# TABLE OF CONTENTS

Preface			iii
1.0	Intr	oduction	1
2.0	Mining Dams – Description and Phases		
	2.1 2.2 2.3 2.4	Definition and Functions of Mining Dams Phases in the Life of a Mining Dam 2.2.1 Definitions 2.2.2 Site Selection and Design 2.2.3 Construction 2.2.4 Operation 2.2.5 Closure 2.2.6 Transition 2.2.7 Closure – Active Care 2.2.8 Closure - Passive Care Possible Resumption of Operations Landforms	
	2.5	Environmental Considerations	
3.0	Con	struction, Operation and Transition Phases	
	3.2 3.3 3.4 3.5	Dam Safety Management  3.1.1 General  3.1.2 Engineer of Record  3.1.3 Consequences of Failure  Operations, Maintenance, and Surveillance  Emergency Preparedness and Response  Dam Safety Reviews  Analysis and Assessment  3.5.1 Risk-Informed and Traditional Standards-Based Approaches  3.5.2 Hydrotechnical  3.5.3 Seismic Criteria  3.5.4 Geotechnical	14151920212122
4.0	Activ	ve and Passive Care Phases	30
		Dam Safety Management  Operations, Maintenance, and Surveillance  Emergency Preparedness and Response  Dam Safety Reviews  Analysis and Assessment	30 31
5.0	Cons	siderations for Covers	36
6.0	Futu	re Ownership, Liability and Custodial Transfer	37
7.0	Refe	rences	39

### LIST OF FIGURES

Figure 2-1. Phases in the Life of a Mining Dam	5
Figure 3-1. Typical Appurtenances Required for	EDF Storage and IDF Conveyance22

### LIST OF TABLES

1able 3-1. Dam Classification18	ı
Table 3-2. Target Levels for Flood Hazards, Standards-Based Assessments, for Construction,	
Operation, and Transition Phases24	:
Table 3-3. Target Levels for Earthquake Hazards, Standards-Based Assessments, for	
Construction, Operation, and Transition Phases26	i
Table 3-4. Target Factors of Safety for Slope Stability in Construction, Operation, and Transition	
Phases - Static Assessment	,
Table 3-5. Target Factors of Safety for Slope Stability in Construction, Operation, and Transition	
Phases - Seismic Assessment27	
Table 4-1. Target Levels for Flood Hazards, Standards-Based Assessments, Closure – Passive	
Care Phase33	
Table 4-2. Target Levels for Earthquake Hazards, Standards-Based Assessments for Closure –	
Passiva Cara Phasa	

## **APPENDIX**

Appendix A. Comparison to MAC and ICOLD Guidelines



#### **Preface**

The Canadian Dam Association publication *Dam Safety Guidelines* (CDA, 2013) outlines principles that are applicable to dams of all types. These include "mining dams" which are retaining structures at mine sites or metallurgical plant sites that retain solids or liquids that may or may not be contaminated.

This Bulletin was prepared by the CDA Mining Dams Committee, which has members representing a broad range of the mining community in Canada. The focus has been on the Canadian context, but the principles are generally applicable to dams in any jurisdiction. Regulatory requirements vary considerably and must be met in all cases. Other expectations and requirements may also apply, including corporate policies and guidelines, industry standards, and legislation at provincial and federal levels.

This Bulletin is not intended to duplicate or replace the extensive guidance that has been prepared by other organizations. For example:

- The Mining Association of Canada (MAC) has published a number of guides for the mining industry, particularly in relation to management of mining facilities.
- The International Commission on Large Dams (ICOLD) has issued guidance on overall tailings systems, sustainable design and closure principles, and long term monitoring.

In making dam safety assessments and decisions, the responsible engineer or decision-maker must assess and interpret guidance and information from all available sources and determine the appropriate requirements for a specific situation.

While every reasonable effort has been made to ensure the validity and accuracy of the information in this Bulletin, the Canadian Dam Association and its membership disclaim any legal responsibility for use of *Dam Safety Guidelines* and this Technical Bulletin.