

EXHIBIT H

**CHAIN OF CORRESPONDENCE FOR APPROVAL OF THE
PRADO DAM WATER CONTROL MANUAL**

**PRADO DAM
SANTA ANA RIVER
RIVERSIDE COUNTY, CALIFORNIA**

Los Angeles District Office
U.S. Army Corps of Engineers
September 1991



DEPARTMENT OF THE ARMY

LOS ANGELES DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2711
LOS ANGELES, CALIFORNIA 90053-2325

REPLY TO
ATTENTION OF

CESPL-ED-HR

27 September 1991

MEMORANDUM FOR Commander, South Pacific Division,
ATTN: CESPED-ED-W

SUBJECT: Prado Dam and Reservoir Water Control Manual

1. Reference (CESPL-ED-HR/19 Jun 90) 1st End from CESPL-ED-W dated 28 September 1990.
2. Enclosure 1 is eight copies of the approved subject manual which has been modified as per comments provided in paragraph 2 of the referenced endorsement. Enclosure 2 is a summary of LAD's responses to each of the SPD comments.
3. Regarding paragraph 3 of the referenced endorsement, Enclosure 3 is a revised estimate of the average annual cost of operating an expanded pool (i.e., WSE 490-494 ft during the winter flood season) for water conservation activities. Enclosure 3 shows the breakdown of the \$32,400 estimate to be \$26,400 for regulation of the facility by the Reservoir Regulation Section and \$6,000 for additional maintenance due to the increased inundation duration of the gates.
4. Regarding paragraph 4 of the referenced endorsement, coordination with the Orange County Water District (OCWD) regarding reimbursement of costs to the Corps has occurred in conjunction with the Prado Dam Water Conservation Study. Article 1 of the DRAFT MOA, scheduled for SPD review in November 1991, between the LAD and the OCWD on "The Regulation of Prado Dam for Seasonal Water Conservation", states that:

OCWD shall pay all costs associated with regulation of the reservoir for water conservation.

Three costs are identified in Article 1 of the DRAFT MOA. They are (1) the additional maintenance costs due to prolonged gate inundation, (2) the costs for regulating Prado Dam for a Seasonally Expanded Pool, and (3) the costs for regulating Prado Dam for water conservation under the currently approved Water Control Plan (referred to as the "Base Plan" in the Prado Dam Water Conservation Study). Therefore, reimbursement of costs for the currently approved Water Control Plan will commence with the signing of the above mentioned MOA.

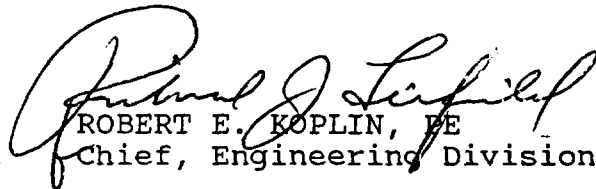
CESPL-ED-HR

SUBJECT: Prado Dam and Reservoir Water Control Manual

5. Enclosure 4 is a copy of the final EA which was prepared for the subject Water Control Manual. A copy of the signed FONSI is located in Exhibit G of the subject Water Control Manual.

FOR THE COMMANDER:

4 Encls


ROBERT E. KOPLIN, PE
Chief, Engineering Division

15 August 1991

LOS ANGELES DISTRICT RESPONSES TO SPD
COMMENTS DATED 20 AUGUST 1990
REGARDING THE
PRADO DAM WATER CONTROL MANUAL

1. Concur. Title to paragraph 3-05g has been changed to "Water Year 1990 Plan".
2. Concur. The source of QPF's has been identified in paragraph 6-01.
3. Concur. The word "Range" has been removed from paragraphs 7-05c & d. The paragraphs simply read "(Release: 5,000 cfs)".
4. Concur. Paragraph 7-11e has been added which describes the District's drought contingency plan.
5. Concur. The note on Plate 2-06d has been revised to accurately reflect conditions.
6. Concur. Precipitation data for plate 4-07 has been extended through fiscal year 1989.
7. Do not Concur. The base plate for plate 4-08 has not been revised because the original is from an older report and is not readily revised.
8. Concur. The Reservoir Operation data has been reviewed and verified. The sudden and numerous decreases in outflow from Prado Dam were due to requests from Orange County Environmental Management Agency. The scheduled releases caused damage to the downstream levees and bridges as well as utilities passing under the channel. Orange County requested these decreases so that the downstream channel could be inspected and emergency repairs initiated.
9. Concur. Plate 8-05a has been removed and replaced with an exceedance filling frequency curve. The previous set of curves were used to evaluate different water conservation alternatives and the effect these alternatives had on non-flood season conditions. CESPL-ED-HR feels that this information is not necessary for the water control manual and has, therefore, removed it.
10. Concur. The source of data for the methodologies presented in appendices C, D, and E have been included in the introductory paragraphs of each appendix. A means of storing Prado Dam inflow forecasts in the WCDS is under development.

Enclosure 2

11. Concur. A paragraph was added to section 1-07 that addresses public involvement accomplished as part of the preparation of the water control manual.
12. Concur. Paragraph 9-02f has been added which indicates that the Corps coordinates with The California Department of Fish and Game regarding environmental issues at Prado Dam.
13. Concur. Paragraph 9-02g has been added which indicates that the Corps coordinates with U.S. Fish and Wild Life Service regarding environmental issues at Prado Dam.
- 14a. Concur. The EA includes, as Appendix B, the Fish and Wildlife Services's Comments on the EA.
- 14b. Concur. Appendix B, of the EA, contains the comments from the Fish and Wildlife Service and the Corps' responses. As of this date comments from the California Department of Fish and Game have not been received.
15. Concur. The reference to "Operations Section" has been changed to "Operations Branch".
16. Do not Concur. H&H branch has reevaluated the four hour waiting period for implementation of the "no-communication Reservoir Regulation Schedule". The branch feels that four hours is an appropriate time to wait for Prado Dam. Prado Dam reacts relatively slowly when compared to other LAD projects. Also the travel time for emergency relief personnel from the baseyard to Prado Dam is about one-hour.

Enclosure 2

17 September 1991

MEMORANDUM FOR RECORD

SUBJECT: Revised Estimate of the Average Annual Cost for Regulation of Prado Dam for Water Conservation Under the Currently Approved Water Control Plan

1. Reference.

a. 1st End dated 28 September 1990 from CESPED-ED-W "Prado Dam and Reservoir Water Control Manual". The "currently approved Water Control Plan" referenced in this memorandum is the Water Control Plan found in the Water Control Manual approved by this endorsement.

b. MFR dated 12 June 1990, subject "Increased Costs due to Interim Water Year 1990 Prado Dam Water Control Plan". On file at CESPL-ED-HR.

2. This memorandum presents a revised estimate for subject costs. This memorandum supersedes the MFR referenced in paragraph 1 above. Table 1 summarizes the revised estimate of average annual costs for regulation of Prado Dam for water conservation under the currently approved Water Control Plan.

TABLE 1
Summary of Average Annual Costs for Regulation of Prado Dam
for Water Conservation Under the Currently Approved Water Control Plan

Description	Average Annual Cost
Reservoir Regulation	\$26,400
Gate Maintenance (Con-Ops)	\$6,000
Total Cost to Corps	\$32,400

3. The following four steps were used to prepare this estimate. The estimated daily cost of running the Reservoir Operation Center (ROC) for the regulation of Prado Dam for Flood Control (FC) is \$3,500/day and for Water Conservation (WC) is \$1,150/day.

Step 1. Cost for 1969 Schedule:

From Table 2, under the 1969 schedule, Prado Dam is operated for Flood Control an average of 7 days per year. The cost to the ROC is:

$$(7 \text{ days FC}) \times (\$3,500/\text{day}) = \$24,500$$

Step 2. Cost of the currently approved Water Control Plan:

From Table 2, under the current Water Control Plan, Prado Dam will on average be operated for flood control (i.e., WSE'S above 494-ft) for 6 days and for water conservation (i.e., WSE's between 490-ft and 494-ft) for 26 days. The cost to the ROC for this Water Control Plan is therefore:

Enclosure 3

H-5

CESPL-ED-HR

SUBJECT: Revised Estimate of the Average Annual Cost for Regulation of Prado Dam for Water Conservation Under the Currently Approved Water Control Plan

$$(6 \text{ days FC}) \times (\$3,500/\text{day}) + (26 \text{ days WC}) \times (\$1,150/\text{day}) = \$50,900$$

Step 3. Net increased Cost to the ROC for the Currently Approved Water Control Plan:

The net increased cost to the ROC for adopting the currently approved Water Control Plan is the difference between the 1969 Schedule (i.e., \$24,500) and the current Water Control Plan cost (i.e., \$50,900).

$$\begin{aligned} \text{Net Cost to ROC} &= \$50,900 - \$24,500 \\ \text{Net Cost to ROC} &= \$26,400 \end{aligned}$$

Step 4. Total Cost to Corps:

Con-Ops has estimated that an average annual cost for gate maintenance for prolonged inundation of the gates for water conservation operations is \$6,000. Therefore the total cost of the currently approved water Control Plan would be:

$$\begin{aligned} \text{Total Cost to Corps} &= \$26,400 + \$6,000 \\ \text{Total Cost to Corps} &= \$32,400 \end{aligned}$$

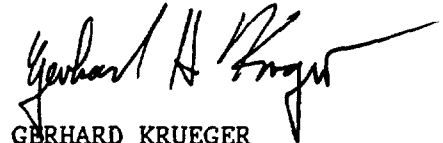
TABLE 2
Annual Inundation Frequencies for
PRADO DAM

Frequency (years)	Duration of Inundation (in days) above indicated Elevation << PRESENT HYDROLOGIC CONDITIONS >> OCWD Recharge Capacity = 450 cfs			
	Water Year 1990 Water Control Plan		1969 Water Control Schedule	
	WSE > 490	WSE > 494	WSE > 490	WSE > 494
2	16	0	2	0
5	3	8	5	2
10	75	20	20	9
25	130	42	54	38
50	180	47	56	44
100	205	56	58	48
Annual Average	32	6	7	4
Number of days between 490 - 494	26		3	

CESPL-ED-HR

SUBJECT: Revised Estimate of the Average Annual Cost for Regulation of Prado Dam for Water Conservation Under the Currently Approved Water Control Plan

4. The POC for this MFR is Gerhard Krueger at X2374.



GERHARD KRUEGER
Hydraulic Engineer

CESPD-ED-W (CESPL-ED-HR/19 Jun 90) (1110-2-240b)1st End Krhoun/5-1433
SUBJECT: Prado Dam and Reservoir Water Control Manual

DA, South Pacific Division, Corps of Engineers, 630 Sansome Street,
Room 720, San Francisco, CA 94111-2206

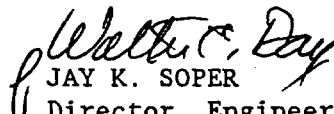
28 SEP 1990

FOR Commander, Los Angeles District, ATTN: CESPL-ED-HR

1. Reference ASA(CW) letter dated 21 August 1989 to Mr. John V. Fonley, President of the Board of Directors, Orange County Water District.
2. Subject manual is approved subject to the attached comments and the following paragraphs.
3. The referenced letter indicates Department of Army policy concerning operating the conservation pool greater than elevation 490 feet to enhance water conservation. District has determined that the average annual charges of operating an expanded pool for water conservation activities would be \$12,600 for the operating plan in the manual, however, adequate justification has not been provided for these costs.
4. Along with additional justification for the costs shown, District should provide documentation indicating coordination has taken place with Orange County Water District and it has agreed to make the necessary payments to the Corps for operating the project to enhance the water conservation activities of Orange County.
5. District is requested to provide this office its responses to all Division comments and concerns on the water control manual.
6. Any questions on the above should be addressed to Mr. Frank Krhoun of the Water Management Branch at FTS 465-1433.

FOR THE COMMANDER:

Encl


JAY K. SOPER
Director, Engineering



DEPARTMENT OF THE ARMY

LOS ANGELES DISTRICT CORPS OF ENGINEERS
P O BOX 2711
LOS ANGELES CALIFORNIA 90053-2725

REPLY TO
ATTENTION OF

CESPL-ED-HR (1110-2-240b)

19 June 1990

MEMORANDUM FOR Commander, South Pacific Division,
Attn: CESPD-ED-W

SUBJECT: Prado Dam and Reservoir Water Control Manual

1. Enclosed are three copies of the Prado Dam and Reservoir Water Control Manual prepared in accordance with ETL 1110-2-251. Approval of the manual is requested.
2. The Draft Environmental Assessment for the Water Control Manual is being finalized and will be transmitted to you shortly.
3. Enclosure 1 is an assessment of the increased costs of implementing that portion of the Prado Dam water control plan which enhances the ground water recharge activities of Orange County Water District. This assessment was requested in paragraph 5 of CESPD-ED-W's 2nd endorsement, dated 15 February 1990, subject: Water Year 1990 Interim Prado Dam Water Control Plan.
4. If there are any questions, please contact Boniface Bigornia of the Reservoir Regulation Section at (213) 894-6915.

FOR THE COMMANDER:

Encls


Robert E. Koplin, PE
Chief, Engineering Division

12 June 1990

Assessment of Increased Costs to the Corps Caused by the
Prado Dam Water Control Plan

1. Reference paragraph 5 of CESP-ED-W's 2nd endorsement, dated 15 February 1990, subject: Water Year 1990 Interim Prado Dam Water Control Plan.
2. Reservoir Regulation Section estimates that the total annual increased cost to the Corps for implementing that portion of the Prado Dam water control plan which improves ground water recharge activities of the Orange County Water District are as outlined in the following table:

Type of Cost	Estimated Cost
Separate Capital Costs	\$ 0 ¹
Increased Reservoir Regulation Costs	\$ 6,600 ²
Share of Joint Operational and Maintenance Costs	\$ 6,000 ³
Costs of Benefits Foregone	\$ 0 ⁴
Costs of Compensation Due Others	\$ 0 ⁵
Total Annual Increased Cost to the Corps	\$12,600
1. The interim plan required no new capital costs.	
2. Accounts for the additional costs of reservoir regulation caused by that portion of the water year 1990 water control plan which enhances ground water recharge activities of Orange County Water District.	
3. Reference draft report "Prado Dam Water Conservation Study" dated August 1990. There are increased maintenance costs due to extended inundation of the gates.	
4. The water control plan does not require the abstention of any existing benefits.	
5. The water control plan does not impact existing leases or landowners in a manner which requires compensation.	

Enclosure 1

SOUTH PACIFIC DIVISION
COMMENTS ON
PRADO DAM
WATER CONTROL MANUAL

1. Page 3-9, paragraph g- Change title of this paragraph to Water Year 1990 Plan. (CESPD-ED-W)
2. Page 6-1, paragraph 6-01- Indicate source of QPF's. (CESPD-ED-W)
3. Page 7-8, paragraphs d & e- Releases from Prado Dam should be a constant of 5,000 cfs between elevations 520 and 544.3. Suggest these paragraphs indicate release of 5,000 cfs instead of release range of 5,000cfs. (CESPD-ED-W)
4. In chapter 7 include a sub-paragraph on District's drought contingency plan. (CESPD-ED-W)
5. Plate 2-06b- Revise the note on this figure to accurately reflect conditions. (CESPD-ED-W)
6. Plate 4-07- Extend data through Water Year 1989 or to the last data available. (CESPD-ED-W)
7. Plate 4-08- Revise symbols to make chart easier to read. The estimated values should be by the flows instead of the year of the flood. (CESPD-ED-W)
8. In plates 4-12 to 4-15 there are numerous sudden decreases in the outflow of the dam that appear inappropriate in the operation of the project. District is requested to review this data to ensure its accuracy. (CESPD-ED-W)
9. Provide the difference in plates 8-05a and 8-05b as both title boxes appear the same. (CESPD-ED-W)
10. Appendices C, D and E contain the methodologies for forecasting reservoir inflows, recession inflows and buffer pool releases. These are based on algorithms determined from historical storms and rely on forecasted amounts of precipitation. District should indicate in the appendices the source of this data. In addition, all forecasted data and resultant inflows and outflows should be presented and stored on the District's WCDS. (CESPD-ED-W)
11. Include in the package information on the public notification and public involvement accomplished as part of the preparation of the manual. (CESPD-PD-R)

12. Page 9-2, paragraph 9-01c- Add California Department of Fish and Game, an agency with which coordination is required pursuant to the Fish and Wildlife Coordination Act. (CESPD-PD-R)

13. Page 9-2, paragraph 9-02- Add the U. S. Fish and Wildlife Service, an agency with which coordination is required pursuant to the Endangered Species Act and the Coordination Act. (CESPD-PD-R)

14. The following comments pertain to the Environmental Assessment:

a. Page 15, Paragraph 11E- Include documentation from Fish and Wildlife Service that they agree with the Corps' determination that the proposed action will not adversely affect the least Belle's vireo.

b. Obtain recommendations from the Fish and Wildlife Service and California Department of Fish and Game and respond to each of those recommendations. (CESPD-PD-R)

15. Page 1-2, Paragraph 1-05- Change Operation Section to Operation Branch. (CESPD-CO)

16. Page A-6, Paragraph 3-05- District should reevaluate waiting four hours before implementing the "no-communication Reservoir Regulation Schedule" as Plate 4 shows changes in release rate for past floods more frequent. Provide justification for time selected. (CESPD-CO)