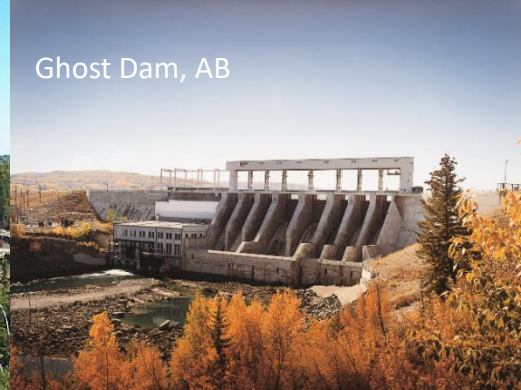


Elko, BC



Stanrock TMA, ON



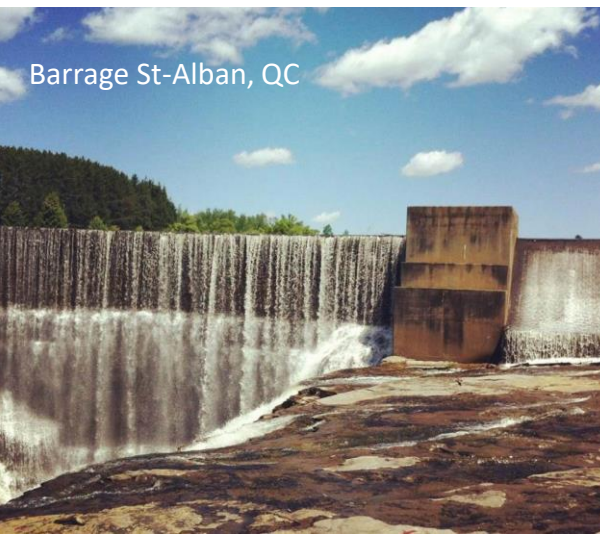
Ghost Dam, AB

CANADIAN DAM ASSOCIATION

ASSOCIATION CANADIENNE DES BARRAGES



Lake Milo, NS



Barrage St-Alban, QC



Eastend, SK

Canadian Dam Association

The CDA is a group of dam owners, operators, regulators, engineers and others who share the goal of advancing knowledge and practices related to dams. Our members are involved with all types of dams, including those used for irrigation, hydroelectric power, municipal water supply and mining operations

CDA Vision

A future in which all dams are safe, well-managed and benefit society.

CDA Mission

To encourage co-operation, advance technical knowledge, and build competency related to dams in Canada.

Dams in Canada

- In general terms, a “dam” is a barrier constructed for retention of water, fluid waste or tailings
- Over 10,000 dams in Canada
- Almost 1,000 are categorised as “large” dams
- Ownership by
 - Federal and provincial governments
 - Electric utilities
 - Industrial and mining companies
 - Irrigation districts
 - Municipalities
 - Private individuals

Regulatory Framework in Canada

- Mainly a provincial/territorial responsibility
 - Regulations exist in British Columbia, Alberta, Ontario, Quebec
 - Other provinces/territories rely on legislation related to water resources
- No federal regulatory agency or overarching program
 - Canadian Nuclear Safety Commission regulates uranium tailings dams
- Federal interest
 - Navigable waters
 - Dams owned by Parks Canada and Public Works Canada
 - International Joint Commission (Boundary Waters Treaty) applies to some dams
 - Columbia River crosses international boundary
 - Infrastructure programs (e.g. CIP, emergency management)

Canadian Dam Association (CDA) - History

- 1928 - ICOLD (International Commission on Large Dams) was formed
- Since 1950s - CANCOLD represented Canada at ICOLD
- 1989 - Canadian Dam Safety Association (CDSA) was formed
- 1998 - CDA was formed through merger of CDSA and CANCOLD, thus taking on the role as Canadian member on ICOLD

CDA – Today

- Non-profit association relying on volunteer work by professionals in the dam community
- Not a regulatory agency, not an advocate for dams, but advocate for dam safety
- Board of Directors represents all provinces and territories
- Known across Canada and internationally as key resource for technical guidance and publications related to safety of dams
- Annual conference and workshops attract 350-500

CDA Membership

- ~ 50 Sustaining and Corporate members
- ~ 800 individual members
- Members include
 - Dam owners and operators
 - Engineers working for owners and consultants
 - Regulators
 - Contractors
 - Suppliers
- Annual conference and workshops attract up to 500



CDA Dam Safety Guideline

Main Dam Safety Guidance Document – issued in 2007
and revised in 2013

Supporting Bulletins

Inundation

Surveillance

Flow Control Equipment

Dam Safety Analysis and Assessment

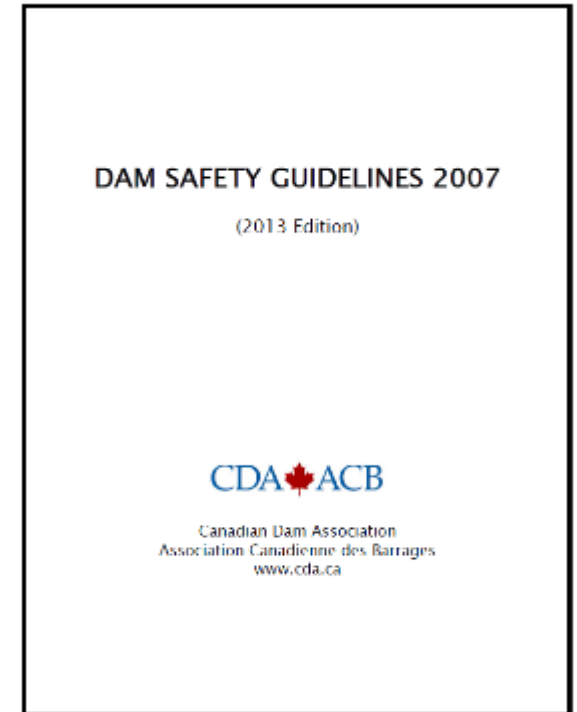
Hydrotechnical Considerations

Seismic Hazard Considerations

Geotechnical Considerations for Dam Safety

Structural Considerations for Dam Safety

Public Safety Guidelines



CDA Mining Dams Technical Bulletin

Issued in 2014

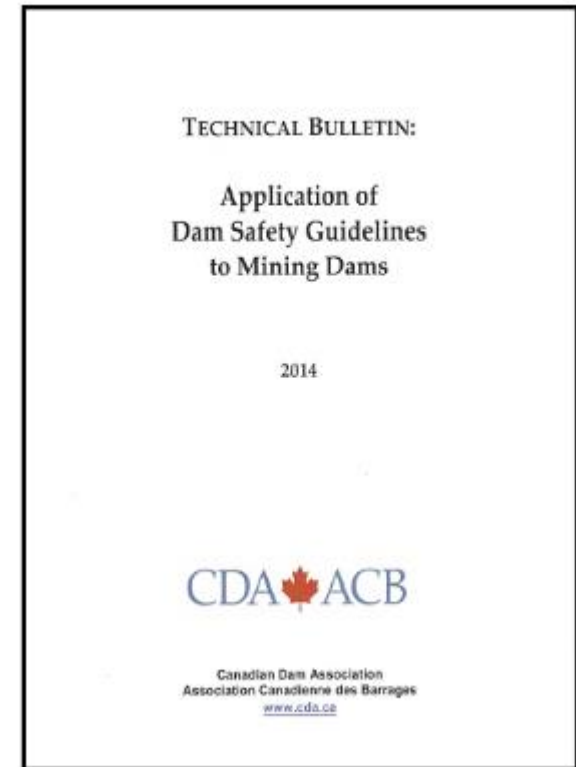
Definition of a mining dam

Addresses unique aspects of
mining dams, examples:

Environmental design flood

Geotechnical items

Closure



Sustaining Members of CDA

Provincial Agencies and Hydroelectric Companies



Engineering Consultants



BUILDING A BETTER WORLD



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NORTHERN STRANDS



Corporate Members of CDA

AAFC-Corporate Management Branch

Amec Foster Wheeler

Atlantic Power Corp.

BAUER Foundations Canada Inc.

Canary Systems

Columbia Power

FortisBC

MTM-2 Contracting Inc.

Nova Scotia Power Inc.

Ontario Ministry of Natural Resources & Forestry

Province of British Columbia

Shell Canada Energy

Algonquin Power Co.

Andritz Hydro AFI

Axter Coletanche Inc.

Brookfield Renewable Power

Chelan County PUD #1

ConCool LLC

Grand River Conservation Authority

Multiurethanes Ltd.

NWT Power Corporation

Parks Canada / Parcs Canada

SEG Precision

CDA Products and Services

- Annual conference and trade show
 - Presentations of technical papers, in English and French
 - Technical committee meetings
- Training and professional development programs
 - Workshops and seminars
 - On-line learning centre
- Publications
 - Application of Dam Safety Guidelines to Mining Dams (2014)
 - Dam Safety Guidelines (2013)
 - Guidelines for Public Safety Around Dams (2011)
 - Technical bulletins on dam safety topics (2007)
- In development...

Products in Development - Updates

- Guidance and training programs for
 - Dam Safety Reviews
 - Overview of dam owner responsibilities
 - Emergency management at dams
 - Tailings dam breach analysis
 - Tailings dam case studies and lessons learned
 - Public Safety
 - *Dams: The What, the Where & the Why*
 -
- Strategies for emerging issues
 - Engineer of Record
 - Factor of Safety
 - De-licencing of Dams

Importance of CDA work

- Develop technical guidance used by regulators and dam owners across Canada and internationally
- Need for sustainable energy and security of water supply
- Increasing public interest in risks associated with dams, both water and tailings
 - Recent failures in Canada and other countries
 - Aging infrastructure
- Collaboration between private and public sectors
 - CDA facilitates communication and feedback
- Unique for Canadian national perspective on dams
 - Who represents Canada in international forums?
 - e.g. Invitation from Senate Committee in Brazil

ICOLD – International Commission on Large Dams

- Leading international dam engineering organization
- Almost 100 member countries
- Technical Committees produce bulletins that are recognized around the world
- Canada has representatives on 20 of the 24 Technical Committees
- Canada chairs 6 Committees
- Holds annual meeting, workshops and symposium; meetings of regional groups

October 14-20, 2017 Annual Conference in Kelowna

Theme: Dams of All Sizes: State of Practice and Evolving Regulations

Important Dates:

October 14-15: Pre-Conference weekend workshops

October 16-18: technical conference and great social activities in the Okanagan Valley

October 19-20: technical tours - large hydro dams, tailings dams, and small dams

Accommodations and conference venue: Delta Grand Okanagan Resort, on the shores of Lake Okanagan