



FINAL REPORT

Proposed funding model for Dams Safety NSW

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Dams Safety NSW
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Summary

The new regulatory framework for dams safety in NSW (comprising the *Dams Safety Act 2015*, *Dams Safety Regulation 2019* and associated standards) commenced on 1 November 2019. There is a two-year transition period before the new regulatory framework becomes fully operational. The Dams Safety Act 2015 provides for the introduction of a Dams Safety Levy to fund Dams Safety NSW's regulatory activities.

Dams Safety NSW's regulatory activities

Once the new regulatory framework is fully implemented, the total budget for Dams Safety NSW to fulfil its regulatory functions will be around \$4.6 million per year. This includes:

- the cost of 22.5 full-time equivalent (FTE) employees (including salaries and overheads)
- costs associated with the Board (including a chair and 4 other members).

To fulfil its legislated functions, Dams Safety NSW will perform the following regulatory activities as part of its 'Business as usual' framework. Primary activities will include:

- Regulatory oversight – gathering and analysing information on a specific dam or range of dams, for example through:
 - audit, to test compliance with the NSW dams safety regulatory framework
 - reviewing reports submitted by dam owners including dams safety standards reports, risk rating reports, and consequence category assessments
 - declaring new dams
 - assessment of mining authority consent applications.
- Educating and informing declared dam owners and supporting industry including responding to enquiries, developing regulatory guidelines, reports and information sheets developing resources for dam owners, webinars, newsletters and website material.
- Promoting collaboration between dam owners in terms of knowledge and expertise sharing and between regulators, in terms of best practice strategies and experience.
- Dealing with non-compliance: actions such as warnings, orders, directions, penalty notices, prosecutions and emergency situations.

The case for cost recovery

A well-designed cost recovery arrangement could have several advantages over government funding for Dams Safety NSW's regulatory activities.

- Recovering the costs incurred by Dams Safety NSW will encourage efficiency by:
 - passing the cost of administering the dams safety regulatory framework onto dam owners, which ensures that the full cost of providing dam-related services are reflected in prices
 - reducing the call on general taxation revenue, thereby avoiding the associated efficiency costs.
- Cost-reflective fees and charges could be considered equitable from the perspective that the dam owners that cause the regulator to incur costs pays for them (consistent with the 'impactor pays' principle).
- An efficient cost recovery mechanism ensures that Dams Safety NSW has sufficient funding to support their activities to manage safety risks, including ensuring that revenue increases commensurately with workload. In particular, when new dams are declared, an efficient cost recovery mechanism would ensure that the fees and charges collected from these new dams would reflect the cost of the additional regulatory activities.

Consistent with best practice principles, cost recovery should be applied to specific activities rather than whole agencies. Applying cost recovery to the following specific regulatory activities would be consistent with best practice principles:

- periodic compliance audits
- assessment of annual dams safety standards reports
- assessment of mining consent applications
- declaration of new dams
- education activities
- development of policies relating to the implementation of the regulatory framework (but not advice to the Minister or the Government more generally)
- programs and systems management.

Recommended funding model

The recommended funding model (based on best practice principles) includes:

- an annual levy to recover the costs associated with periodic compliance audits, review of reports submitted by dam owners, education, dealing with non-compliance, development of policies relating to the implementation of the regulatory framework, and program and systems management
- a fee-for-service charged to applicants or government funding to recover the costs associated with declaring new dams and considering mining consent applications.

Annual levy

Dams Safety NSW is proposing to implement an annual levy on dam owners from 1 July 2021 (see table 1).

- The annual levy varies by consequence category, reflecting that dams with higher consequence categories are expected to require more staff time than dams with lower consequence categories.
- For owners of multiple dams, the levy on subsequent dams is 30 per cent lower than the first dam, reflecting estimated cost savings.

1 Annual levy under recommended cost recovery model

Consequence category	First dam	Subsequent dams
	\$ per year	\$ per year
Extreme	16 923	11 846
High A	14 992	10 494
High B	14 992	10 494
High C	14 992	10 494
Significant	9 094	6 366
Low	5 048	3 534

Source: CIE based on information provided by Dams Safety NSW.

Options for funding other regulatory costs

In line with best practice principles, the costs associated with declaring new dams and considering mining consent applications can either be funded through a fee-for-service charged to the applicant. However, based on legal advice provided to Dams Safety NSW, current legislative arrangements do not enable a fee-for-service.

If these regulatory activities are not funded through a fee-for-service, they should be funded from general government revenue.

1 Background and introduction

A new regulatory framework for dams safety

Following an independent review of the previous *Dams Safety Act 1979* and the Dams Safety Committee in 2013, the NSW Government has developed a new regulatory framework for dams safety in NSW. The new regulatory framework is set out in the Dams Safety Act 2015 and the supporting Dams Safety Regulation 2019 which was approved on 16 October 2019. The new regulatory framework comprising the Act, regulation and standards commenced on 1 November 2019.

Dams Safety NSW

The Dams Safety Act 2015 established the new regulator, Dams Safety NSW, which is governed by an independent board.

Dams Safety NSW is responsible for monitoring compliance of dams with new public safety standards as detailed within Dams Safety Regulation 2019. The overarching goal is to ensure the safety of declared dams.

Functions of Dams Safety NSW

The Dams Safety Act 2015 (Part 2) specifies that the functions of Dams Safety NSW are:

- to provide advice or make recommendations to the Minister on the types and classes of dams that may be the subject of regulations under section 5
- to provide advice or make recommendations to the Minister on the development, implementation and modification of the dams safety standards
- to keep the owners of declared dams and the public informed about the dams safety standards and to regulate compliance with those standards
- to audit compliance by the owners of declared dams with operations and maintenance plans under section 16 and emergency plans under section 17
- to provide guidance to owners of declared dams in complying with the requirements of this Act relating to the safety, operation and maintenance of dams (including guidance in applying total risk management and the principles of cost benefit analysis for that purpose)
- to formulate measures (including the development of guidelines) to ensure the safety of dams
- to collect information, carry out research and keep records on matters relating to dams safety

- to enter into arrangements with any person or body with respect to the conduct of any study or research that may be necessary or desirable for the purposes of this Act
- to make such other reports or recommendations to the Minister or any other person in relation to the safety of dams as Dams Safety NSW considers necessary or appropriate.

Legislated objects of Dams Safety NSW

Dams Safety NSW is to undertake these functions with regard to the objects of the Dams Safety Act 2015:

- to ensure that any risks that may arise in relation to dams (including any risks to public safety and to environmental and economic assets) are of a level that is acceptable to the community
- to promote transparency in regulating dams safety
- to encourage proper and efficient management in matters relating to dams safety
- to encourage the application of risk management and the principles of cost benefit analysis in relation to dams safety.

Funding Dams Safety NSW's activities

The Dams Safety Act 2015 provides for the introduction of a Dams Safety Levy to fund Dams Safety NSW's regulatory activities. The Act also specifies that the Levy is to be paid into a Dams Safety Fund.

This report

Dams Safety NSW has engaged the Centre for International Economics to develop a funding model based on best practice principles. The remainder of this report is structured as follows:

- Chapter 2 outlines the regulatory activities conducted by Dams Safety NSW.
- Chapter 3 presents the policy case for cost recovery of the efficient cost of Dams Safety NSW's regulatory activities.
- Chapter 4 establishes that the proposed regulatory activities are consistent with the NSW Government's *Guidance for regulators to implement outcomes and risk-based regulation*, which sets out a program logic framework to test and validate how inputs generate outputs and contribute to regulatory outcomes. These regulatory activities may therefore be considered efficient.
- Chapter 5 estimates the efficient cost of the regulatory activities.
- Chapter 6 considers various design elements for cost recovery charges.
- Chapter 7 presents the recommended funding model for Dams Safety NSW.
- Chapter 8 considers other issues, including issues relating to implementation.

2 *Regulatory activities*

Summary of Dams Safety NSW's activities

The new regulatory framework comprising the Act, regulation and standards commenced on 1 November 2019. Dams Safety NSW's role is to ensure dam owners comply with the legislated regulations and safety standards, including requirements relating to:

- Emergency plans and conduct of emergency exercises
- Operations and maintenance plans
- Management systems compliant with ISO 55001
- Annual dams safety standards reports.

The Act and Regulation specify a phasing-in period of up to two years for requirements relating to operations and maintenance plans and emergency plans. Dams Safety NSW's regulatory activities during this transitional phase will be focused on ensuring that dam owners comply with Section 7 of Schedule 2 of the Dams Safety Act 2015 (requirements for operations and maintenance plans and emergency plans) within 6 months following the commencement of the new regulatory framework. There will also be a focus on education and stakeholder engagement during the phasing-in period to assist dam owners with the transition.

Hence the mix of regulatory activities conducted by Dams Safety NSW will differ between the initial phasing-in period and the 'Business as usual'. Furthermore, in 'Business as usual' the regulatory activities conducted will also be determined by regulatory priorities set by Dams Safety NSW each year in accordance with best practice regulation recommendations.

To fulfil its legislated functions, Dams Safety NSW will perform the following regulatory activities as part of its 'Business as usual' framework. Primary activities will include:

- Regulatory oversight – gathering and analysing information on a specific dam or range of dams, for example through:
 - audit, to test compliance with the NSW dams safety regulatory framework
 - reviewing reports submitted by dam owners including dams safety standards reports, risk rating reports, and consequence category assessments
 - declaring new dams
 - assessment of mining authority consent applications
- Educating and informing declared dam owners and supporting industry including responding to enquiries, developing regulatory guidelines, reports and information sheets developing resources for dam owners, webinars, newsletters and website material.

- Promoting collaboration between dam owners in terms of knowledge and expertise sharing and between regulators, in terms of best practice strategies and experience.
- Dealing with non-compliance: actions such as warnings, orders, directions, penalty notices, prosecutions and emergency situations.

Description of specific activities

A more detailed description of the proposed activities is provided below.

Compliance audits

A key part of Dams Safety NSW's regulatory oversight responsibilities will involve conducting routine audits as per a clearly defined audit schedule. Scheduled audits will be conducted to confirm dam owners comply with the legislated requirements, including that:

- a management system is in place
- a current operations and maintenance plan is in place
- a current emergency plan is in place as well as emergency exercises being conducted with SES and dam owners as required under the regulations
- to follow up on non-compliance or recommended items listed in dams safety standards reports
- to follow up on an incident report provided by the dam owner (as required under Part 6 of the Dams Safety Regulation 2019).

Dams Safety NSW will establish regulatory priorities for each year, which will identify which legislated requirements will be the focus for the audit schedule in a given year. The audit schedule will be developed through the following steps:

- define criteria for prioritisation of dams for audit
- develop a schedule of prioritised audits
- associate a high-level scope audit for each dam
- identify possible timeframe audits
- identify resources to undertake audits and ensure their availability
- identify location for audits
- prepare implementation plan including costing/funding
- confirm audit schedule with relevant auditees
- prepare detailed scope for the first scheduled audit¹

The key tasks Dams Safety NSW will complete for each audit are:

- preliminary desktop assessment of documents
- first scheduled audit on-site
- enter audit findings into system

¹ Based on information provided by Dams Safety NSW in Dams Safety NSW, *Business Activities*.

- provide audit report to dam owners
- follow-up on overdue audit responses (may include subsequent on-site visit)
- acquire findings.²

Review reports

Another key regulatory oversight activity will be reviewing various documents/reports submitted by dam owners.

The owner of a declared dam is required under section 14 of the Dams Safety Act 2015 to publish an annual return demonstrating the owner's compliance with the dams safety standards. In the dam safety standards report, dam owners are required to demonstrate compliance with the following safety standards specified in the Dams Safety Regulation 2019:

- Part 3 Consequence category of dam
- Part 5 Dam safety management system
- Part 6 Other safety requirements.

Dams Safety NSW will review dams safety standards reports as follows:

- check whether the report is complete and meets criteria
- request additional information from dam owner (if necessary)
- send a letter to dam owner containing findings from review of the report
- record the findings/conclusions
- inform the audit team as required.³

Other reports/documents to be reviewed by Dams Safety NSW will include dams safety standards reports, risk rating reports, and consequence category assessments.

Declaration of new dams

Review and processing of applications for new dams (as required under Part 2 Section 4 of the Dams Safety Regulation 2019) and modifications (as required under Part 6 Section 21 of the Dams Safety Regulation 2019) to existing dams.

The key tasks conducted by Dams Safety NSW to declare a new dam are:

- receive application form
- check application form for completeness and verify application
- establish contact with dam owner
- review dam break study
- review hydrological models
- request for additional information (if required)
- assess consequence category

² Based on information provided by Dams Safety NSW in Dams Safety NSW, *Business Activities*.

³ Based on information provided by Dams Safety NSW in Dams Safety NSW, *Business Activities*.

- verify with Operations team
- confirmation of Board
- inform owner of consequence category
- register a new Dam ID
- accept assigned consequence category into register
- update risk register and committee
- check and audit whether dam has been built after design process has been informed
- provide date for dams safety standards report
- commence data for dams safety standards report.⁴

Mining authority consent

Dams Safety NSW may declare an area of land that surrounds, or is in the vicinity of, a declared dam, and is described in the order, as a notification area for the purposes of this section.⁵ An application for development consent to carry out mining operations under the Mining Act 1992 in a notification area must be referred by the consent authority to Dams Safety NSW.

Dams Safety NSW must consider the application within 28 days of receiving the application (or such other period as is agreed between the consent authority and Dams Safety NSW).

Dams Safety NSW core tasks for mining authority consents include:

- log application and assign officer
- assess information
- determine impact and assess risk
- review history
- provide reply to consent authority outlining any matters for consideration.⁶

Supplementary activities

The Dams Safety Regulation 2019 specifies that Dams Safety NSW may issue guidance material for the preparation of operations and maintenance plans and emergency plans as required under Part 4.

Supplementary activities to be conducted by Dams Safety NSW include:

- policy advice to the Department and Minister
- public reports on Dams Safety NSW's performance
- reports to the Dams Safety Board
- guidance materials to dam owners.

⁴ Based on information provided by Dams Safety NSW in Dams Safety NSW, *Business Activities*

⁵ Section 48 Dams Safety Regulation 2019.

⁶ Dams Safety NSW, *Business Activities*.

3 *The policy case for cost recovery*

General case for cost recovery

The economics of cost recovery

In broad terms, the regulatory services provided by government can be funded through either general revenue or through some form of cost recovery arrangement, where users are charged for the regulatory services provided. If well designed, cost recovery is an efficient way of funding regulatory services. Cost recovery can:

- improve efficiency by:⁷
 - forcing economic agents to take into account the cost of operating the regulatory framework in making their economic decisions, leading to a more efficient allocation of resources (i.e. when economic agents do not bear the cost of the regulatory services provided, they may overuse these services)
 - ensuring a regulator has sufficient funding to effectively administer the regulatory framework
- improve equity — a fee or charge can ensure that the users or beneficiaries of the regulatory framework pay for it, rather than the general taxpayers, who may not use or benefit from it
- reduce the call on general revenue — all taxes have efficiency costs. Funding regulatory services through an efficient cost recovery arrangement can reduce the burden on general taxpayers (or ratepayers) and minimise the associated efficiency losses, and
- instil cost consciousness in regulatory agencies — cost recovery arrangements can improve the transparency of regulators and make them more accountable to users of the regulatory system.

On the other hand, poorly designed cost recovery arrangements can potentially:⁸

- reduce economic efficiency — where fees and charges are not closely linked to costs, they effectively act like a narrowly-based tax on particular activities, which are typically less efficient than more broadly-based general taxes
- impose unnecessarily high administration costs — some cost recovery arrangements are administratively cumbersome. In some circumstances, the administrative costs on

⁷ Australian Government Department of Finance, *Australian Government Cost Recovery Guidelines*, Resource Management Guide No. 304, July 2014 – Third edition, p. 1.

⁸ Productivity Commission 2001, *Cost Recovery by Government Agencies*, Inquiry Report No. 15, p. XLIII.

government and business (or the community) may outweigh any efficiency gains, particularly if the revenue collected is small, and/or

- compromise policy objectives — in some cases, a poorly designed cost recovery arrangement could compromise the achievement of government objectives.

Best practice principles

Although the NSW Government currently does not have approved guidelines for cost recovery arrangements, best practice principles for cost recovery have been established in the literature. These principles provide guidance for developing cost recovery arrangements that achieve the efficiency and equity benefits of cost recovery, while avoiding the pitfalls outlined above.

In general, any government-imposed charge (including a fee, a levy or a tax) on a particular activity discourages businesses or members of the community from engaging in that activity.

- **The benefits of cost recovery will be maximised (and any potential costs minimised) where a charge is applied to the activities that impose costs on the regulator.**

In its *Inquiry into Cost Recovery by Government Agencies*, the Productivity Commission developed some general principles for applying cost recovery, including for regulatory activities. Relevant principles for recovering Dams Safety NSW's costs from users of the regulatory framework are outlined in box 3.1.

3.1 Best practice principles for cost recovery⁹

- 1 Cost recovery arrangements that are not justified on grounds of economic efficiency should not be undertaken solely to raise revenue for government activities.
- 2 Cost recovery should apply to specific activities and not to the agency as a whole.
- 3 In applying cost recovery to regulatory activities, as a general principle, the administrative costs of regulation should be recovered so that the price of each regulated product incorporates the cost of efficient regulation.
- 4 Cost recovery should not be implemented where:
 - it is not cost effective;
 - it would be inconsistent with policy objective; or
 - it would unduly stifle competition and industry innovation.
- 5 Cost recovery charges should be linked as closely as possible to the costs of activities or products.
 - Fees-for-service reflecting efficient costs should be used wherever possible.

⁹ See Productivity Commission 2001, *Cost Recovery by Government Agencies*, Inquiry Report No. 15, pp. 155-179.

- Where this is not possible, specific taxation measures (such as levies) may be appropriate, but only where the basis of collection is closely linked to the costs involved.

The general case for recovering the costs of Dams Safety NSW's regulatory activities

A well-designed cost recovery arrangement could have several advantages over government funding for Dams Safety NSW's regulatory activities.

- Recovering the costs incurred by Dams Safety NSW will encourage efficiency by:
 - passing the cost of administering the dams safety regulatory framework onto dam owners (or other entities that cause costs to be incurred), which ensures that the full cost of providing dam-related services are reflected in prices
 - reducing the call on general taxation revenue, thereby avoiding the associated efficiency costs.
- Cost-reflective fees and charges could be considered equitable from the perspective that the dam owners that cause the regulator to incur costs ultimately pays for them (consistent with the 'impactor pays' principle).
- An efficient cost recovery mechanism ensures that Dams Safety NSW has sufficient funding to support their activities to manage safety risks, including ensuring that revenue increases commensurately with workload. In particular, when new dams are declared, an efficient cost recovery mechanism would ensure that the fees and charges collected from these new dams would reflect the cost of the additional regulatory activities.

Cost recovery by activity

A key principle outlined above is that cost recovery should apply to specific activities, rather than whole agencies.

There is general agreement (including the Productivity Commission and the Australian Government Cost Recovery Guidelines) that cost recovery should not be applied to policy activities. According to the Productivity Commission:

“In principle, the cost of activities that are aimed at meeting the policy and advice needs of Government and Ministers should not be recovered directly from industry or other user groups. It is important that these ‘higher level’ Government policy activities maintain both the appearance and the reality of independence and accountability to Government. Recovering the costs of such activities from industry may compromise that independence.”¹⁰

Although there is general agreement that cost recovery should be applied to regulatory activities, but not policy-related activities, there are some ‘grey areas’. In particular, the

¹⁰ Productivity Commission, Cost Recovery by Government Agencies, Inquiry Report No. 15, 16 August 2001, p. 158.

preparation of guidelines and other guidance material for dam owners could be interpreted as either:

- a policy development activity (implying the associated costs should not be recovered), or
- an activity integral to the administration of the regulatory framework (implying the associated costs should be recovered).

The Productivity Commission appears to make a distinction between:

- services for Ministers and Parliament aimed at assisting general government policy formation, informing the community (via Parliament) and helping to maintain the democratic process (which should be funded through general taxation revenue), and
- more specific program development functions (such as developing regulatory standards), which may be cost recovered as part of a specific activity.¹¹

The Commission argues that information disseminated by regulatory agencies should be taxpayer funded because they have ‘public good’ characteristics, similar to ‘basic information products’.¹²

Regulatory activities

In its Inquiry into Cost Recovery by Government Agencies, the Productivity Commission found that in general, the administrative costs of regulation should be recovered.¹³ This covers all costs incurred in administering the regulatory framework. For Dams Safety NSW, this would include the costs associated with:

- the declaration of new dams
- reading and processing annual dams safety standards reports
- providing mining authority consents
- conducting periodic compliance audits
- education and policy activities to administer the regulatory framework
- program and systems management.

However, as noted above, a caveat is that cost recovery should not apply where it compromises policy objectives. Dams Safety NSW have raised concerns that recovering the costs associated with declaring new dams could discourage some dam owners (or prospective dam owners) from informing Dams Safety NSW of their plans.

Based on best practice cost recovery principles, education and policy activities conducted by Dams Safety NSW to administer the regulatory framework are cost recoverable. This includes the following legislated functions of Dams Safety NSW:

¹¹ Productivity Commission, Cost Recovery by Government Agencies, Inquiry Report No. 15, 16 August 2001, p. 158.

¹² Productivity Commission, Cost Recovery by Government Agencies, Inquiry Report No. 15, 16 August 2001, p. 163.

¹³ Productivity Commission, Cost Recovery by Government Agencies, Inquiry Report No. 15, 16 August 2001, p. XLII.

- to provide guidance to owners of declared dams in complying with the requirements of this Act relating to the safety, operation and maintenance of dams (including guidance in applying total risk management and the principles of cost benefit analysis for that purpose)
- to formulate measures (including the development of guidelines) to ensure the safety of dams
- to provide guidance to owners of declared dams in complying with the requirements of this Act relating to the safety, operation and maintenance of dams (including guidance in applying total risk management and the principles of cost benefit analysis for that purpose)
- to formulate measures (including the development of guidelines) to ensure the safety of dams.

Based on best practice principles, general policy activities including provision of advice to the government and the Minister are not cost recoverable. Dams Safety NSW's legislated functions relating to general policy advice are:

- to provide advice or make recommendations to the Minister on the types and classes of dams that may be the subject of regulations under section 5
- to provide advice or make recommendations to the Minister on the development, implementation and modification of the dams safety standards
- to make such other reports or recommendations to the Minister or any other person in relation to the safety of dams as Dams Safety NSW considers necessary or appropriate.

4 *Establishing efficient costs*

Approach to establishing efficient costs

A key principle of cost recovery is that user charges should reflect the ‘efficient cost’ of providing the regulatory services. The Australian Government *Cost Recovery Guidelines* defines ‘efficient costs’ as the minimum costs necessary to provide the activity while achieving the government’s policy objectives.¹⁴

One common approach to establishing efficient costs is to benchmark the set of regulatory activities conducted and the unit costs of each activity against other regulators performing the same (or very similar) tasks. For instance, the Queensland Government has a team of 18 FTEs to regulate 108 ‘referable’ dams. The team audits approximately 10 per cent of dams per year (i.e. 10 referable dams per year), and also has an approval function for dams safety emergency plans.¹⁵ Whilst this benchmark provides an order of magnitude, there are large differences between the regulatory framework in Queensland and NSW which reduce the benchmark’s relevance.

The absence of suitable benchmarks for which Dams Safety NSW’s regulatory activities can be usefully compared is due to:

- the nature of the risk Dams Safety NSW intends to minimise, having both significant consequence in the event of a dam failure and the risk is driven to a large extent by external factors, primarily weather, and
- a lack of comparable regulatory frameworks in other jurisdictions.

In the absence of suitable benchmarks, the NSW Government’s *Guidance for regulators to implement outcomes and risk-based regulation* provides a useful framework to demonstrate the outcomes intended from Dams Safety NSW’s regulatory activities and how these outcomes align with legislated objectives. The ‘contribution story’ (as set out in the *Guidance for regulators to implement outcomes and risk-based regulation*) follows a program logic framework with the following key elements:¹⁶

- identifying and assessing the risks (i.e. the problem)
- outlining legislated objectives and identifying regulatory outcomes to be achieved
- identifying the preferred mix of regulatory activities to achieve regulatory outcomes
- identify resources required for preferred mix of regulatory activities

¹⁴ Australian Government Department of Finance, *Australian Government Cost Recovery Guidelines*, Resource Management Guide No. 304, July 2014 — Third edition, p. 34.

¹⁵ Information provided by Dams Safety NSW.

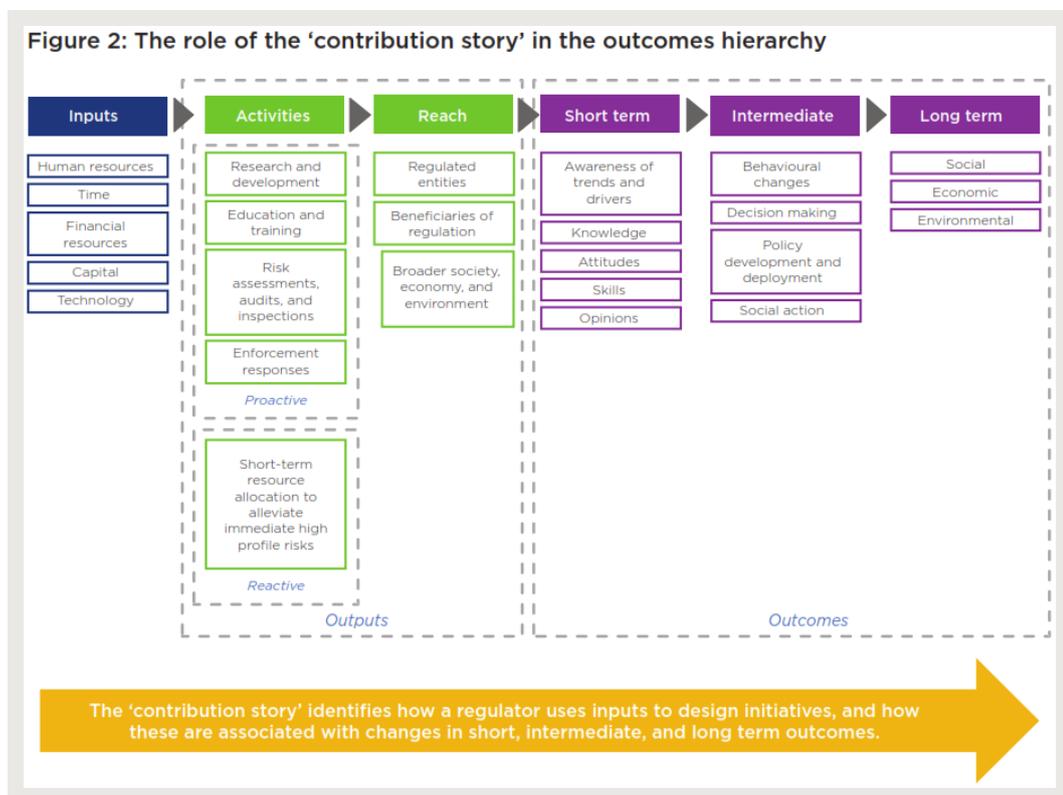
¹⁶ NSW Finance Service and Innovation, 2016, *Guidance for regulators to implement outcomes and risk-based regulation*.

- determine performance measures to assess whether regulatory activities achieve stated regulatory outcomes
- establish system to monitor and review.

Identifying efficient activities

Dams Safety NSW's 'contribution story' is outlined below to demonstrate the mix of regulatory activities and the proposed level of activities is reasonably efficient based on Dams Safety NSW's legislated objectives and regulatory outcomes.

4.1 Elements of the 'contribution story' to link inputs to outcomes



Data source: NSW Finance Service and Innovation, 2016, *Guidance for regulators to implement outcomes and risk-based regulation*.

Identify and assess the risks

Identifying risks

Consistent with the NSW Government *Guidance for regulators to implement outcomes and risk-based regulation*, the risk of dam failure refers to the likelihood and consequence of a dam failure occurring.

- The likelihood refers to the probability of a dam failing.

- The consequence refers to the amount of harm in the event of a dam failing.¹⁷

Fundamentally, dams could fail due to:

- inadequate design (i.e. the extent to which the dam is designed to cope with extreme weather events)
- poor construction
- poor operations
- poor maintenance.

As there have been few failures of ‘declared’ (previously ‘prescribed’) dams in NSW (around 4 in total) and no human fatalities, few insights can be gained from a review of historical data on dam failures in NSW.

Assessing risks

The previous dams safety regulatory framework focused mainly on design risk. Design risks are therefore relatively well understood.

- For many dams, there has been detailed modelling to understand the probability of dam failure due to an extreme weather event and the consequences of a dam failure.
 - Detailed flood modelling has been completed to understand the capacity of these dams to withstand extreme flooding events and the probability of a weather event that the dam has not been designed to withstand.
 - For many dams, the number of lives that would be lost in the event of a dam failure has also been modelled.
 - Furthermore, there is a rigorous approach to assigning a ‘consequence category’ based on the potential loss of life and the severity of damage and loss in the event of a dam failure.
- For the other declared dams, detailed modelling has not been completed, but informed estimates have been provided.

The previous regulatory framework had little focus on the remaining risks, namely risk from poor construction, operations and/or maintenance. As such, these risks are currently not well understood. The new regulatory framework includes:

- specific changes to the regulatory requirements that apply to dam owners to minimise these risks, including changes to requirements for operations and maintenance plans, emergency plans and a new requirement for an asset management system which complies with ISO 55001
- greater focus on compliance through higher penalties and provision of legislated powers to Dams Safety NSW to regulate compliance with legislated safety standards and audit dam owners’ compliance with operations and maintenance plans and emergency plans.

¹⁷ NSW Government, *Guidance for regulators to implement outcomes and risk-based regulation*, October 2016, p. 19.

During the initial years of Dams Safety NSW's audit program, a key output will be better information on the current level of risk from poor construction, operations and/or maintenance, as currently this is not well understood.

Outline legislated objectives

Dams Safety NSW's legislated objects of the *Dams Safety Act 2015* are:

- to ensure that any risks that may arise in relation to dams (including any risks to public safety and to environmental and economic assets) are of a level that is acceptable to the community
- to promote transparency in regulating dams safety
- to encourage proper and efficient management in matters relating to dams safety
- to encourage the application of risk management and the principles of cost benefit analysis in relation to dams safety.

Identify regulatory outcomes

According to the NSW Government *Guidance to implement outcomes and risk-based regulation*, regulators must understand and articulate their core purpose in order to define meaningful regulatory outcomes.¹⁸

Dams Safety NSW's core purpose is to manage the safety risks associated with dam failure. Dams Safety NSW will reduce the risk associated with dam failure for dam owners, users of their services and downstream communities by ensuring that dam owners comply with their regulatory responsibilities.

The regulatory outcomes of Dams Safety NSW's regulatory activities are:

- improved compliance with legislative requirements
- improved knowledge of dam management and legislative requirements
- public confidence in regulatory framework.

In achieving these regulatory outcomes, Dams Safety NSW intends to protect human life, protect property and the environment. These are the final impacts achieved by the regulatory activities.

Identify efficient regulatory activities

Efficient mix of regulatory activities

There are a range of activities undertaken by regulators to achieve compliance with legislated requirements, including:

- reactive compliance and enforcement

¹⁸ NSW Government, *Guidance for regulators to implement outcomes and risk-based regulation*, October 2016, p. 14.

- proactive audit and monitoring
- education and information awareness
- penalties and enforcement.

Dams Safety NSW's mix of regulatory activities includes:

- a strong focus on proactive audits and monitoring
- education to minimise unintentional non-compliance with the new regulatory requirements
- high penalties to provide a strong deterrent for non-compliance and/or complacency.

The efficient mix of regulatory activities for a given regulator depends on the nature of the activity being regulated, the incentives for intentional non-compliance, and the consequence of non-compliance. In the case of dams safety:

- the nature of minimising risk of dam failure is complex
- the incentives for intentional non-compliance are low
- the consequence of a dam failure is very high, including loss of life, property and environmental damage.

Given these characteristics, Dams Safety NSW's proposed mix of pro-active regulatory activities is considered efficient based on the information currently available. A mix of regulatory activities focusing on reactive compliance in the case of dams safety is not considered efficient given the high consequence in the event of a dam failure.

Efficient level of regulatory activities

The efficient level of regulatory activity is proportionate to the likelihood and consequence of a dam failure, where:

- the likelihood refers to the probability of a dam failing
- the consequence refers to the amount of harm in the event of a dam failing.

The consequence of a dam failure occurring is relatively well understood. Conversely, the probability of a dam failing, primarily related to poor construction, operations and/or maintenance, is not currently well understood. Consequently, the efficiency of the level of Dams Safety NSW's regulatory activities cannot be assessed at this initial stage. It is, however, considered prudent for Dams Safety NSW to engage in a pro-active audit program upfront to fill existing information gaps. Dams Safety NSW will need to adjust its audit schedule as further information on likelihood and consequence of dam failure for each of the declared dams is gathered.

Dams Safety NSW has developed an audit schedule based on current information regarding likelihood and consequence are listed in Table 4.2.

4.2 Audit schedule by consequence category and dam type

Consequence category	Audit frequency
Extreme	1 in 2 years
High A	1 in 2 years
High B	1 in 2 years
High C	1 in 2 years
Significant	1 in 3 years
Low	1 in 4 years

Source: Information provided by Dams Safety NSW.

Identify efficient resources required for the efficient mix

Once the new regulatory framework is fully implemented, the total budget for Dams Safety NSW to fulfil its regulatory functions will be around \$4.6 million per year. This includes:

- the cost of 22.5 full-time equivalent (FTE) employees (including salaries and overheads)
- costs associated with the Board (including a chair and 4 other members).

During the initial stage of implementation, Dams Safety NSW's proposed resourcing is deemed prudent. However, Dams Safety NSW's resourcing should continually be re-assessed for potential efficiency gains as more information becomes available and the risks are better understood. It is important that any efficiency gains are not at the expense of achieving regulatory outcomes. Examples of changes to resourcing of periodic audits with potential efficiency gains include:

- aligning the audit frequency with likelihood and consequence of a dam failure
- auditing multiple dams within a region to minimise travel time
- auditing multiple legislative requirements at the same time
- auditing multiple dams for a single dam owner simultaneously.

Determine performance measures

Regulators require performance measures to understand:

- the size and significance of the contribution to regulatory outcomes (i.e. the effectiveness)
- the attributes of outputs and administered items (i.e. the quality, quantity and cost), and
- how well outcomes have been delivered (i.e. efficiency and stakeholder responses).¹⁹

In order to demonstrate effectiveness and efficiency of regulatory activities, Dams Safety NSW will need to determine how it will measure the performance of its regulatory

¹⁹ NSW Government, *Guidance for regulators to implement outcomes and risk-based regulation*, October 2016, p. 14.

activities in achieving stated regulatory outcomes. The key purpose of performance measures is to demonstrate how resources have generated outputs which have contributed to achieving the stated regulatory outcomes.

Example performance measures for Dams Safety NSW's stated regulatory outcomes are listed in table 4.3.

4.3 Example performance measures

Dams Safety NSW's regulatory outcomes	Example performance measures
Improved compliance with legislative requirements	<ul style="list-style-type: none"> ■ Proportion of dam owners with compliant operations and management plans ■ Proportion of dam owners with compliant emergency plans and completion of emergency exercises ■ Proportion of compliant dams safety standards reports submitted each year
Improved knowledge of dam management and legislative requirements	<ul style="list-style-type: none"> ■ Rate of non-compliance ■ Proportion of dam owners who understand new legislative requirements
Public confidence in regulatory framework	<ul style="list-style-type: none"> ■ Rate of non-compliance ■ Number of penalties issued per year

Source: CIE.

Establish system to monitor and review

A critical component of the outcomes and risk-based regulatory framework is to monitor and review the effectiveness and efficiency of regulatory activities to identify continual improvement. Dams Safety NSW will need to establish a system to monitor and review progress through time. Key elements to monitor and review for its current set of regulatory activities are:

- the relevance of stated regulatory outcomes
- the effectiveness of regulatory activities to achieve regulatory outcomes
- the level of resourcing required to conduct activities, including the frequency of activities conducted
- potential for efficiency gains.

Key points

The above analysis establishes that:

- the regulatory activities align with the legislated objectives and intended outcomes
- there are risks that are currently not well understood
- the only feasible way to better understand these risks is through the regulatory activities that Dams Safety NSW will undertake.

On this basis, it is reasonable to infer that the mix of regulatory activities are efficient.

5 *Cost of regulatory activities*

Approach to estimating costs

The approach used to estimate the cost of the various regulatory activities are as follows.

- For activities that can be directly attributed to a particular dam or dam owner (such as compliance audits, reviewing dams safety standards reports and other reports provided by dam owners, declaration of new dams and mining consent authorities), the cost estimate were estimated in close consultation with Dams Safety NSW, using a ‘bottom-up’ approach, where the staff resources required for each activity were estimated on a per dam basis (and then aggregated up).
- For activities that cannot be attributed directly to a particular dam or dam owner (such as development of regulatory guidelines, reports and information sheets, developing resources for dam owners, webinars, newsletters and website material), these costs were estimated using a ‘top-down’ approach. Under this approach, the total resources for these activities were estimated and then allocated across dams/dam owners.

Costs to be recovered

Consistent with best practice guidelines (such as the Australian Government’s *Cost Recovery Guidelines*), we also recommend that both direct and indirect costs associated with the relevant cost recoverable activities be recovered.²⁰

- Direct costs include staff salaries (including on-costs, such as training, superannuation and leave) and supplier costs (such as office supplies and workers’ compensation premiums). These direct costs are relatively easily allocated to the cost recoverable activities.
- Indirect costs include costs that cannot as easily be linked to the cost recoverable activities and include the following.
 - The Australian Government Cost Recovery Guidelines identify indirect costs, such as overhead costs, salaries of staff in corporate (such as finance and human resources) and technical support (such as legal and IT support staff) areas, or accommodation costs (such as rent, maintenance and utilities).
 - Although not explicitly stated in the Australian Government Cost Recovery Guidelines, indirect costs could include:
 - ... the cost of management time allocated to the relevant regulatory tasks
 - ... the cost of administrative support (see below).

²⁰ Australian Government, *Australian Government Cost Recovery Guidelines*, Resource Management Guide No. 304, July 2014 — Third edition, p. 35.

Treatment of management and administrative support staff

Based on the proposed structure, management of Dams Safety NSW will include:

- the Director/CEO
- an Operations Manager
- a Governance and Assurance Manager
- a Capability Manager.

In addition, there will be two support staff:

- Information Systems Officer
- Administrative Officer

While management and administrative support staff may not directly perform the cost recoverable regulatory tasks outlined previously, they will inevitably make an indirect contribution to the performance of these tasks through managing and/or providing administrative support to staff directly performing those tasks.

- The cost of management staff are allocated proportionately across the staff members they manage.
- The cost of support staff are allocated proportionately across the staff members they support.

Treatment of multiple dam owners

Many dam owners own multiple dams. As the number of dams owned by an owner increases, it is unlikely that the costs incurred by Dams Safety NSW attributable to that owner will increase proportionately for several reasons.

- For audits, there will be some common elements across dams. For example, each owner may have a common management system, which only needs to be audited once. As such, the cost of subsequent dams will be less than the first dam.
- There may be similar cost savings across other regulatory activities.

Dams Safety NSW estimates that the cost savings for subsequent dam could be around 30 per cent less than the first dam owned by the same owner.

Cost estimates

Cost estimates for each of the major regulatory activities are set out below.

Compliance audits

Dams Safety NSW estimates that the key factors that drive cost of compliance audits will be:

- The consequence category of the dam — in general, higher consequence category dams will require more resources than lower consequence category dams
- The scope of the audit – the costs will be lower where the common elements do not need to be covered.

The estimated costs to be recovered are as follows.

- The cost of the components that are common across multiple dams (these costs are driven by the number of dam owners and the consequence category of their highest rated dam) is estimated at \$338 497.
- The dam-specific components of the audits (these costs are driven by the number of dams and their consequence category) is estimated at \$1 760 866.

Review reports

The cost to review the various reports submitted by dam owners (including the dams safety standards report, risk rating reports and consequence categories) is expected to be relatively constant across consequence categories. However, Dams Safety NSW estimates that the 30 per cent cost saving for subsequent dams owned by the same dam owner would also apply to document reviews. The estimated costs are as follows:

- The cost for first dam owned by an owner is estimated at \$1477 per dam; and
- The cost of subsequent dams owned by the same owner is estimated at \$1034.

Declaring new dams and mining consent authority

The estimated unit cost of these activities are as follows.

- The estimated cost to declare a new dam is \$2 994 per application.
- The estimated cost to review a mining consent authority is \$12 905 per application.

Educating and informing dam owners

The cost of the activities associated with educating and informing dam owners are estimated at \$1 400 321. In general, these cost cannot be directly attributed to specific dams and dam owners.

These costs are allocated across dams and dam owners on the following basis.

- Costs are allocated across dams of different consequence categories in proportion to estimated audit costs.
- As per other regulatory costs, it is also assumed that for multiple dam owners, costs for subsequent dams are estimated to be 30 per cent lower than the cost of the first dam owned by that owner.

6 Design of cost recovery charges

Types of user charges

The cost recovery literature distinguishes between two major types of cost recovery mechanism.

- **Direct fees-for-service** — these are direct charges for specific regulatory services. In general, fees-for-service are most appropriate for regulatory activities where some form of approval, accreditation or permit is issued as the cost of approving applications and/or issuing permits can be directly attributed to the applicant.²¹
- **Levies** — these can be appropriate to recover the costs associated with administering a regulatory regime that cannot be directly attributed to specific individuals or organisations.²²

The legislation explicitly provides for a Dams Safety Levy, but not explicitly for fees-for-services. Therefore, based on legal advice to Dams Safety NSW, there is no legal basis for applying a fee-for-service under current legislative arrangements.

User charges by cost recoverable activity

The most appropriate type of user charges depends on the activity. Under the best practice principles set out above, direct fees-for-service should be used wherever possible. This general preference for direct fees-for-service is because fees-for-service generally align closely to efficient costs and are paid by the economic agents imposing the cost to regulatory agencies.

The recommended cost recovery mechanism by cost recoverable activity is summarised in table 6.1, with a detailed discussion provided below.

6.1 Recommended cost recovery mechanism by activity

Activity	Recommended cost recovery option	Rationale
Periodic compliance audit	Levy	<ul style="list-style-type: none"> ▪ Levy closely aligns to cost of audits by consequence category ▪ Applies to all dams ▪ Periodic frequency

²¹ Australian Government Department of Finance, *Australian Government Cost Recovery Guidelines*, Resource Management Guide No. 304, July 2014 — Third edition, p. 38.

²² Australian Government Department of Finance, *Australian Government Cost Recovery Guidelines*, Resource Management Guide No. 304, July 2014 — Third edition, p. 38.

Activity	Recommended cost recovery option	Rationale
Annual dams safety standards report	Levy	<ul style="list-style-type: none"> ▪ Levy closely aligns to cost to assess dams safety standards reports by consequence category ▪ Applies to all dams ▪ Periodic frequency
Dam declarations	Fee for service or government funding	<ul style="list-style-type: none"> ▪ Fee for service aligns to cost of dam declaration ▪ The number of dam declarations will vary each year ▪ Dam declarations are for new dams, not existing dams
Mining consent authorities	Fee for service or government funding	<ul style="list-style-type: none"> ▪ Fee for service aligns to cost of mining consent ▪ The number of mining consents will vary each year
Other cost recoverable activities	Levy	<ul style="list-style-type: none"> ▪ Costs cannot be attributed to specific dams

Source: CIE.

Compliance audits

The cost of compliance audits could reasonably be funded through either:

- a fee-for-service (i.e. a direct cost reflective charge at the point when a dam owner is audited)
- a levy on dam owners.

The Australian Government Cost Recovery Guidelines identifies compliance audits as an activity that should be recovered through a levy.²³ However, these guidelines appear to envisage a compliance audit regime where only a small proportion of the regulated community is audited on a random basis. Under such a regime, it is not specifically the audited entity that has created the need for the compliance audit. Rather, it is the regulated community more generally. It could be considered ‘unfair’ for those who have been selected for a random audit to bear the cost. As such, the costs of the compliance audit regime are reasonably spread across all regulated entities.

The compliance audit regime under the new dams safety regulatory framework is different in nature to a random audit regime. Under the proposed regime, all dams will be audited under a regular schedule based on consequence category. As all dams would be audited on a regular schedule, a direct fee-for-service could be applied, without concerns about fairness and cost reflectivity.

That said, the regular nature and varying costs depending on defined dam characteristics mean that a cost-reflective annual (or more regular) levy could be applied to dams. The main difference is that the costs (to the dam owner) would be spread over time, rather in the year that the compliance audit occurs.

Given that the legislation establishes a Dams Safety Levy and the Dams Safety Fund we recommend that the costs of compliance audits are recovered through a cost reflective

²³ Australian Government Department of Finance, *Australian Government Cost Recovery Guidelines*, Resource Management Guide No. 304, July 2014 — Third edition, p. 23.

levy to be paid annually (or more frequently). That said, there would be higher compliance costs associated with annual levy payments, compared with a direct fee-for-service at the time of the compliance audit. However, these compliance costs would be relatively trivial.

Review reports

The costs associated with reviewing the various documents provided by dam owners including dams safety standards reports, risk rating reports and consequence category assessments should be added to the levy that recovers the cost of compliance audits.

Declaration of a new dam

The costs associated with the declaration of a new dam can be directly attributed to the owner. Consistent with best practice principles, a fee based on the cost of providing the service charged directly to the dam owner would be the recommended cost recovery mechanism for these services.

A direct fee-for-service would have the following advantages (relative to funding through general revenue).

- Passing the costs incurred by Dams Safety NSW onto the owner of the newly declared dam encourages efficiency by ensuring that the dam owner considers these regulatory costs in any dam construction decisions (although these costs are likely to be small relative to the costs of constructing a new dam).
- A direct fee for service could be considered equitable because the costs are ultimately borne by the beneficiary
- This approach would ensure that the revenue received by Dams Safety NSW closely reflect the costs incurred. In years where there are a large number of new dams declared, the revenue received from user charges would increase accordingly.

However, as noted above, the legislation does not enable a fee-for-service. The alternative approach to recovering costs would be to fund these activities through a levy. This would presumably involve estimating costs based on the average number of new dams declared per year and spreading those costs across existing dam owners. This approach would not achieve any of the benefits of cost recovery that would be achieved through a direct fee-for-service (as outlined above) and would not be consistent with the best practice principles outlined above.

As it would be inconsistent with best practice principles, these costs should not be recovered through a levy. If these costs are not recovered through a fee-for-service, they should be funded from general government revenue.

Mining authorisations

Consistent with best practice principles, the costs associated with mining authorisations should be recovered through a direct fee-for-service.

It is important to note that for mining authorisations, Dams Safety NSW will not have direct contact with the applicant. Rather, proponents will apply to the Department of Planning, Industry and Environment (DPIE), who will then refer the application to Dams Safety NSW (and other relevant agencies).

Nevertheless, as a (mostly) regulatory authority that would be (mostly) funded through user charges, Dams Safety NSW could nevertheless charge DPIE for each referral, which should then be passed onto the applicant.

A direct fee-for-service would have the following advantages (compared to funding from general government revenue).

- Passing the costs incurred by Dams Safety NSW onto the applicant encourages efficiency by ensuring that the cost of processing the application is considered by the applicant.
- A direct fee for service could be considered equitable because the costs are ultimately borne by the beneficiary (i.e. the applicant).
- This approach would ensure that the revenue received by Dams Safety NSW closely reflect the costs incurred. In years where there are a large number of mining applications, the revenue received from user charges would increase accordingly.

The only other cost recovery option would be to recover the costs associated with mining applications through the levy (presumably based on the average number of applications received per year). However, this would mean dam owners would bear the cost of mining applications, rather than the applicant. Adding these costs to the levy would therefore not achieve any of the benefits of cost recovery outlined above.

As above, these costs should not be recovered through a levy, as it would be inconsistent with best practice principles. If these costs are not recovered through a fee-for-service, they should be funded from general government revenue.

Other cost recoverable activities

Other activities that are considered cost recoverable under best practice principles include educating and informing declared dam owners and supporting industry through responding to enquiries, developing regulatory guidelines, reports and information sheets (developing resources for dam owners, webinars, newsletters and website material) can generally not be attributed to specific dam owners. Consistent with best practice principles, these costs can be recovered through a levy.

7 Recommended funding model

Dams Safety Levy

Under the recommended funding model, the Dams Safety Levy would be used to fund the costs associated with:

- periodic compliance audits
- reading/processing various reports provided by dam owners
- education, policy, and program and systems management activities required to administer the regulatory framework.

The estimated annual levy by consequence category is shown in table 7.1, with further details provided below. The annual levy is estimated by consequence category, reflecting that higher consequence categories involve more staff time.

7.1 Annual levy under recommended cost recovery model

Consequence category	First dam	Subsequent dams
	\$ per year	\$ per year
Extreme	16 923	11 846
High A	14 992	10 494
High B	14 992	10 494
High C	14 992	10 494
Significant	9 094	6 366
Low	5 048	3 534

Source: CIE based on information provided by Dams Safety NSW.

The levy payable by dam owner (based on the database provided by Dams Safety NSW in October 2020) is shown in appendix A.

Options for funding other regulatory costs

The costs associated with declaring new dams and considering mining consent applications can either be funded through a fee-for-service or government funding.

As discussed above, recovering the costs associated with declaring new dams and mining consent authorities would be broadly consistent with best practice principles. The proposed fees include the reasonably efficient cost of direct staff time as well as the reasonably efficient cost of management and supporting staff.

As discussed above, based on legal advice to Dams Safety NSW, there is no legal basis to charge fees-for-service under current legislative arrangements. If these activities are not

funded through a fee-for-service, they should be funded from general government revenue.

8 *Other issues*

Resourcing issues for Dams Safety NSW

Dams Safety NSW forecast that around 50 new dams are assessed annually. Of these, around 10 new dams are declared each year. Based on the historical average, 2-3 dams are decommissioned each year. These additional declared dams have predominantly been within the Significant or Low consequence categories.²⁴ The number of declared dams is forecast to increase by an average 7.5 dams per year.

An increase in the number of declared dams will:

- increase the levy revenue collected by Dams Safety NSW over time
- increase the workload for Dams Safety NSW's operations teams (the team within Dams Safety NSW responsible for compliance audits and reviewing documents provided by dam owners), implying additional resources may be required.

As the number of new dams that will be declared over time (and the consequence category) is highly uncertain, an increase in the number of declared dams is currently not reflected in either: Dams Safety NSW's budget; or the levy revenue projections.

The number of declared dams is expected to increase by less than 2 per cent per year on average. In practice, it is likely to be difficult for Dams Safety NSW to increase their resourcing in such small increments (i.e. to hire small fractions of an FTE).

This implies that the additional workload is likely to be absorbed within the existing resources (and budget) in the short-term, implying a period of over-recovery until the additional workload is sufficient to justify an additional employee (or fraction of an employee). On the other hand, this may be followed by a period of under-recovery if the new employee is not fully utilised for a period.

Over time, a period of over-recovery of costs should be broadly offset by a subsequent period of under-recovery. However, there may be associated management challenges.

Review of fees and charges

Updating levy rates

As the fee and levy amounts are based on current estimated costs, these costs will presumably increase over time due to general inflation (including wages and the costs of other inputs) even if the resourcing requirements remain the same. To maintain revenue

²⁴ Information provided by Dams Safety NSW.

in real terms, both the levy and the fees and charges should be indexed to an appropriate price index, preferably annually.

Review of approach to regulation and fees and charges

As Dams Safety NSW's approach to regulation evolves as more information is gathered, the types of activities and the resourcing requirements could change over time. This would reflect the good practice set out in the 'Guidance to regulators to implement outcomes and risk-based regulation'.

As resourcing requirements change, the fees and charges based on current estimates may become less cost reflective over time. It would therefore be appropriate for a more thorough review of the fees and charges to occur periodically (around every two years) or when there is a major change in the approach to regulation.

A Levy by dam owner

Based on the proposed levy structure, the levy payable by each dam owner is set out in table A.1.

A.1 Annual levy payable by dam owner

	Number of dams	Estimated annual levy
	No.	\$
WaterNSW	40	422 927
Sydney Water	16	149 567
Snowy Hydro Limited	15	120 839
Liverpool City Council	11	115 807
Fairfield City Council	11	99 293
Wollongong City Council	9	78 305
Coffs Harbour City Council	7	66 869
AGL Macquarie Ltd	8	60 850
Northparkes Mines	5	56 969
Tarago Operations Pty Ltd	5	56 969
Rio Tinto Coal Australia Pty Ltd	6	55 078
EnergyAustralia NSW	4	48 406
Orange City Council	4	46 475
Cadia Holdings Pty Ltd	5	45 880
The Hills Shire Council	5	45 880
Central Coast Council	4	42 347
Bulga Coal Management Pty Ltd	5	40 456
Campbelltown City Council	5	40 456
Shellharbour City Council	5	40 456
Hunter Water Corporation	4	40 149
Coal Allied Operations Pty Limited	4	38 218
Transport for NSW	4	38 218
Bega Valley Shire Council	3	35 981
Peabody Energy	4	34 090
Eurobodalla Shire Council	3	31 852
Gosford City Council	3	31 852
Hillsgrove Mines Pty Ltd	3	31 852
Mangoola Coal Operations Pty Ltd	3	31 852
Stratford Coal	3	31 852

	Number of dams	Estimated annual levy
	No.	\$
Shoalhaven City Council	4	31 257
Tamworth Regional Council	3	29 020
Department of Industry - Lands	3	29 020
Delta Electricity	4	28 192
Ravensworth Operations	4	28 192
Blacktown City Council	3	27 724
Drayton Coal (Drayton Mngmt) Pty Ltd	3	27 724
Essential Water	3	27 724
Bathurst Regional Council	2	27 417
Goulburn Mulwaree Council	2	27 417
Murray-Darling Basin Authority	2	27 417
Parramatta City Council	2	27 417
Albury City Council	2	25 486
Armidale Regional Council	2	25 486
EMC Metals Australia Pty Ltd	2	25 486
Lithgow City Council	2	25 486
Origin Energy	2	25 486
RTCA Hunter Valley Operations	3	24 892
Clarence Valley Council	2	23 289
Bloomfield Collieries Pty Ltd	3	21 826
Cowal Gold Mine	3	21 826
Lake Macquarie City Council	3	21 826
Werris Creek Coal Pty Ltd	3	21 826
Bengalla Mining Company	2	21 358
Clean TeQ Sunrise Pty Ltd	2	21 358
Port Macquarie Hastings Council	2	21 358
Redbank Communities	2	21 358
Tweed Shire Council	2	21 358
White Rock Minerals Ltd	2	21 358
Cabonne Shire Council	2	18 526
Liverpool Plains Shire Council	2	18 526
Icon Water Limited	1	16 923
Local Land Services	1	16 923
Wyong Shire Council	1	16 923
BHP Billiton - Mt Arthur	3	16 161
Ashton Coal Operations Pty Ltd	2	15 460
Glencore Mt Owen Pty Limited	2	15 460
Maules Creek Coal Pty Ltd	2	15 460
Penrith City Council	2	15 460
Tomingley Gold Operations Pty Ltd	2	15 460

	Number of dams	Estimated annual levy
	No.	\$
Visy Pulp & Paper	2	15 460
Wilpinjong Coal Pty Ltd	2	15 460
Wingecarribee Shire Council	2	15 460
Austar Coal Mine Pty Ltd	1	14 992
Blue Mountains City Council	1	14 992
Broken Hill Operations Pty Ltd	1	14 992
Camden Council	1	14 992
Centennial Newstan	1	14 992
Central Tablelands Water	1	14 992
Cessnock City Council	1	14 992
Consolidated Pastoral Company P/L	1	14 992
Cowra Shire Council	1	14 992
Diversified Minerals	1	14 992
Elanora Country Club	1	14 992
Heron Resources Limited	1	14 992
Hunter Valley Energy Coal Pty Ltd	1	14 992
Inner West Council	1	14 992
Inverell Shire Council	1	14 992
Kempsey Shire Council	1	14 992
Kiama Municipal Council	1	14 992
Killara Golf Club Ltd	1	14 992
Ku-ring-gai Council	1	14 992
Kyogle Council	1	14 992
Maryland Development Company p/l	1	14 992
Mid-Western Regional Council	1	14 992
Nambucca Shire Council	1	14 992
Newcastle City Council	1	14 992
Norske-Skog Paper Mills (Australia) Ltd	1	14 992
Norwest Association Limited	1	14 992
Pittwater Council	1	14 992
Port Stephens Council	1	14 992
Queanbeyan-Palerang Regional Council	1	14 992
Rous County Council	1	14 992
Snowy Monaro Regional Council - Bombala Branch	1	14 992
Snowy Valley Council - Murray	1	14 992
Strata Plus	1	14 992
Tenterfield Shire Council	1	14 992
Warrumbungle Shire Council	1	14 992
Weddin Shire Council	1	14 992
WestConnex Transurban	1	14 992

	Number of dams	Estimated annual levy
	No.	\$
Wollongong Coal Limited	1	14 992
Yass Valley Council	1	14 992
KBL Mining Limited	2	12 628
Parkes Shire Council	2	12 628
Allied Coal Pty Ltd	1	9 094
Anglo Coal (Dartbrook Management) Pty Ltd	1	9 094
Aurelia metals Limited	1	9 094
Burratorang Valley Coal Pty Limited	1	9 094
Castle Hill Country Club	1	9 094
Celestino Pty Ltd	1	9 094
Challenger Mines Pty Ltd	1	9 094
Cristal Mine	1	9 094
CSA Mine - Glencore	1	9 094
Department of Industry	1	9 094
Divall's Earthmoving & Bulk Haulage	1	9 094
Endeavor Operations Pty Ltd	1	9 094
Evolution Mining	1	9 094
Forest Grove Community Association	1	9 094
Glen Innes Severn Council	1	9 094
Hilltops Council	1	9 094
Hunter Valley Mines Operations	1	9 094
Illawarra Coke Company	1	9 094
John Holland	1	9 094
Lend Lease Communities (Wilton)	1	9 094
Macquarie Coal Joint Venture	1	9 094
Matt Crossingham	1	9 094
Midcoast Water	1	9 094
Muirfield Golf Club Limited	1	9 094
NarrabriCoal Operations	1	9 094
Old Sydney Town	1	9 094
Parramatta City Council	1	9 094
Peak Gold Mines	1	9 094
Perilya Broken Hill Limited	1	9 094
PPB Advisory	1	9 094
Pymble Golf Course	1	9 094
RMS (Roads & Maritime Services)	1	9 094
Roche Group	1	9 094
Santos	1	9 094
Shaolin Temple Foundation (Australia) Ltd	1	9 094
South32 - Illawarra Coal Pty Ltd	1	9 094

	Number of dams	Estimated annual levy
	No.	\$
Springvale Coal Services	1	9 094
Stockland	1	9 094
Straits Tritton Mines	1	9 094
United Collieries Pty Ltd	1	9 094
University of New South Wales	1	9 094
Upper Hunter Shire Council	1	9 094
Upper Lachlan Shire Council	1	9 094
Uralla Shire Council	1	9 094
Vitalharvest Ltd	1	9 094
Western Sydney Parklands Trust	1	9 094
Whitehaven Coal Limited	1	9 094
AKSoake	1	5 048
Broula King Joint Venture Pty Ltd	1	5 048
J. Nixon	1	5 048
Liddell Coal Operations Pty Ltd	1	5 048
Maitland City Council	1	5 048
Sutherland Shire Council	1	5 048
Total	400	4 004 646

Source: CIE.



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