that contractor or (b) Reclamation, in consultation with the contractor, determines that an emergency exists due to water shortage. The contractor will calculate the public health and safety level using criteria developed by the State of California and submit the calculated level to Reclamation along with adequate support documentation for review. Reclamation will ensure that the calculated level is consistent with such criteria. If State criteria do not exist, the contractor will apply criteria developed by Reclamation (in consultation with the contractor) that will be consistent with relevant criteria used by similarly situated California M&I water entities. Reclamation will provide a water supply at the public health and safety level to all CVP M&I contractors, including contractors with allocation of irrigation water transferred or converted to M&I use after September 30, 1994. At times of extraordinary circumstance, Reclamation may determine that it is necessary to vary the allocation of M&I water among contractors, taking into consideration a contractor's available non-CVP water.

8. Each M&I contractor will provide to Reclamation its drought contingency plan designed to protect public health and safety. The contractor may provide a copy of its Urban Water Management Plan (UWMP) or water conservation plan (WCP) to Reclamation in lieu of a separate drought contingency plan so long as the UWMP or WCP contains the contractor's drought contingency plan.

Appendix K

Alternative 2: Equal Agricultural and M&I Allocation

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Appendix K

Alternative 2: Equal Agricultural and M&I Allocation

K.1 Introduction

The Central Valley Project (CVP) Municipal and Industrial (M&I) Water Shortage Policy (WSP) is intended to provide detailed, clear, and objective procedures for the distribution of CVP water supplies to CVP water service contractors during a Condition of Shortage, thereby allowing CVP water users to know when, and by how much, water deliveries may be reduced in drought and other low water supply conditions. This increased level of predictability is needed by water managers and the entities that receive CVP water to better plan for and manage available CVP water supplies, and to better integrate the use of CVP water with other available non-CVP water supplies.

Allocation of CVP water supplies for any given water year is based upon forecasted reservoir inflows and Central Valley hydrologic conditions, amounts of storage in CVP reservoirs, regulatory requirements, and management of Section 3406(b)(2) resources and refuge water supplies in accordance with implementation of the Central Valley Project Improvement Act. In some cases, M&I water shortage allocations may differ between CVP divisions due to regional CVP water supply availability, system capacity, or other operations constraints.

K.2 CVP M&I Water Shortage Policy

K.2.1 Definitions

Agricultural Contractor – A water service contractor delivering water supplies for use in agricultural production, as defined in CVP contracts. Some CVP agricultural water service contractors also deliver M&I supplies.

M&I Water Contractor – A water service contractor delivering water supplies to water users or retailers serving residential, non-agricultural commercial, industrial, and municipal water users. Some M&I water service contractors also deliver agricultural supplies.

Condition of Shortage – Periods when Reclamation is unable to deliver the Contract Total pursuant to the terms and conditions of CVP water service, water rights settlement, and/or repayment contracts. Reclamation can determine a Condition of Shortage exists based on various factors, including low water supply conditions

during drought periods or severe hydrological conditions, CVP system operational constraints associated with legal decisions, regulatory requirements, and hydrologic reductions. A Condition of Shortage may also be regional and not CVP-wide. For example, limitations on the CVP ability to convey water across the Sacramento-San Joaquin River Delta (Delta) in accordance with State Water Resources Control Board orders and decisions can result in a Condition of Shortage for CVP water contractors located south of the Delta as compared to CVP water users located north of the Delta.

K.2.2 Allocation Methodology

This CVP M&I WSP provides equal allocations of CVP water to both agriculture and M&I water service contractors. Under this policy, M&I water service contractors would receive the same allocation, as a percentage of Contract Total, as the agricultural water service contractors. This means that in years when the CVP water supplies are not adequate to provide full deliveries of water to all water service contractors, agricultural and M&I water service contractor allocations would be reduced by the same percentage. Allocations of M&I water will be reduced when allocations of irrigation water are reduced below 100 percent of Contract Total.

The capability of the CVP to meet the water supply quantities addressed by this M&I WSP is subject to the availability of CVP water supplies. In any given year, M&I water shortage allocations may differ between CVP divisions due to regional CVP water supply availability, system capacity, or operational constraints. Generally, the supply allocation (percentage) to the various divisions will be the same, unless specific constraints require otherwise.

This M&I WSP has no provisions for additional water supply to M&I water service contractors based on public health and safety needs, historical use, or use of non-CVP supplies.

Appendix L

Alternative 3: Full M&I Allocation Preference

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Appendix L

Alternative 3: Full M&I Allocation Preference

L.1 Introduction

The Central Valley Project (CVP) Municipal and Industrial (M&I) Water Shortage Policy (WSP) is intended to provide detailed, clear, and objective procedures for the distribution of CVP water supplies to CVP water service contractors during a Condition of Shortage, thereby allowing CVP water users to know when, and by how much, water deliveries may be reduced in drought and other low water supply conditions. This increased level of predictability is needed by water managers and the entities that receive CVP water to better plan for and manage available CVP water supplies, and to better integrate the use of CVP water with other available non-CVP water supplies.

Allocation of CVP water supplies for any given water year is based upon forecasted reservoir inflows and Central Valley hydrologic conditions, amounts of storage in CVP reservoirs, regulatory requirements, and management of Section 3406(b)(2) resources and refuge water supplies in accordance with implementation of the Central Valley Project Improvement Act. In some cases, M&I water shortage allocations may differ between CVP divisions due to regional CVP water supply availability, system capacity, or other operations constraints.

L.2 CVP M&I Water Shortage Policy

L.2.1 Definitions

Agricultural Contractor – A water service contractor delivering water supplies for use in agricultural production, as defined in CVP contracts. Some CVP agricultural water contractors also deliver M&I supplies.

M&I Water Contractor – A water service contractor delivering water supplies to water users or retailers serving residential, non-agricultural commercial, industrial, and municipal water users. Some CVP M&I water contractors also deliver agricultural supplies.

Condition of Shortage – Periods when Reclamation is unable to deliver the Contract Total pursuant to the terms and conditions of CVP water service, water rights settlement, and/or repayment contracts. Reclamation can determine a Condition of Shortage exists based on various factors, including low water supply conditions

during drought periods or severe hydrological conditions, CVP system operational constraints associated with legal decisions, regulatory requirements, and hydrologic reductions. The Condition of Shortage may also be regional and not CVP-wide. For example, limitations on the CVP ability to convey water across the Sacramento-San Joaquin River Delta (Delta) in accordance with State Water Resources Control Board orders and decisions can result in a Condition of Shortage for CVP water contractors located south of the Delta as compared to CVP water users located north of the Delta.

L.2.2 Allocation Methodology

This CVP M&I WSP provides full allocations to M&I water service contractors under most water supply conditions. Under this policy, M&I water service contractors would receive a 100 percent of their Contract Total during a Condition of Shortage, to the extent that adequate CVP water supplies are available.

In years when the CVP water supplies are not adequate to provide the Contract Total to all water service contractors, M&I water service contractor allocations would be maintained at 100 percent of their Contract Total as agricultural water service contractor allocations would be reduced as needed to provide for the full allocation to the M&I water service contractors. In years when the agricultural water service contractor allocations have been reduced to zero and CVP water supplies are not adequate to provide a 100 percent allocation to the M&I water service contractors, then the allocation to the M&I water service contractors would be reduced and would be equal to the available CVP water supply. Under these low water supply conditions, the M&I water service contractor allocation could theoretically also be reduced to zero.

The capability of the CVP to meet the water supply quantities addressed by this M&I WSP is subject to the availability of CVP water supplies. In any given year, M&I water shortage allocations may differ between CVP divisions due to regional CVP water supply availability, system capacity, or operational constraints. Generally, the supply allocation (percentage) to the various divisions will be the same, unless specific constraints require otherwise.

This M&I WSP has no provisions for additional water supply to M&I water service contractors based on public health and safety needs, historical use, or use of non-CVP supplies.

Appendix M

Alternative 4: Updated M&I WSP

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RECLAMATION

Managing Water in the West

Central Valley Project Municipal and Industrial Water Shortage Policy

October 21, 2010

Subsequently revised in December 2011 and August 2015 in response to comments



U.S. Department of the Interior
Bureau of Reclamation
Mid-Pacific Region

August 2015

Mission Statements

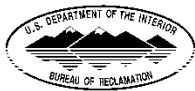
The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Central Valley Project Municipal and Industrial Water Shortage Policy

October 21, 2010

**Subsequently revised in December 2011 and August 2015 in response
to comments**



**U.S. Department of the Interior
Bureau of Reclamation
Mid-Pacific Region**

August 2015

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Abbreviations and Acronyms

AF	acre-foot
AHU	Adjusted Historical Use
BMPs	Best Management Practices
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
EA	Environmental Assessment
gpcd	gallons per capita demand
gpd	gallons per day
M&I	municipal and industrial
PHS	public health & safety
Reclamation	Bureau of Reclamation
UWMP	urban water management plan
WMP	water management plan
WSP	Water Shortage Policy

Chapter 1

Introduction

The Central Valley Project (CVP) Municipal and Industrial (M&I) Water Shortage Policy (WSP) and implementation guidelines are intended to provide detailed, clear, and objective guidelines for the distribution of CVP water supplies during a Condition of Shortage, thereby allowing CVP water service contractors to know when, and by how much, water deliveries may be reduced in drought and other low water supply conditions. This increased level of clarity and understanding is needed by water managers and the entities that receive CVP water to better plan for and manage available CVP water supplies, and to better integrate the use of CVP water with other available non-CVP water supplies.

Allocation of CVP water supplies for any given water year is based upon forecasted reservoir inflows and Central Valley hydrologic conditions, amounts of storage in CVP reservoirs, regulatory requirements, and management of Section 3406(b)(2) resources and refuge water supplies in accordance with implementation of the Central Valley Project Improvement Act (CVPIA). In some cases, M&I water shortage allocations may differ between CVP divisions due to regional CVP water supply availability, system capacity, or other operational constraints.

The M&I WSP does not apply to: 1) CVP water service or repayment contractors with contracts that do not reference the M&I WSP; 2) settlement, exchange, or other types of contracts or agreements in satisfaction of senior water rights; or 3) CVPIA refuge contracts.

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Chapter 2

CVP M&I Water Shortage Policy

The proposed CVP M&I WSP is presented below. It is similar to the Draft 2001 policy with some modifications made to reflect Alternative 1B in the 2005 Environmental Assessment (EA) and Finding of No Significant Impact and comments received from water service contractors and other stakeholders. These modifications include:

- Deleted reference to the 1996 M&I Water Rates book;
- Replaced the two tables in Terms and Conditions 4 and 5 of the draft 2001 policy with Table 3-5 (Alternative 1B) from the 2005 EA;
- Removed the provision for “75 percent of M&I reliability” since the 2005 EA’s Table 3-5 alters this provision;
- Expanded definitions to provide greater clarification of key terms;
- Amended the methodology used to make adjustments to contractors’ historical use;
- Removed assumption that the use of CVP water was viewed as supplemental to non-CVP supplies;
- Added recycled water as non-CVP supply, subject to Reclamation approval; and
- Clarified M&I allocation for contracts with both irrigation and M&I use which do not set forth individual Contract Totals for each use.

Chapter 3 contains associated guidelines to provide additional clarification on the implementation process.

2.1 Central Valley Project M&I Water Shortage Policy

The CVP is operated under Federal statutes authorizing the CVP and the terms and conditions of water rights acquired pursuant to California law. During any year, there may be constraints on the availability of CVP water for an M&I contractor. The purposes of the M&I WSP are to:

- Define water shortage terms and conditions for applicable CVP water service contractors, as appropriate.

- Determine the quantity of water made available to CVP water service contractors from the CVP that, together with the M&I water service contractors' drought water conservation measures and other non-CVP water supplies, would assist the M&I water service contractors in their efforts to protect public health and safety (PHS) during severe or continuing droughts.
- Provide information to water service contractors for their use in water supply planning and development of drought contingency plans.

Currently, many M&I contractors are not using their full M&I Contract Total. If the M&I water shortage allocation were applied to full Contract Totals, the resulting allocation for some contractors would exceed their current demand. Therefore, in water short years, allocation for M&I are based on historical use. M&I water demands within the CVP are continually increasing. The Bureau of Reclamation (Reclamation) recognizes that as water conservation measures are implemented there is a hardening of demand that lessens an M&I contractor's ability to reduce demand during shortages.

The capability of the CVP to meet the water supply allocations addressed by this M&I WSP is subject to the availability of CVP water supplies. In any given year, M&I water shortage allocations may differ between CVP divisions due to regional CVP water supply availability, system capacity, or operational constraints. Generally, the supply allocation (percentage) to the various divisions will be the same, unless specific constraints require otherwise.

Reclamation explored the concept of two tiers of M&I water supply reliability as proposed by contractors in the CVPIA Administrative Proposal on Urban Water Supply Reliability. Although Reclamation determined not to adopt two tiers, it will facilitate the sale of CVP water from willing sellers to M&I contractors when necessary.

2.1.1 Definitions

Adjusted For Growth - An adjustment to the contractor's historical use quantity to account for increased demand within the contractor's service area to include (but not be limited to) increases due to population growth and to the number or demand of industrial, commercial, and other entities the contractor serves, based upon the submittal of required supporting documentation to Reclamation.

Adjusted For Extraordinary Water Conservation Measures - An adjustment to the contractor's historical use quantity to account for conservation measures that exceed applicable best management practices (BMPs) adopted by the California Urban Water Conservation Council (CUWCC). A water

conservation measure considered extraordinary in one Year¹ may be a mandatory BMP in a subsequent Year and thus would no longer be considered extraordinary.

Adjusted For Non-CVP Water - An adjustment to the contractor's historical use quantity to account for water sources other than the CVP supplies used to satisfy M&I demand within the contractor's service area, subject to written documentation from the contractor that shows the extent to which use of the non-CVP water actually reduced the contractor's use of CVP water in the last three unconstrained years. A contractor must show that the non-CVP water used in last three unconstrained years reduced the use of CVP water in these years. Non-CVP supplies may include surface water, groundwater, local storage, recycled water (subject to Reclamation approval), and other Reclamation-approved non-CVP supplies. Attachment A provides information on the documentation required by an M&I water service contractor when requesting an adjustment to historical use based on the use of non-CVP supplies in lieu of CVP water supplies.

Agricultural Contractor - A water service contractor delivering water supplies for use in agricultural production, as defined in CVP contracts. Some CVP agricultural water service contractors also deliver M&I supplies.

Condition of Shortage - Periods when Reclamation is unable to deliver the Contract Total pursuant to the terms and conditions of CVP water service, water rights settlement, and/or repayment contracts. Reclamation can determine a Condition of Shortage exists based on various factors, including low water supply conditions during drought periods or severe hydrological conditions, CVP system operational constraints associated with legal decisions, regulatory requirements, and hydrologic reductions. A Condition of Shortage may also be regional and not CVP-wide. For example, limitations on the CVP ability to convey water across the Delta in accordance with State Water Resources Control Board (SWRCB) orders and decisions can result in a Condition of Shortage for CVP water contractors located south of the Delta as compared to CVP water users located north of the Delta.

Contract Total – the maximum amount of water to which the Contractor is entitled pursuant to the terms of the Contractor's water service or repayment contract.

Drought Contingency Plan - A plan provided to Reclamation by each contractor designed to protect public health and safety. The contractor may provide a copy of its urban water management plan (UWMP) or water management plan (WMP) to Reclamation in lieu of a separate drought contingency plan so long as the UWMP or WMP contains the contractor's drought contingency plan.

¹ Water service contractor Year is defined as March 1 of each calendar year through the last day of February of the following calendar year.

Extraordinary Water Conservation Measures - Conservation measures that exceed applicable BMPs, or approved alternative, adopted by the CUWCC. A water conservation measure considered extraordinary in a given year may be a mandatory BMP in a subsequent year and thus would no longer be considered extraordinary.

Historical Use - The average quantity of CVP water put to beneficial use within the service area during the last three years of water deliveries that were unconstrained by the availability of CVP water. At the contractor's request, Reclamation will review documentation for adjustment of the historical use for population growth, extraordinary water conservation measures, or use of non-CVP water supplies. Also, Reclamation may agree to adjust the historical use on the basis of unique circumstances, after consultation with the contractor.

Irrigation Water Contactor - See "Agricultural Contractor"

M&I Water Contractor - A water service contractor delivering water supplies to water users or retailers serving residential, non-agricultural commercial, industrial, and municipal water users. Some CVP M&I water service contractors also deliver agricultural supplies.

Non-CVP Water - Water from sources other than the CVP used to satisfy M&I demand within the contractor's service area, subject to written documentation from the contractor that shows the extent to which use of the non-CVP water actually reduced the contractor's use of CVP water in the unconstrained years. Example sources may include, but are not limited to, local surface water supplies; water rights water; groundwater; transfer water; and, recycled water, subject to Reclamation approval.

PHS Needs - The amount of water determined to be necessary to sustain public health and safety, calculated with the formula in Section 3.3, which may be revised in the future to remain consistent with the State of California's approach. During a Condition of Shortage, Reclamation will strive to make CVP water available for delivery to M&I water service contractors at not less than their unmet PHS need, in conjunction with their use of CVP allocations and other available non-CVP supplies, subject to the availability of CVP water supplies, if: a) the Governor declares an emergency due to water shortage applicable to that contractor; or b) Reclamation, in consultation with the contractor, determines that an emergency exists due to water shortage. At that time, the PHS need would be determined by the contractor and reviewed and approved by Reclamation prior to an adjustment to a contractor's allocation in order to assist in meeting unmet PHS need.

Shortage Allocation - Refers to the allocation of CVP water during a Condition of Shortage, pursuant to the water allocation amounts prescribed in the CVP M&I WSP. The allocation of water is based on the availability of CVP supplies and Reclamation's ability to convey water.

Unconstrained Year – A year in which the M&I water supply allocation is 100 percent of Contract Total by the final allocation announcement.

Urban Water Management Plan - The 1985 California Urban Water Management Planning Act required M&I users with more than 3,000 connections or use of more than 3,000 acre-feet (AF) per year to prepare a UWMP. The UWMP must include existing and projected water supplies and demands, water supply allocations, comparison of supplies and demands, water demand management program (conservation), wastewater recycling, and water shortage contingency plans.

Water Management Plan - As described in CVPIA, WMPs completed under the 1982 Reclamation Reform Act include the implementation of all cost-effective BMPs that are economical and appropriate, including measurement devices, pricing structures, demand management, public information, and financial incentives.

2.1.2 Terms and Conditions

1. During a Condition of Shortage, allocation of M&I water will be based on a contractor's historical use of CVP M&I water. At the contractor's request, Reclamation will consult with the contractor to adjust the contractor's historical use on the basis of: a) *growth*; b) *extraordinary water conservation measures*; and c) *use of non-CVP water*, subject to Term and Condition 3. Reclamation will adjust the historical use to reflect the effect of non-CVP water used in lieu of use of the contractor's CVP water. Crediting for this non-CVP water will be based on 1 AF for 1 AF, unless Reclamation and the contractor agree otherwise after considering unique circumstances. The contractor must fully document use of non-CVP water to clearly demonstrate how much of that water use actually reduced the contractor's use of CVP water in unconstrained years, and submit the documentation in writing to Reclamation when requesting an adjustment (see Attachment A).
2. For an M&I contractor to be eligible for adjustment to its CVP water supply, the contractor's water service contract must reference the M&I WSP. In addition, the CVP contractor must: a) have developed and be implementing a water conservation plan that meets the current CVPIA criteria; b) be measuring such water consistent with section 3405(b) of the CVPIA; c) have and be implementing a drought contingency plan designed to protect public health and safety; and d) demonstrate a 'need' for additional water. Reclamation intends to incorporate a provision in all new, renewed, and amended CVP contracts that references the CVP M&I WSP.
4. Before allocation of M&I water to a contractor will be reduced, allocation of irrigation water will be reduced below 75 percent of Contract Total, as shown in Table 1.

Table 1: Allocation of Irrigation and M&I Water Supply Under a Condition of Shortage

Irrigation Allocation (% of contract entitlement)	M&I Allocation ⁽¹⁾
< 100%	100% (Contract Total)
95%	100%
90%	100%
85%	100%
80%	100%
75%	100%
	M&I Allocation (% of historical use)
70%	95%
65%	90%
60%	85%
55%	80%
50%-25%	75% ⁽²⁾
20%	70% ⁽²⁾
15%	65% ⁽²⁾
10%	60% ⁽²⁾
5%	55% ⁽²⁾
0%	50% ^(2, 3)

(1) For any contract for both irrigation and M&I uses which does not set forth individual Contract Totals for each use, the M&I allocation will be determined by historical use.

(2) Subject to PHS considerations described in Implementation Guidelines.

(3) Nothing in this policy prevents M&I allocation from being reduced below 50% if CVP water availability is insufficient to meet the 50% allocation

5. When allocation of irrigation water has been reduced below 75 percent and still further water supply reductions are necessary, both the M&I and irrigation allocations will be reduced by the same percentage increment. The M&I allocation will be reduced until it reaches 75 percent of historical use, and the irrigation allocation will be reduced until it reaches 50 percent of irrigation Contract Total. The M&I allocation will not be further reduced until the irrigation allocation is reduced to below 25 percent of Contract Total, as shown in Table 1.
6. When allocation of irrigation water is reduced below 25 percent of Contract Total, Reclamation will reassess both the availability of CVP water supply and CVP water demand.
7. Reclamation will strive to deliver CVP water to M&I water service contractors at not less than the amount needed to meet PHS need, taking into consideration contractors' CVP allocations and available non-CVP supplies, provided CVP water is available, if (a) the Governor declares an emergency due to water shortage applicable to that contractor or (b) Reclamation, in consultation with the contractor, determines that an emergency exists due to

water shortage. The contractor will calculate the PHS need using the criteria in Section 3.3 or the most current, which will remain consistent with the State of California's approach, and submit the calculated need to Reclamation along with adequate support documentation for review. Reclamation will ensure that the calculated need is consistent with such criteria. Reclamation may determine that it is necessary to vary the allocation of M&I water by contractor, taking into consideration a contractor's available non-CVP water supply.

8. Each M&I contractor will provide Reclamation its drought contingency plan designed to protect public health and safety. The contractor may provide a copy of its UWMP to Reclamation in lieu of a separate drought contingency plan so long as the UWMP contains the contractor's drought contingency plan.

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Chapter 3

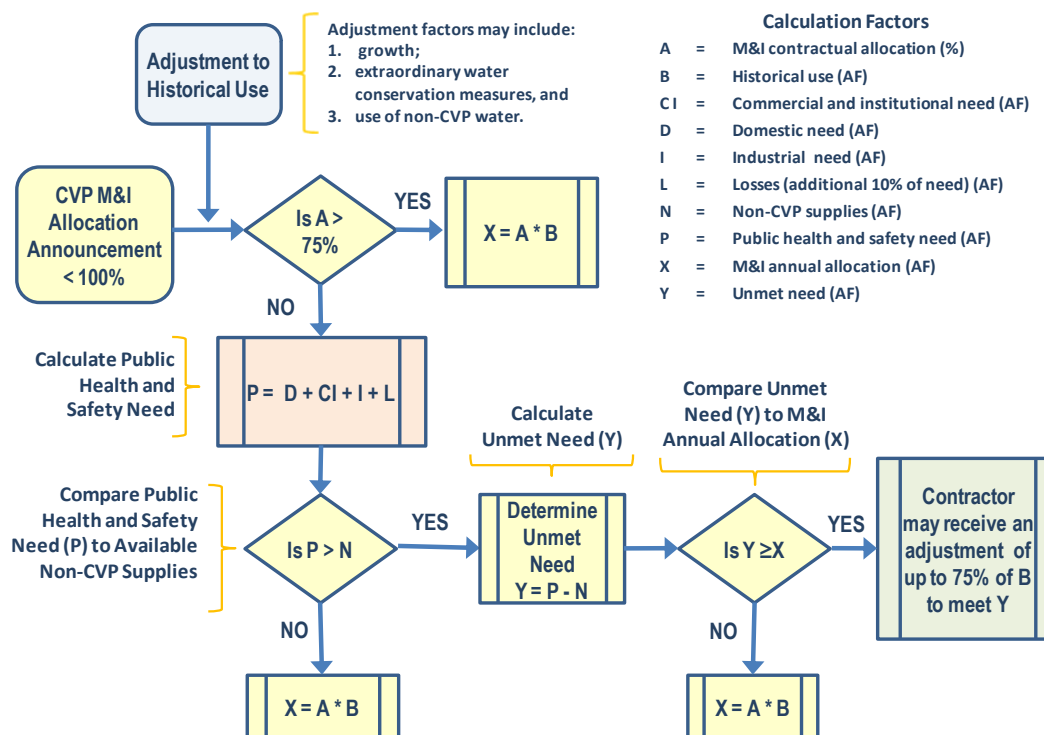
Implementation Guidelines

This section outlines implementation steps for the M&I WSP and describes other factors considered and/or excluded from the M&I WSP.

3.1 Implementation Procedures - General

1. Irrigation contractor allocations are based upon Contract Total.
2. When M&I contractor allocations are at 100 percent, the allocation of M&I water will be based on Contract Total.
3. When M&I contractor allocations are below 100 percent, the allocation of M&I water will be based on a contractor's historical use of CVP M&I water.
4. An M&I contractor's historical use will be determined by calculating the average quantity of CVP water put to beneficial use within the service area during the last three years of water deliveries that were unconstrained by the availability of CVP water.
5. The general sequence of steps that Reclamation will use to determine CVP supplies for M&I contractors during a Condition of Shortage is shown in Figure 1.

Figure 1. Steps to be Used to Determine Shortage Allocation for M&I Water Contractors



3.2 Implementation Procedures - Historical Use Adjustments

1. At the contractor's request, Reclamation will consult with the contractor to adjust the contractor's historical use on the basis of:
 - a. growth;
 - b. extraordinary water conservation measures, and
 - c. use of non-CVP water.

Each of the three most recent unconstrained years will be assessed for adjustment. Adjustment will be made accordingly and prior to calculating the contractor's historical average.

2. Adjustment for Population Growth: If requested by an M&I contractor, an adjustment for population growth may be applied to an M&I contractor's historical use. In such a case, the historical use in each of the last three unconstrained years will be adjusted to reflect the population growth (i.e., difference in respective population between each unconstrained year to

current population). The sum of all adjustments will be calculated prior to averaging.

The following equation shall be used to adjust the historical water demand in each of the three unconstrained years for population growth:

Equation 1: Adjusted Historical Use (AHU_{yearX}) = $HU_{yearX} \times (P_{current} / P_{yearX})$

Where:

- AHU_{yearX} is the historical use in applicable year X (one of the three unconstrained years) adjusted for population growth
- HU_{yearX} is the actual historical use in applicable year X (one of the three unconstrained years)
- $P_{current}$ is the current population
- P_{yearX} is the population in historical use in applicable year under consideration

An M&I contractor may develop and submit to Reclamation, for verification and approval, its own calculation of its historical use and its estimate of the adjustment for population growth.

Reclamation and the contractor may confer and enter into negotiations regarding the calculated historical use and adjustment for population growth, if needed. However, the historical use and any adjustment for population growth will be subject to Reclamation approval and shall not exceed the Contract Total.

3. Adjustment for Extraordinary Water Conservation Measures: If requested by an M&I contractor, an adjustment for water conserved via extraordinary water conservation measures implemented and documented by a contractor may be applied to an M&I contractor's historical use. To be eligible for such an adjustment, the water service contractor must;
 - a. have developed and be implementing a water conservation plan that meets CVPIA criteria, and
 - b. be measuring such water consistent with section 3405(b) of the CVPIA.

This adjustment to the contractor's historical use quantity to account for conservation measures that exceed applicable best management practices adopted by the CUWCC must be quantifiable.

4. The following criteria shall be used to quantify and calculate an adjustment for water conserved via extraordinary water conservation measures:
 - a. A contractor requesting such an adjustment will be required to provide sufficient documentation to account for the water conserved via extraordinary water conservation measures.
 - b. The quantitative data provided by the contractor shall detail the actual quantities of water conserved by exceeding the schedule for implementation of BMPs developed by the CUWCC and/or the CVPIA Criteria for Evaluating Water Management Plans."
 - c. As water demand and water supply conditions vary from one year to the next, a contractor's extraordinary water conservation will be required to be documented and calculated for each of the three unconstrained years to be considered in the historical use calculation. The calculated amount of extraordinary water conservation in any one year will only be considered in the adjustment for the respective year.
 - d. The calculated annual adjustment for a contractor's extraordinary water conservation will be applied to the respective unconstrained year by adding the calculated adjustment amount (in AF) to the Adjusted Historical Use (AHU_{yearX}) following its adjustment for population growth, if applicable. Each of the three unconstrained years eligible for an adjustment for extraordinary water conservation will be adjusted individually prior to calculation of the average of the adjusted historical use. Adjusted historical use would not exceed Contract Total.
5. Adjustment for "Non-CVP Water" Supplies: If requested by an M&I contractor, an adjustment for use of non-CVP water may be applied to an M&I contractor's historical use. Reclamation will adjust the historical use calculation to reflect the effect of non-CVP water used in lieu of use of the contractor's CVP water. In order to receive an adjustment based on non-CVP water, the contractor must fully document use of non-CVP water to clearly show how much that water use actually reduced the contractor's use of CVP water in the unconstrained years, and submit the documentation in writing to Reclamation (see Attachment A). A list of non-CVP water supplies that may be considered in this adjustment is provided below.

An M&I water contractor's available non-CVP supply will differ from contractor to contractor and will therefore have to be determined on an individual basis. Reclamation will use information provided by the

contractor, other available information, and the following equation to calculate an M&I water contractor's total available non-CVP supply:

Equation 2:
$$N_{(AF)} = N_1 + N_2 + N_3 \dots N_n$$

Where types of non-CVP supplies (N_x) may Include:

- *Surface water(non-CVP supplies)*
- *Groundwater*
- *Local storage*
- *Recycled water, subject to Reclamation approval*
- *Other Reclamation Approved Non-CVP Supplies*

Note: Units (N) are in AF of available annual water supply yield.

The calculated annual adjustment for a contractor's use of non-CVP water in lieu of use of the contractor's CVP water will be applied to the respective unconstrained year by adding the calculated adjustment amount (in AF) to the Adjusted Historical Use (AHU_{yearX}) following its adjustment for population growth, extraordinary water conservation measures, if applicable, with a maximum of the contract total amount. Each of the three unconstrained years eligible for an adjustment for use of non-CVP water in lieu of use of the contractor's CVP water will be adjusted individually prior to calculation of the average of the adjusted historical use.

Reclamation may also adjust the historical use on the basis of unique circumstances after consultation with the contractor. An example of a unique circumstance is the Year following a Year in which water users implemented extraordinary water conservation measures, or the converse, in which a contractor may use more water than historically used in order to recharge groundwater.

6. The following equation shall be used to average the adjusted historical use in each of the three unconstrained years after the above adjustments are made:

Equation 3:
$$HU_{average} = (AHU_{yearX} + AHU_{yearY} + AHU_{yearZ}) \div 3$$

Where:

- *$HU_{average}$ is the average of the three adjusted historical use amounts corresponding to the three unconstrained years)*
- *AHU_{yearX} , AHU_{yearY} and AHU_{yearZ} are adjusted historical use in applicable year X (one of the three unconstrained years), after adjustments for population growth, extraordinary water conservation, and use of non-CVP supplies.*

7. Before allocation of M&I water to a contractor will be reduced, allocation of Irrigation water will be reduced below 75 percent of Irrigation Contract Total. When the allocation of Irrigation water is less than 100 percent but greater than or equal to 75 percent, the allocation of M&I water will be based on 100% Contract Total, as shown in Table 2.

Table 2: Allocation of M&I Water When Allocations of Irrigation Water are Above 75 Percent

Irrigation Allocation (% of Contract Total)	M&I Allocation (% of Contract Total)
< 100%	100%
95%	100%
90%	100%
85%	100%
80%	100%
75%	100%

8. When allocation of Irrigation water has been reduced below 75 percent and still further water supply reductions are necessary, both the M&I and Irrigation allocations will be reduced by the same percentage (e.g., 5%) increment. The allocation of M&I water will be based on historical use. The M&I allocation will be reduced until it reaches 75 percent of adjusted historical use, and the Irrigation allocation will be reduced until it reaches 50 percent of Contract Total. The M&I allocation will not be further reduced until the Irrigation allocation is reduced to below 25 percent of Contract Total, as shown in Table 3.

Table 3: Allocation of M&I Water When Allocations of Irrigation Water are Less Than 75 Percent and Greater 25 Percent

Irrigation Allocation (% of Contract Total)	M&I Allocation (% of historical use)
70%	95%
65%	90%
60%	85%
55%	80%
50%-25%	75%

9. When M&I water allocations are less than 100 percent, the M&I allocation amount will be calculated using the following equation:

Equation 4: M&I annual allocation (X AF) = Average of ($HU_{yearX} + HU_{yearY} + HU_{yearZ}$) $\times Z$

Where:

- HU_{yearX} is the actual historical use in applicable year X (one of the three unconstrained years)
- Z is the corresponding M&I Allocation percent from Table 3 or Table 4.

Note: Units (X) are in AF, annual M&I shortage allocation of CVP water.

M&I contractors could then request an adjustment to their historical use, if thought necessary.

- When allocation of Irrigation water is reduced below 25 percent of Irrigation Contract Total, Reclamation will reassess both the availability of CVP water supply and CVP water demand. Due to limited water supplies, during these times M&I water allocation to contractors may be reduced below 75 percent of adjusted historical use.
- Once an adjustment to a Contractor's historical use is approved by Reclamation, it may increase their allocation quantity for the current water short year.

3.3 Implementation Procedures - Public Health & Safety

- When M&I allocations are reduced below 75 percent, the M&I allocation will be equal to the greater of the percentage of historical use or PHS need (to a maximum of 75% of historical use), as shown in Table 4.

Table 4: Allocation of M&I Water When Allocations of Irrigation Water are Below 50 Percent

Irrigation Allocation (% of Contract Total)	M&I Allocation (% of historical use)
Between 25% and 50%	75%
20%	Maximum of 70% of historical use or PHS consideration
15%	Maximum of 65% of historical use or PHS consideration
10%	Maximum of 60% of historical use or PHS consideration
5%	Maximum of 55% of historical use or PHS consideration
0%	Maximum of 50% of historical use or PHS consideration

Note: If CVP water is not available, M&I contractors may be reduced below 50%.

- Reclamation will strive to make CVP water available to an M&I contractor at not less than the amount necessary for PHS need, in conjunction with the use of CVP allocations and other non-CVP supplies, provided CVP water is available, and if:

- a. an M&I water contractor submits a request to Reclamation for PHS water supply delivery;
 - b. the Governor declares an emergency due to water shortage applicable to that contractor; and/or
 - c. Reclamation, in consultation with the contractor, determines that an emergency exists due to a Condition of Shortage.
3. The PHS will be calculated to reflect the contractor's domestic, commercial, institutional, and industrial demands and system losses, as follows²:

Equation 5: *Public Health and Safety Allocation Amount (PHS) = D + CI + I + L*

Where:

$$\begin{aligned} \text{Domestic use (D)} &= \text{Current Population} \times 55 \text{ gpd}^3 \\ \text{Commercial and Institutional (CI)} &= 80\% \text{ of Projected Commercial Demand} \\ \text{Industrial (I)} &= 90\% \text{ of Projected Industrial Demand} \\ \text{System (Conveyance) Losses (L)} &= 10\% \text{ of } D + CI + I \end{aligned}$$

4. M&I water contractors will have the option of calculating the PHS need for review and approval by Reclamation or request that Reclamation calculate the PHS on behalf of the M&I water contractor.
5. If an M&I water contractor calculates its own PHS need, Reclamation will review and verify calculations submitted by the contractor. The contractor will calculate its PHS need using criteria noted in Item 18 and will submit the calculated need to Reclamation along with adequate support documentation for review.
6. If Reclamation calculates the PHS need, Reclamation may use information received from the water contractor as well as information from other sources.
7. Reclamation and the contractor may confer and enter into negotiations regarding the calculated PHS need, if needed; however, the final PHS

² If the State's criteria changes in any given year, then Reclamation would modify this equation to remain consistent with the State's approach.

³ The per capita water demand rate used to calculate the PHS need shall be consistent with State law. The 55 gallons per capita demand (gpcd) value reflects the requirements defined in California State Senate Bill SBx 7-7. Reclamation may adjust this value over time to reflect future changes in State law. If State criteria does not exist, the contractor will apply criteria developed by Reclamation (in consultation with the contractor) that will be consistent with relevant criteria used by similarly situated California M&I water entities.

need to be used to determine the M&I water contractor's allocation will be subject to Reclamation approval.

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Attachment A

Documentation Required for Verifying Non-CVP Water Use in Lieu of CVP Water

1. Data Required for Unconstrained Years

- a. Contractor provides:
 - i. Non-CVP water supply documentation - See No. 2 below, Non-CVP Water Checklists
 - ii. Department of Water Resources (DWR), State Water Supply delivery data (Form 3017)
 - iii. CVP water delivery data
- b. Reclamation provides:
 - i. Area Office's CVP water delivery data
 - ii. Area Office's annual declaration letters announcing water allocation
 - iii. Area Office's annual rate exhibits annotated with historic average quantity
 - iv. Region's water needs assessment
 - v. Region's water conservation plan
 - vi. Central Valley Operations' water declarations for specific CVP division (identify three unconstrained years based on division)

2. Non-CVP Water Checklists (Attached):

- a. For surface water: refer to “Checklist for Surface Water Supply as a Source of Non-CVP Water in Unconstrained Years”
- b. For ground water: refer to “Checklist for Groundwater as a Source of Non-CVP Water in Unconstrained Years)
- c. For water released from a Non-CVP reservoir: refer to “Checklist for Use of Non-CVP Water from a Non-CVP Reservoir in Unconstrained Years”

3. Other Non-CVP Water Supplies:

- a. Recycled Water – Reclamation will review documentation on a case by case basis.

Checklist for Surface Water Supply as a Source of Non-CVP Water in Unconstrained Years

1. **Point-of-Contact.** Provide the name, address, and telephone number of the holder of the water right for the non-CVP surface water to be utilized in lieu of CVP water.
2. **Non-CVP Water Source.** Provide the name and location of the source(s) from which the non-CVP water to be utilized in lieu of CVP water can be diverted and indicate whether such surface water, in accordance with the non-CVP water right, is to be directly diverted or diverted to and re-diverted from storage.
3. **Status of Non-CVP Water's Water Right.** Has the right to divert the Non-CVP surface water been abandoned or forfeited? If so, explain.
4. **Post-1914 Surface Water Rights.** Provide:
 - a. The application number, permit number and/or license number, if applicable, assigned the non-CVP surface water right, by the SWRCB or its predecessor;
 - b. The number(s) and date(s) of all SWRCB decisions and orders that relate to the application, permit and/or license to appropriate the non-CVP surface water to be utilized in lieu of CVP water.
5. **Pre-1914 Surface Water Right.** Provide:
 - a. Copies of all Statements of Diversion and Use of the non-CVP water to be utilized in lieu of CVP water that have been filed with the SWRCB for the last three unconstrained years;
 - b. The date of priority of the non-CVP surface water right;
 - c. Copies of California Environmental Quality Act compliance documents addressing any change in point of diversion, purpose of use, or place of use considered necessary for purposes of effectuating the use in lieu of CVP use.
6. **Description(s) of Non-CVP Surface Water Source(s).** Provide:
 - a. a description of the authorized purpose(s) of use and place(s) of use;
 - b. the authorized season of diversion of the water; and
 - c. the maximum quantity and/or diversion rate authorized for beneficial use.
7. **Identify Court Decree(s) or Adjudication(s).** If any, provide copies.
8. **Identify Water Master?** If there is a water master, (a) describe the bases and scope of the water master's authority to regulate diversions of the non-CVP surface water utilized in lieu of CVP water and provide copies of all relevant reports, directives, etc., issued by the water master; and (b) include written concurrence from the water master that use of the non-CVP water was authorized by the water master and, in the water master's opinion, would not cause injury to another user.
9. **Identify Applicable County Ordinances.** If any, explain and provide copies of such regulating use of non-CVP surface water in lieu of CVP water pursuant to the non-CVP water right.

10. **Submit Applicable Water Right Record(s).** Provide records indicating quantity, type, and season of water use under the water right for each of the last 3 unconstrained years. If monthly historical diversion and use records are available for this surface water right, provide such records. If the information is already available to this level of detail for any particular year as part of (a) a Statement of Diversion and Use filed with the SWRCB that contains the information required for such filing as provided in Part 5.1 of the California Water Code, section 5100, et seq., or (b) information previously reported or included elsewhere in lieu of such filing to the SWRCB as allowed pursuant to Part 5.1, then provide copies of such documentation.

Checklist for Groundwater as a Source of Non-CVP Water in Unconstrained Years

1. **Identify Well Location, Capacity, and Certification.** Provide:
 - a. Well owner's name and identification number, District, and District's well identification number
 - b. Well's latitude and longitude (DWR standard coordinate system and datum (GCS, NAD 83, decimal degrees)), map (similar detail to 7.5 minute United States Geological Survey quad sheet) with well location and all surface water features within two miles of District boundary
 - c. Well capacity
 - d. Photographic evidence of the calibrated instantaneous reading and totalizing flow meters installed on each well supplying non-CVP water
 - e. Certification by a Professional Engineer or Professional Geologist of proper flow meter installation and calibration performed consistent with the manufacturer's specifications
2. **Volume of Water Pumped.** Provide operational records indicating the volume of groundwater pumped from each well for each of the last three unconstrained years.

Checklist for Use of Non-CVP Water from a Non-CVP Reservoir in Unconstrained Years

1. **Storage Right.** Identify the storage right covering the Non-CVP water, and provide California Environmental Quality Act environmental compliance documents or the SWRCB approval process, as appropriate
2. **Reservoir Operations.** For the last three unconstrained years, provide reservoir operating data including:
 - a. Daily reservoir storage
 - b. End of month storage
 - c. Daily inflow and reservoir releases
 - d. Any regulatory or operational obligations affecting reservoir operations.
 - e. Location, type, and ownership of water measurement device downstream of the reservoir, as applicable.

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Appendix N

Alternative 5: M&I Contractor Suggested WSP

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M&I Contractor Transcription of Reclamation's October 18, 2010 Draft

Central Valley Project Municipal and Industrial Water Shortage Policy – Working Draft

October 18, 2010

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M&I Contractor Transcription of Reclamation’s October 18, 2010 Draft

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Figures

Figure 1. Steps to be Used to Determine Shortage Allocation for M&I Water Contractors

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Abbreviations and Acronyms

AF	acre-foot
AHU	Adjusted Historical Use
BMPs	Best Management Practices
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
EA	Environmental Assessment
FONSI	Finding of No Significant Impact
Gpcd	gallons per capita demand
Gpd	gallons per day
M&I	municipal and industrial
PH&S	public health & safety level
UWMP	urban water management plan
SWRCB	State Water Resources Control Board
WMP	water management plan
WSP	Water Shortage Policy

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Chapter 1 Introduction

The Municipal and Industrial (M&I) Water Shortage Policy (WSP) and implementation guidelines are intended to provide detailed, clear, and objective guidelines for the distribution of Central Valley Project (CVP) water supplies during water shortage conditions, thereby allowing CVP water users to know when, and by how much, water deliveries may be reduced in drought and other low water supply conditions. This increased level of predictability is needed by water managers and the entities that receive CVP water to better plan for and manage available CVP water supplies, and to better integrate the use of CVP water with other available Non-CVP water supplies.

Allocation of CVP water supplies for any given water year is based upon forecasted reservoir inflows and Central Valley hydrologic conditions, amounts of storage in CVP reservoirs, regulatory requirements, and management of Section 3406(b)(2) resources and refuge water supplies in accordance with implementation of the Central Valley Project Improvement Act (CVPIA). In some cases, M&I water shortage allocations may differ between CVP divisions due to regional CVP water supply availability, system capacity, or other operational constraints. Reclamation will exercise its operational discretion to deliver at least necessary water supplies for public health and safety.

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Chapter 2

CVP M&I Water Shortage Policy

The proposed CVP M&I WSP is presented below. It is consistent with the draft 2001 policy with some modifications made to reflect the proposed action alternative (Alternative 1B) in the 2005 Environmental Assessment (EA) and Finding of No Significant Impact (FONSI). These modifications include:

- Replaced the reference to the 1996 M&I Water Rates book with the Water Needs Assessment prepared for Long-Term CVP Water Service Contract renewals.
- Replaced the two tables in Terms and Conditions 4 and 5 of the draft 2001 policy with Table 1-3 (Alternative 1B) from the 2005 EA.
- Removed the provision for “75 percent of M&I reliability” since the 2005 EA’s Table 3-5 alters this provision.
- The “Definitions” have been expanded to provide greater clarification of key terms.

In addition to the above, adjustments to a contractor’s historic use will be made to each of the three years of unconstrained CVP water supplies prior to averaging.

Following the M&I WSP, which is in Chapter 3, are associated guidelines to provide additional clarification on the implementation process.

2.1 Central Valley Project M&I Water Shortage Policy

The CVP is operated under Federal statutes authorizing the CVP and by the terms and conditions of water rights acquired pursuant to California law. During any year, there may occur constraints on the availability of CVP water for an M&I contractor under its contract. Reclamation has developed this M&I WSP for allocation of M&I water to CVP M&I Contractors. The M&I WSP, however, will not apply to CVP M&I contractors in the East Side Division or Friant Division because of the unique situation in those divisions.

The purposes of the M&I WSP are to:

- Define water shortage terms and conditions applicable to all CVP M&I contractors.
- Establish a water supply level that (a) with M&I contractors’ drought water conservation measures and other water supplies would sustain urban areas during droughts, and (b) during severe or continuing droughts would, as much as possible, protect public health and safety.

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- Provide information to help M&I contractors develop drought contingency plans.

Currently, many M&I contractors are not using their full M&I contract total. If the M&I water shortage allocation were applied to full contract entitlements, the resulting allocation for some contractors would exceed their current demand. M&I water demands within the CVP are continually increasing. Reclamation recognizes that as water conservation measures are implemented there is a hardening of demand that lessens an M&I contractor's ability to reduce demand during shortages.

The capability of the CVP to meet the water supply levels addressed by this M&I WSP is subject to the availability of CVP water supplies. In any given year, M&I water shortage allocations may differ between CVP divisions due to regional CVP water supply availability, system capacity, or operational constraints. Generally, the supply allocation (percentage) to the various divisions will be the same, unless specific constraints require otherwise. [Reclamation will exercise its operational discretion to deliver at least necessary water supplies for public health and safety.](#)

Reclamation explored the concept of two tiers of M&I water supply reliability as proposed by contractors in the CVPIA Administrative Proposal on Urban Water Supply Reliability. Although Reclamation determined not to adopt two tiers, it will facilitate the sale of CVP water from willing sellers to M&I contractors when necessary.

2.1.1 Definitions

Adjusted For Growth - An adjustment to the contractor's historical use quantity to account for demand increases within the contractor's service area to include (but not be limited to) increases due to population growth and to the number or demand of industrial, commercial, and other entities the contractor serves, provided the contractor provides required documentation to Reclamation.

Adjusted For Extraordinary Water Conservation Measures - An adjustment to the contractor's historical use quantity to account for conservation measures that exceed applicable best management practices (BMPs) adopted by the California Urban Water Conservation Council (CUWCC). A water conservation measure considered extraordinary in 2001 may be a mandatory BMP in a subsequent year and thus would no longer be considered extraordinary.

Adjusted For Non-CVP Water - An adjustment to the contractor's historical use quantity to account for water sources other than the CVP used to satisfy M&I demand within the contractor's service area, subject to written documentation from the contractor that shows the extent to which use of the non-CVP water actually reduced the contractor's use of CVP water in ~~other~~ [historical unconstrained](#) years. ~~A~~ [To obtain an adjustment for a particular historical Unconstrained Year based on use of non-CVP water, the](#) contractor must show that ~~the non-CVP water was delivered and paid for prior to identifying it used~~ the

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~~supply as "non-CVP water" for purposes of requesting additional water under the M&I WSP. Water in that particular historical Unconstrained Year.~~

Agricultural Contractor - A water contractor delivering water supplies for use in agricultural production. Some CVP agricultural water contractors also deliver M&I supplies, and to that extent are M&I Water Contractors to which this Policy applies.

Drought Contingency Plan - A plan designed to protect public health and safety provided by each contractor to Reclamation. The contractor may provide a copy of its urban water management plan (UWMP) or water management plan (WMP) to Reclamation in lieu of a separate drought contingency plan so long as the UWMP or WMP contains the contractor's drought contingency plan.

Extraordinary Water Conservation Measures - Conservation measures that exceed applicable BMPs adopted by the CUWCC, including those measures that accelerate levels of conservation expected by the CUWCC. A water conservation measure or action pursuant to a measure considered extraordinary in a given year may be ~~a~~ mandatory ~~BMP~~ in a subsequent year and thus would no longer be considered extraordinary.

Historical Use - The average quantity of CVP water put to beneficial use within the service area during the ~~last~~most recent three ~~years of water deliveries that were unconstrained by the availability of CVP water~~Unconstrained Years (not necessarily sequential). Reclamation and the contractor may negotiate the calculated historical use, to be outlined in a contract exhibit that can be modified during the contract period (but that will not require formal contract amendment). ~~Reclamation recognizes that certain circumstances may require adjustment of the historical use for population growth, extraordinary water conservation measures, or use of non-CVP water supplies. Also, Reclamation may agree to adjust the historical use on the basis of unique circumstances, after consultation with the contractor. An example of a unique circumstance is the year following a drought year, in which a contractor may still be using extraordinary water conservation measures, or the converse, in which a contractor may be using more water than historically used in order to recharge groundwater.~~

Irrigation Water Contractor - See "Agricultural Contractor"

M&I Water Contractor - A water contractor delivering(or subcontractor identified in a CVP contract) that delivers water supplies to water users or retailers serving residential, non-agricultural commercial, industrial, and municipal water users or is such a user itself. Some CVP M&I water contractors also deliver agricultural supplies.

Non-CVP Water - Water sources other than the CVP used to satisfy M&I demand within the contractor's service area, subject to written documentation from the contractor that shows the extent to which use of the non-CVP water actually reduced the contractor's use of CVP water ~~in other years.~~ Example

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sources include, but [are](#) not limited to, local surface water supplies; water rights water; groundwater; transfer water; CVP water previously banked or carried-over in a groundwater or surface water storage facility, including "215 water"; and recycled water subject to Reclamation's approval.

Public Health and Safety Levels ~~During Water Shortage Conditions, Reclamation will strive to deliver CVP water to M&I contractors at not less than a public health and safety water supply level, provided that sufficient CVP water is available, if (a) the Governor declares an emergency due to water shortage applicable to the contractor's levels of demand that contractor, or (b) Reclamation result from applying Equation 5 in consultation with the contractor, determines that an emergency exists due to water shortage. At that time, the public health and safety level would be determined by the contractor and reviewed by Reclamation. the implementation procedure in Chapter 3~~

Shortage Allocation - Refers to the allocation of CVP water during Water Shortage Conditions, pursuant to the water allocation amounts prescribed in the CVP M&I WSP. The allocation of water is based on available CVP supplies.

Unconstrained Year – A year in which the M&I water supply allocation is 100 percent. ~~Reclamation will adjust the identification of Unconstrained Year on the basis of unique circumstances that may have affected water use in such a year, after consultation with the contractor. Examples of unique circumstances are: the year following a drought year, in which a contractor may still be using extraordinary water conservation measures; the converse, in which a contractor may be using more water than historically used in order to recharge groundwater; or a year in which a contractor, due to a preliminary shortage allocation by Reclamation or locally dry conditions, declares a water shortage in its service area prior to Reclamation's declaration of a 100% allocation.~~

Urban Water Management Plan - The 1985 California Urban Water Management Planning Act required M&I users with more than 3,000 connections or use of more than 3,000 AF per year to prepare an UWMP. The UWMP must include existing and projected water supplies and demands, water supply allocations, comparison of supplies and demands, water demand management program (conservation), wastewater recycling, and water shortage contingency plans.

Water Management Plan - As described in CVPIA, WMPs completed under the 1982 Reclamation Reform Act include the implementation of all cost-effective BMPs that are economical and appropriate, including measurement devices, pricing structures, demand management, public information, and financial incentives.

Water Shortage Conditions - Periods when the available CVP water supplies are insufficient to meet the water demands of the CVP contractors, pursuant to the terms and conditions of the CVP water service contracts, water rights settlement contracts, and CVPIA. Reclamation can determine a Water Shortage Condition

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exists based on various factors, including low water supply conditions during drought periods or severe hydrological conditions, CVP system operational constraints associated with legal decisions, regulatory requirements, and hydrologic reductions. The Water Shortage Condition may also be regional and not necessarily CVP-wide. For example, limitations on the CVP ability to convey water across the Delta in accordance with State Water Resources Control Board (SWRCB) orders and decisions can result in Water Shortage Conditions for CVP water contractors located south of the Delta as compared to CVP water users located north of the Delta.

2.1.2 Terms and Conditions

1. In times of water shortage, allocation of M&I water will be based on a contractor's historical use of CVP M&I water, adjusted for (a) *growth*, (b) *extraordinary water conservation measures*, and (c) use of non-CVP water, subject to Term and Condition 3. At the contractor's request, Reclamation will consult with the contractor to adjust the contractor's historical use in each Unconstrained Year on the basis of (a) growth, (b) extraordinary water conservation measures, and (c) use of non-CVP water. Term and Condition 1 is intended to encourage contractors to use non-CVP water first and rely on CVP water as a supplemental supply. Reclamation will adjust the historical-use calculation to reflect the effect of ~~non~~Non-CVP ~~water~~Water used in lieu of use of the contractor's CVP water. Crediting for use of this ~~non~~Non-CVP ~~water~~Water will be based on 1 acre-foot (AF) for 1 AF, unless Reclamation and the contractor agree otherwise in considering unique circumstances. The contractor must fully document use of non-CVP water to clearly show how much that water use actually reduced the contractor's use of CVP water in ~~other years~~each historical Unconstrained Year, and submit the documentation in writing to Reclamation.
2. For an M&I contractor to be eligible for adjustments to their CVP water supply, the ~~contractor's water service contract must reference M&I water shortage policy. In addition, the~~ water service contractor must (a) have developed and be implementing a water conservation plan that meets CVPIA criteria, (b) be measuring such water consistent with section 3405(b) of the CVPIA, and (c) have and be implementing a drought contingency plan designed to protect public health and safety, ~~and (d) demonstrate a 'need' for additional water.~~ Reclamation intends to incorporate in all new, renewed, and amended water service contracts, a provision that references the CVP M&I water shortage policy.
3. This M&I water shortage policy applies only to that portion of the CVP water identified for M&I uses under the Water Needs Assessments prepared for the CVP Long-Term Water Service Contract Renewals. Subject to these limitations, except as provided for public health and safety levels (Term and Condition 7), irrigation water transferred or converted to M&I use after September 30, 1994, will be subject to shortage allocation as irrigation water. For CVP water transferred or assigned, a CVP contractor may request that the CVP water so obtained be eligible for M&I reliability. Before Reclamation may approve such a request, the transferee or

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assignee must fully mitigate any adverse impacts to agricultural water supplies. Further, for CVP water converted, an M&I contractor may request a permanent conversion from agricultural shortage criteria to M&I shortage criteria, provided there are no adverse impacts to agricultural or other M&I water supply contracts.

4. Before allocation of M&I water to a contractor will be reduced, allocation of irrigation water will be reduced below 75 percent of contract entitlement, as shown in Table 1.

~~5. When allocation of irrigation water has been reduced below 75 percent and still further water supply reductions are necessary, both the M&I and irrigation allocations will be reduced by the same percentage increment. The M&I allocation will be reduced until it reaches 75 percent of adjusted historical use, and the irrigation allocation will be reduced until it reaches 50 percent of irrigation contract entitlement. The M&I allocation will not be further reduced until the irrigation allocation is reduced to below 25 percent of contract entitlement, as shown in Table 1.~~

- ~~6.5.~~ When allocation of irrigation water is reduced below 25 percent of contract entitlement, Reclamation will reassess both the availability of CVP water supply and CVP water demand.

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Table 1. Allocation of Irrigation and M&I Water Supply Under Shortage Conditions

Irrigation Allocation (% of contract entitlement)	M&I Allocation
< 100%	100% (contract entitlement)
95%	100%
90%	100%
85%	100%
80%	100%
75%	100%
	M&I Allocation (% of historical use)
70%	<u>95%</u> ⁽¹⁾
65%	<u>90%</u> ⁽¹⁾
60%	<u>85%</u> ⁽¹⁾
55%	<u>80%</u> ⁽¹⁾
50%-25%	75% ⁽¹⁾
20%	70% ⁽¹⁾
15%	65% ⁽¹⁾
10%	60% ⁽¹⁾
5%	55% ⁽¹⁾
0%	50% ⁽¹⁾

- (1) Subject to public health and safety considerations described in Implementation Guidelines.
(2) Nothing in this policy prevents M&I allocation from being reduced below 50% if CVP water availability is insufficient.

7-6. Reclamation will deliver CVP water to M&I contractors, including contractors with allocation of irrigation water transferred or converted to M&I use after September 30, 1994, at not less than a *public health and safety* water supply level, provided CVP water is available, if (a) the Governor declares an emergency due to water shortage applicable to that contractor or (b) Reclamation, in consultation with the contractor, determines that an emergency exists due to water shortage. The contractor will calculate the public health and safety levels using criteria developed by the State of California and submit the calculated level to Reclamation along with adequate support documentation for review. Reclamation will ensure that the calculated level is consistent with such criteria. If State criteria do not exist, the contractor will apply criteria developed by Reclamation (in consultation with the contractor) that will be consistent with relevant criteria used for similar situations by similarly situated California M&I water entities. Reclamation may determine that it is necessary to vary the allocation of M&I water by contractor determined to be necessary to meet each contractor's health and safety needs, taking into

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consideration a contractor's available non-CVP water supply. Non-potable water, including recycled water, shall not be considered non-CVP water supply available to meet public health and safety levels to the extent that the demands used in applying Equation 5 in Section 3.3 do not include these non-potable supplies.

8.7. Each M&I contractor will provide Reclamation its drought contingency plan designed to protect public health and safety. The contractor may provide a copy of its UWMP to Reclamation in lieu of a separate drought contingency plan so long as the UWMP contains the contractor's drought contingency plan.

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Chapter 3 Implementation Guidelines

This section outlines implementation steps for the M&I WSP and describes other factors considered and/or excluded from the M&I WSP.

3.1 Implementation Procedures - General

1. Irrigation contractor allocations are based upon contract total.
2. When M&I contractor allocations are at 100 percent, the allocation of M&I water will be based on contract entitlement.
3. When M&I contractor allocations are below 100 percent, the allocation of M&I water will be based on a contractor's historical use of CVP M&I water.
4. An M&I contractor's historical use will be determined by calculating the ~~average~~ quantity of CVP water put to beneficial use within the service area during ~~each of the last three years~~ Unconstrained Years of water deliveries- ~~that were unconstrained by, and then averaging the availability of CVP water three.~~
5. ~~The~~ Subject to Term and Condition 6, the general sequence of steps that Reclamation will use to determine CVP supplies for M&I contractors during Water Shortage Conditions is shown in Figure 1.

Figure 1. Steps to be Used to Determine Shortage Allocation for M&I Water Contractors

[Figure 1 not copied]

Additional adjustments to be made to Figure 1:

1. The diamond at the top of the flow chart containing the logical expression "Is A>75%" should be replaced by "Is A*B>P" to better reflect Reclamation's intent to provide CVP water at not less than public health and safety levels, provided CVP water is available pursuant to Term and Condition 7, which has been renumbered as Term and Condition 6 in this red-lined version of the Policy.
2. To avoid confusion, the box containing the equation for P ($P=D+CI=I=L$) should be deleted, and the calculation factor P described in the list of calculation factors should be defined as "Public health and safety need (AF), as defined in Equation 5."
3. The last box in the flow chart, following the calculation of "Unmet Need" should clarify that this step does not involve the same adjustments as are made for Non-CVP Water, Extraordinary Conservation Measures and Growth. The contractors therefore

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recommend that the language for that box be changed to "Contractor may receive additional water, if necessary, to meet Y."

Legend to Figure 1 is:

Calculation Factors

A = M&I contractual allocation (%)
B = Lesser of contract amount or Historical useUse, following all adjustments (AF)
CI = Commercial and Institutional need (AF)
D = Domestic need (AF)
I = Industrial need (AF)
L = Losses (additional 10% of need)(AF)
N = Non-CVP supplies Water available to meet P (AF)
P = Public health and safety need (AF) as defined in Equation 5
X = M&I annual allocation (AF)
Y = Unmet need (AF)

3.2 Implementation Procedures - Historical Use Adjustments

1. At the contractor's request, Reclamation will consult with the contractor to adjust the contractor's historical use on the basis of:
 - a. growth;
 - b. extraordinary water conservation measures, and
 - c. use of non-CVP water.

These adjustments will be made annually for each of the three most recent unconstrained years prior to averaging.

2. Adjustment for Population Growth: If requested by an M&I contractor, an adjustment for population growth ~~may will~~ be applied to an M&I contractor's ~~historical~~Historical Use after that Historical Use has been adjusted for use of Non-CVP Water, if applicable. In such a case, the ~~historical use~~Historical Use in each of the last three unconstrained years will be adjusted to reflect the population growth (i.e., difference in respective population between each unconstrained year to current population), prior to averaging.

The following equation shall be used to adjust the historical water demand in each of the three unconstrained years for population growth:

Equation 1:

Adjusted Historical Use (AHU_{yearX}) = $HU_{yearX} \times (P_{current} / P_{yearX})$

Where:

- AHU_{yearX} is the adjusted ~~historical~~ Historical Use (including use of Non-CVP Water) in year X (one of the three unconstrained years)
- HU_{yearX} is the actual ~~historical~~ Historical Use (including use of Non-CVP Water) in year X (one of the three unconstrained years)
- $P_{current}$ is the current population
- P_{yearX} is the population in historical use year under consideration

~~The following equation shall be used to average the adjusted historical use in each of the three unconstrained years (adjusted for population growth):-~~

Equation 2:

$$\text{Average Historical Use (HU}_{\text{average}}) = (AHU_{\text{yearX}} + AHU_{\text{yearY}} + AHU_{\text{yearZ}}) \div 3$$

~~Where:-~~

- HU_{average} ~~is the average of the three adjusted historical use amounts corresponding to the three unconstrained years~~
- AHU_{yearX} , AHU_{yearY} and AHU_{yearZ} ~~are adjusted historical use in year X (one of the three unconstrained years)~~

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An M&I contractor may develop and submit to Reclamation, for verification and approval, its own calculation of its historical use and its estimate of the adjustment for population growth.

Reclamation and the contractor may confer and enter into negotiations regarding the calculated historical use and adjustment for population growth, if needed. However, the historical use and any adjustment for population growth will be subject to Reclamation approval.

3. Adjustment for Extraordinary Water Conservation Measures: If requested by an M&I contractor, an adjustment for water conserved via extraordinary water conservation measures implemented and documented by a contractor may be applied to an M&I contractor's historical use. To be eligible for such an adjustment, the water service contractor must;
 - a. have developed and be implementing a water conservation plan that meets CVPIA criteria, and
 - b. be measuring such water consistent with section 3405(b) of the CVPIA.

This adjustment to the contractor's historical use quantity to account for conservation measures that exceed applicable best management practices or accelerate the levels of conservation expected by the BMPs adopted by

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the CUWCC must be quantifiable.

4. The following criteria shall be used to quantify and calculate an adjustment for water conserved via extraordinary water conservation measures:

- a. A contractor requesting such an adjustment will be required to provide sufficient documentation to account for the water conserved via extraordinary water conservation measures.
- b. The quantitative data provided by the contractor shall detail the actual quantities of water conserved by exceeding the schedule for implementation of Best Management Practices developed by the CUWCC and/or the CVPIA Criteria for Evaluating Water Management Plans."
- c. As water demand and water supply conditions vary from one year to the next, a contractor's extraordinary water conservation will be required to be documented and calculated for each of the three unconstrained years to be considered in the historical use calculation. The calculated amount of extraordinary water conservation in any one year will only be considered in the adjustment for ~~the respective~~ that year.
- d. The calculated annual adjustment for a contractor's extraordinary water conservation will be applied to the respective unconstrained year by adding the calculated adjustment amount (in AF) to the Adjusted Historical Use (AHU_{yearX}) following its adjustment for population growth, if applicable. Each of the three unconstrained years eligible for an adjustment for extraordinary water conservation will be adjusted individually prior to calculation of the average ~~of the adjusted historical use in each of~~ Historical Use ($HU_{average}$) for the three unconstrained years.

e. Adjustments for Extraordinary Water Conservation Measures will be made after the adjustments for the use of Non-CVP Water and population growth and before the averaging of adjusted use in the three Unconstrained Years:

Equation 2:

$$\text{Average Historical Use (HU}_{average}\text{)} = [(AHU_{yearX} + C_{yearX}) + (AHU_{yearY} + C_{yearY}) + (AHU_{yearZ} + C_{yearZ})] \div 3$$

Where:

- $HU_{average}$ is the average of the three historical use amounts, following adjustment pursuant to Term and Condition 1, corresponding to the three Unconstrained Years X, Y, and Z.

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- *AHU_{yearX}, AHU_{yearY} and AHU_{yearZ} are adjusted historical use, adjusted for use of Non-CVP Water and population growth, in Unconstrained Years X, Y, and Z, respectively.*
- *C_{yearX}, C_{yearY}, and C_{yearZ} are the yields of Extraordinary Water Conservation Measures in years X, Y and Z, respectively.*

~~5-5.~~ Adjustment for “Non-CVP Water” Supplies: If requested by an M&I contractor, an adjustment for use of non-CVP water may be applied to an M&I contractor’s historical use. Reclamation will adjust the historical use calculation to reflect the effect of non-CVP water used in lieu of use of the contractor’s CVP water. Crediting for this non-CVP water will be based on 1 AF for 1 AF, unless Reclamation and the contractor agree otherwise in considering unique circumstances. The contractor must fully document use of non-CVP water to clearly show how much that water use actually reduced the contractor’s use of CVP water in ~~other years~~each historical Unconstrained Year, and submit the documentation in writing to Reclamation. A list of ~~non~~Non-CVP water supplies that may be considered in this adjustment and is provided below. –

The amount of an M&I water contractor’s ~~available non-CVP Supply~~Non-CVP Water supply used in a historic Unconstrained Year will differ from contractor to contractor and will therefore have to be determined on an individual basis. Reclamation will use information provided by the contractor, other available information, and the following equation to calculate an M&I water contractor’s total ~~available~~adjustment for non-CVP ~~water supply~~ in each historic Unconstrained Year.

Equation 3:

$$N \text{ (AF)} = N_1 + N_2 + N_3 \dots N_n$$

Where ~~types of non-CVP supplies (N_x) may include:~~

- ~~Surface water(non-CVP supplies)~~
- ~~Groundwater~~
- ~~Local storage~~
- ~~Recycled water, subject to Reclamation approval~~
- ~~Other Reclamation Approved~~ are the quantities from sources of the contractor’s Non-CVP Supplies

Water.

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Note: Units (N) are in AF of available annual water supply yield.

~~6.5.~~

The calculated annual adjustment for a contractor's use of non-CVP water in lieu of use of the contractor's CVP water will be applied to the respective unconstrained year by adding the calculated adjustment amount (in AF) to the ~~Adjusted~~ Historical Use (~~AHU_{yearX}~~) ~~following before~~ its adjustment for population growth, if applicable. Each of the three ~~unconstrained years~~ Unconstrained Years eligible for an adjustment for use of non-CVP water in lieu of use of the contractor's CVP water will be adjusted individually prior to calculation of the average ~~of the adjusted historical use in each of~~ for the three unconstrained years. ~~(Average Historical Use) in Equation 2.~~

~~Reclamation may also adjust the historical use on the basis of unique circumstances after consultation with the contractor. An example of a unique circumstance is the year following a drought year in which water users implemented extraordinary water conservation measures, or the converse, in which a contractor may use more water than historically used in order to recharge groundwater.~~

~~7.6.~~ Before allocation of M&I water to a contractor will be reduced, allocation of Irrigation water will be reduced below 75 percent of Irrigation contract entitlement. When the allocation of Irrigation water is less than 100 percent but greater than or equal to 75 percent, the allocation of M&I water will be based on 100% contract entitlement, as shown in Table 2.

Table 2: Allocation of M&I Water When Allocations of Irrigation Water are Above 75 Percent

Irrigation Allocation (% of contract entitlement)	M&I Allocation (% of contract entitlement)
< 100%	100%
95%	100%
90%	100%
85%	100%
80%	100%
75%	100%

~~8.7.~~ When allocation of Irrigation water has been reduced below 75 percent and still further water supply reductions are necessary, both the M&I and Irrigation allocations will be reduced by the same percentage (5%) increment. The allocation of M&I water will be based on ~~historical use~~ Historical Use as adjusted pursuant to Term and Condition 1 and the

Implementation Procedures – Historical Use Adjustments. The M&I allocation will be reduced until it reaches 75 percent of ~~adjusted~~ historical use, as adjusted pursuant to Term and Condition 1 and the Implementation Procedures – Historical Use Adjustments, and the Irrigation allocation will be reduced until it reaches 50 percent of contract entitlement. The M&I allocation will not be further reduced until the Irrigation allocation is reduced to below 25 percent of contract entitlement, as shown in Table 3.

Table 3: Allocation of M&I Water When Allocation of Irrigation Water are Less Than 75 Percent and Greater 25 Percent

Irrigation Allocation (% of contract entitlement)	M&I Allocation (% of historical use)
70%	95%
65%	90%
60%	85%
55%	80%
50%-25%	75%

9.8. When M&I water allocations are less than 100 percent, the M&I allocation amount will be calculated using the following equation:

Equation 4:

$$\text{M\&I annual allocation (X AF)} = \text{HU}_{\text{average}} \times Z_X$$

Where:

- $\text{HU}_{\text{average}}$ ~~results from Equation 2 and~~ is the calculated average of Historical Use as adjusted pursuant to Term and Condition 1 and the Implementation Procedures – Historical Use Adjustments, in the three adjusted historical use years ~~Unconstrained Years~~
- Z_X is the corresponding M&I Allocation percent from Table 3 or Table 4.

Note: Units (X) are in AF, annual M&I shortage allocation of CVP water.

10.9. When allocation of Irrigation water is reduced below 25 percent of Irrigation contract entitlement, Reclamation will reassess both the availability of CVP water supply and CVP water demand. Due to limited water supplies, during these times M&I water allocation to contractors may be reduced below 75 percent of adjusted historical use.

3.3 Implementation Procedures - Public Health & Safety

1. When M&I allocations are reduced below 75 percent, the M&I allocation will be equal to the greater of the percentage of ~~historical use~~ Historical Use, as adjusted pursuant to Term and Condition 1 and the Implementation Procedures – Historical Use Adjustments, or public health & safety level (to a maximum of 75% of historic use) Public Health & Safety Level, as shown in Table 4.

Table 4: Allocation of M&I Water When Allocations of Irrigation Water are Below 25 Percent

Irrigation Allocation (% of contract entitlement)	M&I Allocation (% of historical use)
Between 25% and 50%	75%
20%	Maximum of 70% of historical use or public health & safety
15%	Maximum of 65% of historical use or public health & safety
10%	Maximum of 60% of historical use or public health & safety
5%	Maximum of 55% of historical use or public health & safety
0%	Maximum of 50% of historical use or public health & safety

Note: If CVP water is not available, M&I contractors may be reduced below 50%.

~~2. Reclamation will strive to deliver CVP water to~~ Consistent with Term and Condition 6, if an M&I contractor ~~at not less than a public health and safety water supply level, provided~~ determines that its allocation of CVP water is ~~available, insufficient to meet its Public Health and Safety Level, the contractor shall submit a request to Reclamation for an increase in allocation, if:-~~

~~a. an M&I water contractor submits a request to Reclamation for public health and safety water supply delivery;—~~

~~b. the Governor declares an emergency due to water shortage applicable to that contractor; and/or~~

~~2. Reclamation, in consultation with allocation together with supporting documentation,¹~~

~~e. the contractor, determines that an emergency exists due to water shortage conditions.—~~

3. Subject to Procedure 7 below, ~~T~~the public health & safety level (PH&S) will be calculated to reflect the contractor's domestic, commercial, institutional, and industrial demands and system losses, as follows:

Equation 5:

¹ Reclamation will also, to the extent it has available resources, review M&I contractor early submittals on preliminary PH&S levels when M&I contractors believe allocations in the forthcoming year will be driven by Water Shortage Conditions. Under such circumstances, M&I contractors may seek to minimize the subsequent review time needed by Reclamation once allocations are announced.

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$$\text{Public Health and Safety Allocation Amount (PH\&S)} = D + CI + I + L$$

Where:

Domestic use (D) = Current Population X 55 gpd²

Commercial and Institutional (CI) = 80% of Projected Commercial Demand

Industrial (I) = 90% of Projected Industrial Demand

System (Conveyance) Losses (L) = 10%³ of (D + CI + I)

4. M&I water contractors will have the option of calculating the PH&S level for review and approval by Reclamation or request that Reclamation calculate the PH&S on behalf of the M&I water contractor.
5. ~~If an M&I water contractor calculates its own PH&S level,~~ Reclamation will review and verify calculations submitted by the contractor. ~~The contractor~~ Contractors will calculate ~~its~~ PH&S ~~level~~ levels using ~~criteria noted in Item 18~~ Equation 5 and will submit the calculated level to Reclamation along with adequate support documentation for review.
6. If Reclamation calculates the PH&S level, Reclamation ~~may~~ will use information received from the water contractor ~~as well as and may~~ supplement this with information from other sources.
7. Reclamation and the contractor ~~may~~ will confer and enter into negotiations regarding the calculated PH&S level, if needed, to ensure that it represents the contractor's true PH&S demand; however, the final PH&S level to be used to determine the M&I water contractor's Shortage Allocation will be subject to Reclamation approval.
8. Each M&I contractor will provide to Reclamation its drought contingency plan designed to protect public health and safety. The contractor may provide a copy of its Urban Water Management Plan (UWMP) or water management plan (WMP) to Reclamation in lieu of a separate drought contingency plan so long as the UWMP or WMP contains the contractor's drought contingency plan.

² The per capita water demand rate used to calculate the PH&S levels shall be consistent with State law. ~~The 55-gallons-per-capita-demand (gpcd) value reflects the requirements defined in California State Senate Bill SBx 7-7. Reclamation may adjust this value over time to reflect future changes in State law. If State criteria does not exist, the contractor will apply criteria developed by Reclamation (in consultation with the contractor) that will be consistent with relevant criteria used by similarly situated California M&I water entities.~~

³ ~~System Losses of 10% will be the default estimate. However, if applicable, a contractor may submit for Reclamation's review documentation demonstrating System Losses different from 10%, and the use of such different estimate will be subject to Reclamation's approval.~~

9. In calculating an M&I contractor's CVP Shortage Allocation in circumstances when the allocation must be increased to meet the contractor's PH&S level, as depicted in Figure 1, to the extent that the contractor's Non-CVP Water is applicable for use in that calculation, Reclamation shall use the following principles in making any adjustments:

- a. Subject to subparagraph b below, the quantities of Non-CVP Water identified as available in a critically dry year in the contractor's Drought Contingency Plan shall be used in making any calculations.
- b. The contractor may provide updated projections of available non-CVP water for Reclamation's consideration.
- c. The contractor's operational plans to carry over portions of its Non-CVP Water as contingency for a follow-on dry year (or series of dry years) shall be used in making any calculations.
- ~~a~~d. The contractor's non-potable Non-CVP Water shall not be included as available Non-CVP Water satisfying Public Health and Safety needs except to the extent that it is used to meet non-domestic uses of Commercial and Institutional (CI) and Industrial (I) demands.

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Appendix O

Flow and Reservoir Data

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Appendix O

Flow and Reservoir Data

This appendix presents data to supplement Chapter 10 and includes tables of flows and reservoir storage for the action alternatives, with comparison to the No Action Alternative, under different water year types.

Table O-1. Average Monthly Flow in the Sacramento River below Keswick Dam under the No Action Alternative (in cubic feet per second [cfs])

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	6,611	7,924	11,328	16,148	18,421	16,225	9,499	9,496	10,527	12,901	11,062	12,765
AN	6,465	6,897	5,484	7,643	14,501	8,375	6,088	7,918	11,320	14,312	10,452	8,638
BN	6,102	6,020	5,196	4,253	5,941	4,795	5,223	6,999	10,777	13,116	10,013	5,338
D	5,703	5,422	3,941	3,896	3,753	3,745	5,717	7,252	11,280	13,398	9,647	5,385
C	5,552	5,098	3,682	3,452	3,881	3,482	6,389	6,858	10,450	12,264	9,161	4,618
All	6,148	6,486	6,685	8,325	10,369	8,521	6,984	7,960	10,840	13,160	10,205	8,081

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-2. Change in Average Monthly Flow in the Sacramento River below Keswick Dam under the No Action Alternative Compared to Existing Conditions (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	-57	118	-127	192	1	79	-12	-48	103	204	-15	499
AN	133	-403	-145	-33	240	-215	-92	202	167	117	185	694
BN	51	-32	7	-13	-161	-53	-71	-115	87	73	144	-102
D	-85	-246	-172	-119	51	11	-47	-41	77	-75	-254	-86
C	-243	-118	-83	4	-2	15	-202	-9	-30	-354	-187	-79
All	-44	-98	-110	28	19	-11	-69	-16	84	26	-36	212

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-3. Average Monthly Flow in the Sacramento River below Keswick Dam under Alternative 2 (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	6,670	7,822	11,258	16,076	18,434	16,226	9,501	9,497	10,533	12,887	11,063	12,721
AN	6,359	6,846	5,503	7,653	14,535	8,385	6,090	7,980	11,323	14,319	10,446	8,652
BN	6,086	6,042	5,231	4,231	5,985	4,835	5,272	7,086	10,778	13,003	10,005	5,322
D	5,692	5,377	3,970	3,923	3,784	3,746	5,800	7,369	11,328	13,344	9,979	5,294
C	5,547	5,046	3,673	3,501	3,842	3,485	6,550	6,908	10,296	12,215	9,064	4,513
All	6,146	6,432	6,677	8,313	10,387	8,530	7,036	8,018	10,831	13,118	10,262	8,031

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-4. Change in Average Monthly Flow in the Sacramento River below Keswick Dam under Alternative 2 Compared to the No Action Alternative (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	60	-102	-70	-72	13	1	2	1	6	-14	1	-44
AN	-106	-50	19	10	34	10	2	62	3	6	-6	15
BN	-15	22	35	-22	44	40	49	88	1	-113	-8	-16
D	-11	-45	30	26	31	1	83	117	48	-54	332	-91
C	-5	-52	-9	49	-39	3	162	50	-154	-49	-97	-105
All	-2	-53	-8	-12	18	9	51	58	-9	-42	57	-50

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-5. Average Monthly Flow in the Sacramento River below Keswick Dam under Alternative 3 (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	6,620	7,874	11,335	16,107	18,407	16,245	9,479	9,474	10,504	12,897	11,042	12,795
AN	6,584	6,982	5,491	7,629	14,539	8,365	6,087	7,908	11,324	14,311	10,469	8,727
BN	6,070	6,045	5,199	4,257	5,944	4,782	5,185	6,980	10,768	13,204	10,002	5,344
D	5,647	5,536	3,910	3,889	3,753	3,747	5,692	7,184	11,281	13,536	9,582	5,338
C	5,433	5,068	3,627	3,491	3,830	3,517	6,379	6,876	10,471	12,260	9,398	4,542
All	6,134	6,507	6,674	8,315	10,363	8,529	6,964	7,936	10,835	13,203	10,220	8,083

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-6. Change in Average Monthly Flow in the Sacramento River below Keswick Dam under Alternative 3 Compared to the No Action Alternative (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	10	-50	8	-42	-15	20	-20	-22	-23	-4	-20	30
AN	118	85	7	-14	39	-11	-1	-10	3	-1	16	89
BN	-31	25	3	4	3	-14	-39	-19	-9	88	-11	6
D	-55	113	-31	-7	-1	1	-25	-67	1	137	-65	-47
C	-120	-30	-55	38	-51	36	-10	18	21	-4	237	-77
All	-14	21	-11	-11	-6	8	-20	-24	-5	43	15	2

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-7. Average Monthly Flow in the Sacramento River below Keswick Dam under the Alternative 5 (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	6,611	7,924	11,326	16,147	18,421	16,225	9,499	9,496	10,527	12,901	11,062	12,765
AN	6,464	6,897	5,484	7,642	14,500	8,375	6,088	7,913	11,320	14,312	10,452	8,641
BN	6,102	6,021	5,196	4,253	5,940	4,795	5,223	6,999	10,776	13,116	10,014	5,340
D	5,703	5,422	3,939	3,896	3,753	3,745	5,717	7,252	11,280	13,399	9,651	5,387
C	5,554	5,098	3,683	3,452	3,879	3,482	6,389	6,858	10,450	12,267	9,159	4,620
All	6,148	6,486	6,685	8,325	10,368	8,520	6,984	7,959	10,840	13,161	10,206	8,082

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-8. Change in Average Monthly Flow in the Sacramento River below Keswick Dam under Alternative 5 Compared to the No Action Alternative (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	0	0	-2	-1	-1	0	0	0	0	0	0	0
AN	-1	0	0	-1	-1	0	0	-5	0	0	0	4
BN	0	1	0	0	-1	0	0	0	0	0	0	2
D	0	0	-1	0	0	0	0	0	0	0	3	2
C	1	1	1	0	-2	0	0	0	0	2	-2	2
All	0	0	-1	0	-1	0	0	-1	0	0	1	2

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-9. Average Monthly Storage in Folsom Lake under the No Action Alternative (in thousand acre-feet [TAF])

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	514	478	517	520	505	634	792	963	959	866	767	600
AN	460	403	417	513	533	649	794	965	938	742	675	551
BN	485	456	450	496	538	627	786	925	902	683	639	576
D	461	432	438	434	495	600	703	775	703	538	463	439
C	415	369	347	333	348	411	447	464	423	342	289	260
All	475	437	449	468	490	595	721	843	811	668	595	504

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-10. Change in Average Monthly Storage in Folsom Lake under the No Action Alternative Compared to Existing Conditions (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	-14	-6	-1	0	3	1	-2	-3	-5	-10	-10	-3
AN	-12	-14	-12	-3	4	7	0	-3	-10	-24	-31	-22
BN	-13	-8	-10	-5	-1	1	0	3	-5	-23	-28	2
D	-8	-12	-15	-15	-11	1	-1	4	-10	-10	-10	-12
C	-7	-2	-5	-5	-6	-3	-4	0	-7	-3	27	24
All	-11	-8	-8	-6	-2	1	-2	0	-7	-13	-11	-3

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-11. Average Monthly Storage in Folsom Lake under Alternative 2 (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	516	480	518	520	505	634	792	964	959	867	769	601
AN	467	409	422	513	533	649	794	966	938	742	676	553
BN	494	467	460	507	547	637	787	926	904	687	648	582
D	468	439	445	442	501	603	708	782	713	547	464	444
C	426	381	357	343	360	426	467	490	456	372	313	285
All	481	444	455	474	494	599	725	849	819	675	601	510

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-12. Change in Average Monthly Storage in Folsom Lake under Alternative 2 Compared to the No Action Alternative (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	2	2	1	0	0	0	0	1	1	1	2	1
AN	7	6	5	0	0	0	0	0	0	0	1	1
BN	9	10	10	11	9	9	1	1	2	4	10	6
D	7	7	7	8	6	3	5	8	10	9	0	5
C	12	12	10	10	12	15	20	25	33	31	24	25
All	6	7	6	5	5	4	4	6	8	8	6	6

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-13. Average Monthly Storage in Folsom Lake under Alternative 3 (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	513	477	517	520	505	634	792	963	958	866	766	601
AN	459	401	417	512	533	649	794	965	938	741	674	550
BN	486	457	450	492	535	624	784	925	902	681	635	574
D	462	432	438	433	495	601	703	773	703	532	466	443
C	408	359	335	320	336	403	439	458	417	333	281	251
All	474	435	447	466	487	593	720	841	810	665	593	503

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-14. Change in Average Monthly Storage in Folsom Lake under Alternative 3 Compared to the No Action Alternative (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	-1	-1	0	0	0	0	0	0	0	0	-1	0
AN	-2	-2	0	0	0	0	0	0	0	0	0	-2
BN	1	0	0	-4	-3	-3	-1	0	0	-2	-4	-1
D	1	0	0	-1	0	1	0	-1	0	-6	3	3
C	-7	-10	-11	-13	-12	-8	-8	-6	-6	-9	-7	-9
All	-1	-2	-2	-3	-2	-2	-1	-1	-1	-3	-2	-1

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-15. Average Monthly Storage in Folsom Lake under the Alternative 5 (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	514	478	517	520	505	634	792	963	959	866	767	600
AN	460	403	417	513	533	649	794	965	938	742	675	551
BN	485	456	450	496	538	627	786	925	902	683	639	575
D	461	432	438	434	495	600	703	774	703	538	464	439
C	415	369	346	333	348	411	447	464	423	342	289	260
All	475	437	449	468	490	595	721	843	811	668	595	504

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-16. Change in Average Monthly Storage in Folsom Lake under Alternative 5 Compared to the No Action Alternative (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
D	0	0	0	0	0	0	0	0	0	0	0	0
C	0	0	0	0	0	0	0	0	0	0	0	0
All	0	0	0	0	0	0	0	0	0	0	0	0

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-17. Average Monthly Flow in the American River below Nimbus Dam under the No Action Alternative (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	1,669	3,427	5,724	8,623	9,098	6,043	5,174	5,941	5,789	3,847	3,129	4,348
AN	1,621	3,392	3,021	4,550	6,139	5,308	3,452	3,599	3,231	4,402	2,344	3,402
BN	1,822	2,152	2,514	2,218	4,048	2,491	2,850	2,791	2,628	4,749	1,854	2,335
D	1,572	1,996	1,711	1,642	1,829	2,022	1,878	1,719	2,382	3,192	2,042	1,461
C	1,483	1,812	1,493	1,309	1,201	911	1,052	1,123	1,564	1,611	1,177	968
All	1,639	2,654	3,280	4,331	5,051	3,695	3,198	3,429	3,509	3,611	2,272	2,737

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-18. Change in Average Monthly Flow in the American River below Nimbus Dam under the No Action Alternative Compared to Existing Conditions (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	-106	-191	-149	-98	-154	-52	-144	-236	-283	-270	-298	-342
AN	32	-35	-124	-200	-201	-114	-139	-286	-219	-101	-177	-352
BN	157	-134	-32	-117	-153	-89	-156	-287	-177	-12	-199	-719
D	19	-10	-34	-9	-133	-229	-120	-226	-36	-361	-275	-200
C	72	-140	2	2	10	-53	-59	-110	-146	-332	-761	-143
All	12	-111	-78	-82	-132	-107	-128	-232	-181	-230	-326	-348

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-19. Average Monthly Flow in the American River below Nimbus Dam under Alternative 2 (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	1,686	3,447	5,755	8,654	9,114	6,045	5,176	5,950	5,798	3,851	3,128	4,380
AN	1,707	3,403	3,067	4,645	6,164	5,311	3,461	3,612	3,248	4,418	2,346	3,417
BN	1,854	2,154	2,529	2,237	4,101	2,505	3,031	2,846	2,692	4,783	1,826	2,443
D	1,565	2,017	1,728	1,652	1,894	2,093	1,927	1,741	2,433	3,310	2,266	1,444
C	1,498	1,846	1,554	1,351	1,202	913	1,056	1,129	1,539	1,760	1,380	1,019
All	1,664	2,672	3,312	4,366	5,083	3,715	3,243	3,448	3,533	3,668	2,346	2,772

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-20. Change in Average Monthly Flow in the American River below Nimbus Dam under Alternative 2 Compared to the No Action Alternative (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	17	20	30	31	16	3	2	8	9	4	-1	32
AN	86	11	47	94	25	3	9	13	18	16	2	15
BN	32	2	15	19	53	14	181	55	64	34	-28	108
D	-7	21	18	10	65	70	49	22	51	118	225	-16
C	15	34	60	41	1	2	3	5	-25	149	203	51
All	24	18	32	35	32	19	44	20	24	57	74	35

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-21. Average Monthly Flow in the American River below Nimbus Dam under Alternative 3 (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	1,672	3,423	5,707	8,615	9,090	6,041	5,169	5,940	5,787	3,846	3,143	4,320
AN	1,567	3,395	2,978	4,538	6,122	5,296	3,447	3,597	3,220	4,401	2,339	3,417
BN	1,776	2,152	2,509	2,261	4,009	2,472	2,785	2,737	2,584	4,738	1,849	2,261
D	1,570	2,009	1,708	1,642	1,796	1,966	1,848	1,687	2,307	3,216	1,843	1,397
C	1,513	1,843	1,496	1,313	1,170	833	993	1,049	1,514	1,614	1,102	986
All	1,629	2,660	3,267	4,334	5,028	3,666	3,170	3,401	3,475	3,615	2,220	2,707

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-22. Change in Average Monthly Flow in the American River below Nimbus Dam under Alternative 3 Compared to the No Action Alternative (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	3	-4	-18	-8	-7	-2	-5	-1	-2	-1	13	-28
AN	-54	3	-43	-13	-17	-12	-4	-2	-11	-1	-6	15
BN	-46	0	-5	43	-39	-19	-66	-54	-44	-10	-4	-74
D	-2	13	-3	0	-33	-56	-30	-32	-75	23	-199	-64
C	30	31	2	4	-31	-78	-59	-74	-51	3	-75	19
All	-11	7	-13	4	-23	-29	-29	-28	-34	3	-52	-31

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-23. Average Monthly Flow in the American River below Nimbus Dam under Alternative 5 (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	1,669	3,427	5,724	8,623	9,098	6,043	5,174	5,941	5,789	3,847	3,129	4,348
AN	1,624	3,391	3,021	4,550	6,139	5,308	3,452	3,599	3,231	4,402	2,344	3,402
BN	1,822	2,152	2,514	2,218	4,049	2,491	2,850	2,791	2,628	4,748	1,854	2,336
D	1,572	1,996	1,711	1,642	1,829	2,022	1,878	1,719	2,383	3,193	2,041	1,461
C	1,483	1,812	1,493	1,309	1,201	911	1,052	1,123	1,564	1,612	1,175	968
All	1,640	2,654	3,280	4,331	5,051	3,695	3,198	3,429	3,509	3,611	2,272	2,738

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-24. Change in Average Monthly Flow in the American River below Nimbus Dam under Alternative 5 Compared to the No Action Alternative (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	0	0	0	0	0	0	0	0	0	0	0	0
AN	3	-1	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	-1	0	0	0	0	0
D	0	0	0	0	0	0	0	0	0	1	0	0
C	0	0	0	0	0	0	0	0	0	1	-1	0
All	0	0	0	0	0	0	0	0	0	0	0	0

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-25. Average Monthly Delta Outflow under the No Action Alternative (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	468	1,059	2,733	5,184	5,285	4,824	3,303	2,497	1,374	689	314	1,172
AN	336	729	1,141	2,906	3,408	3,269	1,964	1,508	702	582	246	704
BN	339	511	763	1,351	2,009	1,416	1,340	982	472	446	246	240
D	322	501	540	888	1,173	1,199	864	630	400	310	254	206
C	287	366	356	687	742	732	529	368	320	251	231	179
All	368	693	1,335	2,595	2,884	2,620	1,831	1,372	753	485	267	587

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-26. Change in Average Monthly Delta Outflow under the No Action Alternative Compared to Existing Conditions (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	-16	7	-7	8	-42	-5	40	-43	-30	-3	-16	4
AN	11	-19	6	-2	1	-29	36	-1	-16	-2	0	2
BN	-1	3	15	22	-13	-5	21	-39	-1	9	0	1
D	1	-3	2	17	0	-15	-4	-23	3	3	8	-14
C	-1	-9	14	34	13	6	-8	-11	0	2	11	0
All	-3	-2	4	15	-14	-9	20	-27	-11	1	-2	-1

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-27. Average Monthly Delta Outflow under Alternative 2 (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	471	1,052	2,724	5,182	5,287	4,826	3,303	2,496	1,374	689	314	1,172
AN	339	730	1,147	2,917	3,408	3,265	1,963	1,512	702	585	246	704
BN	340	509	746	1,350	2,026	1,420	1,352	992	470	458	246	243
D	322	495	544	890	1,178	1,202	870	636	400	311	263	213
C	292	366	359	695	744	733	539	380	322	249	218	179
All	370	689	1,331	2,597	2,888	2,622	1,835	1,377	754	487	267	589

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-28. Change in Average Monthly Delta Outflow under Alternative 2 Compared to the No Action Alternative (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	2	-7	-10	-2	2	2	-1	-1	0	0	0	0
AN	3	0	6	11	0	-3	0	4	0	3	0	-1
BN	1	-2	-17	0	17	4	12	10	-2	12	0	3
D	1	-5	3	2	4	3	6	6	0	1	9	7
C	5	-1	3	8	2	1	10	12	3	-2	-12	1
All	2	-4	-4	3	5	2	5	5	0	2	0	2

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-29. Average Monthly Delta Outflow under Alternative 3 (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	469	1,055	2,735	5,181	5,282	4,825	3,302	2,496	1,373	690	314	1,172
AN	337	735	1,138	2,894	3,408	3,264	1,964	1,508	702	582	246	704
BN	339	509	764	1,354	1,998	1,415	1,334	977	480	442	246	238
D	325	497	557	888	1,172	1,197	861	626	401	307	242	202
C	288	366	357	688	739	734	526	365	320	250	222	179
All	369	692	1,339	2,593	2,880	2,619	1,828	1,370	755	483	263	586

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-30. Change in Average Monthly Delta Outflow under Alternative 3 Compared to the No Action Alternative (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	1	-4	2	-3	-3	1	-1	-1	-1	1	0	0
AN	1	6	-3	-12	0	-4	1	0	0	0	0	0
BN	0	-2	0	3	-12	-1	-6	-5	9	-3	0	-2
D	3	-3	16	0	-1	-2	-3	-4	1	-3	-11	-4
C	1	0	1	0	-3	2	-3	-2	0	-1	-9	0
All	1	-2	4	-2	-4	-1	-2	-2	1	-1	-4	-1

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-31. Average Monthly Delta Outflow under Alternative 5 (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	468	1,059	2,733	5,183	5,285	4,824	3,303	2,497	1,374	689	314	1,172
AN	336	729	1,141	2,905	3,408	3,269	1,964	1,508	702	582	246	704
BN	339	511	763	1,351	2,009	1,416	1,340	982	472	446	246	240
D	322	501	540	888	1,173	1,199	864	630	400	310	254	206
C	287	366	356	686	742	732	529	368	320	251	230	179
All	368	693	1,335	2,595	2,884	2,620	1,831	1,372	753	485	267	587

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-32. Change in Average Monthly Delta Outflow under Alternative 5 Compared to the No Action Alternative (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
D	0	0	0	0	0	0	0	0	0	0	0	0
C	0	0	0	-1	0	0	0	0	0	0	0	0
All	0	0	0	0	0	0	0	0	0	0	0	0

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-33. Average Monthly X2 Location under the No Action Alternative (in kilometers [km])

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	80.7	80.5	76.5	63.1	53.6	50.4	52.1	54.3	57.7	65.2	74.4	82.8
AN	82.9	83.4	80.7	76.5	61.6	54.6	53.7	58.4	62.5	72.7	78.3	83.8
BN	84.1	84.8	84.8	81.2	71.7	60.9	63.3	64.1	68.4	76.8	81.6	85.5
D	84.2	85.1	85.2	82.6	77.5	69.9	67.2	69.9	74.7	80.6	84.8	87.5
C	87.8	88.7	88.7	87.7	82.5	76.4	75.1	77.6	82.8	86.0	88.1	90.2
All	83.4	83.9	82.2	76.0	67.3	60.9	60.9	63.4	67.6	74.7	80.5	85.5

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-34. Change in Average Monthly X2 Location under the No Action Alternative Compared to Existing Conditions (in km)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	0.2	0.3	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.2	0.1	0.2
AN	0.1	-0.1	0.2	0.1	-0.2	-0.2	0.0	-0.2	-0.1	0.1	0.1	0.0
BN	0.0	-0.1	-0.1	-0.2	-0.4	0.0	0.1	-0.1	0.3	0.2	-0.1	-0.1
D	-0.1	-0.1	0.0	0.0	-0.3	-0.2	0.1	0.2	0.4	0.2	0.0	-0.1
C	-0.1	0.0	0.2	-0.1	-0.7	-0.6	-0.2	0.0	0.2	0.1	0.0	-0.2
All	0.0	0.0	0.0	0.0	-0.3	-0.2	0.0	0.0	0.2	0.2	0.0	0.0

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-35. Average Monthly X2 Location under Alternative 2 (in km)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	80.6	80.4	76.5	63.1	53.6	50.4	52.1	54.3	57.7	65.2	74.4	82.8
AN	82.9	83.3	80.6	76.5	61.5	54.5	53.7	58.4	62.5	72.7	78.3	83.8
BN	84.0	84.8	84.8	81.5	72.0	60.9	63.2	64.1	68.2	76.7	81.5	85.3
D	84.2	85.0	85.3	82.6	77.4	69.8	67.1	69.8	74.5	80.6	84.8	87.4
C	87.8	88.5	88.7	87.7	82.3	76.2	75.1	77.4	82.4	85.7	88.0	90.4
All	83.4	83.8	82.2	76.1	67.3	60.9	60.9	63.3	67.5	74.6	80.5	85.5

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-36. Change in Average Monthly X2 Location under Alternative 2 Compared to the No Action Alternative (in km)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	-0.1	0.0	0.0	0.3	0.2	0.0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2
D	0.0	0.0	0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.2	-0.1	0.0	-0.2
C	0.0	-0.2	-0.1	-0.1	-0.2	-0.2	-0.1	-0.2	-0.4	-0.2	-0.1	0.2
All	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-37. Average Monthly X2 Location under Alternative 3 (in km)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	80.7	80.5	76.6	63.1	53.6	50.4	52.1	54.3	57.7	65.2	74.4	82.8
AN	83.0	83.4	80.7	76.5	61.6	54.6	53.7	58.4	62.5	72.7	78.3	83.8
BN	84.2	84.9	84.8	81.2	71.7	60.9	63.3	64.2	68.5	76.7	81.6	85.5
D	84.3	85.1	85.2	82.4	77.3	69.9	67.2	69.9	74.8	80.7	84.9	87.8
C	87.9	88.7	88.8	87.7	82.5	76.4	75.1	77.6	82.9	86.0	88.1	90.4
All	83.5	83.9	82.3	76.0	67.3	60.9	60.9	63.4	67.7	74.7	80.5	85.6

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-38. Change in Average Monthly X2 Location under Alternative 3 Compared to the No Action Alternative (in km)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-0.1	0.0	0.0
D	0.1	0.0	0.0	-0.2	-0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.2
C	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2
All	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-39. Average Monthly X2 Location under Alternative 5 (in km)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	80.7	80.5	76.5	63.1	53.6	50.4	52.1	54.3	57.7	65.2	74.4	82.8
AN	82.9	83.4	80.7	76.5	61.6	54.6	53.7	58.4	62.5	72.7	78.3	83.8
BN	84.1	84.8	84.8	81.2	71.7	60.9	63.3	64.1	68.4	76.8	81.6	85.5
D	84.2	85.1	85.2	82.6	77.5	69.9	67.2	69.9	74.7	80.6	84.8	87.5
C	87.8	88.7	88.7	87.7	82.5	76.4	75.1	77.6	82.8	86.0	88.1	90.2
All	83.4	83.9	82.2	76.0	67.3	60.9	60.9	63.4	67.6	74.7	80.5	85.5

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-40. Change in Average Monthly X2 Location under Alternative 5 Compared to the No Action Alternative (in km)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-41. Average Monthly Old and Middle River Flow under the No Action Alternative (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	-6,605	-6,987	-5,643	-2,152	-2,932	-1,977	2,803	1,785	-4,374	-8,907	-10,413	-9,209
AN	-5,815	-6,183	-7,266	-3,451	-3,094	-4,235	1,315	646	-4,826	-9,953	-10,843	-9,937
BN	-6,349	-6,692	-7,333	-4,240	-3,303	-3,977	898	271	-4,227	-10,984	-10,496	-9,872
D	-5,534	-5,617	-7,749	-4,817	-4,037	-2,924	-215	-696	-3,215	-10,387	-6,787	-8,063
C	-5,332	-4,447	-5,645	-4,242	-3,491	-2,064	-872	-952	-1,542	-5,873	-3,242	-3,876
All	-6,024	-6,147	-6,631	-3,589	-3,344	-2,869	1,060	415	-3,746	-9,296	-8,645	-8,397

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-42. Change in Average Monthly Old and Middle River Flow under the No Action Alternative Compared to Existing Conditions (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	187	-86	-62	-57	-259	-244	18	-367	-137	27	-148	-526
AN	36	-123	161	185	-5	-251	156	-37	14	109	-176	-1,093
BN	3	21	-66	0	67	32	84	-136	-89	-32	-146	-213
D	178	85	-215	0	-28	31	-26	-69	-7	434	536	496
C	213	-25	-5	104	-103	-68	-29	6	0	620	864	197
All	135	-26	-55	24	-93	-111	33	-159	-58	205	146	-225

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-43. Average Monthly Old and Middle River Flow under Alternative 2 (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	-6,673	-7,011	-5,652	-2,148	-2,916	-1,942	2,806	1,781	-4,376	-8,909	-10,413	-9,208
AN	-5,791	-6,194	-7,247	-3,409	-3,165	-4,240	1,314	646	-4,827	-9,955	-10,843	-9,965
BN	-6,382	-6,762	-7,620	-4,240	-3,176	-3,951	898	271	-4,229	-11,012	-10,610	-9,881
D	-5,546	-5,722	-7,734	-4,817	-4,072	-2,927	-217	-696	-3,210	-10,545	-7,388	-8,242
C	-5,362	-4,521	-5,827	-4,195	-3,478	-2,041	-872	-942	-1,542	-6,294	-3,506	-3,958
All	-6,055	-6,202	-6,704	-3,575	-3,333	-2,852	1,060	415	-3,746	-9,398	-8,835	-8,453

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-44. Change in Average Monthly Old and Middle River Flow under Alternative 2 Compared to the No Action Alternative (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	-68	-24	-9	3	16	35	3	-5	-2	-1	0	1
AN	23	-11	19	43	-71	-5	0	0	-1	-2	0	-28
BN	-33	-70	-286	0	127	26	0	0	-2	-28	-114	-8
D	-12	-105	15	0	-35	-3	-3	0	5	-158	-600	-179
C	-30	-74	-182	47	13	22	0	9	0	-421	-264	-83
All	-31	-55	-72	14	11	17	0	0	0	-102	-190	-57

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-45. Average Monthly Old and Middle River Flow under Alternative 3 (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	-6,606	-7,008	-5,643	-2,151	-2,931	-1,980	2,797	1,785	-4,374	-8,891	-10,413	-9,220
AN	-5,843	-6,195	-7,261	-3,589	-3,115	-4,238	1,314	646	-4,826	-9,954	-10,843	-10,021
BN	-6,262	-6,738	-7,298	-4,240	-3,438	-3,972	898	271	-4,119	-11,016	-10,416	-9,832
D	-5,508	-5,793	-7,482	-4,817	-4,031	-2,918	-209	-685	-3,215	-10,328	-6,625	-7,811
C	-5,237	-4,442	-5,656	-4,279	-3,473	-2,009	-873	-953	-1,542	-5,697	-3,304	-3,715
All	-5,994	-6,201	-6,568	-3,615	-3,365	-2,861	1,059	417	-3,728	-9,257	-8,605	-8,327

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-46. Change in Average Monthly Old and Middle River Flow under Alternative 3 Compared to the No Action Alternative (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	-1	-21	-1	1	1	-3	-6	0	1	17	0	-11
AN	-28	-12	5	-137	-21	-3	0	0	0	-1	0	-84
BN	87	-46	35	0	-135	4	0	0	108	-32	79	40
D	26	-176	267	0	6	6	6	11	0	59	162	252
C	95	5	-11	-38	19	55	0	-1	0	176	-62	161
All	30	-54	64	-25	-22	9	-1	2	19	38	40	70

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-47. Average Monthly Old and Middle River Flow under Alternative 5 (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	-6,605	-6,987	-5,643	-2,152	-2,932	-1,977	2,803	1,785	-4,374	-8,907	-10,413	-9,209
AN	-5,814	-6,184	-7,266	-3,452	-3,098	-4,235	1,315	646	-4,826	-9,953	-10,843	-9,941
BN	-6,349	-6,693	-7,333	-4,240	-3,304	-3,977	898	271	-4,227	-10,984	-10,496	-9,874
D	-5,534	-5,617	-7,749	-4,817	-4,037	-2,924	-215	-696	-3,215	-10,388	-6,790	-8,063
C	-5,332	-4,449	-5,640	-4,254	-3,490	-2,064	-872	-952	-1,542	-5,875	-3,245	-3,877
All	-6,024	-6,147	-6,631	-3,591	-3,344	-2,869	1,060	415	-3,746	-9,296	-8,646	-8,398

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-48. Change in Average Monthly Old and Middle River Flow under Alternative 5 Compared to the No Action Alternative (in cfs)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	0	0	0	0	0	0	0	0	0	0	0	0
AN	1	-1	0	-1	-3	0	0	0	0	0	0	-4
BN	0	0	0	0	-1	0	0	0	0	0	-1	-2
D	0	0	0	0	0	0	0	0	0	-1	-3	-1
C	0	-2	4	-13	2	0	0	0	0	-2	-3	-2
All	0	-1	1	-2	0	0	0	0	0	-1	-1	-1

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-49. Average Monthly Total Delta Exports under the No Action Alternative (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	462	482	554	490	531	591	201	211	469	704	719	635
AN	394	409	578	389	398	499	126	105	384	662	714	655
BN	436	445	575	389	372	433	125	102	271	694	685	653
D	384	378	585	401	327	284	118	109	180	639	431	530
C	363	294	425	342	275	195	99	95	60	330	184	247
All	416	415	549	417	402	425	144	138	300	627	571	561

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-50. Change in Average Monthly Total Delta Exports under the No Action Alternative Compared to Existing Conditions (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	-15	5	4	2	3	6	23	5	7	-1	3	22
AN	-8	4	-5	-10	-3	10	11	0	-6	-6	1	58
BN	-1	0	5	-2	-7	-5	5	0	7	-3	7	8
D	-11	-4	19	2	-1	-4	-6	-2	0	-37	-42	-37
C	-15	1	1	-5	4	4	-7	-10	-3	-49	-62	-14
All	-11	1	5	-2	0	2	7	-1	2	-17	-16	7

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-51. Average Monthly Total Delta Exports under Alternative 2 (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	466	483	554	490	531	589	200	211	469	705	719	635
AN	392	410	579	387	402	499	126	105	384	663	714	656
BN	438	450	594	390	364	431	125	102	271	696	692	653
D	384	385	585	402	329	284	118	109	180	650	471	542
C	364	299	437	344	275	194	99	95	60	358	201	253
All	418	418	554	417	402	424	144	137	300	634	584	565

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-52. Change in Average Monthly Total Delta Exports under Alternative 2 Compared to the No Action Alternative (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	4	2	0	0	-1	-2	0	0	0	0	0	0
AN	-1	1	1	-2	4	0	0	0	0	0	0	2
BN	2	4	20	1	-8	-2	0	0	0	2	8	1
D	1	7	0	0	2	0	0	0	0	11	40	11
C	1	5	12	1	0	-1	0	0	0	28	17	5
All	2	4	5	0	0	-1	0	0	0	7	13	4

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-53. Average Monthly Total Delta Exports under Alternative 3 (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	462	483	554	490	531	591	201	211	469	703	719	636
AN	395	410	578	398	399	499	126	105	384	662	714	660
BN	430	448	572	389	380	433	125	102	264	696	680	650
D	382	389	567	401	327	284	118	108	180	635	420	514
C	357	294	426	345	273	192	99	95	60	318	188	237
All	414	418	545	419	403	425	144	137	298	625	568	557

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-54. Change in Average Monthly Total Delta Exports under Alternative 3 Compared to the No Action Alternative (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	0	1	0	0	0	0	0	0	0	-1	0	1
AN	2	1	0	9	1	0	0	0	0	0	0	5
BN	-6	3	-2	0	8	0	0	0	-7	2	-5	-3
D	-2	11	-18	0	0	0	0	-1	0	-4	-11	-16
C	-6	0	1	3	-2	-4	0	0	0	-12	4	-10
All	-2	3	-4	2	1	-1	0	0	-1	-3	-3	-5

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-55. Average Monthly Total Delta Exports under Alternative 5 (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	462	482	554	490	531	591	201	211	469	704	719	635
AN	394	409	578	389	398	499	126	105	384	662	714	655
BN	436	445	575	389	372	433	125	102	271	694	685	653
D	384	378	585	401	327	284	118	109	180	639	431	530
C	363	294	425	343	274	195	99	95	60	330	184	247
All	416	415	549	417	402	425	144	138	300	627	571	561

Key: W = wet, AN = above normal, BN = below normal, D = dry, C = critical

Table O-56. Change in Average Monthly Total Delta Exports under Alternative 5 Compared to the No Action Alternative (in TAF)

Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	0	0	0	0	0	0	0	0	0	0	0	0
AN	0	0	0	0	0	0	0	0	0	0	0	0
BN	0	0	0	0	0	0	0	0	0	0	0	0
D	0	0	0	0	0	0	0	0	0	0	0	0
C	0	0	0	1	0	0	0	0	0	0	0	0
All	0	0	0	0	0	0	0	0	0	0	0	0

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