Association of State Dam Safety Officials
December 2000

Suggested Reference Materials for State Dam Safety Programs
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Association of State Dam Safety Officials
450 Old Vine Street, 2nd Floor
Lexington, KY 40507-1544
Phone: 859-257-5140
Fax: 859-323-1958
info@damsafety.org
http://www.damsafety.org
Introduction

In an effort to help improve state dam safety programs, the Association of State Dam Safety Officials Model Library Committee has identified a recommended core collection of materials primarily for state dam safety libraries. Committee members, listed below, represent state, federal and academic sectors:

Terry Hampton, Mead & Hunt Consulting Engineers
Dan R. Lawrence, Tetra Tech, Inc.
A. Leon Smothers, Kentucky Division of Water Resources
J. Lawrence Von Thun, U.S. Bureau of Reclamation (retired)
Bruce A. Tschantz, University of Tennessee Department of Civil Engineering
Sarah M. Mayfield, Association of State Dam Safety Officials

ASDSO’s *Suggested Reference Materials for State Dam Safety Programs* includes approximately seventy-five references from sixteen general categories of materials, all of which are representative of knowledge deemed essential for state dam safety personnel. Other dam safety engineers and specialists should also find this listing useful in their practice and research. The categories comprise a cross-section of technical, classical and historical documents.

1. General Handbooks, Reference Manuals, Textbooks
2. Dam Performance, Incidents, and Historic Failures (Includes Case Histories, Analyses/Statistical Evaluations, Lessons Learned, Legal Cases, Hearings, Books)
3. Inspections, Operating Procedures and Maintenance
4. Hazard Classification, Inundation Studies, and Emergency Preparedness
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11. Hydrology, Design Flood and PMF
12. Overtopping Evaluation and Protection
13. Seepage and Piping
14. Laws, Regulations, and Guidelines
15. Dam Safety Programs/Management
16. Risk Assessment

The committee selected individual materials based on recommendations from state programs, ASDSO members, and personal experience. Though many of the identified items are old, or even out of print, the committee feels that they are “classics”, and recognizes that while many principles involved in the practice of dam safety are constantly evolving, fundamental principles seldom change.
The Model Library Committee also identified a secondary tier of recommended materials, which follows the core list. Because they are too numerous to list individually, most conference and workshop papers are omitted. However, the committee recognizes their importance, and highly recommends:

- All ASDSO annual conference proceedings
- All ASDSO-sponsored regional/state dam safety workshop and conference publications
- All American Society of Civil Engineers Engineering Foundation Conference Proceedings (1970’s)
- All U.S. Society on Dams (formerly USCOLD) annual lecture series proceedings

Engineering literature published by McGraw-Hill, Prentice Hall, John Wiley, and Elsevier is also highly recommended. The committee acknowledges that many excellent references exist, aside from those listed in this document.

The committee gratefully acknowledges the advice of Dr. Francis McLean of the U.S. Bureau of Reclamation, and others whose comments helped shape the final product. ASDSO hopes that the Model Library will be a useful tool for anyone seeking helpful references on a variety of dam safety topics. Users of this model library listing are encouraged to recommend to ASDSO other important or new references, documents, or websites, which should be considered for inclusion in either tier in future editions. If you have questions or comments regarding the ASDSO Model Library, please contact Sarah Mayfield at 859/257-5140, or smayfield@damsafety.org.

**Using this Document**

This document is split into four sections. The first two sections include separate lists of Tier I (the core library) and Tier II (also highly recommended) materials. Individual items may appear several times in these lists, as many contain information applicable to more than one of the sixteen identified categories.

The table in the appendices includes all listed documents and shows how each item is categorized. Bold type indicates core library materials (Tier I). Materials that are available through ASDSO are preceded by a check mark (✔).

The final section aims to assist the user in locating materials for purchase.
ASDSO Suggested References for State Dam Safety Programs

Tier I Materials
1. **General Handbooks, Reference Manuals, Textbooks**


2. **Dam Performance, Incidents, and Historic Failures (Includes Case Histories, Analyses/Statistical Evaluations, Lessons Learned, Legal Cases, Hearings, Books)**


3. **Inspections, Operating Procedures and Maintenance**

American Concrete Institute Committee 201. *Guide for Making a Condition Survey of Concrete in Service*, American Concrete Institute, 1984, 14 pp.


4. Hazard Classification, Inundation Studies, and Emergency Preparedness


5. Monitoring, Instrumentation, and Surveillance


6. Dam Design and Analysis

(a) General


Portland Cement Association. [Collection of Roller-Compacted Concrete Manuals]


(b) Earthen Dams and Tailings Dams


First Tier Materials


STABL IV, REAM or SWASE slope stability analysis program manuals.


**(c) Concrete Gravity Dams**


**(d) Arch and Buttress Dams**


7. **Construction Inspection and Materials Testing**


8. **Spillway Capacity Evaluation, Modification, and Hydraulics**


9. **Site Exploration, Foundations, Geology, Geotechnical**


10. **Seismic Evaluation and Design Earthquake Selection**


Idriss, I.M. *Behavior of Embankment Dams During Earthquakes* (To be released as part of Interagency Committee on Dam Safety (ICODS) video series).


11. Hydrology, Design Flood and PMF


12. Overtopping Evaluation and Protection


13. Seepage and Piping


### 14. Laws, Regulations, and Guidelines


### 15. Dam Safety Programs/Management


### 16. Risk Assessment

American Society of Civil Engineers. [Risk Guidelines]- not yet published.


ASDSO Suggested References
for
State Dam Safety Programs

Tier II Materials
ASDSO Model Library – Second Tier Materials

1. **General Handbooks, Reference Manuals, Textbooks**


2. **Dam Performance, Incidents, and Historic Failures (Includes Case Histories, Analyses/Statistical Evaluations, Lessons Learned, Legal Cases, Hearings, Books)**


Quail Creek Dike Failure Independent Review Team (Utah); Utah State Engineer. *Investigation of the Cause of Quail Creek Dike Failure*. Office of the State Engineer, Salt Lake City, 1989, 155 pp

Re-Evaluation of the Lower San Fernando Dam:


Second Tier Materials


3. **Inspections, Operating Procedures and Maintenance**


4. **Hazard Classification, Inundation Studies, and Emergency Preparedness**


5. **Monitoring, Instrumentation, and Surveillance**


6. **Dam Design and Analysis** - (a) general (b) earthen dams and tailings dams (c) concrete gravity dams (d) arch and buttress dams.

6A. **General**


American Society of Civil Engineers (ASCE) and U. S. Committee on Large Dams (USCOLD). *Joint ASCE-USCOLD Committee on Current U. S. Practice in the Design and Construction of Arch Dams, Embankment Dams, Concrete Dams*, 1967, 131 pp.


**6B. Earthen Dams and Tailings Dams**

American Society of Civil Engineers. *Construction Control for Earth and Rockfill Dams*, 1999 (Technical engineering and design guides as adapted from the U.S. Army Corps of Engineers; no. 27).


6C. **Concrete Gravity Dams**


6D. **Arch and Buttress Dams**


7. **Construction Inspection and Materials Testing**


U.S. Bureau of Reclamation, *Earth Manual*


8. **Spillway Capacity Evaluation, Modification, and Hydraulics**


Sorenson, R.M. *Stepped Spillway Hydraulic Model Investigation*, Lehigh University, ASCE Hydraulics Division Specialty Conference.


Young, M.F. *Feasibility Study of a Stepped Spillway*, ASCE Hydraulics Division Specialty Conference, Jackson, MS, August 1982.

**9. Site Exploration, Foundations, Geology, Geotechnical**


10. Seismic Evaluation and Design Earthquake Selection


Re-Evaluation of the Lower San Fernando Dam:


11. Hydrology, Design Flood and PMF


National Science Foundation. *Investigation of Appropriate Methodologies*, 1996.

Vogel, John. *Hydrologic Reports for NW*. 
12. Overtopping Evaluation and Protection


Reeves, G.N. Planned Overtopping of Embankments Using Roller Compacted Concrete, ASCE Hydraulics Division Specialty Conference, Orlando, FL, August 1985.

13. Seepage and Piping


14. Laws, Regulations, and Guidelines


15. Dam Safety Programs/Management


16. Risk Assessment


APPENDICES

Tables ................................................................................................................................................... pp. 25-56

Sources of Materials................................................................................................................................pp. 57-58
ASDSO Model Library

The following table includes both Tier I and Tier II materials. Bold type indicates core library materials (Tier I). Materials that are available through ASDSO are preceded with a check mark (✔). References are classified by one or more of sixteen general categories:

1. General Handbooks, Reference Manuals, Textbooks
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15. Dam Safety Programs/Management
16. Risk Assessment
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<td>American Society of Civil Engineers. <em>Construction Control for Earth and Rockfill Dams</em>, 1999 (Technical engineering and design guides as adapted from the U.S. Army Corps of Engineers; no. 27)</td>
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<tr>
<td>American Society of Civil Engineers. <em>Inspection, Maintenance and Rehabilitation of Old Dams</em>, Proceedings of the Engineering Foundation Conference, Pacific Grove, California, September 1973 (946 pp.)</td>
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<td>American Society of Civil Engineers. <em>Instrumentation of Embankment Dams and Levees</em>, Technical engineering and design guides as adapted from the U.S. Army Corps of Engineers, No. 26, 1999, 88 pp.</td>
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<tr>
<td>American Society of Civil Engineers. <em>[Risk Guidelines]</em>- not yet published</td>
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<td>▶ Idriss, I.M., <em>Behavior of Embankment Dams During Earthquakes</em> (part of ICODS video series, to be released in 2001)</td>
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