



**Response to the Australian Energy Regulator's draft regulatory determinations to  
NSW and ACT transmission and distribution businesses 2014 – 2019.**



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Mr Warwick Anderson  
General Manager – Networks Finance and Reporting Branch  
Australian Energy Regulator  
GPO Box 3131  
Canberra ACT 2601

Via email: [NSWACT@aer.gov.au](mailto:NSWACT@aer.gov.au)

**Response to the Australian Energy Regulator’s Draft Determinations for ActewAGL, Ausgrid, Endeavour Energy, Essential Energy and TransGrid 2014 – 2019.**


Professionals Australia seeks to respond to matters raised by the Australian Energy Regulator’s draft determinations and the revised proposals made by ActewAGL, Ausgrid, Endeavour Energy, Essential Energy and TransGrid, in respect to their revenue requirements for the regulatory period 2014-19.

We acknowledge the many challenges faced by the Australian Energy Regulator (AER) in setting funding for the sector across a five year period, however we believe that the cuts outlined in the AER’s draft determinations will present significant and numerous risks to safety, reliability, quality and professional capacity across the sector.

With safety and reliability so important to the Government and community, we urge that fuller consideration of a broader range of perspectives is assessed before any proposals are enacted. Our concern is that it would be penny-wise, pound foolish, to make cuts that risk a litany of future disastrous problems and costs.

While we acknowledge the AER’s objective in continuing to pursue efficiencies in capital and operating expenses across each business, we believe that efficiencies can be achieved - without compromising safety and reliability of supply and operations.

We also urge the AER’s full consideration of its obligations under the National Electricity Objective (NEO) in the need to ensure safe, reliable, quality and cost-efficient electricity provision – rather than simply pursuing the cheapest option.



It seems completely counter-intuitive that the Black Saturday catastrophe, in which 173 people lost their lives and cost Victoria \$4.4 billion, has been directly and publicly attributed to ageing electricity assets, and yet now regulatory determinations propose to set NSW and the ACT on exactly the same path.

Each of the distribution and transmission businesses has strongly disagreed with the AER's draft determinations in their revised proposals. We support the businesses' revised proposals on the basis that they rely on sophisticated engineering and technical advice, which has been derived from the information and experience available from professional engineers within each business. The revised proposals provide evidence that the AER's current determinations do not allow the businesses to ensure the ongoing delivery of a safe and reliable electricity supply.

Professionals Australia represents over 23,000 professionals - including thousands of professional engineers who build and maintain electricity assets who carry the responsibility for ensuring reliability and public safety at all times.

These professional engineers possess the knowledge and expertise to find and deliver efficiencies that can meet the AER's objectives, safeguard the economy and serve the public well into the future. Yet, the proposed cuts have the potential to wipe-out this capacity and take thousands of allied jobs with them.

We believe that by better engaging with the knowledge and expertise of professional engineers, far better outcomes can be achieved and the inherent risks in the proposed cuts can be mitigated.

Further, professional engineers are bound by a professional Code of Ethics that requires them to "serve the community ahead of personal or sectional interests"<sup>1</sup>. This code of ethics provides that engineers must 1) Demonstrate integrity, 2) Practice competently, 3) Exercise leadership, and 4) Promote sustainability<sup>2</sup>.

Engineers take this code and their professional responsibility to the community, very seriously. With these governing principles, and by drawing on the knowledge and expertise of professional engineers, Professionals Australia believes that better solutions to balancing safety, reliability and cost-efficiency can be found, rather than lost.

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<sup>1</sup> Professional Engineers Code of Ethics,  
<http://www.engineersaustralia.org.au/sites/default/files/AboutUs/Overview/Governance/codeofethics2010.pdf>

<sup>2</sup> Professional Engineers Code of Ethics,  
<http://www.engineersaustralia.org.au/sites/default/files/AboutUs/Overview/Governance/codeofethics2010.pdf>

We ask that the AER consider allowing a meeting between professional engineer representatives from Professionals Australia and the AER technical advisory group, to discuss the risk implications of the draft determinations.

We call on the AER to protect the long-term interests of the community, rather than respond to short-term political pressure around electricity prices.

The current determinations suggest that the AER is focussed on becoming the champion of electricity price cuts, rather than living up to its responsibility to ensure the ongoing safe and efficient delivery of electricity in the long term interests of consumers.

If the draft determinations were applied, the businesses would not be able to replace some assets in poor condition. The proposed cuts risk damaging the reliability of power supply, will cost thousands of jobs and put the community at inappropriate safety risk. To ensure the Government and community is fully cogniscent of any risk, we ask that the AER produce a risk analysis of any final determination.

We call on the AER to ignore political pressure and short-term expediency, and instead, focus on measures that will facilitate the safe, reliable and prudent management of electricity transmission and distribution to the community for the long term.

We support the revised proposals put forward by the distribution and transmission businesses, as they enable the AER to achieve the long-term goal of safety, reliability and affordability for customers.

However, we believe that if the AER's draft determinations are made final, the outcomes for the people of NSW and the ACT would be adverse, and potentially catastrophic.

Yours sincerely,



Chris Walton  
Chief Executive  
Professionals Australia

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## About this submission

This submission is written in response to the Australian Energy Regulator's draft determinations (November 2014) and the revised proposals submitted by ActewAGL, Ausgrid, Endeavour Energy, Essential Energy and TransGrid (January 2015).

## The impact of the AER's proposed draft determinations

- Professional engineers are extremely concerned that the AER has proposed a series of severe cuts to revenue for ActewAGL, Ausgrid, Endeavour Energy, Essential Energy and TransGrid for the regulatory period 2014 - 19.
- Professional engineers believe that if enacted, these cuts will compromise the prudent, long-term management of network infrastructure and prioritise cost over safety and reliability.
- Professional engineers are very concerned about the risks to safety, reliability and quality of electricity provision as a result of the AER's proposals to cut aggregate operating expenditure (OPEX) by up to 39 per cent and replacement expenditure (REPEX) by up to 43 per cent.
- Under these proposals, distribution and transmission businesses would be forced into additional and significant restructuring - just to survive. The immediacy of the cuts would see the industry lose knowledge and expertise that could achieve efficiencies and improvements. It is expected that the industry would lose in excess of 4,000 jobs and 85 per cent of vital Transgrid bushfire mitigation work would need to be abandoned.
- If enacted these cuts would heighten risk, danger and the potential for catastrophic failure – in an industry that is at extreme risk of being depleted of professional capacity.
- We urge the AER to consider and respond to the broader societal and economic ramifications of the proposed cuts and the long-term interests of the community, rather than making irreversible cuts to serve short-term, political pressure on electricity pricing.

## Consequences of a major event on the electricity system

It is the professional opinion of engineers across the electricity sector that the possibility of a major event causing a widespread and long duration interruption to electricity supply must always be a consideration in the design, planning, and management of the power system. This is a different aspect of reliability of electricity supply to the ongoing, or 'day to day', performance of the power system.

Society is totally dependent on the supply of electricity, and would not function without it.

While short term interruptions of a few hours over limited areas are an inconvenience, it is the widespread, long-term interruption which is intolerable, because almost every other service, on which society depends, will cease to function without electricity.

The supply system must be sufficiently robust and resilient that it is not subject to widespread and long-interruptions, resulting from an unforeseen disaster event or an unforeseen combination of events. This involves careful planning and engineering by qualified and competent professional engineers to avoid the bad consequences of unforeseen events and unforeseen combinations of events and circumstances.

At the same time, distribution and transmission businesses have a responsibility to ensure they have an adequate level of knowledge and expertise, as well as financial resources, to ensure that the supply system is kept in sound condition.

The NSW and ACT systems have operated for many decades without widespread interruption, but there have been a number of near misses. This good performance has been due to the proper provision of human and financial resources and a high level of skill and commitment of staff in utilities to the goal of providing an essential public service. It is critical that expertise and skills are not jeopardised due to downsizing and short-term financial restrictions, because once lost, such skills and expertise will never be regained.

In recent years in many other countries there have been cases of widespread and long-term interruptions of many days or weeks, with huge disruption to society and damage to their economies. In many cases cascading failures have been a feature, leading to runaway overloading.

In NSW and the ACT, a significant proportion of the electrical equipment on the system is aged and still in service well beyond its reasonable life, which adds to the risk of a major event occurring.

The widespread and extended loss of electricity supply has a surprising number of consequential effects on many services essential to society.

Professional engineers recognise and the public would understand the impact such an interruption would be:

1. **The obvious loss of supply to homes**, lighting, heating, refrigeration and cooking.
2. **The loss of supply to businesses** of all kinds, including manufacturing, shops, services, and the consequent effect on employment.
3. **Water supply** will cease after a few days or sooner because it is totally dependent on electric pumping.
4. **Sewerage facilities will cease to function** because they depend on electric pumping, as well as on the water supply, causing major health issues.
5. **Passenger and freight transport services will soon stop**, as delivery of fuel to service stations and bulk depots depends on electric pumps.
6. **Food will run out** because of the lack of deliveries and the lack of refrigeration.
7. **Gas supplies will also soon run out** because it too depends on electric pumps.
8. **All communications will soon cease** because of intrinsic dependence on electricity supply.
9. **Financial services from banks**, ATMs, credit cards, and electronic payments would cease.
10. **Major exports and the operation of our ports and airports** would cease.
11. **The Sydney financial district** is a high profile regional financial hub which includes the ASX. A sustained interruption would severely damage Sydney's reputation as a financial centre and likely cause a migration of these financial services to elsewhere.
12. **Hospitals would soon be unable to function**, even though they have standby diesel generators, again because of fuel supply.
13. **All electric trains would stop.**
14. **High rise buildings would be unusable** as there would be no lifts.

It is all too easy to dismiss the possibility of such a widespread event. However, such disruptions have happened in many developed countries in recent years. The Auckland event was disastrous for NZ, however it is but one of many major interruptions around the world.



## Points of concern

- 1. Legal concerns:** Professionals Australia does not believe the AER can meet its legal responsibilities under the proposed cuts.
- 2. Broader ramifications:** Professionals Australia urges the AER to consider the broader ramifications and severity of the proposed funding cuts.
- 3. Concern regarding potential for increased risk and failure:** Professionals Australia does not support any increase in risk or failure as a result of proposed cuts.
- 4. Concerns for safety:** Professionals Australia urges the AER to undertake a detailed safety and risk assessment of the impact of the proposed funding cuts.
- 5. Need to engage engineering and industry expertise:** Professionals Australia urges the AER to engage in wider consultation with professional engineers, industry, allied stakeholders and experts.
- 6. Concerns for loss of efficiency and improvements:** Professionals Australia urges the AER work with a broader set of engineers to achieve best outcomes.
- 7. Concerns for job losses:** Professionals Australia does not support cuts which will result in massive job losses and deplete businesses of professional and skilled capacity.
- 8. Concerns for the Implications for the economy and the community:** Professionals Australia urges a reassessment to put safety and reliability first, avoiding the foreseeable damage as a result of the proposed radical cuts.
- 9. Critical need for a period of transition:** Professionals Australia urges the AER consider transitional steps toward changes, to mitigate safety and financial risk.
- 10. Need to honour enterprise agreements:** Professionals Australia does not support the AER's attempt not to recognise Fair Work Commission certified enterprise agreements.

## Points of support

- 1. Support for revised proposals and initiatives by businesses:** Professionals Australia supports the revised proposals submitted by the businesses in their prioritisation of the safety of workers and the public, their work to mitigate bushfire risks and to ensure the reliability of assets and cost-effectiveness of supply in the long-term.
- 2. The need for efficiencies** - with professional engineers and thorough risk assessments vital to achieving this.
- 3. Maintenance of the ordered priority of electricity distribution, being:** 1) Safety, 2) Reliability and 3) Affordability.
- 4. Determination must align with the NEO, NEL and NER.**

## Points of Concern

### 1. Legal concerns

**Professionals Australia does not believe the AER, or any of the transmission or distribution businesses, can meet their legal responsibilities under the proposed cuts.**

Based on the AER's proposed cuts to capital and operating expenditure across transmission and distribution businesses, professional engineers believe it will be impossible for the AER and businesses to meet their legal responsibilities under the National Electricity Objective (NEO).

It is also our view that the AER's draft determinations do not provide sufficient revenue to maintain the safety of the system consistent with requirements of the NEO, the National Electricity Laws (NEL), and the National Electricity Rules (NER).

Without appropriate funding, businesses will face the perilous prospect of being unable to meet their "primary duty of care" - the ability to ensure the safety of the public and workers, as required under the Work Health and Safety Act 2011 (NSW).<sup>3</sup>

Professional engineers understand both the technical requirements and the sacrosanct nature of these laws and work to ensure businesses achieve compliance with these requirements every day.

Further, bound by a professional code of ethics that requires them to "demonstrate integrity, practice competently, exercise leadership and promote sustainability", professional engineers raise their strenuous concerns regarding the lack of regard shown in the draft determinations by the AER for these serious requirements.

Professional engineers implore the AER to accept the revised proposals by the businesses, which provide detailed arguments and costings for how efficiencies can be achieved while still prioritising safety, the long-term reliability of supply and meeting these binding legal responsibilities.

### 2. Broader ramifications and concerns

**Professionals Australia urges the AER to consider the broader ramifications, severity and immediacy of the proposed funding cuts.**

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<sup>3</sup> Page 29, Ausgrid Revised Regulatory Proposal – January 2015.

The AER's proposed funding cuts appear to be the result of a populist and questionable economic assessment based approach to determining the need for business efficiencies and improvements.

The focus in the previous regulatory period was on the need to improve and ensure electricity supply reliability which, in NSW, was demanded under the government imposed electricity distribution licence compliance conditions.

Recent political and media commentary have led to an environment where the AER has now proposed radical cuts. The proposed cuts, if implemented, will represent a case of the pendulum having swung back too far.

The industry estimates that the depth and severity of the AER's proposed cuts will result in the loss of more than 4,000 employees from the sector<sup>4</sup>. The immediacy of these cuts, (if enacted) will have a devastating impact on each of the business' ability to deliver safe, reliable and affordable electricity.

We urge the AER to consider the broader economic, quality and safety ramifications and to work with experts, such as professional engineers, to reach more efficient and sensible solutions, rather than setting in motion industry carnage and loss.

The businesses have submitted revised plans developed to defer network investment where possible, pursue the possibility of demand management or other non-network solutions and manage long life assets to ensure they perform acceptably over their entire life cycle.

Professional engineers hold specialist knowledge and expertise that enables them to understand the need for electricity networks to be served by prudent maintenance and renewal, so as to deliver safe and longevity of assets and service in the long run.

Efficient and effective operations of transmission and distribution networks therefore, rest on having adequate and competent engineering capacity and expertise in-house.

The risk is high, that in one fell swoop, the AER could cut many hundreds of years of knowledge, experience and skills from an essential industry.

It is neither responsible, nor sensible, for the AER to move forward with any plan that would place electricity provision or the economies of NSW and the ACT in such jeopardy.

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<sup>4</sup> Pre-determination presentation by Vince Graham, 8 December 2014.

### 3. Concern regarding potential for increased risk and failure

#### **Professional engineers are concerned that the AER's proposed cuts will increase risk to safety, reliability, quality and failure.**

Professional engineers reject the AER's assertion that the businesses' approach is biased and conservative. Under their code of ethics and with their knowledge and expertise, professional engineers cannot support any possibility of increased risk to safety, reliability, quality and failure.

Any acceptance of greater risk would result in the abandonment of legal responsibility to ensure "duty of care" for workers and members of the public.

Professional engineers understand the technical consequences of when electricity infrastructure is 'run to failure'. With this knowledge, they feel strongly that they are duty bound to inform the AER and the public of the very real potential for catastrophic outcomes, as a result of the proposed cuts.

Professional engineers pose three questions to the AER:

- Is the AER prepared to risk public safety, particularly fire starts and the consequent potential bushfires, as a result of cuts to programs as a result of funding cuts?
- Is the AER prepared to accept that if its cuts are enacted, it will lead to a future need for substantial remediation investment to address the consequences of the 'run to failure' method of operation it has suggested?
- Is the AER prepared to accept that it has received detailed advice from professional engineers and network businesses, and rejects the proposition that its decisions risk such outcomes?

### 4. Safety concerns

#### **Professionals Australia urges the AER undertake a detailed safety and risk analysis of the impact of the proposed funding cuts.**

It is our position that the AER's draft determinations have not reasonably assessed or proposed an acceptable balance between economic costs and the risk to safety, nor has the vital importance of these consequences or the potential stakeholder implications, been thoroughly considered.

To ensure the Government and community is fully cogniscent of any risk, we ask that the AER produce a risk analysis for any final determination.

It is completely remiss of the AER's determinations not to include a safety risk assessment of the potential for increased network asset/system failures as a result of the proposed reduction in resources, or the extent to which these reductions would have adverse consequences to the health and safety of workers and members of the public.

Professional engineers are extremely concerned that the AER relied on limited engineering reviews undertaken by its own staff or consultants EMCa, did not carry out site visits and set expenditure allowances using desktop analysis, when detailed engineering information was offered and available from all businesses<sup>5</sup>.

In each of the determinations, the AER has explained that its own cost modelling and assessments were used to review the businesses' base operating expenditure efficiency. While these assessments included a number of factors, they notably excluded safety and adequate consideration of exogenous factors that affect the level of efficient costs between businesses.

In the same discussion of cost modelling in each determination, the AER highlighted that "other States were able to provide safe reliable services at lower overall levels of operating expenditure"<sup>6</sup>. Professional engineers strongly disagree with this statement and draw the attention of the AER to recent critical electrical network failure events in other states which have had, or had the potential to, impact the lives and wellbeing of the public.

The Royal Commission into the 2009 Black Saturday fires noted that 173 people died in the bushfires and stated:

*Victoria's electricity assets are ageing, and the age of the assets contributed to three of the electricity-caused fires on 7 February 2009 - the Kilmore East, Coleraine and Horsham fires. Distribution businesses' capacity to respond to an ageing network is, however, constrained by the electricity industry's economic regulatory regime.*

*The regime favours the status quo and makes it difficult to bring about substantial reform. As components of the distribution network age and approach the end of their engineering life, there will probably be an increase in the number of fires resulting from asset failures unless urgent preventative steps are taken.*

*The Commission considers that now is the time to start replacing the ageing electricity infrastructure and to make major changes to its operation and management. The seriousness of the risk and the need to protect human life are imperatives Victorians cannot ignore<sup>7</sup>.*

<sup>5</sup> ActewAGL Revised Regulatory Proposal 2015-19, January 20 2015, page 72.

<sup>6</sup> Ausgrid Revised Regulatory Proposal – January 2015, page 17.

<sup>7</sup> 2009 Victorian Bushfires Royal Commission Final Report, July 2010 (Parliament of Victoria).

Additionally, the Royal Commission estimated that Black Saturday disaster cost “conservatively” in excess of \$4.4 billion<sup>8</sup>. In light of such a directly relevant and serious example, professional engineers reject completely the AER’s assertion that the risk management processes of ActewAGL, Ausgrid, Endeavour Energy, Essential Energy and TransGrid are “overly risk averse”<sup>9</sup>.

It is difficult to understand how the AER can abrogate its responsibility for the ramifications of cuts, when there is clear potential for an abject disaster event similar to Black Saturday.

### *Safety impacts of cuts on CAPEX*

In their responses to the AER’s proposed cuts the distribution businesses have outlined that if financially constrained, they will immediately cut REPEX (replacement expenditure).

Professional engineers understand the immediate impact that this will have on critical asset replacement programs and the escalating adverse safety implications that will result for workers and members of the public in this eventuality.

A tragic and recent reminder of the risks and dangers associated with electricity assets came as recently as 4 February 2015 when two people were killed and several others injured when a transformer exploded in the Galleria shopping centre in Perth<sup>10</sup>.

Professional engineers understand the importance of asset replacement and are extremely concerned that cuts in REPEX would place prudent engineering practices in jeopardy.

In addition to their technical concerns about performance of assets, professional engineers are also concerned that cuts in staff would delay or disrupt the businesses’ ability to update or rewrite service instructions - even when a hazard may be identified.

A prime example of the heightened risks of cutting replacement expenditure is ActewAGL’s cast iron pothead replacement program. In 2014, two cast iron potheads exploded, almost hitting a linesman. The business has around 500 to replace with 116 classified as high risk because they are located close to public areas such as schools and child care centres<sup>11</sup>.

Engineers are currently managing the replacement of these potheads; however this is an example of the type of program under threat as cuts are so substantial as to leave networks in a position where implementing cuts would result in safety and reliability issues emerging elsewhere.

8 <http://www.theage.com.au/victoria/black-saturday-cost-44-billion-20100801-11116.html>

9 AER draft decision for Ausgrid, Overview 10.

10 <http://www.abc.net.au/news/2015-02-03/two-dead-several-hurt-in-morley-galleria-shopping-centre-blast/6066398>

11 ActewAGL Revised Regulatory Proposal 2015-19, page 78.

Currently pole-top hardware and cross-arms that sag are replaced before they fail and hurt workers or members of the public, and vibration dampers and armour rods are installed on rural lines in high bushfire risk areas – yet the proposed cuts would end or severely reduce these programs.

A key Ausgrid program under threat is the replacement of compound insulated 11kV switchboards and bulk oil circuit breakers. This equipment is as old as 75 years. Failures of this equipment have historically resulted in significant fires. As the likelihood of failure increases, (due to declining condition validated by test results), the risk of injury to workers is demonstrably increasing.

The list of programs under direct threat is extensive. At Ausgrid alone, programs that would be cut as a result of the AER's determination include: Asbestos Replacement and Inspection; Bushfire Readiness Program; Substation Perimeter Fencing Program (initiated after a child scaled a substation fence); Cubicle Switchgear Replacement Program; Outdoor Oil Filled Current and Voltage Transformer Replacement Program; Service Wire replacement Program; Routine Line and Pole inspections ; Optical Arc Fault Detection; High Risk Overhead Water Crossing; and the High Voltage Tower Anti-Climb Program<sup>12</sup>.

It seems incongruous that the AER would propose such cuts, in a climate where the community would be outraged and fearful if they knew of the extent and severity of the dangers and risks being proposed.

More baffling is that any catastrophic failure or injury would be instantly traced directly back to ill-conceived, rushed and short-sighted funding cuts, with probing questions and expensive litigation to determine why logic did not prevail.

### ***Safety implications of OPEX reductions***

The severity of cuts cannot be underestimated. In the case of transmission business TransGrid, the AER has proposed an 85 per cent cut to its forecast expenditure for vital low span remediation.

Based on safety concerns and community expectations, each business has summarily rejected the extent of the AER's cuts. As an example TransGrid stated in its revised proposal that the AER's cuts were "inappropriate and not in line with good electricity industry practice, or with expectations...in relation to bushfire risks"<sup>13</sup>.

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<sup>12</sup> Ausgrid Revised Regulatory Proposal 2015-19, page 86-120.

<sup>13</sup> Transgrid Revised Revenue Proposal 2014-15-2017/18, page 63.

TransGrid also emphasised its legal requirements to manage its network in a manner that ensures the safety of its staff, contractors and the public under the NER, the Electricity Supply (Safety and Network Management) Regulation 2014, work health and safety legislation and the business' enabling legislation<sup>14</sup>.

After the devastating human and economic impact of bushfires such as Black Saturday, it seems implausible that the AER could seek cuts that would result in TransGrid needing to cut bushfire mitigation work by 85 per cent.

The distribution businesses outline the impacts and present sound and sensible examples. To illustrate just one example, it is worth examining the proposal to reduce ActewAGL's operating expenditure (OPEX) to levels not seen since before 1999 and assign it a capital expenditure (CAPEX) allowance akin to that last seen in 2007/08, despite an approximate 40 per cent increase in customer numbers, and close to a 40 per cent increase in new assets<sup>15</sup>.

In its revised proposal to the AER, ActewAGL is quoted as saying it "cannot fathom how the AER can expect it to deliver a safe, secure, reliable and quality electricity distribution services with a 42 per cent reduction in its opex allowance with an allowance set over 15 years ago..."<sup>16</sup>.

In independent advice regarding the impacts associated with capex reductions on opex requirements<sup>17</sup>, AECOM reported that any forced delay of asset renewal would force an increase in the risk of failure and an increase in maintenance and repair costs:

*Unplanned interventions come at a significantly higher cost to the service provider, and often at a higher cost to both the customers affected and the business. In the example of underground cables, the optimal strategy is shown to be selective cable replacement (rather than reactive repair work), a strategy that was estimated to be 56% of the cost of the 'do nothing' option.*

*If renewal funding were not to be available, then the higher cost option (using OPEX) would have to be followed, increasing the total cost of ownership of the assets involved by an estimated 78%.*

*If the OPEX required were also not available, the business would be faced with an unacceptable long-term loss of service to customers affected by cable failures, or a need to transfer funds from another lower priority application (thereby potentially forcing other customers to deal with loss of service)<sup>18</sup>.*

Given the relative sizes of their networks, these implications would be magnified many times over for Ausgrid, Endeavour Energy, Essential Energy and TransGrid.

14 Transgrid Revised Revenue Proposal 2014-15-2017/18, page 63.

15 ActewAGL Distribution, Revised Regulatory Proposal 2015-19, 20 January 2015, page 62.

16 ActewAGL Distribution, Revised Regulatory Proposal 2015-19, 20 January 2015, page 63.

17 AECOM, The Impact of the AER's Draft Decision on ActewAGL's Service and Safety Performance, Jan. 2015, page 15-16.

18 Ausgrid Revised Regulatory Proposal – January 2015, page 20 to 21.



## 5. Need to engage engineering and industry expertise

### **Professionals Australia urges the AER to engage in wider consultation with professional engineers, industry, allied stakeholders and experts.**

Professionals Australia represents professional engineers in both the public and private sectors across Australia.

Professional engineers consider that the magnitude of the AER proposed capital and operating expenditure reductions in the draft determinations, coupled with the retrospective nature for which these will need to take effect, will drive abrupt and fundamental business restructure, the reprioritisation and cessation of prudent programs, the loss of 4,000 jobs and an unacceptable safety risk to workers and members of the public. This would occur in addition to current job losses being experienced across the industry as it adjusts to changing consumer electricity consumption.

These same professional engineers have the knowledge and expertise to find and deliver efficiencies that can meet the AER's objectives and its responsibility to serve and protect the economy and the public into the future. Professional engineers have been actively engaged and made significant contribution to the current reform program. Yet, the proposed cuts would see workforce and engineering capacity slashed – the exact skills that will be desperately needed, to find future cost savings and efficiencies.

We believe that by better engaging with the knowledge and expertise of professional engineers, far better outcomes can be achieved and the risks inherent in the proposed cuts can be mitigated.

We ask that the AER consider allowing a meeting between professional engineer representatives from Professionals Australia and the AER technical advisory group, to discuss the risk implications of the draft determinations.

The economic and social impact of the significant and sudden job losses will be felt across NSW, but most keenly in rural and regional areas where there are limited employment opportunities. However more broadly, the mass loss of professional knowledge and skills will be felt across NSW and the ACT, as experience, expertise and capacity will be lost forever.

Beyond these irreversible and significant losses, the proposed cuts will impact vital services and agencies beyond the energy sector.

This is a key concern for professional engineers who work closely with other agencies to mitigate risk in bushfire prone areas. The proposed cuts will also potentially hold up new connections and developments due to lack of resources.

Under the proposed cuts, businesses have stated that they will have less staff and engage in less vegetation management activities. In a letter to Ausgrid CEO Vince Graham on 4 December 2014, Fire and Rescue Commissioner Greg Mullins said:

*"I fear that the impact of the draft determination could be a greater reliance on Fire & Rescue NSW...I am deeply concerned that this could lead directly to greater loss of life and property in the community, due to fire crews being engaged for even longer at "wires down" incidents.<sup>19</sup>"*

We urge the AER to consult with engineers and allied agencies to understand and assess risks and problems, rather than proceeding with these cuts, ignorant of the implications and costs down the track.

## 6. Concerns for loss of efficiency improvements

### **Professionals Australia urges an ongoing commitment to already established proactive and continuous improvement.**

Professional engineers are in essence, highly-skilled, professional problem solvers. In the previous regulatory period (2009-14), they responded to the initial challenge of being required to formulate and deliver programs to achieve network asset condition and supply reliability improvements.

Professional engineers were actively involved in revising these programs to match new network performance and expenditure targets, as a result of the introduction of the NSW Government Network Reform program in 2012 and the varied network load demand forecasts. As a result of engineering innovation, businesses have made considerable capital and operating efficiency improvements that support the AER's goal of greater efficiency.

A notable example of significant scale are the improvements at Ausgrid, which have been valued at \$2.1 billion, with a further \$5.4 billion projected in savings for the five year period from 2011<sup>20</sup>.

<sup>19</sup> Presentation to AER Pre-Determination Conference, 8 December 2014, Vince Graham, Ausgrid.  
<sup>20</sup> Ausgrid Revised Regulatory Proposal – January 2015, page 3.

Professional engineers ask that the AER review the core objectives of the NSW Government Network Reform, being:

- To continuously improve safety performance for employees, contractors and the public;
- To maintain the reliability and sustainability of the electricity networks; and
- To strive to contain average increases in customers' electricity bills at or below CPI.

However, the important distinction between these reforms and the AER proposals is that they were devised and developed by engineering professionals and industry experts.

Perhaps even more importantly, they were introduced in accordance with agreement and contract obligations, and on a timeframe that was appropriate.

The AER's proposed cuts will not only threaten these improvements, but engineers forecast that they will render the businesses unable to maintain, serve and build the energy assets NSW and the ACT need. In essence, these proposed cuts will waste hard-earned innovation and improvement and see efficiency take a significant retrograde step. The proposed cuts could also introduce future costs because the businesses would need to redevelop lost skills, hire contractors and introduce step changes in investment.

## 7. Job losses

**Professionals Australia believes that professional engineers can be instrumental in building efficiencies and improvements, yet this vital capacity will be lost if cuts proceed.**

The severity and immediacy of the AER's proposed cuts provide transmission and distribution businesses no alternative but to restructure and shed jobs in a sudden action, without adequate transition.

If the proposed cuts were to be enacted estimates suggest over 4,000 jobs would be lost. Such losses would send economic and social reverberations beyond the sector, impacting the community and the economy.

This would be keenly felt in rural and regional centres where employment opportunities are limited; however the greatest impact would be in the dramatic reduction of knowledge and capacity in the sector itself.

These cuts threaten to deplete the sector of a vital depth and breadth of skills – the expertise that actually knows how to get the best outcomes from it. It makes no sense to remove the very skills that can achieve efficiencies and build improvements.

Any plan to enact such cuts would be self-defeating and counter-intuitive in the extreme.

If businesses were forced to slash staff, they would inevitably become uninformed purchasers. That is, businesses would no longer have the technical expertise in-house, to adequately design, scope, build and maintain the assets and networks that they are required to deliver.

Without engineering and technical capacity there would be project delays and cost-overruns - but perhaps even more critically, there would be limited oversight of risk and much greater potential for catastrophic failure and accident.

All these risks point to dramatic and spiralling increases in costs. Reduced skills and capacity in businesses will only invite problems that in turn will result expensive and lengthy litigation - the risk of which should not be underestimated.

The far more prudent and responsible approach for the AER would be to acknowledge that by working with industry expertise, far better and less risky solutions can be found.

Professional engineers want to help the industry find solutions; they ask that the AER acknowledge their capacity to help build a more efficient sector for the future. They also ask the AER to acknowledge that these cuts would end the vital research and innovation currently undertaken in NSW and the ACT, and this would impact the entire industry and other states.

## 8. Implications for the economy and community

### **Professionals Australia urges the AER consider implications of its proposed cuts on the economy and community.**

The analysis undertaken by AECOM in ActewAGL's revised proposal found that any forced delay of asset renewal would force an increase in the risk of failure and an increase in maintenance and repair costs<sup>21</sup> has not been adequately considered by AER.

Power supply is essential to the community and business. The AER would do well to review the catastrophic economic impact of short-term thinking on cities around the world, a case in point being Auckland, which was unable to function for almost three months.

<sup>21</sup> AECOM, The Impact of the AER's Draft Decision on ActewAGL's Service and Safety Performance, January 2015, page 15-16.

Adverse experiences also underpinned the review of the status and performance of the Queensland and NSW distribution networks and the implementation of requirements by the respective governments which were aimed at redressing identified aged asset condition and supply reliability concerns (the NSW licence compliance conditions).

The importance of electricity supply to the community is also illustrated by the Value of Customer Reliability (VCR) determination which has become the favoured process for assessing and justifying augmentation requirements. The methodology for this process indicates that the value of electricity to customers is typically two orders of magnitude (i.e. – one hundred times) greater than the tariff price which they are required to pay.

This surely confirms the need for reliable network supply rather than price as the priority driver. Professional engineers work to ensure the system is sustainable and meets the needs of the community and business, we urge the AER to consider their concerns about the chatter of short-term popularism.

## 9. Critical need for a period of transition

### **Professionals Australia urges the AER consider transitional steps toward any transformative program of change it may wish to achieve.**

Professional engineers advise that sudden and significant change, on the scale proposed, has a very real and direct potential for systematic safety failure and as a result, financial instability across each business.

The AER's proposed cuts would see businesses need to affect drastic cost cuts in an injudicious period of time. Professional engineers are concerned about the impacts such sudden and severe change would have on the risk profile of assets and the impact of increased system failures across the industry as a whole.

The rapid loss of jobs would also see hundreds of years of experience lost. When, inevitably, the industry needed these skills again, they would have to be redeveloped at considerable cost and with lead-time constraints.

The AER should take into account the need to sustain an essential skill base in what is an inherently engineering-focussed industry.

Knowledge from other sectors and experiences in Victoria identifies that it is neither prudent, nor efficient, to enact change of the scale and magnitude proposed in the AER's draft

determinations in a single step. The absence of any form of transition period therefore renders void, any suggestion of these cuts being measures of efficiency or effectiveness.

## 10. Legal need to honour enterprise agreements

### **Professionals Australia does not support the AER's attempt not to recognise Fair Work Commission certified enterprise agreements.**

Professional engineers are concerned that businesses have already identified that the severity of the proposed cuts will see them need to immediately restructure their organisations beyond restructuring that is already underway.

From an engineering standpoint, this would present unavoidable impacts on service levels, reliability and safety.

However, this raises further questions, as to how further restructuring would be funded when no allowances have been included in the AER's draft determinations to pay for accrued leave and severance pay entitlements, even though existing Enterprise Agreements certified by Fair Work Australia could not be ignored and would need to be honoured.

Having had their revenue cut, the businesses will face double jeopardy, as by paying the legal entitlements of departing workers they will exceed their OPEX allowances and be penalised under the efficiency benefits sharing scheme in subsequent regulatory control periods.

Professional engineers welcome the commitment shown by each of the businesses in confirming that they will honour existing enterprise agreement arrangements.

However, professional engineers are highly critical of the AER's disregard and dismissal of these legally-binding agreements and will take all action to ensure employee rights and entitlements are respected.

If proposed cuts are applied, the AER's short-term cost cutting would drive down existing wages and conditions and as a result, limit the long-term sustainable and efficient delivery of electricity in the ACT and NSW.

## Points of Support

### 1. Support for revised proposals and initiatives by businesses

Professionals Australia supports the revised proposals submitted by the businesses and their prioritisation of the safety of workers and the public, their work to mitigate bushfire risks and to ensure the reliability of assets and cost-effectiveness of supply in the long-term.

### 2. Need for efficiency

Professionals Australia understands the AER's interest in driving operating and capital efficiency improvements and believes professional engineers can play a vital role in achieving greater efficiencies without the risks proposed through severe cuts.

### 3. Prudent management of assets to ensure safety, quality and reliability

Professionals Australia supports the prudent management and maintenance of distribution and transmission networks for electricity provision. Reliability and affordability should be balanced with appropriate cost-benefit and risk analysis. Professional engineers have the knowledge and expertise to play an instrumental role in achieving the correct balance and long-term sustainability of electricity provision across the ACT and NSW.

### 4. Alignment with NEO, NEL and NER

Professionals Australia supports significant revision of the AER's draft determinations to ensure any final determination is aligned to meet the NEO, NEL and NER. At present, professional engineers are of the strong opinion that draft decisions do not align with the NEO and are therefore cannot be implemented.

## Conclusion

Professionals Australia is pleased to utilise the opportunity afforded in the regulatory process to present this formal submission in response to the AER's draft determinations to ActewAGL, Ausgrid, Endeavour Energy, Essential Energy and TransGrid.

Our concerns and recommendations expressed herein are based on fact, industry knowledge, and experience and for those reasons, we urge the AER to take seriously, the content of this submission.

We believe that by engaging the knowledge and expertise of professional engineers, there can be far more cost effective, safe and reliable ways to manage electricity transmission and distribution in the ACT and NSW.

We take this opportunity to request the AER's consideration of meeting of a Professionals Australia convened panel of professional engineer representatives with the AER technical advisory group, to discuss the risk implications of the draft determinations.

We also ask that the AER produce a risk analysis of any final decision.

We welcome any further requests for clarification or information regarding this submission.



**Professionals Australia**

**Street Address** 163 Eastern Rd, South Melbourne Victoria 3205, Australia

**Postal Address** GPO Box 1272, Melbourne Victoria 3001, Australia

**Phone** 1300 273 762

**Fax** +61 3 9695 8902

**Email** [info@professionalsaustralia.org.au](mailto:info@professionalsaustralia.org.au)

**Web** [www.professionalsaustralia.org.au](http://www.professionalsaustralia.org.au)

