

56

#56

DAVID E. CREIGHTON, JR., P.E.

CONSULTING ENGINEER

7308 E. Fillmore Street  
(602) 946-7894

July 25, 1983

OFFICIAL FILE COPY		
RECEIVED A	Scottsdale, Arizona JUL 28 1983 86257	
Action	M/C	
Action Taken	Initials	
Date	Initial	To
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		copy AP: 700-41
		Regulatory Storage

Regional Environmental Officer  
Lower Colorado Region  
U.S. Bureau of Reclamation  
Box 427  
Boulder City, Nevada 89005

Dear Sir:

I appreciate receiving the copy of the Draft EIS for the "Regulatory Storage Division", Central Arizona Project. The following comments are offered upon the statement.

Summary and Report. I.A. Par. 1. There is no "Regulatory Storage Division", per. se., authorized in PL 90-537. Section 301(a)(3) refers only to Buttes Dam and Reservoir. The several dams and reservoirs are specifically identified in sections 301(a)(2,3,4, & 5). While it may simplify some operational and functional concepts to organize a project as a conveyance division and a regulatory storage division, it is misleading to attempt to create a mantle of legality for a "Regulatory Storage Division" when none exists in the cited section, and an amended act is not referenced.

Summary, pg 13. III.B.4. par. 4. Confluence Site Area. The indicated population of 400 residents of the community indicates a population explosion on the Fort McDowell Indian Reservation since the date of the 279 residents reported in the Orme Dam and Reservoir draft environmental statement (INT DES 76-17). To what is this attributed?

Additionally, the "maintains the traditional Yavapai culture, religion, and customs" requires some supporting data and display. The Orme DES (pg 76) displayed the difference in funerary practices between the three Yavapai branches. The conversion from cremation to burial as a cultural practice does not appear to have been addressed or documented. Included with these comments is a copy of several obituary notices highly pertinent to the concept of culture, religion, and customs. Information obtained from a former social worker for the Fort McDowell Community provides information that has been either overlooked or deliberately ignored by the anthropologists contracting for supporting studies. The community contains an appreciably sized group who have been considered to be associated with several of the Christian denominations represented on the reservation. The funerary practices as reported also provides a possible insight into the poor condition of some of the residences, as well as the low economic level of individuals and families. Into the nominally christian burial adaptation that appears to have been adopted instead of cremation, a syncretism developed which is manifested by the damaging or partial destruction of some element(s) of the residence at the time of the owner's (or family) death. Also, at the time of interment, all of the possessions of the deceased that are of particular association with the clothing, occupation, or crafts are dumped into the grave over the casket before the grave is closed. This correspondence to the historic destruction of the deceased's abode is an impoverishing act which does not comport with the otherwise expressed christian belief. Additionally, the role of the owl and owl behaviour prior to and at the moment of an individual's death continues in the community's memory. These practices may be the primary, but unrecorded or reported, reason for the highly emotional and sacrosanct attitude toward this non-exclusively Indian cemetery.

Summary, pg 13. III.B.6. par. 2. Downstream Area. The observed high use of the Salt River channel for fishing during the spring of 1983 was observed to have several

- 4 hundred fishermen per mile simultaneously in the vicinity of 19th Avenue.
- 
- 5 Report. I.B. par.3. What is the rationale for omitting the Gila Bend Indian Reservation?(Fig I-1).
- 
- 6 Figure I-1, and others. An obsolete base map for the city limits of Chandler, Gilbert, Glendale, Peoria, Paradise Valley, Phoenix, Mesa, Scottsdale, Tempe, and Apache Junction which was used gives a very misleading and incorrect display to the cities which extend north of the Granite Reef Aqueduct in particular.
- 
- 7 II.B. par. 3, pg. 13. The November 1981 selection by the Secretary predates the 1982-1983 Water Year runoff of very major significance with the spilling of water beyond the boundaries of critical hydrologic need in Central Arizona. The Confluence Site remains the single most significant undeveloped site for conservation, flood control, and coordinatable CAF re-regulation in the Central Arizona service area. The forcing of a political solution to a hydrologic-hydraulic problem may be exceedingly unwise. Longterm, it may be better to hold action in abeyance, rather than to take the wrong action.
- 
- 8 Pg 35. Confluence site, last par. Change Heber-Teno to Heber-Reno.
- 
- 9 Pg. 54. I have been of the impression that FWS had unsubspiciated the bald eagle to just haliaeetus leucocephalus, rather than to attempt to continue the fiction of the Mason-Dixon line inherent in the H. l. leucocephalus or southern bald eagle.
- 
- 10 Pg 63. par. 5. It would be appropriate to show the average and maximum drowning fatalities per year for the last 10/- years, which are attributable to tubing.
- 
- 11 Pg 65. (2)(b). Fort McDowell upon abandonment in 1890 was opened to settlement by settlers who were subsequently evicted after 1905 (DES 76-17, pg 78). Also see Obituary Information (enclosed).
- 
- 12 Pg 251. e.(2)(c). The reintroduction of the bald eagle into suitable habitat in Arizona appears to be a highly invalid and prejudicial statement that has not and cannot be demonstrated. It is based upon the very wishful assumption that there was in the past a high and widespread population of resident bald eagles. A possible technique to assist the development of the invading and growing population would be to provide a supplemental nutrient base as described in "The Garbage Eagles", Natural History 8/83, pp.42-45.
- 
- 13 Pg 266. b. Water Control Facilities. With the several and consecutive years of major flood spills on the Salt and Verde Rivers, the Gila River, and Hoover Dam in 1983, this section should have some quantification and illustrative tabulations.

I would like to receive a copy of the Final EIS when it is available.

Sincerely,

  
David E. Creighton, Jr.

Enclosure

OBITUARY INFORMATION

Antonia Jauregui,

Nov 1981

Antonia Jauregui

TEMPE -- Antonia Jauregui, 92, who was born on the Ft. McDowell Indian Reservation, died Nov. 23, 1981, in Good Samaritan Hospital.

Mrs. Jauregui, 1812 E. Lemon, was a member of Our Lady of Guadalupe Society at Immaculate Heart Catholic Church and Benito Juarez Society of Phoenix.

Survivors include children, Estefana Munoz, Lucy Munoz, Josephine Bennett, Hortense Jacques, Ray, John, Jesus, Phillip and Miguel; four sisters; 32 grandchildren; 108 great-grandchildren and 29 great-great-grandchildren.

Rosary will be 7 p.m. today in Immaculate Heart Church, 909 E. Washington, Phoenix. Mass will be 9:30 a.m. Friday in the church. Universal Memorial Center made arrangements.

7/24/80

Elizabeth Johnson

FORT McDOWELL

Elizabeth Johnson, 68, of Fort McDowell, who had been Relief Society president for the Church of Jesus Christ of Latter-day Saints here, died July 24, 1980, in Phoenix Indian Hospital.

Mrs. Johnson was born in Cholic. She is survived by her husband, Andrew; daughter, Kathleen Pava; mother, Megila Harvey; a sister; two brothers and a grandson.

LDS Church services will be 10 a.m. Tuesday at the Fort McDowell Presbyterian Arbor Church.

Born 1889, daughter of a Hispanic settler on the abandoned Fort McDowell military reservation, which had been opened to settlement, and was subsequently partially set aside as an Indian Reservation in 1903. After 1905, the settlers were evicted, partially through purchase of their homesteads and rights. The Hispanic settlers moved to form the nucleus of Tempe. The obit writer is not correct in referring to Antonia Jauregui's birthplace as the Reservation (Indian).

NOTE: Notice the locations of the birthplaces as being elsewhere than at Fort McDowell for these Indian people. Yavapai line may be through marriage rather than descent.

Carl Burns, 7/24/80

FORT McDOWELL

Services for Carl Burns, 86, who died June 29, 1980, in Phoenix Indian Hospital, will be 8 a.m. Thursday under the arbor at Fort McDowell's meeting place.

Mr. Burns was born at San Carlos and had been a cow hand.

Survivors include two sisters and an adopted granddaughter.

Paradise Chapel made arrangements.

11-29-81

SMITH: Services for Sidney Smith, 64, who was born in Arizona and worked as a ranch cowboy, will be at 2 p.m. Friday in the Presbyterian Church Arbor. Smith, of Fort McDowell, died Sunday in a Phoenix hospital. Survivors include three brothers; and three sisters.

12-2-81

7-3-82

Dickens: Margaret Dickens, 62, who was born in Fort McDowell, died Saturday in her home. Services for Mrs. Dickens, a Scottsdale resident, will be at 10 a.m. Saturday in Presbyterian Arbor at the Fort McDowell Indian Reservation. Survivors include six children, Lolita Isaac, Alfred Smith, Valvarine Bennett, Renee Margaret Camancho, Edwin Bennett and Edward Bennett; a sister; two brothers; 20 grandchildren; and four great-grandchildren.

with 7-7-82

OBITUARIES

Phoenix Gazette Oct 10, Dec. 8, 1982

1-Funeral 12-2-81

DOKA, Catherine, survived by... Services for Mrs. Doka, a resident of the Fort McDowell Indian Community, was born in Arlington. Survivors include her husband, Herbert; children, Evalene Anton, Larry and Kenny; 10 grandchildren; and one great-grandson. Services were conducted this morning in the Fort McDowell Presbyterian Church. Interment was in Fort McDowell Cemetery, announced Paradise Chapel Funeral Home.

Catherine Doka

Catherine Doka, 74, who had been a nurse's aide with the U.S. Public Health Service, died Saturday in Phoenix Indian Hospital.

Mrs. Doka, a resident of the Fort McDowell Indian Community, was born in Arlington. Survivors include her husband, Herbert; children, Evalene Anton, Larry and Kenny; 10 grandchildren; and one great-grandson.

Services were conducted this morning in the Fort McDowell Presbyterian Church. Interment was in Fort McDowell Cemetery, announced Paradise Chapel Funeral Home.

C. Mon., Feb. 15, 1982 The Phoenix Gazette

OBITUARIES

1-Funeral 2-12-81

DOKA: Herbert Doka, 74, a cattle raiser and member of the first graduating class of Phoenix Indian School, died last Monday in a Phoenix hospital. Services for Doka, who was born on the Fort McDowell Indian Reservation, were Saturday. He had worked as an equipment operator at Verde Wells for the city of Phoenix. Survivors include his son, Larry and Kenny; a daughter, Evalene Anton; a sister; two brothers; 10 grandchildren; and a great-grandson.

DOKA: Herbert Doka, 74, a cattle raiser and member of the first graduating class of Phoenix Indian School, died last Monday in a Phoenix hospital. Services for Doka, who was born on the Fort McDowell Indian Reservation, were Saturday. He had worked as an equipment operator at Verde Wells for the city of Phoenix. Survivors include his son, Larry and Kenny; a daughter, Evalene Anton; a sister; two brothers; 10 grandchildren; and a great-grandson.

Responses to Comments  
David E. Creighton, Jr., P.E.

- 56-1 The CAP authorizing legislation, PL 90-537, authorized Orme Dam or suitable alternative to provide regulatory storage for the CAP. When the studies were begun to investigate Orme Dam and alternatives, the name of the division was changed to "Regulatory Storage Division" reflecting the function to be served rather than a specific structure. A Solicitors Opinion was issued in September 1981, stating that plans which served the same functions as Orme Dam were suitable alternatives and thereby authorized.
- 56-2 Population figures for Fort McDowell Indian Community were obtained using the latest available figures from the BIA and the community.
- 56-3 Additional supporting data for the maintenance of Yavapai culture is contained in the report Social Impacts and Effects of CAWCS plans.
- 56-4 We agree that the downstream area does have recreational value and use. The wording referenced on page 13 of the Summary, has been changed to read "The streams and lakes in the downstream area support various recreational uses, including fishing and nature study."
- 56-5 Gila Bend Indian Reservation has been added to the EIS.
- 56-6 The Base map has been updated.
- 56-7 Plan 6 accomplished similar levels of flood control, water conservation, and regulatory storage without the negative environmental and social consequences associated with the confluence site.
- 56-8 The correction has been made.
- 56-9 The scientific name of any given species is determined by a standardized taxonomic nomenclature procedure and not by the Federal government. The current legal status of the bald eagle was determined by the listing of the entire population of the lower 48 states as either threatened or endangered. The breeding population of Arizona is currently recognized as the Southwestern bald eagle population for management and recovery purposes.
- 56-10 A presentation regarding the safety problems involved in "tubing" activities on the Salt River is not within the scope of this statement.
- 56-11 The EIS has been revised in accordance with your comment.
- 56-12 See response to comment 9.
- 56-13 Inclusion of data regarding flow characteristics is more detailed than is warranted in this EIS.

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DEPARTMENT OF ENERGY  
Western Area Power Administration  
P.O. Box 200  
Boulder City, Nevada 89005

OFFICIAL FILE COPY		
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Action:		
Action File:		
Date	From	To
		LSC
File		

JUL 26 1983

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IN REPLY  
REFER TO: G1010  
5400 - Gen

Mr. N. W. Plummer  
Regional Director  
Bureau of Reclamation  
Lower Colorado Region  
P.O. Box 427  
Boulder City, Nevada 89005

Dear Mr. Plummer:

Thank you for the opportunity to review the Draft Environmental Impact Statement for Regulatory Storage Division of the Central Arizona Project. We have no comments.

Sincerely,

  
John S. Forman  
Deputy Area Manager



RESOLUTION (FCD 83-7A)  
SUPPORT FOR CAWCS PLAN 6, AND FLOOD CONTROL ON THE  
AGUA FRIA RIVER

The Board of Directors of the Flood Control District of Maricopa County convened in the Supervisors' Auditorium at 204 West Jefferson Street, Phoenix, Arizona on July 18, 1983 with a quorum present, and in accordance with the recommendation of the Citizens' Flood Control Advisory Board and the Chief Engineer and General Manager of the Flood Control District, adopted the following Resolution on motion made by Mr. Freestone.

WHEREAS, the Central Arizona Project (CAP) was authorized on September 30, 1968 for the principal purpose of furnishing water for irrigation, municipal, and industrial use in central Arizona through importation of water from the Colorado River and conservation of local water resources; and,

WHEREAS, the alternative plans described in the draft Environmental Impact Statement (EIS) for the Regulatory Storage Division of the CAP being investigated under the title Central Arizona Water Control Study (CAWCS) which have the principal purposes of increasing the operating efficiency of the CAP; of providing facilities and means to meet the flood control needs on the Salt and Gila Rivers through the Phoenix metropolitan area; and of providing for the structural safety (SOD) of existing Bureau of Reclamation dams on the Salt and Verde Rivers; and

WHEREAS, the adoption and implementation of Plan 6 which was selected in November 1981 by the Secretary of the Interior as the agency proposed action would reduce the 200-year flood at Sky Harbor Airport to 92,000 cfs and the 100-year flood to 55,000 cfs provides for increased operating efficiencies for the CAP, secures needed flood control for the Salt, Gila, and Agua Fria Rivers, and meets SOD structural needs for existing dams on the Salt and Verde Rivers.

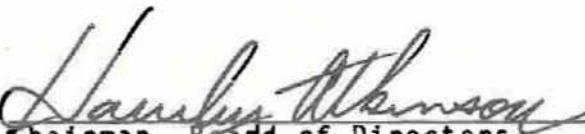
Therefore, now be it resolved that the Board of Directors of the Flood Control District of Maricopa County:

---

Expresses support for implementation of the agency preferred plan, Plan 6, with its inherent flood control measures and safety of dams structural modifications on the Salt and Verde Rivers.

---

Dated this 18th day of July 1983.

  
Chairman, Board of Directors  
Flood Control District of Maricopa County

ATTEST:

H-232

RESOLUTION (FCD 83-7B)  
SUPPORT FOR CAWCS PLAN 6, AND FLOOD CONTROL ON THE  
AGUA FRIA RIVER

The Board of Directors of the Flood Control District of Maricopa County convened in the Supervisors' Auditorium at 204 West Jefferson Street, Phoenix, Arizona on July 18, 1983 with a quorum present, and in accordance with the recommendation of the Citizens' Flood Control Advisory Board and the Chief Engineer and General Manager of the Flood Control District, adopted the following Resolution on motion made by Mr. Freestone.

WHEREAS, the Central Arizona Project (CAP) was authorized on September 30, 1968 for the principal purpose of furnishing water for irrigation, municipal, and industrial use in central Arizona through importation of water from the Colorado River and conservation of local water resources; and,

WHEREAS, the alternative plans described in the draft Environmental Impact Statement (EIS) for the Regulatory Storage Division of the CAP being investigated under the title Central Arizona Water Control Study (CAWCS) which have the principal purposes of increasing the operating efficiency of the CAP; of providing facilities and means to meet the flood control needs on the Salt and Gila Rivers through the Phoenix metropolitan area; and of providing for the structural safety (SOD) of existing Bureau of Reclamation dams on the Salt and Verde Rivers; and

WHEREAS, the adoption and implementation of Plan 6 which was selected in November 1981 by the Secretary of the Interior as the agency proposed action would provide 660,000 acre feet of regulatory storage space and 170,000 acre feet of new conservation space at a New Waddell Dam reservoir which will provide a level of incidental flood control such that discharges from the spillway would occur only for events in excess of the 200 year flood on the Agua Fria River.

Therefore, now be it resolved that the Board of Directors of the Flood Control District of Maricopa County:

---

Recommends that the incidental flood control protection provided by New Waddell Dam for the Agua Fria River be assured through the adoption of dam operational criteria which would maintain the maximum conservation pool elevation below 1,694 MSL, **2** as appropriate, and that the flood control protection thus provided be identified in terms of "a storm" of known return frequency.

---

Dated this 18<sup>th</sup> day of July 1983.

  
Chairman, Board of Directors

H-233

Responses to Comments  
Flood Control District of Maricopa County

58-1 See response to General Comment #7.

58-2 See response to Comment 36-2.

59

#59

FLOOD CONTROL DISTRICT  
of  
MARICOPA COUNTY  
1910

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Date	Initial	To
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JUL 26 1983

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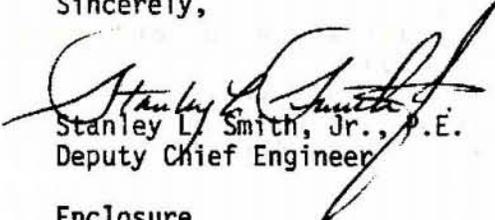
Regional Environmental Officer  
Lower Colorado Region  
U. S. Bureau of Reclamation  
Box 427  
Boulder City, Nevada 89005

RE: Draft E.I.S. - Regulatory Storage Div-CAP (INTDES 83-27)

Dear Sir:

Enclosed is a Resolution, Support for CAWCS Plan 6, and Flood Control on the Agua Fria River, and the Rio Salado Development District adopted by the Board of Supervisors of Maricopa County.

Sincerely,



Stanley L. Smith, Jr., P.E.  
Deputy Chief Engineer

Enclosure

Copies to: Project Manager, Phoenix Office  
Rio Salado Development District

## RESOLUTION

### SUPPORT FOR CAWCS PLAN 6, AND FLOOD CONTROL ON THE AGUA FRIA RIVER, AND THE RIO SALADO DEVELOPMENT DISTRICT

The Board of Supervisors of Maricopa County convened in the Supervisors' Auditorium at 204 West Jefferson Street, Phoenix, Arizona on July 18, 1983 with a quorum present, and in accordance with the recommendation of the Chief Engineer and General Manager of the Flood Control District, adopted the following Resolution on motion made by Mr. Freestone.

WHEREAS, the Central Arizona Project (CAP) alternative plans described in the draft Environmental Impact Statement (EIS) for the Regulatory Storage Division investigated under the title Central Arizona Water Control Study (CAWCS) have the principal purposes of increasing the operating efficiency of the CAP; of providing facilities and means to meet the flood control needs on the Salt and Gila Rivers through the Phoenix metropolitan area; and of providing for the structural safety (SOD) of existing Bureau of Reclamation dams on the Salt and Verde Rivers; and

WHEREAS, The adoption and implementation of Plan 6 which was selected in November 1981 by the Secretary of the Interior as the agency proposed action would reduce the 200-year flood at Sky Harbor Airport to 92,000 cfs and the 100-year flood to 55,000 cfs provides for increased operating efficiencies for the CAP, secures needed flood control for the Salt, Gila, and Agua Fria Rivers, and meets SOD structural needs for existing dams on the Salt and Verde Rivers, and

WHEREAS, the development of the Rio Salado Project through the cities of Mesa, Tempe, and Phoenix will provide a great bonus of outdoor recreation for all the citizens of Maricopa County; provide special market opportunities for the hotel industry, industrial development, new tourist oriented retail facilities, and new housing; and create a substantial new tax base for the County and local jurisdictions; and

WHEREAS, the achievement of the full development potential of the Rio Salado reclamation depends on the availability of a reliable water source, and on the implementation of effective upstream flood control.

Therefore, now be it resolved that the Board of Supervisors of Maricopa County:

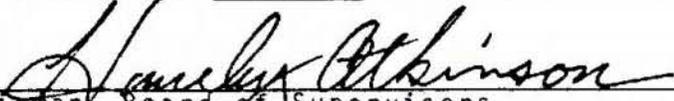
1. Expresses support for implementation of the agency preferred plan, Plan 6, with its inherent flood control measures and safety of dams structural modifications on the Salt and Verde Rivers; and
2. Recommends that the incidental flood protection provided by New Waddell Dam for the Agua Fria River be assured through the adoption of dam operational criteria which would maintain the maximum conservation pool elevation below 1,694 MSL, as appropriate, and that the flood control protection thus provided be identified in terms of "a storm" of known return frequency; and

---

3. Recommends that the final EIS for the Regulatory Storage Division of the CAP require the release of up to 30,000 annual acre feet of water into the Salt River below Granite Reef Diversion Dam as mitigation for fish and wildlife, for groundwater recharge and for the enhancement of recreation and development opportunities. **3**

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Dated this 18<sup>th</sup> day of July 1983.

  
Chairman, Board of Supervisors

ATTEST:

  
Clerk of the Board

Responses to Comments  
Flood Control District of Maricopa County

- 59-1 See response to General Comment #7.
- 59-2 See response to comment 36-2.
- 59-3 See response to General Comment #2.



60

DEPARTMENT OF THE ARMY  
SOUTH PACIFIC DIVISION CORPS OF ENGINEERS  
630 SANSOME STREET, ROOM 1216  
SAN FRANCISCO, CALIFORNIA 94111

July 26, 1983

Planning Division

11201

Regional Environmental Officer  
Lower Colorado Region  
U.S. Bureau of Reclamation  
Box 427  
Boulder City, Nevada 89005

Dear Sir:

This responds to the letter of the Acting Director, Office of Environmental Affairs, requesting review and comments on the draft environmental statement of the Regulatory Storage Division, Central Arizona Project. The request, dated 29 April 1983, reference 150, was to the Executive Director of Civil Works, Environmental Programs, Attn: DAEN-CWZ-P. This is the coordinated response of the Executive Director of Civil Works, South Pacific Division, and Los Angeles District.

The comments are enclosed.

Sincerely,

*James D. Seass*  
For Phillip Frank Dunn  
Chief, Planning Division

Enclosures (2)

#60

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SPECIFIC COMMENTS

SUBJECT: Draft Environmental Impact Statement - Regulatory Storage Division  
Central Arizona Project

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SUMMARY

1. Page 15, Item #3 - Is it acceptable to not have a specific mitigation plan displayed for Plan 6 in the DEIS?
2. Page 27, Table 6 - Do project cost estimates reflect costs for the recommended environmental mitigation measures?

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IV. Environmental Consequences of Alternatives

3. Page 218, Table IV-35, Why are the inundation reduction, location and intensification benefits all updated by 25%? The Consumer Price Index and Engineering News Record factors for 1980 and 1982 are 21% and 19%, respectively.

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Economics-Financial Supporting Document

4. Page 49, Table 16 - (a) The flood control values in the table do not match those provided by the Corps. See attached table for correct values. (b) It is not possible to know from this table if the NED costs for Plans 3, 4, and 5 are correctly adjusted to include the loss of tubing as a resource. (c) Recreation benefits are calculated using unit day values (page 47) but are listed as unavailable in this table.
- 5
- 6

Factors/Measures	Plan B CAWCS No Action (Future-Without Project)	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7
<b>ECONOMIC 8 7 3/86</b>								
<u>Cost (\$)</u>								
-Total Construction Cost (including IDC)	0 (2,500,000,000)	476,140,000	408,550,000	764,640,000	1,173,810,000	1,083,810,000	746,150,000	746,150,000
-Total Annual Cost	0 (185,000,000)	41,110,000	31,840,000	66,650,000	95,930,000	89,280,000	64,320,000	62,890,000
<u>Benefits (\$)</u>								
<b>-Regulatory Storage</b>								
Energy management	0	0	0	17,170,000	16,160,000	16,160,000	16,160,000	16,160,000
Hydropower	0	700,000	0	3,600,000	2,900,000	2,900,000	940,000	940,000
Water Supply Benefits		8,660,000	1,200,000	13,920,000	11,700,000	11,700,000	11,860,000	6,200,000
Total Regulatory Storage Benefits		9,360,000	1,200,000	34,690,000	30,760,000	30,760,000	28,960,000	23,300,000
<b>-Flood Control</b>								
Inundation Reduction		10,587,000	5,368,000	10,587,000	9,474,000	9,474,000	10,587,000	10,587,000
Location and Intensification		16,460,000	4,873,000	16,460,000	17,400,000	17,400,000	16,460,000	16,460,000
Total Flood Control Benefits		27,047,000	10,241,000	27,047,000	26,874,000	26,874,000	27,047,000	27,047,000
-Safety of Dams		29,530,000	29,530,000	29,530,000	14,500,000	14,500,000	29,530,000	29,530,000
-Recreation		Not Available						
-Fish and Wildlife		Not Available						
<u>Total Annual Benefit<sup>a</sup></u>		65,930,000	40,970,000	91,260,000	72,220,000	72,220,000	85,550,000	78,870,000
-Net Economic Benefit		24,830,000	9,136,000	24,610,000	-23,710,000	-17,060,000	21,230,000	16,980,000
-Benefit/Cost Ratio		1.60	1.29	1.37	0.75	0.81	1.33	1.27

H-241

<sup>a</sup>See following page for a descriptive note on the computational procedure used for benefits.

Responses to Comments  
Department of the Army

- 60-1 The mitigation plan for Plan 6 is detailed in Section IV.C.1.
- 60-2 Project costs estimates for the purposes of comparing plans do not reflect costs for conceptual mitigation measures. A sensitivity analysis indicated that including mitigation costs would not change the rank order of plans with respect to net benefits. Nor would including these costs change the net benefits of any plan from positive to negative.
- 60-3 In consultation with the Corps, Los Angeles District staff, flood benefits were updated using the following indices:
- Residential - Marshall Valuation Service
  - Commercial - Marshall Valuation Service
  - Industrial - Marshall Valuation Service
  - Public - Marshall Valuation Service
  - Sand and Gravel - Consumer Price Index (CPI)
  - Unique Structures - USBR Construction Cost Index-Concrete Dams
  - Agriculture - Cotton Price Index
  - Business and Emergency - CPI
  - Transportation Delays - CPI - Urban Transportation
  - Location Benefits - Average percent increase in undeveloped land values from the Maricopa County Assessor
- 60-4 The EIS has been revised in accordance with your comment.
- 60-5 The cost of lost recreation opportunity is included.
- 60-6 Unit day values were used only at Roosevelt Reservoir.

61

#61



DEPARTMENT OF HEALTH & HUMAN SERVICES

OFFICIAL FILE COPY	
Public Health Service	
RECEIVED	JUL 26 1983
Centers for Disease Control	
Atlanta GA 30333	
(404) 452-4257	
July 19, 1983	
	150

Regional Environmental Officer  
 Lower Colorado Region  
 U.S. Bureau of Reclamation  
 Box 427  
 Boulder City, Nevada 89005

Dear Sir:

We have reviewed the Draft Environmental Impact Statement (EIS) for the Regulatory Storage Division, Central Arizona Project. We are responding on behalf of the Public Health Service.

We have reviewed the Draft EIS for possible health effects and believe that, in general, the proposed alternatives are adequately addressed. However, there were several issues that should be further discussed in the Final EIS. **1**

The Final EIS should indicate whether or not there are any known hazardous or toxic waste sites or any municipal landfills in the areas to be covered by the impounded waters. Also, mention was not made of mosquito or other vectors. The Final EIS should provide a discussion of present and anticipated mosquito problems in the proposed reservoir area. What control measures are anticipated? What uses of insecticides, if any, are planned? How will they be applied and in what quantities? **2**

Thank you for the opportunity to review this document. We would appreciate receiving a copy of the Final EIS when it becomes available. Should you have any questions concerning our comments, please contact Mr. Lee Tate at FTS 236-4161.

Sincerely yours,

Frank S. Lisella, Ph.D.  
 Chief, Environmental Affairs Group  
 Environmental Health Services Division  
 Center for Environmental Health

Responses to Comments  
Department of Health & Human Services

- 61-1 No known toxic waste sites or municipal land fills due are in the reservoir site areas.
- 61-2 Mosquitoes and other vectors are not anticipated to be a problem. However, the CAP operation and maintenance plan has provisions for control of mosquitoes along the canal. If vector problems develop control measures will be incorporated into the overall CAP plan.



of impacts, the weaknesses lie in the lack of depth in the discussion of certain key impacts. A particular weakness is the discussion of the economic impacts on the Fort McDowell community members if Orme were built.

This difficulty in synthesizing the social well being account and the economic analysis of an EIS is not unique to this particular study. It is part of the larger problem of the structure of EIS work that separates social and economic analyses and often contracts them to different consulting firms. While social and economic impacts can be distinguished analytically, in many cases, economic impacts have causal effects on social impacts. These causal linkages need to be made explicit for a complete understanding of the total consequences of a project and the potential for mitigation. I will try to briefly outline these connections in this testimony.

According to the Uniform Relocation Act and the specific provisions of the Colorado River Basin Act, the Fort McDowell tribe would receive cash compensation at market value and moving expenses for their lands and housing taken, if a confluence site structure were built. The legislation also suggests that, in addition, there would be a potential for economic development on the remaining tribal lands through recreation-oriented enterprises focusing on an Orme Lake. However, the CAWCS study concluded that the potential for recreation on the Verde arm of the Orme Reservoir was very limited.

The tribal members would lose the use of natural resources associated with the riparian environment they now have along the Verde River. The tribe would lose its income from the City of Phoenix lease for its domestic water system. Tribal members are also employed by the city water department. Over the last 15 years, the tribe has developed a plan for economic development which has suffered from condemnation before the fact associated with the plans for Orme Dam. However, in the last 4 years, the tribe has been able to undertake significant economic development of its sand and gravel resources and has begun major farming redevelopment. In addition, community members own and graze up to 600 cattle on the reservation. Other uses of natural resources include cutting of mesquite wood for domestic fuel and for sale, gardening, basket weaving and hunting.

The high quality land and water resources at Fort McDowell provide a basis for a way of life and for economic self-reliance through local employment. If Orme Dam were built and these resources lost, community members would have significantly reduced opportunities to make a living in their own community. Community members would have to find employment outside their community, most likely in the Phoenix metropolitan area. Many people would be forced to leave their community at Fort McDowell to move near their work. Others might leave their community to look for work in the city, but may not find it. Urban Indians have the highest unemployment rate of any minority group (Yinger and Simpson 1978). Social science data indicates that this is

because reservation communities are primarily rural, and Indian people who grow up on reservations have a knowledge of rural lifestyles, not of urban wage labor.

Tribal members would receive cash compensation for the land they would lose to the dam. Although no specific figures are available, it is likely that this sum would be considerable, possibly over \$50,000 per individual. Fort McDowell community members, like most Americans, would realize considerable short-term benefits from such cash compensation. What the community members have stated publically is that the cash would not compensate for what they would be losing. \$50,000 is a significant amount of money, but it does not compensate for a lifetime of meaningful employment, and community members overwhelmingly rejected the deal in a referendum vote in 1976. Cash cannot generate a lifestyle by itself. Comparative data of Indian people relocated in the United States, as well as of native people worldwide, strongly support the conclusion that Fort McDowell community members reached in their referendum vote. According to Cahn and Hearne (1968) 16 years after the opening of Garrison Dam in North Dakota, "Fort Berthold [Reservation] was still in emotional and economic shock".

Without alternative and appropriate economic development, that is, long-term economic development at the pace and in the way the community wants it, any beneficial effects of relocation are offset. If Orme Dam were built, the land base that holds the promise of a self-reliant future for the Yavapai would be eliminated. Indian ethnic identities are not so fragile that they cannot endure partial urbanization. But without a home base, a reservation with a pool of Yavapai people, the fragility of identity is increased astronomically. This would not happen overnight -- all Yavapai's would not suddenly assimilate if Orme Dam were built, but a chain of events would be set into motion:

- 1 loss of natural resources providing the basis for employment
- 2 limited employment on reservation
- 3 community members working and living off reservation
- 4 reduced interaction among Yavapai people, particularly between generations
- 5 interruption of the passage of Yavapai culture and lifestyle from one generation to the next

Social scientists refer to this process as 'ethnocide', which means the destruction of a group of people who share a way of life.

In addition to these comments, I have a question that I would like the Bureau of Reclamation to respond to in the final EIS. Will the Bureau of Reclamation meet directly with the Fort McDowell Indian community leaders, and include tribal leaders in any discussions concerning management of the proposed Cliff Dam?

Thank you for the opportunity to comment on the regulatory storage Divison draft EIS.

Sincerely,

*Patricia S. Mariella*

Patricia S. Mariella  
2238 E. Virginia St.  
Phoenix, AZ 85006

REFERENCES CITED

Cahn, E.S. and David W. Hearne, (eds.)  
1969 Our Brother's Keeper: The Indian in White America  
New York: New American Library.

Yinger, J. M. and G.E. Simpson (eds.)  
1978 American Indians Today. Annals of the American  
Academy of Political and Social Science #436.

Responses to Comments  
Patricia S. Mariella

- 62-1 Presentation of the social impacts in the EIS is a summary of the analysis contained in the supporting documentation Social Impacts and Effects of CAWCS Plans. The integration of economic factors into social analysis is necessary for complete evaluation of social impacts. Scoping of the social assessment for Fort McDowell Indian Community considered the relationship of these factors to the ability to maintain the Yavapai culture. The more detailed information provided in your comments is noted and is available for consideration by decisionmakers.
- 62-2 Coordination with the Fort McDowell Indian Community will continue on all aspects of the CAP that affect the community.

63

#63

YUMA AUDUBON SOCIETY

YUMA, ARIZONA 85364

P.O. Box 6395

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June 26, 1983

Regional Environmental Officer  
Lower Colorado Region  
U.S. Bureau of Reclamation  
Box 427  
Boulder City, Nevada 89005

Dear Sir or Madam:

The following are the comments of the Yuma Audubon Society on the Draft Environmental Impact Statement, Regulatory Storage Division, Central Arizona Project, filed April 29, 1983.

1 We support adoption of Alternative 8, the No Action Alternative, because  
2 all other alternatives include Cliff Dam. Construction and operation  
of Cliff Dam would cause irreparable damage to the environment. It  
would flood an area of riparian vegetation, of which so little remains  
3 in Arizona. Wildlife would be adversely affected, because animal pop-  
ulations are quite dense and diverse in such areas.

Even more important, construction of Cliff Dam would destroy the nesting sites of two pairs of Bald Eagles, an endangered species and our National Emblem.

We understand that Cliff Dam would be an earthen dam, similar to the Teton Dam that broke. We do not think the people of the Phoenix should be exposed to this type of dam for safety reasons.

The floodplain of the Salt River should be kept at 200,000 cfs to prevent development which could later be destroyed by unanticipated runoff. The recent flooding of the Colorado River demonstrates that all the dams in the world won't prevent flooding if there is more water than they can hold. Other methods of flood control are available to the Phoenix area, such as larger, stronger bridges and giving more emphasis to flood control in operation of existing dams on the Salt and Verde Rivers. Sky Harbor Airport could be extended to the west. Floodplain and airport development should not be subsidized by the taxpayer when the environmental costs are so high.

Thank you for the opportunity to comment on this proposed action.

Sincerely,

*Cary W. Meister*  
Cary W. Meister  
President

Responses to Comments  
Yuma Audubon Society

- 63-1 See response to General Comment #4.
- 63-2 See response to General Comment #5.
- 63-3 See response to General Comment #6.



Responses to Comments  
Drew Cook

64-1 The mitigation plan and commitments to it are outlined in  
Section IV.C.



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Water Quality Comments

1. EPA agrees with much of the Bureau of Reclamation's (USBR) assessment of water quality impacts of importing Central Arizona Project (CAP) conveyed Colorado River water to Maricopa, Pinal and Pima Counties as stated in the DEIS. The USBR has acknowledged the need to establish adequate baseline data to assess impacts and determine an appropriate mitigation strategy. We support the establishment of water quality monitoring networks, in consultation with other federal and state agencies, to be followed by formulation of appropriate mitigation measures. We recommend that the monitoring-mitigation strategy be implemented for ground waters as well as surface waters potentially impacted by the CAP projects, since we believe that ground water impact assessment in other CAP NEPA documents needs further documentation.

**1** As stated in the DEIS, potential surface water quality impacts could result from: 1) reservoir mixing of Colorado River water and Agua Fria River water in the New Waddell Dam, and 2) aqueduct mixing of Colorado River water and Salt/Verde River water in both CAP and Salt River Project (SRP) water delivery systems downstream from the Granite Reef SRP facility.

The major concerns of mixing the water from these four Arizona rivers are increased salinity, eutrophication and trihalomethanes (THM). As stated on page 56, the acceptability of water quality is ultimately determined by the designated use and, while agricultural use of surface water delivered through CAP facilities may not be adversely impacted, municipal use (or M&I) would be. Further studies should identify what measures will be taken to mitigate potential impacts to these users in Maricopa County.

The impact of salt loading, pages 148-149, should be further assessed, since we question the potential significance of increasing salts by 13.3% for Plan 6. Additionally, eutrophication is only acknowledged as a problem; the potential for impacts, degree of impact (i.e., changes in nutrient concentrations and ratios) and resulting reservoir and canal delivery system problems are not analyzed, nor is mitigation discussed. The DEIS does not define what is meant by "lack of phosphorous"; considering the low depth, low flow conditions, it would not take much phosphorous to start algal growth. The DEIS acknowledges the trihalomethane (THM) problem (page 58), but does not assess the extent of the THM threat under the project alternatives or propose any mitigation measures.

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2. The DEIS states (page 48), "Plan 7 is an environmentally-oriented variation of Plan 6, and many of the benefits of Plan 7 could be obtained with mitigation measures included as part of Plan 6." We also note that on page 247 a statement is made that "Prior to the filing of the Final Environmental Impact Statement, a specific mitigation plan will be proposed by the Agency and distributed to appropriate parties." We support these statements and would appreciate reviewing this mitigation plan for compliance with water quality standards. Recommended mitigation measures to protect instream uses, particularly relating to aquatic habitat, include:
- a. Excavation and location of borrow areas, haul and access roads to avoid adverse impacts to water quality and instream beneficial uses.
  - b. Maintenance of instream flows, minimum pools and minimum drawdown rates to protect fisheries beneficial uses. Means recommended by fisheries agencies such as coffer dams, fish barriers and fish hatcheries should be implemented to protect fisheries. 2
  - c. Riparian habitat in the project area should be protected, and disturbed areas revegetated to avoid sedimentation, water quality, fisheries and wildlife impacts. Terrestrial vegetation in reservoir pool areas should be left.
  - d. Appropriate sizing of sediment basins with respect to stream flow.
  - e. Ongoing studies to monitor project impacts and develop adequate mitigation in consultation with fish, wildlife and water quality agencies.
- 
3. The Water Quality Constituents section on page 149 needs clarification. In particular, the DEIS states, "For both the future-without and future-with regulatory storage conditions, the water which the majority of the users receive may undergo substantial changes in water quality during transport so that most differences in water quality between the two conditions may not be detectable by the user." Provided all other conditions are the same (effects of aeration, temperature, detention time, algal growth), how can the quality of the mixed water not be degraded from the original, better quality waters? The FEIS should also explain what constitutes "the majority of users" and what "selected diversion points" are referred to in this discussion. 3

The FEIS should also address what is expected to cause the heavy metals problem; are anaerobic conditions expected? What is the source of the heavy metals; are they derived from mining activities or other sources?

4. Regarding the water quality constituents discussion (page 155), the FEIS should clarify what SRP waters are being referred to, and explain in narrative form why SRP water will not be affected, instead of simply referencing table IV-24. We note that, in general, the DEIS defers the reader to tables and often does not analyze data in the narrative discussions. We recommend that the FEIS draw out significant information from the tables to support the conclusions made in narrative discussions.

4

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#### Hydroelectric Comments

- 5 The FEIS should address coordination with and requirements of the Federal Energy Regulatory Commission (FERC) regarding energy related hydroelectric facilities for this project.

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#### Air Quality Comments

1. Our October 9, 1981 scoping letter stated that the "DEIS should qualify and quantify long-term emissions resulting from project-induced recreation travel to the dams as well as project-induced residential and commercial growth in the affected nonattainment areas."

6

The Maricopa County Urban Planning Area (MCUPA) has been designated a nonattainment area for carbon monoxide, ozone and TSP. Most of the project facilities would be near or within the MCUPA. According to Table IV-35 (page 218), significant project benefits are attributable to water supply, hydropower, "energy management" and recreation. It seems reasonable to assume that the MCUPA will be the principal market for those commodities. This project will therefore relieve constraints on growth (such as water supply and power) in the MCUPA area.

The FEIS should discuss in detail, impacts to air quality from growth. The FEIS should quantify direct and indirect emissions of all air pollutants for which State or Federal standards have been established, describing in particular detail those pollutants of greatest concern in the MCUPA: carbon monoxide, nitrogen oxides, hydrocarbons and TSP.

In addition to quantifying the growth-related emissions, the FEIS must describe the impact of those emissions upon ambient air quality in the MCUPA. This should be done in consultation with the Maricopa County Health Department, the Maricopa Association of Governments and the Arizona Department of Health Services, the agencies responsible for ensuring that the State and Federal air quality standards are attained and maintained.

- 
2. With regard to the adverse impacts that are discussed in the DEIS, i.e., short-term TSP emissions from construction, we have the following comments which should be addressed in the FEIS:
- 
- a. On page 220, paragraph (4) Residual Impacts, the DEIS states: "Such impacts [related to increased vehicular activity] would be secondary TSP impacts that cannot be quantified at this time." Such impacts can be quantified given that assumptions about the amount of vehicular activity can be made and emission factors for vehicular fugitive dust are readily available. **7**
- 
- b. On page 257, paragraph c, Dust Control and Air Pollution, the DEIS lists various mitigation measures that will be taken during construction. Mitigation for dust control should be ongoing throughout the period of project operation, since extensive dust has been and will continue to be a problem in the MCUPA. **8**
- 
- c. Table IV-49 on page 275 states "No...air quality standards would be violated in any site area." This statement conflicts with the material presented on pages 219-220 which indicates that (at least) short-term violations of TSP standards are expected. Short term (or any) violations are not allowable and mitigation should be developed to avoid such violations and included in the FEIS. **9**
- 
- d. Table IV-50 on pages 280-283 does not list the Clean Air Act among relevant environmental statutes. This omission should be corrected and the FEIS should address project compliance (especially for Plan 6) with the Clean Air Act, in terms of short and long term and direct and indirect impacts. **10**
- 
- e. In comparing the DEIS (pages 219-220) with the Final Reports and Appendices for Plans 1, 2 and 3, it is unclear whether the predicted increase in ambient TSP concentrations at the Cliff site is 20 to 25 ug/m<sup>3</sup> or 50 ug/m<sup>3</sup>. **11**
- 
- f. In the Appendices to the Final Reports for Plans 1 and 2, there are conflicts among work sheets 1, 4 and 5 for the Stewart Mountain site as to whether the nearest public access to the construction site is 1/4 or 1/2 miles distant. **12**
- 
- g. With regard to Plans 6 and 7, there is a conflict between the Final Report and the Appendix as to whether the predicted increase in ambient TSP concentrations at the New Waddell site is 15 to 25 ug/m<sup>3</sup> or 25 to 70 ug/m<sup>3</sup>. **13**
-

Responses to Comments  
Environmental Protection Agency

65-1 As part of the CAP operating plan chemical and biological surface water quality will be monitored at various locations along the aqueduct and reservoirs. This will provide much needed information to the State regulator, users of CAP water, and the operator of the CAP.

The responsibility, as stated on previous correspondence with EPA, for the protection and monitoring of ground-water quality rests with the Arizona Department of Health Services (ADHS). The ADHS is presently developing a statewide ground-water management program, including a regulatory program to protect ground-water quality and a comprehensive monitoring program. Any monitoring necessary or recommended will be integrated with the State's overall strategy of both ambient ground-water monitoring and source specific monitoring.

With regard to THM mitigation measures, it is not now nor has it ever been the policy of the Bureau of Reclamation to guarantee the quality of water delivered under water service contracts. Since signing a contract for CAP water is a voluntary act on the part of the user, it is incumbent on the user to weigh the water quality costs (including treatment for THM if necessary) in the decision to take or not to take project water. As stated on page 58 the THM potential is the same regardless of which plan is implemented.

Section IV.B.2. has been modified to clarify the incremental salt loading.

The identified consequences of algal growth in the proposed reservoirs under Plan 6 are twofold; aesthetic and heavy metals from the bottom sediments returning to dissolved form. No mitigation is proposed or warranted for the aesthetics associated with occasional or limited common algae blooms in these reservoirs. We propose, however, to mitigate the possible heavy metal absorption problem by aerating the reservoir outlet works. This introduction of oxygen will promote the formation of heavy metal precipitate which will resettle in the reservoir and prevent dissolved heavy metals from entering the canal system.

65-2 Consistent with the Bureau of Reclamation policy on water quality mitigation, as stated in our letter dated September 20, 1982, to Ms. Sonia F. Crow, Environmental Protection Agency, no mitigation plan for water quality standards will be presented in the mitigation plan for CAP.

65-3 Section IV.B.2. has been modified to clarify the questions asked.

65-4 Neither Plan 6 nor Plan 7 propose to put Colorado River water into the SRP reservoir system. Therefore, the SRP water in the SRP storage system will not be affected, directly or indirectly, by these plans. Table IV-24 is not referenced in regards to SRP waters, but is referenced as showing the impacts of mixing Colorado

River and Agua Fria River water. In general the tables in the DEIS were thought out carefully to show the most important details of water quality constituents. The narrative does explain what the tables show and draws the most important conclusions. To fully analyze all the data in the tables in a narrative form would be exhaustive and of little importance to most of the readers. The level and detail of discussions of water quality issues and factors in the DEIS and FEIS were scoped in direct response to the important public issues raised during the extensive public involvement process which accompanied the CAWCS. Therefore, no narrative has been added to further discuss the tabular information.

- 65-5 Required coordination and permits will be obtained from the Federal Energy Regulatory Commission (FERC) for all hydroelectric facilities implemented.
- 65-6 The Regulatory Storage Division of the CAP develops additional yield which will primarily be used for agricultural purposes. Delivery of CAP water to agriculture requires a corresponding decrease in the use of ground water. Therefore, no growth-inducing impacts are expected. Impacts of the CAP are addressed in the Central Arizona Project Final Environmental Statement (FES 72-35).
- 65-7 Assumptions regarding increased vehicular activity would have no basis, thereby resulting in a meaningless number for a prediction of impact.
- 65-8 Dust control measures will continue throughout project operation for any activities required to maintain the project.
- 65-9 Mitigation measures in the form of dust suppression will be applied resulting in no violations of TSP standards due to project activities.
- 65-10 The Clean Air Act has been added to Table IV-50.
- 65-11 The predicted increases in ambient TSP concentrations that are presented in the EIS represent the most current studies.
- 65-12 The nearest public access for the Stewart Mountain construction site is 1/4 mile.
- 65-13 See response to comment #11.

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OFFICE OF THE DIRECTOR

United States Department of the Interior

BUREAU OF MINES  
2401 E STREET, NW.  
WASHINGTON, D.C. 20241

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Memorandum

To: Commissioner, Bureau of Reclamation

Through <sup>Deputy</sup> Assistant Secretary--Energy and Minerals

From: Director, Bureau of Mines

Subject: Draft Environmental Statement -- Regulatory Storage Division,  
Central Arizona Project (DES 83-27)

The Bureau of Mines interest in the provision of regulatory storage and flood control for the Central Arizona Project pertains to impacts on mineral resources and development. The portions of Gila, Maricopa, and Yavapai Counties affected by the proposal currently produce sand and gravel but no other mineral commodities. Barite, clay, gypsum, limestone, quartz, tuff, and uranium occur near one or more of the construction sites, but of these only barite has been found in commercial quantities. The barite deposit was essentially depleted, however, in 1955.

With the exception of sand and gravel resources within the reservoir areas of the new or enlarged dams, none of the known or potential resources identified should be seriously affected by the project. Thus, we have no objection to construction of any of the proposed alternatives.

Thank you for the opportunity to review the draft statement.

Acting Director

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**67**  
**Salt River Project**  
WATER < POWER

BOX 1980 PHOENIX, ARIZONA 85001

JUL 29 1983

TELEPHONE 273-5900

July 28, 1983

700

U. S. Department of the Interior  
BUREAU OF RECLAMATION  
Suite 2200, Valley Center  
201 North Central Avenue  
Phoenix, Arizona 85073

Gentlemen:

Re: Draft Environmental Impact Statement, Regulatory Storage Division, Central Arizona Project, Statement Number INT DES 83-27

The Regulatory Storage Draft EIS has been reviewed by a number of departments within SRP and specific comments are noted on the following pages.

In general, the Draft is a good document that deals completely and accurately with the Central Arizona Water Control Study (CAWCS) process and the various alternatives. There are, however, two significant issues that we feel should be addressed even if only to identify them as issues and state that they are to be covered elsewhere.

These issues are institutional, including discussion of impacts on existing water contracts, water ownership, possible CAP/SRP water exchanges, ownership of hydropower potential, etc., and operational, such as how Plan 6 would be integrated with the existing water system, who the operating agency will be and how Plan 6 will impact existing reservoir system operations.

Since these institutional and operational issues have a potential for major impacts on the Salt River Project, and probably all of the Salt River Valley's communities and water users as well, we believe that they must be resolved before Plan 6 can be implemented. By early resolution of these issues the implementation of Plan 6 will be expedited.

We very much appreciate the opportunity to review and comment on the Draft EIS. If we can be of any additional assistance, please let us know.

Sincerely,

*Reid Teeples*  
FOR

Reid Teeples  
Associate General Manager, Water

RT:GDH:rsg  
Enclosure

CENTRAL ARIZONA WATER CONTROL STUDY

SPECIFIC COMMENTS

Summary - Page 7, Table 2, Plan 2, Disadvantages:

1 It should be mentioned that Plan 2 provides flood protection to a level of only 150,000 cfs for the 100-year flood compared to 50 - 55,000 cfs for Plans 1, 3, 6, 7. This flow would impact 3971 acres (with a value of nearly \$170 million) more than would the other plans. (Table D-2, page D-6). This reduced benefit should be listed as a disadvantage for Plan 2.

Summary - Page 23, Table 5, Plan 8, Flood Damage Reduction:

2 What is the source of the statement, "High probability for large numbers of flood-related deaths"? Would the Civil Defense warning system reduce the number of flood-related deaths?

Page 4, Flood Control

3 Salt River Project water releases cannot properly be termed "flooding" as these releases are into an existing river channel. Inundation of properties is a result of improper location of facilities in stream channels as well as the presence of water in those channels.

4 The potential impacts of water releases into the Salt River channel have been significantly reduced by the construction and/or funding of fourteen bridges of 200,000 cfs capacity in the Phoenix metropolitan area and channeling adjacent to the Phoenix airport. Upstream flood control will serve to enhance the

5 envisioned Rio Salado project and other commercial, residential and recreational development of the Salt River channel through the Phoenix metropolitan area; however, Rio Salado development can accommodate water flows of up to 200,000 cfs. We recommend that these issues be discussed in the final EIS.

Page 16, First Paragraph, Operation Activities:

6 Mention should be made that joint use of flood control space may be possible. During periods when the flood threat is low reservoir space dedicated for flood control could be used for regulatory storage. This should be included for all discussions of Cliff and New or Modified Roosevelt dams.

Pages 19 and 20, Table II-5, Design Details:

7 Discussion of joint use of flood control space should be included in the Cliff and Roosevelt Dam sections.

Page 20, Table II-5, Design Details Plan 1, Service Outlet:

8 The table shows 11,000 cfs for the service outlet for both New and Modified Roosevelt but the 1981 Fact Book shows 25,000 cfs. When and why the change?

Page 28, First Paragraph:

10 Upstream exchanges could introduce one of three problems. The present generator at Stewart Mountain has a maximum flow capacity of approximately 1800 cfs. If upstream exchanges on the Salt system required releases at Stewart Mountain in excess of 1800 cfs, water would have to be bypassed. A credit would have to be worked out for any energy lost due to bypassed water. Rather than allow Stewart

Mountain releases to exceed 1800 cfs, an exchange could be made from the Verde. However, this could cause an imbalance in Salt and Verde contents and upset desired runoff protection. A second possibility would involve the shift of generation from one month or season to another. Although generation is not lost, it is a less than optimum operation when considering the cost of thermal resources that the hydro generation displaces. The third possibility involves a Stewart Mountain release greater than 1800 cfs, which necessitates a spill at that site.

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Page 28, paragraph 5, Modified Stewart Mountain Dam:

The normal operating elevation of Saguaro Lake, behind Stewart Mountain Dam, is 1529 feet. If, as stated in this paragraph, the auxiliary spillway crest at Stewart Mountain would be at 1496 feet it appears that a drawdown during construction would be necessary despite the comments to the contrary on page 28, paragraph 7 and page 163, paragraph 3.

If a drawdown of Saguaro Lake is necessary during construction work on Stewart Mountain Dam, the pumped storage operations at both Mormon Flat and Horse Mesa dams would be impacted and the reduced net head available at Stewart Mountain would decrease the amount of water released through the generator and also the amount of power generated. There would also be impacts on recreation and other likely impacts during drawdown. All of these issues should be discussed if drawdown is required. 11

If, as stated in the draft EIS, no drawdown will be necessary, a discussion of the construction techniques to be used should be included.

---

Page 28, Paragraph 6; Page 29, Paragraph 2; Page 30, Paragraph 1; Page 37, Paragraph 4; Page 42, Paragraph 3; Page 259, Figure IV-4; Appendix E, Section 404 Evaluation, Page E-2, Paragraphs 2 and 8; Page E-3, Paragraphs 4 and 7:

Reference is made to the disposal of excavated material in the dead space in the reservoirs of Cliff and New Waddell and between the old and new dams for Stewart Mountain and Roosevelt. Why will excavated material be dumped into the reservoirs? This uses up valuable water storage space and creates potential problems for operating equipment if placed between the old and new dams. Alternate locations should be found for the disposal of excess materials. 12

---

Page 28, Paragraph 6 and Page 29, Last Paragraph:

It is not clear why construction materials (sand and gravel) must be imported. Why not use local materials? 13

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Page 33, Table II-6, Design Details - Plan 2, Roosevelt Dam (Modified):

What is the purpose, function and location of the 300 cfs pumping plant? This does not appear to be discussed elsewhere in the draft EIS. 14

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Page 38, Paragraph 3:

This should read South Canal not Southern Canal. 15

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Page 38, Cliff Dam and Reservoir:

The report should reflect the fact that Plans 3 and 6 will require replacement of the Tangle Creek gaging station or the establishment of an alternate gaging station which could be used during a 200-year flood when the Tangle Creek gaging station would be totally inundated. 16

Page 38, Cliff Dam Water Supply Operation and Page 39, Roosevelt Dam Water Supply Operation:

17 Sentences in these two sections have the following wording "... and water captured in the new conservation space at the Cliff Reservoir would be delivered to Confluence Reservoir from which it could be pumped to the Salt-Gila Aqueduct..." and "water yield from new conservation space, provided by the dual use of the sediment space for water storage, would be delivered to Confluence Reservoir from which it could be pumped to the CAP aqueduct." It is our understanding that the pumping system from Granite Reef Dam to the aqueduct has been dropped from consideration.

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18 In each of these sections there is a reference to water yield from "new conservation space" but ownership of this water is not addressed. SRP considers the ownership of this water to be a major issue. Since the impacts on SRP may vary significantly with different ownerships, this should be discussed in the final EIS.

---

Page 45, Table II-9, Plan 7, Pumping Plant:

19 With regard to the pumping plant to convey water from the SRP system to the CAP system, there is an inconsistency. Plan 1 makes a provision for a pumping plant in the vicinity of Granite Reef Diversion Dam sized at 1600 cfs (p. 23). The DEIS identifies the Salt/Verde structural components in Plan 6 as the same as included in Plan 1 (p. 39); however, Plan 7, which is supposed to be the same as Plan 6 with an environmental emphasis (p. 44), makes provision for a 1000 cfs pumping plant (p. 45). The size of the Plan 6 pumping plant, therefore, needs to be clarified.

As mentioned above, it is our understanding that no pumping plant is to be constructed.

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Page 51, Table III-1, Acreage and Percent Range of Biomes and Biotic Series in the Study Area:

20 This table is somewhat misleading in that the vegetational communities are shown by acres and by percentage of the study area which is not representative of the state. A column should be added to show the percentages of these communities in the state as a whole. As it stands, the table gives the impression, for instance, that riparian and wetland communities are more common than the Oak-Pine series when, in fact, they are far less common in a broader view.

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Page 56, Water Quality, Paragraph 4:

21 Soil productivity should deteriorate for those agricultural operations that now receive mostly surface water due to higher salt levels in CAP water. This could be mitigated by application of more water or irrigation methods which reduce evaporative losses. Such mitigation should be discussed in the final EIS.

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Page 65, Territorial-Settlement Period (1863-1912):

22 The sentence that "Fort McDowell was abandoned in 1890, and in 1903 the former military lands were allocated for use as a reservation for Yavapai Indians" is incorrect. Fort McDowell was abandoned by the military in 1890. The military reservation was then turned over to the Interior Department on February 14, 1891 for disposal under the provisions of the Act of July 5, 1884, (23 Stat. 103) which provided for the public sale of reservation lands. Under the provisions of this Act and the Act of August 23, 1894 (28 Stat. 49) a portion of the lands which comprised the original Camp McDowell Military Reservation was sold to non-

Indian settlers. On September 15, 1903, President Roosevelt, by executive order, set aside the lands of the former Camp McDowell Military Reservation that had not been legally settled upon and to which no valid claims could be attached under the Act of August 23, 1894. The Federal government then bought out the rights of 14 squatters and 21 valid settlers who had claims to lands within the military reserve. The entire area that originally comprised the old Camp McDowell Military Reservation was then set aside for the Yavapai Indians.

SRP recommends that the facts in the subject sentence be stated correctly because of their implication on the status of the Fort McDowell Indian Community's water rights in any future litigation/adjudication. Failure to make these corrections implies that the entire Fort McDowell Indian Reservation has a reserved water right in the classical sense of that term, which it doesn't.

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Page 74, Threatened and Endangered Plants and Wildlife (Cliff Site Area):

There are currently two Bald Eagle nesting sites in the vicinity of the proposed Cliff Dam: Bartlett below Bartlett Dam and Horseshoe, upstream from Horseshoe Dam. While the Bartlett pair has been one of the most productive of the 12 known nesting pairs of Bald Eagles, with 5 young fledged during the 1977-80 nesting seasons, it is located well below Bartlett Dam and is not likely to suffer significant impact from construction activities at the Cliff Site. According to a 1981 report prepared by the Arizona State University Center for Environmental Studies, the home range of this pair does not extend upstream from Bartlett Reservoir. **23**

The preferred nesting site of the Horseshoe pair of Bald Eagles will be severely impacted by both construction and operation of Cliff Dam. This nest, however, produced no live eagle fledglings in the 1977-80 nesting seasons. A new nest site could be provided for this pair of eagles as partial mitigation of the impact of Cliff Dam. Perhaps what has been an unproductive pair can be helped to become productive if a safe and secure nest site is available to them.

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Page 116 (Facing), Figure IV-1, Reservoir Pools used in Impact Assessment:  
Joint use of flood control pool for conservation storage should be included. **24**

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Page 120, Paragraph 3, Construction and Inundation Impacts:

Inundation impacts are discussed for four different levels. The second level "impoundments at maximum storage capacity (MSP)" should be changed to the top of the joint use space. This would require changes in the tables throughout Chapter IV that describe site areas impacted. On page 121, paragraph 1 references infrequent inundation of the 200-year flood pool. However, under the joint use concept this area would have the potential for longer term impacts that should be addressed. **25**

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Pages 123-124, Table IV-1, Conceptual Mitigation for Biological Resources:

Some of the conceptual mitigation measures listed in this table are likely to become points of disagreement between the Salt River Project and the Bureau or other operating entities regarding reservoir operation, instream flow releases and creation of riparian habitat. SRP suggests that all proposed mitigation measures be thoroughly reviewed with all potentially impacted entities prior to their adoption. **26**

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Page 148, Water Quality:

The EIS does not address the changes in Colorado River water quality as it travels through the CAP aqueduct. During the early years, low flows in the aqueduct will result in high travel times. Significant evaporation may occur **27**

causing measurably increased salt concentrations. Water temperature will increase significantly by the time it gets to the Phoenix area. There should be a separate section in the EIS addressing these issues.

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Page 153, Table IV-20, Water Quality Impacts:

- 28** All the tables pertaining to water quality impacts do not specify temperature changes. Assuming all other constituents of the various water sources are equal, an increase in water temperature generally means a lowering of water quality due to the increased growth rate of the algae.
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Pages 153 and 154, Tables IV-20 and 21 Water Quality Impacts, Plan 1:

- 29** The description of Plan 6 on page 39 states that Cliff and Roosevelt dams would be operated similarly as proposed in Plan 1. Plan 1 reservoir operation described on page 23 states that "when CAP demand is less than the flow in the aqueduct, excess CAP water could be delivered to SRP users in lieu of releases from SRP storage". It is presumed then that this is also true for Plan 6. Tables IV-20 and IV-21 on pages 153 and 154 summarize the Water Quality Impacts of Plan 1. The tables presume that water at Granite Reef would be entirely CAP water. CAP water could not completely satisfy the entire canal water demand. Therefore, mixing of SRP source waters with CAP water would have to take place. This mixing would most probably reduce the impacts. However, SRP studies have indicated that the mixing of the two water sources may result in algae blooms. This should be addressed in the report.
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- 30** If, in the sentence quoted above, the "excess CAP water" that would be "delivered to SRP users in lieu of releases from SRP storage" is being loaned to SRP, how is repayment to be made? Would the reverse-flow pump from Granite Reef Dam figure in the repayment scheme?
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Page 155, Mitigation for Water Quality Constituent Impacts:

- 31** The discussion under the Mitigation Section on page 155 is contradictory to what is stated on page 58 regarding THM impacts. The potential for increased levels of THM's is significant and warrants mitigation discussion. If the USBR does not plan to mitigate THM, a statement should be included that under Plans 1 and 6 there is a potential for increased THM levels but that this is to be mitigated by M & I water treatment facilities.
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Page 240, Table IV-41, Historic Cultural Resources:

- 32** How will Sheep Bridge be impacted? It appears that it will be affected only during brief periods at maximum flood levels.
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Page 266, Water Control Facilities:

- 33** Aqua Fria River should be spelled Agua Fria.
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Page 273, Table IV-49, Water Quality:

- 34** Only superficial discussion is presented on the cumulative impacts on water quality. Salt loading in soils and groundwater, reduced useful life of water heaters and evaporative coolers, scaling, corrosion of pipes, increased soap consumption, etc. are examples of long-term impacts that should be discussed in this section.
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Page 278, Conflicts with Other Agency Programs, Plans, and Policies:

- 35** This section does not go into much detail regarding possible conflicts. However, the institutional issues that have been raised should be discussed in the final EIS. These were identified in Tim Henley's August 23, 1982 Notice of Meeting Agenda to the Technical Advisory Group. Some of the issues encompass

possible conflicts with the SRP and other agencies. A few of the issues are addressed to a degree in the Draft EIS. Others, such as existing water contracts, water exchange, water ownership, etc., are not addressed at all. There should be some statement of institutional impacts or at least a listing of those that are known with some explanation that they will be dealt with in contract negotiations or with each agency affected, or whatever.

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Page 303, Index:

Aqua Fria River should be spelled Agua Fria.

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**36**

Responses to Comments  
Salt River Project

- 67-1 Reduced flood control has been added as a disadvantage for Plan 2.
- 67-2 Documentation is contained in the Final Report, Social Impact and Effect of CAWCS Plans.
- 67-3 The Corps of Engineers defines a flood in the following manner: "an overflow of lands not normally covered by water and that are used or are useable by man. Floods have two essential characteristics; (1) inundation of land is temporary and (2) is inundated by the overflow of a river, stream, ocean, lake, or other body of standing water". Flows in the Salt and Gila Rivers such as occurred in 1979 and 1980 fall within this definition.
- 67-4 The construction of new bridges in the determination of impacts and flood control benefits.
- 67-5 A discussion of Rio Salado has been added to Section IV.B.7.
- 67-6 This generalized discussion is primarily to explain the definition of the pool levels on the attached maps.
- 67-7 These sections have been revised to reflect the potential for joint use of flood control space.
- 67-8 The 25,000 cfs outlet described in the 1981 Factbook was a flood control outlet. More detailed designs call for the use of gated spillways rather than a flood control outlet.
- 67-10 Your concerns concerning upstream exchanges are noted and would be included in development of exchange agreements if they were to occur.
- 67-11 The EIS has been revised to reflect the need to draw down the reservoir to permit construction of the auxiliary spillway. As planning and design continue, accommodations for hydropower generation will be investigated.
- 67-12 Disposal of excavated material outside of the reservoir would cause additional environmental impacts and be more costly. The loss of water storage space is insignificant, less than 0.5 percent of space available.
- 67-13 Borrow areas downstream of Stewart Mountain Dam would cause significant environmental impacts.
- 67-14 The 300 cfs pumping plant would permit exchanges at Granite Reef Diversion Dam. It is smaller but would serve the same functions as the pumping plant in Plan I.
- 67-15 The text has been changed.

- 67-16 Section II.B.3. has been modified.
- 67-17 The pumping plant is still being evaluated. Although its inclusion in the final design does not look likely, it is considered in the EIS as the worst case for environmental impacts.
- 67-18 Across all of the CAWCS plans, it was assumed that all waters developed from construction of "new conservation space" derived from Federal funding of such construction would accrue to CAP ownership, and the yield derived would add to the total yield of the Project. This assumption, while still at issue, is adequately explained in the DEIS and held consistent for all plans discussed.
- 67-19 The size of the pumping plant in Plan 6 is 1,000 cfs.
- 67-20 The use of the acreage in the study area was used to provide a basis for comparison of the plans under consideration. The methodology is contained in the environmental supporting documentation. The rarity and ecological importance of the riparian/wetland community is discussed in Section III.B.1.a.
- 67-21 The introduction of Colorado River water into the SRP delivery system will effect the quality of water currently being delivered to its users. Technical studies show that Colorado River water, Salt River Project water, and the mix of these waters meet all the required standards and are equally well-suited for irrigation use. Hence, the conclusion of no significant adverse impact to agriculture.
- The Bureau of Reclamation's position with regards to mitigation was sent to all potential CAP water users by letter dated June 9, 1983, which states that no mitigation is required unless an adverse impact can be shown to exist.
- 67-22 The suggested revision has been made.
- 67-23 The suggestion of creating a nest site has already been implemented by the Bald Eagle Recovery Team for the Southwestern population.
- 67-24 Impacts were assessed using the pools described in Section IV.A.1.
- 67-25 As evaluation for the potential for joint use of flood control space continues, additional environmental impacts resulting will be assessed.
- 67-26 Section IV.C. outlines the commitments to the detailed mitigation plan for Plan 6.
- 67-27 Specific plans for initial operations of the CAP are not known at this time. Therefore, specific studies dealing with the early months or years of the project would be hypothetical, speculative, and meaningless.

A paragraph has been added to Section III.B.1.b. under Water Quality to address evaporation and temperature in general.

- 67-28 Temperatures of the water in the aqueduct are assumed to be at or slightly below ambient air temperature by the time CAP waters reach the Phoenix area. The eutrophication studies considered reservoir temperature in the computation of the potential for eutrophication.
- 67-29 Water exchanges with SRP are not a part of the Plan 6 project action. The water exchange in Plan 1 assumes that water delivered would be from the SRP system or the CAP aqueduct and mixing would not occur.
- 67-30 Details of an exchange agreement would have to be negotiated if Plan 1 were to be recommended and implemented.
- 67-31 The potential for producing THM, as stated on page 58 of the DEIS occurs at the M&I treatment facilities. THM is already defined as something to be dealt with at the treatment facilities. This potential exists for all plans and cannot be accessed as any greater potential for any specific plan. As stated on page 155 no Federal mitigation measures are being proposed.
- 67-32 Impacts to the Verde River Sheep Bridge are detailed in the supporting document. Environmental Impacts and Effects of Plans.
- 67-33 The correction has been made.
- 67-34 Impacts of the CAP water supply on water quality are not due to the Regulatory Storage Division but are impacts of the CAP in general and are discussed in the Central Arizona Project Final Environmental Statement (FES 72-35).
- 67-35 The approach to institutional issues requiring resolution for implementation to occur will be detailed in the Stage III Report Addendum.