### Journal of the

#### POWER DIVISION

## Proceedings of the American Society of Civil Engineers

# POWER DIVISION EXECUTIVE COMMITTEE

C. Russell Dole, Chairman; J. George Thon, Vice Chairman; Robert T. Colburn; Mark J. Hroncich; Richard R. Randolph, Jr., Secretary Henderson E. McGee, Board Contact Member

#### COMMITTEE ON PUBLICATIONS

Alan J. Michael, Chairman; Ralph Baumgarten; James M. Mullarkey

#### CONTENTS

#### December, 1962

#### Papers

	Page
Use of T-1 Steel for Oahe Spiral Cases by William J. Rheingans	1
Sudden Enlargements in Pipelines by James W. Ball	15
John Day Lock and Dam: Foundation Investigations by Charles J. Monahan	29
Structural Design Practices for Tainter Crest Gates by Carl C. H. Tommerup	47
Water Supply for the Panama Canal by E. M. Browder, Jr., and Robert D. Brown, Jr (over)	69

Copyright 1962 by the American Society of Civil Engineers.

The three preceding issues of this Journal are dated May 1962, July 1962, and September 1962.

	Page
Symposium on Pumped Storage: Development of Reversible Pump-Turbines by M. Braikevitch, D. Hartland, and R. A. Strub	83
Symposium on Pumped Storage: Foreign Pumped Storage Projects by Richard D. Harza	107
Symposium on Pumped Storage: American Pumped Storage Equipment and Operation	
by Frank E. Jaski	135
DISCUSSION	
Design of Karadj Hydroelectric Project, by Richard D. Harza and Robert F. Edbrooke. (August, 1960. Prior discussion: November, 1961. Discussion closed.) by Richard D. Harza and Robert F. Edbrooke (closure)	145
Oroville Dam and Appurtenant Features, by W. G. Schulz, Donald P. Thayer, and J. J. Doody. (July, 1961. Prior discussion: November, 1961. Discussion closed.) by Adolph J. Ackerman by W. G. Schulz, Donald P. Thayer, and J. J. Doody (closure)	149 153
Penstocks and Scroll Cases for Niagara Power Project, by J. Edgar Revelle and John N. Pirok. (November, 1961. Prior discussion: May, July, 1962. Discussion closed.) by J. Edgar Revelle and John N. Pirok (closure)	157
Fish Handling Facilities for Baker River Project, by Warner W. Wayne, Jr. (November, 1961. Prior discussion: May, July, 1962. Discussion closed.) by Warner W. Wayne, Jr. (closure)	159
Underground Power Plants in Yugoslavia, by V. M. Yevdjevich. (November, 1961. Prior discussion: July, 1962. Discussion closed.)	100
by Y. M. Yevdjevich (closure)	163
by Harlan F. Harris	165
by Joseph R. Arena	169

	Page
TVA's Paradise Steam Plant, by Reed A. Elliot, Walter F. Emmons, and Henry T. Lofft. (May, 1962. Prior discussion: None. Discussion closed.)	
by Harold J. Petersen by C. W. Priest by H. P. Cadario by Adolf A. Meyer by Stanley Moyer by R. A. Baker by Theodore Baumeister	171 172 174 176 177 180 180
Design of Chute-des-Passes Surge-Tank System, by John W. Forster. (May, 1962. Prior discussion: None. Discussion closed.) by Adolph A. Sutko by I. W. McCaig by Henry M. Paynter	183 184 185
Evaluation of Federal Hydroelectric Power Projects, by William Whipple, Jr. (May, 1962. Prior discussion: None. Discussion closed.) by Michael Spero	189 190
Optimum Penstock Diameter in Hydroelectric Plants, by Edward J. Low. (July, 1962. Prior discussion: None. Discussion closed.) by Raoul Sabljak	193
John Day Lock and Dam: Planning and Site Selection, by Glenn H. Von Gunten and John F. Bruce. (July, 1962. Prior discussion: None. Discussion closed.) by Roy F. Bessey	199 203
South America's First EHV Transmission Line, by A. G. Villepique. (July, 1962. Prior discussion: None. Discussion closed.) by John Umstead	207
Towers and Foundations for Project EHV, by Philip A. Wild and Emerson F. Haslam, Jr. (July, 1962. Prior discussion:  None. Discussion closed.)  by Joseph R. Arena	209
Symposium on Pumped Storage: General Planning of Pumped Storage, by R. D. Ley and E. S. Loane. (July, 1962. Prior discussion: None. Discussion closed.) by Adolf A. Meyer	211