Introduction

In October 2011, the Victorian Dam Safety Advisory Committee was appointed for a three year term to provide independent expert input and advice on the regulation of dam safety in Victoria. This was in response to a recommendation from the 2010 Review of the Victorian Dam Safety Regulatory Framework (2010 Review) which had been endorsed by the Minister for Water in 2011. In September 2014, the Committee’s term was extended for a further three year period.

The Committee’s terms of reference (Attachment 1) and scope of work (Attachment 2) are attached.

The Committee is made up of the following members who have extensive experience in dam safety, asset management, business administration, and Victorian water industry governance:

- David Dole (Chair);
- Phillip Cummins;
- Jim Keary; and
- Clinton Rodda.

It is supported in its activities by the Risk and Resilience Team in the Catchments and Water Group of the Department of Environment, Land, Water and Planning (Department).

This annual report covers the period from 1 January 2016 to 31 December 2016 during which time the Committee met on three occasions.

The primary purpose of the Committee is to be a source of independent advice to the Department staff responsible for the exercise of statutory functions of dam safety regulation and the development and implementation of sound dam safety management practices by public and private dam owners. A fundamental principle of the Victorian approach is that dam owners are primarily responsible for dam safety.

A practical illustration of the Committee’s role has been to guide and assist in the development of the following important industry guidance note during this period:

- Decommissioning Dams – A Guide to for Dam Owners

The VicWater Dams Industry Working Group and consultants provided significant input and contributions to the development of this guidance note. The guideline has been prepared to support Victorian dam owners in considering decommissioning as a future management outcome for a dam.

The following provides a summary of specific matters of relevance addressed through the year which illustrate the activities and outcomes of the Committee in pursuing its role.
Continuing Program of meeting with Water Corporations

During the year the Committee continued its initiative of providing the opportunity to meet with dam safety and management staff of Water Corporations. The purpose of these meetings is for Water Corporations to present and discuss contemporary portfolio risk assessment evaluations together with proposed dam safety programs. The Committee pursues relevant topics with Water Corporations and confirms their commitment to sound dam safety practices. Whilst these are not formal audits, the Committee has adopted the approach of encouraging open and frank discussions. Water Corporations have welcomed the opportunity to discuss, in this context, the challenges they face in developing and implementing soundly based risk management programs.

During the year the Committee met with staff from Western Water and Grampians Wimmera Mallee Water.

The meeting with Western Water highlighted the need for the water industry to continue to work collaboratively to share skills and knowledge. In particular, larger water corporations could assist those with limited in-house dam safety expertise with guidance in dam safety matters, where required.

Discussion of Grampians Wimmera Mallee Water’s dam safety program emphasised the many challenging issues a regional water corporation faces, particularly in servicing and retaining specialist skills and competing investment priorities.

The Committee commends the Victorian Dams Working Group which is working towards addressing some issues faced by water corporations. It is working on generic project briefs to assist water corporations using private consultants as well as actively promoting larger water corporations providing consulting services to smaller organisations for the purposes of reviewing dam safety reports and understanding risks.

Licensing of non-Water Corporation Dams

The 2010 Review identified a gap in the regulatory arrangements for dams controlled by Local Government Authorities and recommended the Department close this gap. While the Department has undertaken considerable work in recent years to raise the level of understanding of risks and responsibilities of Local Government Authority (LGA) dams through information and training sessions on dam safety and emergency management, the proposed licensing regime for these dams is yet to be implemented.

The Department has focussed on LGA dams during 2016 and has made progress in reviewing the safety of these dams through its LGA Dam Safety project which aims to:

- significantly improve DELWPs knowledge and understanding of LGA dams; and
- assist LGAs by providing them with relevant tools and procedures to enable effective management of their respective portfolio of dams and retarding basins.
The first phase of the project which commenced in late 2016 included updating basic data on LGA dams and retarding basins such as location, height, volume, condition and consequence categories.

In the second phase of the project, which will be undertaken in 2017, dams engineers will work with relevant LGAs to provide them with basic dam management tools such as basic dam safety programs to assist them with their portfolios of dams and retarding basins in terms of ongoing maintenance, surveillance and emergency planning and response. In undertaking this project, LGAs will be able to better manage their dam safety risks and the assistance available to them during dam safety emergencies.

**Dam Safety Annual Report and Database**

The Committee provided feedback on the highlights of the Department’s 2015 Dam Safety Annual Report which is based on a comprehensive and interactive database of some 571 public dams and 235 retarding basins. In comparison to the 2014 annual report, this is an increase of 83 dams and 128 retarding basins. Each Water Corporation provides information on its dams directly into the Department’s Water Industry Dam Safety Portal database. This includes relevant risk based assessments and failure consequences. All the retarding basins reported to the Department are owned by one water corporation.

Overall it is concluded that Water Corporations have a high level of responsible risk management. The Annual Report has been circulated to Water Corporations with specific reference to each organisation’s dam safety program.

Based on the comparative analysis undertaken in preparing this report, the Department has proposed priorities to follow up on further risk based assessments for a small number of Water Corporations. The Committee supports this conclusion and suggests that these priorities continue to guide a continuing program of its direct and detailed discussions with Water Corporations.

The Committee is of the view that the Dam Safety Annual Report is of significant value in demonstrating the overall status of dam safety as well as providing comparative information for each Water Corporation. The Department’s annual reporting process provides assurance that Water Corporations are aware of their responsibilities and the status of their dams.

The Committee also notes that the Department has undertaken a review of its Water Industry Dam Safety Portal to upgrade it, thereby aiming to enhance its features to include ‘self-management’ of dam safety performance data by water corporations and other improvements.
Risk Management Principles

The Committee continued to discuss the implications of industry discussions on the risk management concepts known as So Far As Is Reasonably Practicable (SFAIRP) and As Low As Reasonably Practicable (ALARP) that were raised at recent ANCOLD conferences.

The Committee noted that a research paper, commissioned by the Department, had been prepared by consultants to get further clarity on the use of these principles for dam safety in Victoria in the context of the model Work Health and Safety legislation. The paper discusses affordability and relevant criteria and sources of guidance in determining whether affordability should be a factor in the determination of ALARP/SFAIRP, including risk reduction timelines and other related matters. The paper has been forwarded to ANCOLD for their consideration in the current review of its risk assessment guidelines. Emphasis is placed on including all options in a dam safety management plan rather than merely adopting sufficient options to reach a notional target. This might result in less expensive options being considered.

ANCOLD

The Committee supports the Department’s role in informing the development and review of ANCOLD guidelines. This currently includes the Risk Assessment Guidelines, Guidelines on Selection of Acceptable Flood Capacity for Dams and Guidelines on the Assessment of Retarding Basins. The chairs of the ANCOLD sub-committees undertaking the review of the first two guidelines presented updates to the Committee during this reporting period.

The Advisory Committee supports the Department and the Victorian water industry taking part in the preparation and presentation of papers at the ANCOLD conferences. A number of papers from Victoria’s water corporations were presented the 2016 ANCOLD conference. A paper on the Victorian dam safety regulatory framework was also presented by the Department at the Canadian Dam Association 2016 annual conference.

The Department continues to interact with regulators of other states formally and informally. These interactions have provided insights into regulatory practices of other jurisdictions and the opportunity to share information and advances in dam safety regulation.

The Committee encourages such interactions with ANCOLD and between the various dam safety regulators to meet on dam safety principles and to review and advance regulatory practices.

Professional Development Program for Board Directors and Executives

The Committee continues to support professional development and guidance around dam safety for water corporation boards and executives. A relevant and effective program has been developed and is available in conjunction with ANCOLD. The Committee has supported
this program being included in the professional development for water corporation boards and senior executives.

The Department, in consultation with VicWater, will be undertaking this professional development program on dam safety and emergency management for water corporation boards and senior executives in early 2017. This will be undertaken in Melbourne and two regional locations.

**Skills / Knowledge / Awareness**

The Committee continues its practical support for and input to industry training courses and workshops on dam safety management.

The Department has developed a recognised and respected reputation nationally and internationally for its range of publications on dam safety principles and practices. These are freely available through its website. In addition, the Department continues to sponsor a number of well attended workshops for practitioners on specific risk management topics.

During this reporting period, the Department made arrangements to sponsor a seminar on dam safety and emergency management. The seminar is scheduled to be held in early 2017 and will be organised with VicWater’s and the Victorian Water Industry Dams Working Group’s assistance.

The Committee continues to emphasise the need to ensure availability of skilled resources across bodies responsible for dam safety. This is an issue which should be kept under review in order to ensure that the essential skill base is retained and effectively used by dam owners.

**Awareness of Relevant Public Inquiries and Significant Government Initiatives**

The Department has kept the Committee informed of relevant developments and possible implications of a range of contemporary public inquiries and processes with potential impact on the management of dams.

These included:

- dam safety regulation developments in NSW following the Parliamentary Review of the NSW Dam Safety Committee and the Dam Safety Act 2015 (NSW);
- Victorian Floodplain Management Strategy;
- Water for Victoria (Water Plan); and
- Reform in Victoria’s emergency management sector.

The Committee and the Department will continue to monitor the outcomes and implementation of the Dam Safety Act 2015 (NSW) to identify lessons and feedback for Victoria on dam safety regulation practices.
Effectiveness of Dam Safety Advisory Committee: 2016

In conjunction with the Department, the Committee has reviewed its activities during the 2016 reporting period against its Terms of Reference, its scope of work and the recommendations of the 2010 Review. It concluded that it has complied with these documents.

The primary test of effectiveness of the Committee is the extent to which it meets its obligation to be a source of independent and informed advice to the Department and through the Department to the industry at large.

The Committee believes this has occurred and is reflected by a continuing improvement in overall risk reduction due to the policies, programs and practices of dam owners within a clear regulatory framework. It has provided informed and independent advice to the Department and to the dams industry. This advice has been critical in improving dam safety management in Victoria. The Committee recognises there is a high level of confidence expressed by communities albeit in the context of a very high level of expectation. Over the past few years the Committee has been involved with the significant development and publication of strategic and practical guidelines for dam safety management which place Victoria in the forefront both nationally and internationally in dam safety practices.

In its regulatory role the Department has achieved widespread respect. It has continued to enhance its effective working relationships with the Victorian Water Industry Dams Working Group and is extending this leadership role to embrace other dam owners including Local Government Authorities.

The Committee continues to add value to the Department given its limited resources in dam safety regulation. Overall the Committee believes the Department is achieving effective and competent dam safety regulation within the specific Victorian principles of the primacy of owner responsibility.

David Dole
Chair, Dam Safety Advisory Committee

February 2017
1. **Introduction**

The purpose of the Dam Safety Advisory Committee (the Committee) is to provide independent expert input and advice to the Department of Environment and Primary Industries (the Department) on the regulation of dam safety in Victoria, including the development policies, procedures and guidelines. The Committee is subject to the general direction of the Executive Director, Rural Water Programs (RWP).

2. **Overview**

The underlying principle of dam safety regulation in Victoria is that ultimate responsibility rests with the dam owner through exercise and demonstration of due diligence. The *Water Act 1989* established owner liability for dam safety but also provided significant powers to the responsible Minister to intervene and give directions concerning both public and private dam safety.

The Department assists the Minister for Water in the regulation of dam safety, undertaking the main regulatory role for public dam safety. Regulatory tasks for private dam safety are largely delegated by the Minister to five licensing authorities, with the Department providing policy support.

The Department is establishing the Committee in response to recommendations arising from the *Review of the Victorian Dam Safety Regulatory Framework 2010* (the Review), in particular the following:

**RECOMMENDATION 2**

Establish an ongoing independent expert group for DSE to seek advice on:

- technical matters, including Australian National Committee on Large Dams (ANCOLD) Guidelines and risk management, technological advances and emerging trends such as climate change effects;
- opportunities and the need for investigation and research, including good practice and regulation;
- development and monitoring of performance measures;
- guidance on dam safety management practices, including emergency management;
- guidance on consistency of auditing and reporting processes to ensure effective compliance for all areas of dam safety; and
- improving accessibility to suitability qualified engineers for the design, construction and surveillance of private dams (e.g. investigate feasibility of developing a database of such engineers).

**Responsible Agency:** DSE with support from Water Corporations and Licensing Authorities.

Initially, the Committee will assist the Department in enhancing current regulatory arrangements through providing input to the development of a *Strategic Framework for Dam Safety Regulation* as recommended by the Review. The aim of the strategic framework is to provide an overarching structure around which future directions for dam safety regulation will be implemented and further developed.
In particular, the strategic framework will:

- define objectives, principles and processes to guide continual improvement in the delivery of dam safety regulation in Victoria;
- clarify and consolidate current regulatory arrangements and roles and responsibilities; and
- provide guidance on good practice and risk management to facilitate consistent outcomes for dam safety across all dams and ownership types.

3. Activities and Outcomes

1) The Committee will not exercise any dam safety statutory functions or responsibilities, or assume any decision-making capacity about either the regulation of dam safety, or about the management and operation of any dam.

2) The Committee will provide advice to the Department and the dam safety project team in the implementation of the recommendations arising from the Review. In particular, the Committee may be required to provide support to the projects listed in Attachment A through:
   - providing input into the development of project briefs and methodologies;
   - assisting with technical quality control of investigations;
   - providing advice as required by the Department project managers; and
   - reviewing outputs and reports as appropriate.

3) In addition to assisting in the implementation of the Review recommendations, the Committee will provide ongoing guidance and assistance for the continual improvement of the Department’s strategies, policies and regulatory approach to dam safety.

4) The Department may seek advice from the Committee on matters relating to the management and operation of individual dams, including during emergency situations. The decision to act on this advice will remain the prerogative of the Department.

5) Other activities to be undertaken by the Committee may include, site visits, and stakeholder consultation in conjunction with Department.

6) The Committee may suggest that the Department seek specialist Departmental or external advice where it determines that additional technical, policy or legal clarity is required in reviewing various proposals and issues.

7) The Committee will be required to produce an annual report.

8) The appointment of external contractors does not form part of the Committee’s Terms of Reference.

4. Committee Membership

The Committee will consist of up to six invited members, including the Chair, appointed by the Department on the basis of their individual specialist and technical skills, experience and knowledge of dam safety management, business and economics, regulation, risk management and the governance of the water industry. Committee membership will include water corporation members as nominated by VicWater.
All Committee members will serve as individual experts in their specific areas of expertise, not as representatives of their employer or other organisations. However, the advice provided by the Committee will be on a collective basis to the Department.

5. **Resignation from Office**

A member may resign from office in writing addressed to the Executive Director, RWP.

6. **Removal from Office**

The Department may, without cause or notice, terminate the tenure of a member at any time.

7. **Duration**

The Committee will be an ongoing advisory body. Appointments will be made for a period of up to three years. Members must be prepared to commit their time and effort for a minimum period of twelve months.

8. **Vacancies**

The office of a member becomes vacant if:

- a) a member completes the three year period of appointment;
- b) a member resigns;
- c) a member’s tenure is terminated; or
- d) a member becomes incapable of performing his/her duties.

The Department may decide to reappoint a member following the completion of the three year appointment period.

Upon a vacancy occurring in the office of a member the vacancy may be filled in accordance with these Terms of Reference.

9. **Remuneration**

External Committee members will be remunerated for attendance at meetings, site visits, review and input to reports and documents and for the provision of any other advice requested by the Department within the scope of these Terms of Reference.

The Department will reimburse Committee members for travelling and personal expenses to be paid at the rates that apply to employees of the Department. In regard to this, receipted personal expenses will be reimbursed.

10. **Role and responsibility of the Chair**

The duties of the Chair will include:

- a) ensure timely completion of required tasks by the Committee;
- b) stimulate the Committee by generating ideas and encouraging discussion;
- c) facilitate majority position or consensus of the Committee members on key issues;
- d) liaise with the Department Secretariat to seek specialist Departmental or external advice where the Committee determines that additional investigations or policy or legal clarity is required;
- e) liaise with the Department out of session, as required; and
- f) prepare a progress report at the end of each financial year for submission to the Executive Director, RWP, by no later than 1 December each year. The report should include a:
  
  - summary of the operations of the Committee;
  - summary of the results of its major deliberations and advice; and review of the Committee’s effectiveness.

The Chair may appoint a Deputy to fulfil the Chair’s role when he or she is not reasonably able to do so.
11. Operations

The Department will provide secretariat and other operational support to the Committee through the project team. Proposed arrangements are as follows.

a) Schedule: The Committee is expected to meet on a quarterly basis at a minimum. Additional meetings may be held where the Committee Chair or the Department deems necessary. From time to time field trips may be organised involving all day attendance. All meetings will be scheduled in advance and members will be given adequate notice. A schedule of meetings and events will be maintained by the Department’s Project Manager for the information of members. Members are expected to attend a minimum of 75% of meetings.

b) Meeting procedure: Agendas for the Committee meetings shall be prepared by the Department in consultation with the Chair. The agenda and any supporting agenda papers will be distributed at least five working days prior to each meeting.

The Chair will manage each meeting and determine the pace and length of deliberations on agenda items. The Chair will seek to ensure that every member has adequate opportunity to participate in the discussions on each item. A majority of the members of the Committee will constitute a quorum.

c) Minutes: The Department Secretariat is responsible for ensuring that minutes are kept for all meetings and distributed to Committee members before they are formally adopted at the next meeting.

12. Intellectual Property

All information and findings generated through the review will remain the intellectual property of the Department. The Department may approve the external use of this information by members of the Advisory Committee.

13. Conflict of Interest

A person is deemed to have a direct interest in a matter when he or she has rights/titles/duties, liabilities connected with the matter, whether present or future, ascertained or potential.

A member with a direct interest in a matter must refrain from providing direct advice to the Department on that matter, but may contribute his or her knowledge and skills to the Committee discussion, with the consent of the Committee and the Chair of the Committee.

In keeping with the Committee’s principle of full disclosure, members are advised to take a precautionary approach to any real or potential conflict of interest in the performance of their duties and to inform the Project Manager of any circumstances which may be deemed to be of concern.

14. Confidentiality

Committee members will be required to sign a confidentiality agreement.

The deliberations of the Committee must be treated confidentially in order to provide a forum for frank and fearless advice and debate. Members must not discuss any deliberations of the Committee or circulate any meeting agendas, minutes, papers or other materials publicly without the prior consent of the Department.

15. Reporting Arrangements and Organisational Chart

(Attachment A)
Attachment A

DAM SAFETY REGULATION REVIEW IMPLEMENTATION

Project Control Board
Executive Director, Rural Water Programs, Water and Natural Resources Group

Dam Safety Advisory Committee

Secretariat / Project Team
Risk and Resilience Team

ACTIVITIES

Projects

1. Strategic Framework for Dam Safety Regulation
   - Draft Strategic Framework for Dam Safety Regulation

2. Water corporation dam safety
   - Dam Safety Reporting

3. Parks Victoria dam safety arrangements

4. Private dam safety arrangements

5. Emergency management arrangements

6. Dam safety management parameters

7. Community information processes

8. Local government dam safety arrangements
## Overview of scope of work program for the Dam Safety Advisory Committee (01/10/14 to 30/09/17)

<table>
<thead>
<tr>
<th>Area of Work</th>
<th>Scope of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2014/15</strong></td>
<td><strong>2015/2016</strong></td>
</tr>
</tbody>
</table>
| Dam Safety Management | Provide technical input and advice to the Department on:  
  ▪ the management of dams by dam owners, including state-wide trends as highlighted by the Department  
  ▪ licensed dams  
  ▪ processes to build water corporation boards awareness on dam safety  
  ▪ regulatory frameworks and practices, including the work health and safety legislation and its implications for dam owners  
  ▪ industry related dam safety matters as raised by dam owners (e.g. skills gaps and training) or related to peak bodies, such as ANCOLD, WSAA and VicWater  
  ▪ New developments in dam safety |
|                    | Provide technical input and advice to the Department on:  
  ▪ the management of dams by dam owners, including state-wide trends as highlighted by the Department  
  ▪ licensed dams  
  ▪ processes to build water corporation boards awareness on dam safety  
  ▪ regulatory frameworks and practices  
  ▪ industry related dam safety matters as raised by dam owners (e.g. skills gaps and training) or related to peak bodies, such as ANCOLD, WSAA and VicWater  
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  ▪ licensed dams  
  ▪ processes to build water corporation boards awareness on dam safety  
  ▪ regulatory frameworks and practices  
  ▪ industry related dam safety matters as raised by dam owners (e.g. skills gaps and training) or related to peak bodies, such as ANCOLD, WSAA and VicWater  
  ▪ New developments in dam safety |
|                    | **2016/2017**                                                                                                                                                                                                  |
|                    | Review and provide advice on significant dam safety management policies and reports, as required by the Department |
|                    | Generate discussion and provide feedback to presentations from water corporations and other dam owners.  
  ▪ Two water corporations have been scheduled for this period |
|                    | Generate discussion and provide feedback to presentations from water corporations and other dam owners.  
  ▪ Three dam owners will be scheduled for this period |
|                    | Generate discussion and provide feedback to presentations from water corporations and other dam owners.  
  ▪ Three dam owners will be scheduled for this period |
<table>
<thead>
<tr>
<th>Area of Work</th>
<th>Scope of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Engagement</td>
<td>Provide advice on the implementation of community engagement, as required by the Department</td>
</tr>
<tr>
<td>Decommissioning Dams</td>
<td>Provide advice to the Department on its guidance note for decommissioning dams prior to its publication</td>
</tr>
</tbody>
</table>
| Emergency Management | - Observer at the Department’s emergency management exercise  
                      - Receive updates on emergency management reforms and amendments to the *Emergency Management Act 2013*, for discussion  
                      - Receive updates on relevant incidents in relation to lessons learnt, for discussion  
                      - Receive updates on emergency management reforms, for discussion  
                      - Receive updates on relevant incidents in relation to lessons learnt, for discussion |