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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

EKLUTNA PROJECT
ANNUAL PROJECT HISTORY

CALENDAR YEAR 1958

VOLUME VIII

NARRATIVE STATEMENT

The Eklutna Powerplant generated 166,953,000 KWH during the year 1958, of which 689,600 KWH were used for station service. A balance of 166,263,400 KWH were available for transmission. 6,954,076 KWH transmission losses resulted in a delivery of 159,309,324 KWH to customers.

The maximum load on the plant during the year was 34,000 KW which is a utilization factor of 113%.

231,865.41 AF of water was used through the turbines during the year, and 20,814.89 AF were spilled during the months of August and September.

Unit No. 1 was started 166 times during the year and operated 7,356.2 hours, generating 83,503,000 KWH. Availability factor during the year was 99.6%.

Unit No. 2 was started 168 times during the year and operated 7,305.6 hours, generating 83,450,000 KWH. Availability factor during the year was 99.65%.

The annual inspection and overhaul of Unit No. 1 was completed on March 13 and that of No. 2 on October 16. It was necessary to replace the turbine packing on both turbines during the year, on No. 1 September 17 and on No. 2 April 4. Garlock No. 90S packing was used replacing the Anchor No. 317 packing furnished by the turbine manufacturer.

Annual inspection of the turbines revealed that the Velox No. 3 grease being used in the wicket stem bearings was not staying in the bearings as waterproof grease should. Standard Oil Company Chevron WP-1 grease is now being used on the turbines.

Plant personnel are in the process of installing a centralized lubricating system for the turbines.

The Lake George breakup flood started early again this year (July 16) and the Eklutna-Palmer 115-kv line washed out and fell into the river on July 17. Severe damage was sustained along four miles of the right-of-way. Power was restored to the Palmer Area through Reed Substation.

The old 6/1 structure was threatened by the crumbling bank of the Matanuska River and was relocated back approximately 100 feet from the bank as stop-gap measure until relocated section of line was

complete. The crumbling of the Matanuska River bank necessitates the relocation of structure 9/3 and addition of new structure 9/4.

The Lake George breakup flood which reached a stage of 57.5 feet at the Knik River Bridge resulted in a loss of the crib and rail pile anchor at structure 4/13. Design of this anchor and crib were approved by the Bureau of Public Roads. The structure was damaged when the guy anchors failed, but was repaired when flood waters receded.

A new anchor of 14 inch H-beam bearing piles is to be constructed as soon as weather conditions permit in the spring. The structure is being guyed temporarily by earth anchor.

A private two-passenger plane flew into the Eklutna-Palmer 115-kv line between structures 1/3 and 1/4 on June 7, ruining the plane, severely injuring the occupants and damaging the conductor of the line. The line was restored to service immediately and was able to carry the Palmer Area load until the load could be transferred to another line. Project personnel assisted the Air Rescue Service in removing the plane's occupants and transportation to a helicopter.

The contract to re-route approximately nine miles of the Eklutna-Palmer 115-kv line was completed on September 23. It was necessary to delay the placing of the line in service until cooler weather reduced the flow of the Matanuska River to a point where equipment could get in to install a new structure 9/4 in the Matanuska River. Connection was made to the re-routed section and the old section between the plant and the Matanuska River was disconnected. F4 59

Approximately one mile of the old 115-kv line from the plant to the main channel of the Knik River was salvaged with the exception of the poles.

Trouble was again experienced this year on insulator and conductor damage by rifle fire. The Federal Bureau of Investigation have been checking each reported damage.

Project identification signs were constructed and erected on each side of the project. Safety signs were also posted at appropriate locations where known hazards existed.

Reinforced wooden regulating gates were made and installed in the spillway section at Eklutna Lake during the early summer months. Seals at the bottom and sides of the gates were also repaired or replaced.

The area east of the project office and some of the government camp area were landscaped and planted in grass. The grass and shrubbery previously planted at the plant have added materially to the appearance of the plant.

WATER SUPPLY REPORT

To Commissioner, Washington D.C. Attention: 400 (Orig.) **Air Mail**

Region Alaska District

Commissioner's Office - Denver, Colo. Attention 758 (Copy) **Air Mail**

Project Eklutna

District Manager, Juneau, Alaska (Copy) **Air Mail**

Water Supply Prospects At End Of June 1958

A. RESERVOIR DATA

Reservoir	Reservoir Elevation		Active Storage 1,000 A.F.	Monthly Total		Outlook	Precipitation	
	Feet	Date and time		Outflow 1,000 A.F.	Inflow 1,000 A.F.		Inches	Percent of Normal
Eklutna Lake	848.52	6-30-58 2:00 P.M.	101.1 (1)	20.16857 (2)	52.16857	Excellent (3)	1.12	70.9

Remarks: (1) Total storage of 123,200 A.F. less 22,100 A.F. inactive storage.
(2) All turbine use. No spill.
(3) Fair from precipitation standpoint. Water supply excellent.

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B. IRRIGATION DATA

Division or Unit	Prospects for Irrigation Water To Mature Crops		Remarks
	This Year	Future Years	

Submitted By

NAME
Clellvon T. Vaughan

Acting Project Superintendent

TITLE

July 1, 1958

DATE

WATER SUPPLY REPORT

To Commissioner, Washington D.C. Attention: 400 (Orig.) **Air Mail** Region Alaska District
 Commissioner's Office - Denver, Colo. Attention 758 (Copy) **Air Mail** Project Eklutna
 District Manager, Juneau, Alaska (Copy) **Air Mail** Water Supply Prospects At End Of December 1958

A. RESERVOIR DATA

Reservoir	Reservoir Elevation		Active Storage 1,000 A.F.	Monthly Total		Outlook	Precipitation	
	Feet	Date and time		Outflow 1,000 A.F.	Inflow 1,000 A.F.		Inches	Percent of Normal
Eklutna Lake	852.98	12-31-58 10:00 AM	114.9 (1)	18.21278 (2)	2.71278	Fair (3)	0.81	115

Remarks: (1) Total storage of 137,000 A.F. less 22,100 A.F. inactive storage.
 (2) All turbine use. No spill.
 (3) Excellent from precipitation standpoint. Water supply fair.

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B. IRRIGATION DATA

Division or Unit	Prospects for Irrigation Water To Mature Crops		Remarks
	This Year	Future Years	

Submitted By

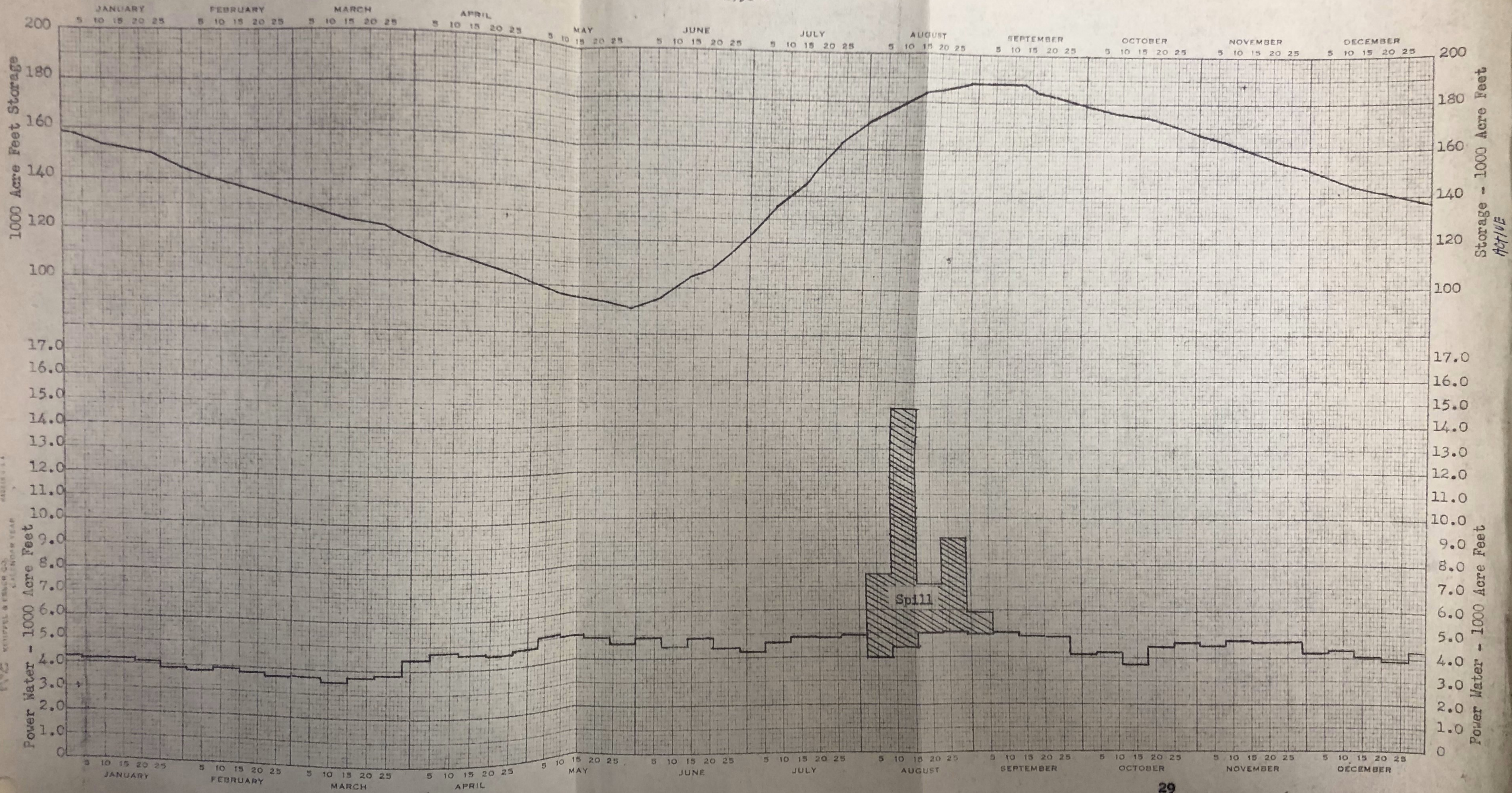
NAME
James B. Hamlin

TITLE
Project Superintendent

DATE
January 2, 1959

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 BUREAU OF RECLAMATION - ALASKA DISTRICT
 EKLUTNA POWERPLANT
 STORAGE AND WEEKLY POWER RELEASE
 - 1958 -

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