

# *Guidelines on the Design Criteria for Concrete Gravity Dams (Watching Brief)*

## **INTRODUCTION**

The current Guidelines on the Design Criteria for Concrete Gravity Dams were published in September 2013. The purpose of the Guidelines is to provide the designer with the fundamental criteria for input to design of and acceptance criteria for concrete gravity dams that are founded on rock.

The guidelines concentrate on stability and acceptable stresses within the mass concrete and foundations. The most important change made in these 2013 Guidelines compared with the 1991 version is that they have moved away from the Limit State design approach to a Factor of Safety or working stress approach in line with other international guidelines. This fundamental yet significant change was strongly endorsed by practitioners within the dams' industry. These guidelines propose the same analytical approach and acceptance criteria be adopted for all concrete gravity dams using either conventional vibrated or roller compacted concrete.

## **OBJECTIVES**

The objective of the Watching Brief Committee is to maintain surveillance on all matters associated with the purpose of the guideline, to monitor industry trends both nationally and abroad and assess the currency of the existing guidelines against those trends.

## **BACKGROUND**

The Watching Brief Committee was formed in late 2014 by the ANCOLD Executive who appointed David Ryan as the Convenor for the Committee. David has sought the assistance of Michael Somerford who, together with David, was a member of the original working group for the development of this latest version of the Guidelines. Both David and Michael are currently employed by organisational members and are Associate Members of the ANCOLD organisation.

While the Watching Brief Committee remains in this composition, its main purpose is to provide advice to practitioners based on the current content of the guidelines and maintain watch on industry trends or new developments in design procedures for concrete gravity dams.

Where queries or comments suggest a proposed change to the guidelines, the Convenor is empowered to contact members of the original working group, or other practitioners who are willing to assist in any review and invite them to join the Watching Brief Committee. Any such changes to the Watching Brief Committee are subject to the approval of the ANCOLD Executive.

## **ONGOING INVESTIGATIONS**

Since the publication of the guidelines and the presentation workshop conducted at the 2014 ANCOLD Annual Conference, there has been very few queries on the Guidelines other than those related to the identification of a possible minor error in the example included in the appendix.

The Watching Brief Committee are currently in the process of reviewing international Guidelines and publications including those from FERC (March 2016) and more recent work prepared by Energiforsk (September 2016) who have prepared a publication on the Probabilistic Model Code for Concrete Dams. The Watching Brief Committee also maintains an awareness of proposed changes to ANCOLD Guidelines including the development of the revised ANCOLD Earthquake Guidelines.

The Watching Brief committee will continue to maintain surveillance on matters associated with the guideline and invite any suggestions or comments that may assist with ensuring the guidelines reflect current industry trends.

### **David Ryan**

Convenor

<b>Membership of the Working Group</b>	<b>Company</b>
David Ryan (Convenor)	Independent consultant
Michael Somerford	Water Corporation of WA