

# CONTENTS

<b>Partially Precast-Prestressed Intake Structure</b> <i>by Hugh G. McKay III and Paul C. Gurley . . . . .</i>	1
<b>Sequoyah Ice Condenser Containment Structure</b> <i>by Jesse F. Allred, Robert O. Barnett, and Franklin D. Stidham . . . . .</i>	19
<b>Hutchinson Island Nuclear Containment Structure</b> <i>by Ronald G. Moreland and Richard L. Bentley . . . . .</i>	41
<b>Beaver Valley Containment Structure</b> <i>by Steven H. Popper . . . . .</i>	51
<b>Ludington Pumped Storage Project</b> <i>by Eustratios Comninellis . . . . .</i>	69
<b>The Dissipation of Excess Heat from Water Systems</b> <i>by Harvey E. Jobson . . . . .</i>	89
<b>Transmission Towers Under Torsional Loads</b> <i>by Albert W. G. Hanna and Richard G. Redwood . . . . .</i>	105
<b>Engineering Innovations for Davis-Besse Containment</b> <i>by Howard W. Wahl . . . . .</i>	125
<b>Dissolved Oxygen Improvement by Hydroelectric Turbine Aspiration</b> <i>by Donald C. Raney and Terry G. Arnold . . . . .</i>	139
<b>Improved Behavior of Bell-Bottomed Poles</b> <i>by Kanakapura S. Subba Rao and H. V. Eswaraiah . . . . .</i>	155

→

---

This Journal is published aperiodically by the American Society of Civil Engineers. Publications office is at 345 East 47th Street, New York, N.Y. 10017. Address all ASCE correspondence to the Editorial and General Offices at 345 East 47th Street, New York, N.Y. 10017. Allow six weeks for change of address to become effective. Subscription price to members is \$3.00. Nonmember subscriptions available; prices obtainable on request. CO, PO, PP, SU, UP.

The Society is not responsible for any statement made or opinion expressed in its publications.

<b>An Approach to Analysis of Arch Dams in Wide Valleys</b> <i>by Janusz R. Rydzewski and Richard W. Humphries . . . . .</i>	165
<b>Systems Aspects of Seismic Design for Nuclear Plants</b> <i>by Roland L. Sharpe . . . . .</i>	175
<b>Thermal Capacity of Our Nation's Waterways</b> <i>by D. E. Peterson, John C. Sonnichsen, Jr., S. L. Engstrom, and P. M. Schrotke . . . . .</i>	193
<b>Environmental Design of Bear Swamp Project</b> <i>by Robert W. Kwiatkowski and Louis D. Pierce . . . . .</i>	205
<b>Disposal and Uses of Power Plant Ash in Urban Area</b> <i>by Philip G. Sikes and Henry J. Kolbeck . . . . .</i>	217
<b>Optimization of Circulating Water System</b> <i>by Radha S. Gupta and Bruce R. Webber . . . . .</i>	235

---

DISCUSSION

Proc. Paper 9690

---

<b>Earthquake Forces on Equipment in Nuclear Power Plants</b> , by Asadour H. Hadjian (July, 1971. Prior Discussions: June, 1972). <i>closure . . . . .</i>	251
<b>Cooling Pond Temperature Versus Size and Water Loss</b> , by Bruce A. Tichenor and Alden G. Christianson (July, 1971. Prior Discussion: June, 1972). <i>closure . . . . .</i>	252
<b>Graphical and Computer Analysis of Tailrace Surges</b> , by C. Samuel Martin (July, 1971. Prior Discussion: June, 1972). <i>closure . . . . .</i>	253
<b>Water Consumption Study for Navajo Plant,<sup>a</sup></b> by Paul Leung and Raymond E. Moore (Dec., 1971). <i>by Charles A. Washburn . . . . .</i>	257
<b>Computer Model for Thermal Plume</b> , by Robert E. Barry and David P. Hoffman (June, 1972). <i>errata . . . . .</i>	259

---

<sup>a</sup>Discussion period closed for this paper. Any other discussion received during this discussion period will be published in subsequent Journals.

**Analysis and Design of Hyperbolic Cooling Towers,<sup>a</sup>** by German Gurfinkel and Adolf Walser (June, 1972).  
by *Raphael F. Rish* . . . . . 259

**Logical Approaches to Power Supply and Environment,<sup>a</sup>** by Riley D. Woodson (Oct., 1972).  
by *Roy F. Bessey* . . . . . 261

---

<sup>a</sup>Discussion period closed for this paper. Any other discussion received during this discussion period will be published in subsequent Journals.