

R E S E V O I R   R E G U L A T I O N   M A N U A L

FOR

MOJAVE RIVER DAM

MOJAVE RIVER BASIN, CALIF.

CONTENTS

	<u>Page</u>
Pertinent data .....	iv
Authority.....	1
Scope.....	1
Basin Information.....	1
Physiographic Characteristics .....	1
Geology .....	1
Vegetation .....	2
Economic Development.....	2
Existing Structures Affecting Runoff.....	2
Climatology.....	2
Runoff .....	3
Flood.....	3
Flood Damages .....	4
Downstream Channel.....	4
Project Information .....	4
Authorization.....	4
Construction History .....	5
Purpose .....	5
Relationship to Coordinated Plan of Development for the Basin.....	5
Description.....	5
Dam .....	5
Saddle Dike .....	5
Outlet Works.....	5
Approach Channel.....	6
Tunnel.....	6
Outlet Channel.....	6
Spillway.....	6
Reservoir .....	6
Basis for Design .....	6
Reservoir Design Flood.....	6
Sediment Volume .....	7
Spillway Design Flood .....	7
Reservoir Design Flood Routing .....	7
Spillway Design Flood Routing.....	8
Recreational Development of the Reservoir Area.....	8

CONTENTS--Continued

	<u>Page</u>
Operation .....	8
Responsibility for Operation .....	8
Flood-Control Operation Plan .....	8
Reservoir Filling Frequency .....	9
Reporting Criteria .....	9
Emergency Notification .....	9
Collection of Hydrologic Data .....	9
Hydrologic Facilities .....	9
Reservoir Water-Surface Recorder System .....	9
Gaging Stations .....	9
Reservoir Staff Gages .....	11
Precipitation Gages .....	11
Sedimentation .....	11

TABLES

<u>No.</u>	<u>Title</u>	
1.	Climatological Data at Hesperia .....	13
2.	Climatological Data at Squirrel Inn No. 2 .....	14
3.	Snowfall Data at Victorville Pump Station .....	15
4.	Runoff Data - Deep Creek near Hesperia .....	16
5.	Runoff Data - West Fork Mojave River near Hesperia .....	18
6.	Area and Gross Capacity - Mojave River Dam .....	20
7.	Travel Times for Outflow from Mojave River Dam to Reach Downstream Points of Interest .....	23

PLATES

<u>No.</u>	<u>Title</u>
1.	Project Location
2-6.	Overflow Area and Downstream Channel
7.	Topography, Drainage Area and hydrologic Map
8.	General Plan, Embankment, Saddle Dike and Appurtenances
9.	Embankment Profile and Sections
10.	Saddle Dike Profile and Sections
11.	Outlet Works Plan, Profile and Sections
12.	Outlet Discharge Curve
13.	Spillway Plan, Profile and Sections
14.	Spillway Discharge Curve
15.	Area and Capacity Curves
16.	Reservoir Design Flood Routing
17.	Spillway Design Flood Routing
18.	Recreational Development
19.	Chain of Command for Reservoir Operations Decisions

CONTENTS--Continued

PLATES--Continued

<u>No.</u>	<u>Title</u>
20.	Key personnel for Normal Operation (Deleted)
21.	Organization for Flood-Emergency Operation (Deleted)
22.	Key Personnel for Flood-Emergency Operation (Deleted)
23.	Filling Frequency Curve
24.	Discharge Rating Curve for Mojave River near Victorville Stream Gaging Station
25.	Discharge Rating Curve for Mojave River near Barstow Stream Gaging Station
26.	Discharge Rating Curve for Deep Creek near Hesperia Stream Gaging Station
27.	Discharge Rating Curve for West Fork Mojave River near Hesperia Stream Gaging Station
28.	Discharge Rating Curve for Mojave River near Hodge Stream Gaging Station
29.	Discharge Rating Curve for Mojave River at Afton Stream Gaging Station
30.	Discharge Rating Curve for East Fork of the West Fork of the Mojave River above Cedar Springs Stream Gaging Station
31.	Discharge Rating Curve for West Fork of the Mojave River above Cedar Springs Stream Gaging Station
32.	Plan of Reservoir and "A" Index Ranges
33.	"C" Index Ranges

RESERVOIR REGULATION MANUAL  
 FOR  
 MOJAVE RIVER DAM  
 MOJAVE RIVER BASIN, CALIFORNIA

PERTINENT DATA

Construction completion date .....	May 1971
Drainage area .....	sq. miles 215
Reservoir:	
Elevation -	
Flood-control pool (spillway crest) .ft., m.s.l. ....	3,134
Spillway design surcharge level .....ft., m.s.l. ....	3.165.4
Area -	
Spillway crest .....	acres 1,980
Spillway design surcharge level .....	acres 3,135
Top of dam .....	acres 3,390
Capacity, gross -	
Allowance for sediment .....	ac.-ft. 11,000
Spillway crest .....	ac.-ft. 89,700
Spillway design surcharge level .....	ac.-ft. 179,400
Top of dam .....	ac.-ft. 191,000
Embankment - type .....	
Top of elevation .....	ft., m.s.l. 3,172
Height above original streambed .....	ft. 200
Top length .....	ft. 106
Top lenth .....	ft. 1,255
Top width .....	ft. 20
Freeboard .....	ft. 6.6
Saddle dike - type .....	
Top elevation .....	ft., m.s.l. 3,172
Maximum height above existing ground .....	ft. 106
Top length .....	ft. 1,255
Top width .....	ft. 20
Freeboard .....	ft. 6.6
Spillway - type .....	
Crest length .....	ft. 200
Crest elevation .....	ft., m.s.l. 3,134
Design surcharge .....	ft., 31.4
Discharge at design surcharge .....	c.f.s. 105,400
Outlet conduit:	
Intake invert elevation .....	ft., m.s.l. 2,988
Type .....	"D" section
Height .....	ft. 17.75
Width .....	ft. 19.00
Length .....	ft. 974
Maximum capacity at spillway crest .....	c.f.s. 23,500

PERTINENT DATA--Continued

Reservoir Design Flood:

Duration.....	days.....	3
Total volume.....	ac.-ft.....	154,000
Inflow peak.....	c.f.s.....	94,000
Outflow peak.....	c.f.s.....	23,500
Reduction in peak.....	c.f.s.....	70,500

Spillway Design Flood:

Duration.....	days.....	5
Total volume.....	ac.-ft.....	383,000
Inflow peak.....	c.f.s.....	186,000
Outflow peak.....	c.f.s.....	131,000
Reduction in peak.....	c.f.s.....	54,700