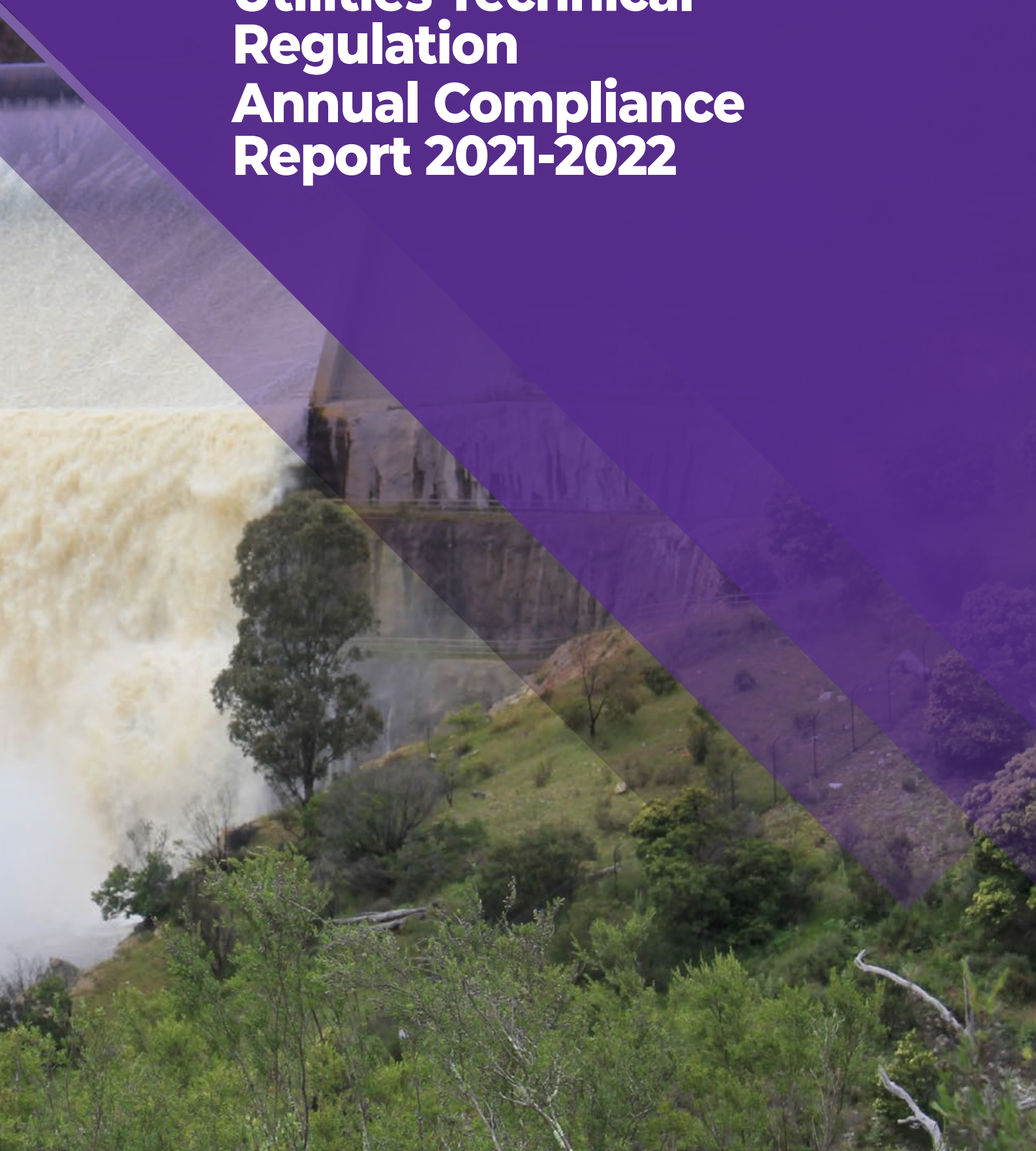




ACT
Government

Utilities Technical Regulation Annual Compliance Report 2021-2022



Acknowledgment to Country

Yuma
Dhawura Nguna Dhawura Ngunnawal
Yanggu ngalawiri dhunimanyin
Ngunnawalwari dhawurawari
Nginggada Dindi yindumaralidjinyin
Dhawura Ngunnawal yindumaralidjinyin

Hello,
This is Ngunnawal Country
Today we are meeting on Ngunnawal
country
We always respect Elders, male and
female
We always respect Ngunnawal Country

The Environment, Planning and
Sustainable Development Directorate
(EPSDD) acknowledges the Ngunnawal
people as traditional custodians of the
land we are meeting on and recognise
any other people or families with
connection to the lands of the ACT and
region. EPSDD wish to acknowledge and
respect their continuing culture and the
contribution they make to the life of this
city and this region.

Produced by the Environment, Planning and Sustainable Development

© Australian Capital Territory, Canberra 2023

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without written permission from:

Director-General, Environment, Planning and Sustainable Development Directorate,
ACT Government, GPO Box 158, Canberra ACT 2601.

Telephone: 02 6207 1923

Website: www.environment.act.gov.au

Accessibility

The ACT Government is committed to making its information, services, events and venues as accessible as possible.

If you have difficulty reading a standard printed document and would like to receive this publication in an alternative format, such as large print, please phone Access Canberra on 13 22 81 or email the Environment, Planning and Sustainable Development Directorate at EPSDDComms@act.gov.au

If English is not your first language and you require a translating and interpreting service, please phone 13 14 50.

If you are deaf, or have a speech or hearing impairment, and need the teletypewriter service, please phone 13 36 77 and ask for Access Canberra on 13 22 81.

For speak and listen users, please phone 1300 555 727
and ask for Canberra Connect on 13 22 81.

For more information on these services visit <http://www.relayservice.com.au>

Contents

1. Introduction	5	5.6 Asset Records, Data and Records Management.....	18
1.1 Technical Regulation.....	5	6. Gas Transmission Performance 2020-21—Apa Group.....	19
1.2 Licensed Utility Providers and Unlicensed Utility Providers	5	6.1 Notifiable Incidents	19
1.3 Utility Compliance	5	6.2 Gas Safety and Operating Plan.....	19
2. Technical Code Review Progress 2021-22.....	7	6.3 Emergency Planning	19
3. Electricity Utility Performance 2021-22—Evoenergy.....	7	7. Water Utility Performance 2021-2022—Icon Water	20
3.1 Notifiable Incidents	8	7.1 Revised Water and Sewerage Utility Code Progress.....	20
3.2 Pole Inspection and Maintenance.....	9	7.2 Emergency Planning	20
3.3 Vegetation Management and Bushfire Risk Management.....	10	7.3 Emergencies and Notifiable Incidents ..	20
3.4 Photovoltaic Electricity Grid Protection Requirements.....	10	7.4 Sewage Service Delivery Targets and Performance.....	22
3.5 Power Quality	11	7.5 Network Design and Maintenance Code	24
3.6 Defective Neutral	12	7.6 Liquid Trade Waste.....	25
3.7 Reliability Indicators.....	13	7.7 Water Network Design	26
3.8 Emergency Planning	13	7.8 Non-drinking Water	27
3.9 Electricity Network Safety Management System (ENSMS).....	14	8. Dams Regulation 2021-22.....	28
3.10 Overhead Service Conductor Insulation Failures.....	14	8.1 Compliance with the 5-year Dam Safety Code Transition Program	28
3.11 Network Losses	14	8.2 Review of Consequence Category Assessments	30
4. Electricity Transmission Service Provider Performance 2021-22—Transgrid	15	8.3 Reported Dam Safety Incident for 2021-22.....	30
4.1 Vegetation Management and Bushfire Risk Management.....	15	8.4 Icon Water Dams	30
4.2 Performance Statistics and Notifiable Incidents	16	8.5 ACT Government Dams	30
5. Gas Utility Performance 2021-22—Evoenergy.....	17	8.6 QPRC DAMS.....	31
5.1 Ownership and Operation of the ACT Gas Distribution Network.....	17	9. Unlicensed Regulated Utilities	32
5.2 Notifiable Incidents	17	9.1 Stormwater Harvesting Network.....	32
5.3 Compliance with Existing Codes.....	17	9.2 QPRC Sewerage System in ACT.....	32
5.4 Gas Metering	17	9.3 Solar Farms.....	32
5.5 Asset Management.....	18	9.4 Essential Energy	33
		9.5 Light Rail	33
		10. Focus For 2022-23 Work Program	35



Googong Dam

1. Introduction

1.1 Technical Regulation

The Utilities Technical Regulation unit (UTR) within Access Canberra operates under the [Utilities \(Technical Regulation\) Act 2014](#) (the UTR Act). The statutory office holder under the UTR Act is the Technical Regulator, a role held by the Director-General of the Environment, Planning and Sustainable Development Directorate. The Technical Regulator reports to the Minister for Water, Energy and Emissions Reduction and the Minister for Business and Better Regulation.

The objects of the UTR Act are to:

- > Provide for the safe, reliable, and efficient delivery of regulated utility services;
- > promote the long-term serviceability of regulated utility networks and services;
- > promote design integrity and functionality of regulated utility networks; and
- > provide for the safe and reliable operation and maintenance of regulated utility networks and regulated utility services to protect the followings.
 - » the public
 - » people working on regulated utility networks and regulated utility services
 - » property near regulated utility networks and regulated utility services
 - » the environment

Regulated utility services include services delivered by licensed utilities as well as unlicensed utilities such as small and medium scale electrical generation, registrable dams, some district energy services, and regulated utility services prescribed by the Minister under the UTR Act.

1.2 Licensed Utility Providers and Unlicensed Utility Providers

Within the Australian Capital Territory (ACT), some electricity, gas, water and sewerage utilities are licensed by the Independent Competition and Regulatory Commission (ICRC) under Part 3 of the [Utilities Act 2000](#) (the Utilities Act). Licensed utilities operating in the ACT during 2021–22 included:

- > Electricity transmission – [TransGrid](#)
- > Electricity transmission, distribution and connection – [Evoenergy](#)

- > Gas transmission – East Australian Pipeline Limited, part of [APA Group](#)
- > Gas distribution and connection – Evoenergy
- > Water and sewerage supply – [Icon Water Limited](#)

No additional utilities were licensed in the ACT during 2021–22.

Under Part 6 of the UTR Act unlicensed regulated utilities must hold Operating Certificates to provide services in the ACT. Operating Certificates are granted by the Technical Regulator. Unlicensed utilities include solar farms, the owning of registrable dams, the light rail network, and the Inner North Reticulation Network (INRN) – an existing recycled non-potable water network.

1.3 Utility Compliance

UTR was generally satisfied with the level of compliance by all regulated utilities of the ACT during the 2021–22 reporting period. While there were minor areas of non-compliance with Technical Codes, none were deemed serious enough to warrant the issue of a direction by the Technical Regulator under section 18 of the UTR Act.

The following issues have been identified in this report and will be closely monitored by the Technical Regulator to ensure improvement.

Electricity – Distribution and Transmission (Evoenergy)

- > Progression of revision of the Emergency Management Plan to improve prioritised 11 kV feeder load shedding arrangements and loss of zone substation response preparedness.
- > Reporting of emergency events and auditing operational documents.
- > Reporting of notifiable incidents.
- > Ongoing improvement in accuracy and quality of data provided by Evoenergy.
- > Focus to address continued improvements in network safety management systems and associated incident analysis and risk treatment, power quality strategies and overhead service line insulation condition monitoring.
- > Management of voltage related issues at customer premises.



Electricity – Transmission (Transgrid)

- > No significant issues.

Gas

- > Focus to address continued improvements in incident reporting, pipeline easement management, site location services, gas asset location mapping, and metering equipment data.

Water

- > Accuracy and completeness of Icon Water long-term Service Capability Projections for its water and sewer networks.
- > Under performance of the secondary biological treatment process at the Lower Molonglo Water Quality Control Centre (LMWQCC).
- > Icon Water's current review of sewer master plans for its sewer network and treatment facilities.

Dams

- > An industry wide shortage of dams' engineers delaying programmed works to demonstrate the safety of dams.
- > Opportunities for refining Dam Safety Emergency Plans to meet State Emergency Service requirements for improving community safety.

The Technical Regulator had no compliance issues with unlicensed utilities during the reporting period.

2. Technical Code Review Progress 2021–22

Following the commencement of the UTR Act, a major focus of UTR has been a thorough revision of Technical Codes under the UTR Act.

Revision of the Codes spans each of the licensed utility sectors (electricity, gas and water) with the objective of rationalising existing disparate and contradictory codes and incorporating consistency of general requirements across all sectors. Provision will be made for sector-specific requirements where appropriate. UTR specifically recognises the opportunity of working with industry to create a new regulatory framework.

The development of Technical Code reviews during the reporting period is as follows.

- > Significant engagement took place between UTR and Evoenergy to revise gas technical codes. [The Gas Metering Code 2021](#), [The Gas Safety and Network Operation Code 2021](#) and [the Gas Service and Installation Code 2021](#) were revised and came into effect in September 2021.
- > In consultation with Major Projects Canberra (MPC), TCCS and Canberra Metro, UTR developed revised light rail technical codes. [The Light Rail Regulated Utility \(Electrical\) Network Boundary Code 2021](#) and [the Light Rail Regulated Utility \(Electrical\) Network Code 2021](#) were revised and came into effect in August 2021.
- > The revision of [the Water and Sewerage Technical Codes](#) is in progress. Icon water and UTR has been working together to establish the parameters of revised Water and Sewerage Technical Codes.
- > The development of revised electricity Technical Codes remained on hold for the reporting period.

3. Electricity Utility Performance 2021-22—Evoenergy

Electricity utility services are provided to the ACT via TransGrid, Evoenergy and Essential Energy. Evoenergy is the main distribution network service provider in the ACT, holding a licence with the ICRC for transmission, distribution, and connection services.

In the previous reporting period UTR held concerns regarding compliance and performance with UTR technical codes, and the general accuracy and quality of data provided by Evoenergy. During 2021-22 UTR has observed little improvement in these areas by Evoenergy and thus continues to hold reservations regarding Evoenergy's management systems to improve its performance, and ensure the safe, reliable, and efficient delivery of regulated utility services.

These issues will continue to be a focus of the UTR in determining Evoenergy's compliance with the UTR Act and relevant codes. Areas of concern include incident reporting and analysis, safety management, power quality, excessive response time to address valid customer complaints, asset management, emergency management plan improvements, and inadequate and delayed responses to UTR requests for compliance and performance information.

UTR intends to facilitate additional engagement and consider the use of independent audits of Evoenergy systems in order to facilitate assurance regarding compliance.

3.1 Notifiable Incidents

Evoenergy reported the following Notifiable Incidents during 2021-22:

Table 3.1 Notifiable Incidents

Incidents	2017-18	2018-19	2019-20	2020-21	2021-22
Deaths	0	0	0	0	0
Serious property damage	0	0	0	0	0
Serious environmental damage	0	0	0	0	0
Dangerous incidents include:	73	105	314	442	335
- Fires	8	4	13	14	8
- Electric Shock	64	54	53	64	115
- Other	1	47	248	364	212
Total Notifiable Incidents	73	105	314	442	335

UTR has some reservation regarding the accuracy of the number of Dangerous incidents reported. UTR requested Evoenergy provide clarification about the reported incidents. UTR found conflicting information about the number of incidents involving defective overhead service conductors, and Evoenergy also appears to have changed reporting practices with a focus on vegetation interference. UTR requested additional information which would explain why notifiable incidents had changed and increased for some reported items, however this was not provided.

Evoenergy generally provides initial incident notification within 24 hours as required by the UTR Act. However, following initial notification about the incident, UTR has concerns around follow up reporting about incidents that could be deemed as serious incidents as defined in the *Electricity Safety Act 1971* and require additional reporting set out in the Technical Code.

UTR will consider a safety management audit that will include an assessment of Evoenergy's reporting, investigation and analysis of incidents to ensure its systems meet the requirements of the UTR Act and Technical Codes, as well as improving measures to avoid incident occurrence and risk exposure.



3.2 Pole Inspection and Maintenance

Table 3.2 Condemned power poles in Evoenergy Network

Type Of Poles	2017-18	2018-19	2019-20	2020-21	2021-22
Total number poles	50,574	50,585	50,373	50,150	50,180
- Distribution	49,101	49,112	48,896	48,636	48,703
- Transmission	1,473	1,473	1,477	1,514	1,477
Number of poles tested	13,419	10,348	11,130	9,295	10,250
- Distribution	13,198	9,984	10,774	8,535	10,250
- Transmission	221	364	356	760	0
Number of poles condemned	436	281	332	143	344
(as a % of poles tested)	(3.25%)	(2.72%)	(2.98%)	(1.54%)	(3.36%)
- Distribution	436	281	320	131	338
- Transmission	0	0	12	12	6
Number of condemned poles replaced or remediated during year	612	390	307	346	252
- Distribution	610	386	304	345	246
- Transmission	2	4	3	1	6
Number of condemned poles not replaced or remediated within required 12/24 months period	51	0	0	1	0
- Distribution	51	0	0	1	0
- Transmission	0	0	0	0	0
Dangerous poles and pole failures (requires urgent action)	0	6	0	0	0
- Distribution	0	6	0	0	0
- Transmission	0	0	0	0	0

A key risk factor to Evoenergy's operations and the community is the structural integrity of its power poles. To control this risk, Evoenergy has a rolling condition testing program for power poles. The purpose of this program is to confirm that poles in its network remain safe and structurally adequate. 'Condemned' poles are deteriorated poles that represent an increased risk to public safety and supply continuity. Evoenergy procedures require that condemned poles are replaced or remediated within reasonable timeframes. This procedure is based on the assessment by Evoenergy that if left for a longer period the risk to the community from a falling pole becomes unacceptable.

Advice provided by Evoenergy and summarised in the above table indicates that during 2021-22 Evoenergy continued to attend to condemned poles in a timely manner, and the increased number of condemned poles this reporting period compared to the previous period is due to the increased number of poles inspected from the previous year inspection short fall due to the Covid situation. Evoenergy also advised that there were approximately 2000 fewer poles inspected than planned in this reporting period due to access restrictions and the Covid situation, and that Evoenergy have engaged external service providers to assist with the overdue backlog.

UTR will continue to monitor Evoenergy's performance in managing pole safety risk, and underlying factors such as inspection frequency.

3.3 Vegetation Management and Bushfire Risk Management

An independent audit on Evoenergy's bushfire preparedness was completed in early 2021, with the audit report issued to Evoenergy in November 2021. Most of the identified non-compliances (material and nonmaterial) were associated with the following: 1. its Electricity Network Safety Management System is not adequately developed and implemented; and 2. there is an over-reliance on subject matter expert judgement without an adequately documented organisational approach.

In December 2022 Evoenergy developed a corrective action plan (CAP) to address non-compliances. Most action items of the CAP were expected to be completed by mid-2022, except for a small number which would be carried over until 2023 as these would be incorporated into Evoenergy's internal review processes which already had established timeframes.

In February 2022, Evoenergy agreed to an independent audit in July 2023 on its Electricity Network Safety Management System (ENSMS) program, following completion of its CAP. Additionally, the proposed audit will include a review of whether the completed CAP has satisfactorily addressed the previous Bushfire audit's non-conformances.

Over the Q3 and Q4 of 2021-22, Evoenergy progressively completed actions items from its CAP and notified the UTR quarterly of progress. The completed actions will be scoped to the proposed ENSMS audit for a review on efficacy.

3.4 Photovoltaic Electricity Grid Protection Requirements

Privately owned solar panels have been installed widely throughout the ACT for more than 10 years. Photovoltaic (PV) inverters are an essential component of all these installations and automatically operate to disconnect PV-generated electricity supply from the Evoenergy electricity network if supply from the grid is disrupted for any reason.

To ensure the safety features of inverters continue to operate satisfactorily in the event of a power failure in the Evoenergy grid, the Electricity Service and Installation Rules require inverters to be tested every five years to ensure they are functioning correctly and will not cause a safety hazard to the network and Evoenergy workers, or other maintenance workers in close proximity to the network such as vegetation and telecommunication workers.

According to Evoenergy there are now approximately 45,000 small scale (< 200 kVA) PV installations in the network with approximately 9000 added in 2021-22, and that 2,238 Inverters were last tested more than five years ago.

Evoenergy has advised that PV Inverter re-test reminders are sent to customers with PV installations last tested more than five years ago as they are a potential safety hazard for maintenance workers. Evoenergy has considered this safety hazard and resolved that if a customer fails to respond after a third reminder, they are instructed to have their PV installation disconnected from the electricity network.

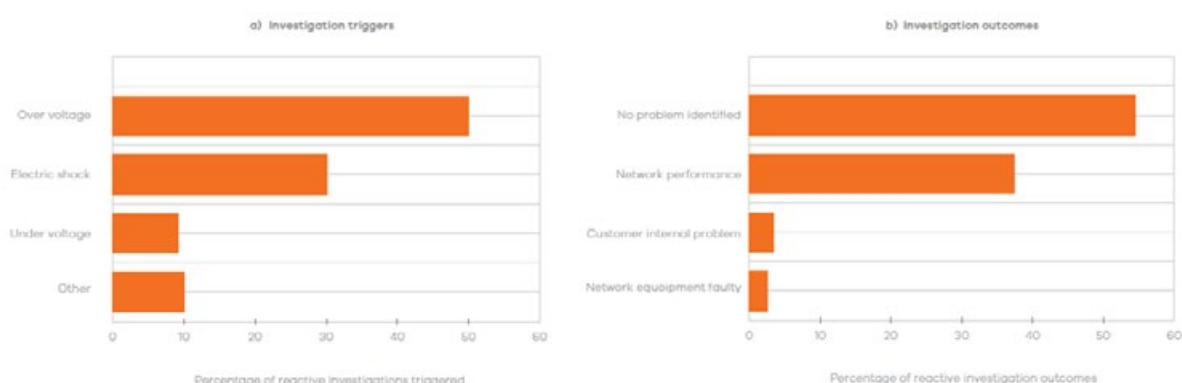
UTR will continue to monitor this progress and ensure the safety risk to maintenance workers is minimised. An ACT Civil Administration Tribunal (ACAT) hearing in 2017-18 found that Evoenergy was authorised to disconnect a particular solar system that had not been tested, however such systems are outside of the utility network boundary and Evoenergy does not work on the customer side of a meter point. UTR is currently considering how this testing practice can be enforced in law and whether the regulatory settings around this requirement are appropriate. The UTR and Evoenergy will continue to work together to develop appropriate processes to enable the safe enforcement of this compliance program.

3.5 Power Quality

[The Electricity Distribution \(Supply Standards\) Code](#) (the Supply Standards Code) sets out the requirements for safe and reliable electricity supply from the electricity distributor's network in the Territory. These requirements include consideration of different voltages parameters (such as nominal, dips, imbalance, and Earth Potential Rise), compliance with good industry practice regarding lightning, targets for supply reliability, and network monitoring for power quality.

A summary of Evoenergy's investigations for 2021-22 with regards to the issues concerning network voltage and electrical shocks is included in the Table below.

Figure 19: Power Quality Investigation (a) Triggers And (b) Outcomes For The 2021/2022 Financial Year



To proactively gauge the performance of the distribution network, Evoenergy undertakes Steady State Voltage (SSV) compliance assessments in line with the methodology set out in the Australian Standard 61000.3.100. The following table outlines SSV compliance assessment results for the last four financial years, starting 2017-18.

Table 3.5 SSV Compliance Assessment

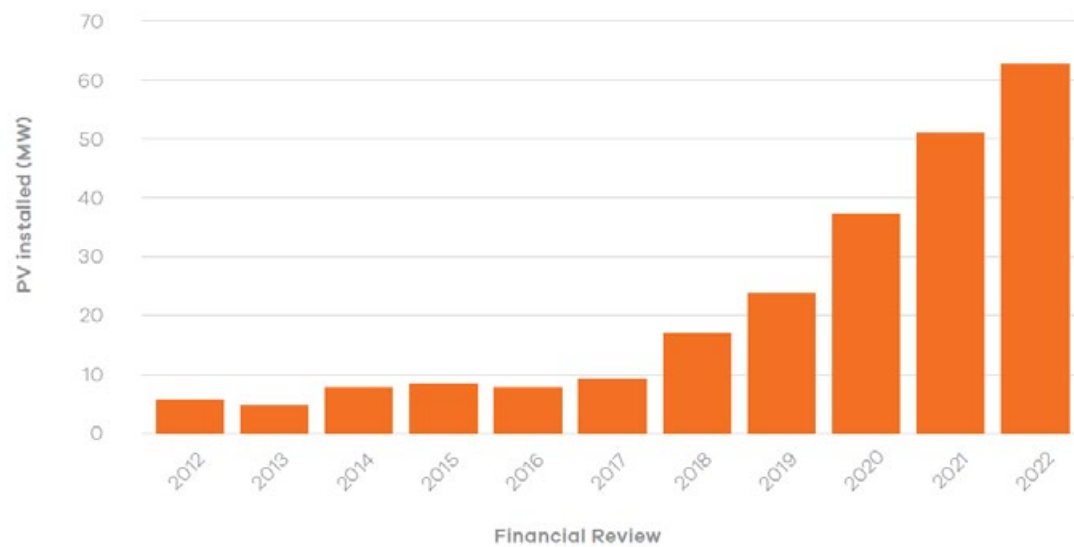
Compliance Parameter	Voltage Limit	2018/19 Random Site Survey	2019/20 Random Site Survey	2020/21 Random Site Survey	2021/22 Random Site Survey
		(measured values)	(measured values)	(measured values)	(measured values)
V99%	253 Volts	254.954 Volts	251.995 Volts	250.820 Volts	249.82 Volts
V50% (UPPER)	244 Volts	250.554 Volts	248.290 Volts	246.847 Volts	236.48 Volts
V50% (LOWER)	225 Volts	230.479 Volts	231.615 Volts	232.558 Volts	234.82 Volts
V1%	216 Volts	221.463 Volts	224.616 Volts	224.777 Volts	229.15 Volts

The SSV compliance assessment is derived from approx. 100 randomised sites (50, for the 2021-22) chosen from across the distribution network. The network performance in respect of V99% and V1% limits for 2019-20 and 2020-21 meets the respective limits from the standard. Additionally, the preferred steady state median voltage, upper (V50%), which was reported above the levels in previous financial years, is reported to meet its level for the 2021-22.

Evoenergy's electricity distribution network is experiencing increased solar PV connections (the table below shows the PV Installed capacity in MW), leading to reverse power flows conditions in some of the network (concentrated solar PV connections) and presenting voltage regulation challenges in the low voltage network. The voltage regulation challenges are exacerbated by the presence of other distributed energy resources such as residential battery energy storage systems and electric vehicle chargers.

In light of the increasing solar PV connections and reverse energy flows, it is critical Evoenergy continue to optimise the voltage management to ensure network performance continues to meet the limits set out in the relevant standard.

Figure 20: PV installed By Financial Year



3.6 Defective Neutral

Defective neutrals can be hazardous. They are of concern because they increase the risk of electric shock, personal injury, and equipment damage.

As a result of the significant increase and number of neutral defects reported in 2019-20, UTR raised concerns and Evoenergy committed to undertake an in-depth analysis of these incidents to mitigate their occurrence. Since then, the number of reported neutral defects has continued to fall.

Table 3.6 Defective Neutrals

	2017-18	2018-19	2019-20	2020-21	2021-22
Defective neutrals	18	15	88	34	25

3.7 Reliability Indicators

The Supply Standards Code sets overall supply reliability targets for Customer Average Interruption Duration per interruption (CAIDI), Interruption Frequency (SAIFI), and System Average Interruption Duration per customer (SAIDI).

As shown in Table 3.7 the target for SAIFI was met but the SAIDI and CAIDI target was not met. CAIDI is considered a secondary reliability indicator, and therefore a minor non-conformance. The results indicate that compared to the reliability targets, customers experienced supply interruptions for longer durations.

Evoenergy's explanation for this does not provide certainty for the underlying cause. Evoenergy advised that its report included outage durations due to emergency events such as storms. However, the Supply Standards Code specifically requires that such events be excluded from supply reliability reporting. Without further clarification it is not possible to ascertain the significance of the no conformance with the reliability targets.

UTR will continue to work collaboratively with Evoenergy to ensure reliability continues to be a priority for the 2022-23 period.

Table 3.7 Electricity Supply Reliability

Parameter	TARGET	2017-18	2018-19	2019-20	2020-21	2021-22
Average Interruption Duration per outage (CAIDI) minutes	74.6	126.72	96.92	114.33	110.1	136.9
Interruption Frequency (SAIFI) Number	1.2	0.79	0.95	0.72	0.75	1.2
Average Interruption Duration per customer (SAIDI) minutes	91	99.97	92.53	81.7	82.04	164.7

3.8 Emergency Planning

During 2021-22 Evoenergy submitted its annual update of the Electricity Networks Emergency Management Plan (ENEMP) as required by the [Emergency Planning Code 2011](#) (the Emergency Planning Code).

The plan submitted integrates with Evoenergy's Crisis and Emergency Management Framework and was approved as substantially meeting the code requirements. Evoenergy have not progressed revision of the ENEMP, as requested by the Technical Regulator, so as to improve prioritised 11 kV feeder load shedding arrangements, and loss of zone substation response preparedness.

Although a major element of Evoenergy's procedure for Loss of Zone Substation response preparedness is the availability of their mobile substation (MoSS), it became evident during the reporting period that the MoSS had become unavailable. Whilst there are other contingencies in the ENEMP that could cover the lack of a MoSS, Evoenergy did not update the Technical Regulator of the situation and has not confirmed a date for making the MoSS available again. UTR will continue to urge Evoenergy to repair or replace the MoSS as soon as possible and thus ensure the ENEMP is as robust as possible.

Evoenergy advised that emergency management procedures were invoked on two occasions during 2021-22 in response to incidents however no written report of these events was provided to the Technical Regulator as required by section 9 of the Emergency Planning Code. These incidents may not have been defined as an emergency and Evoenergy chose to use emergency management procedure to deal with them as an efficient management response. However, uncertainty remains as to whether these events met the definition of the emergency events defined in the Code. Furthermore, Evoenergy has not audited its Emergency Plan related documents as required by section 3.2 of the Emergency Planning Code.

UTR will continue to work collaboratively with Evoenergy to ensure these issues are progressed in 2022-23.

3.9 Electricity Network Safety Management System (ENSMS)

During the 2021-22 reporting period, Evoenergy worked toward further improving its Electricity Network Safety Management System (ENSMS) to satisfy Code requirements and associated Formal Safety Assessments for Bushfire, Environment, Loss of Supply, Worker Safety, Public Safety and Property. Evoenergy has demonstrated commitment to improve its systems, such as those for safety management and power quality to support the Electricity Safety Plan however, increased focus on improvements in incident analysis and risk treatment is required to comply with Code requirements.

UTR will continue to monitor implementation of the ENSMS and work collaboratively with Evoenergy to ensure Code compliance.

3.10 Overhead Service Conductor Insulation Failures

Around half of residential customers are supplied by an overhead insulated service conductor that is strung from a pole in residents' backyards to the house connection point. These service conductors have the potential to fail due to defective insulation.

When the insulation fails a number of symptoms may occur, for example a shower of sparks emitted can fall on and injure persons nearby, or potentially start a fire. This conductor arcing can also result in the conductor falling to the ground and remaining live in the backyard and presenting a further safety hazard to people and pets. For both single and three phase service conductor insulation failure, customers may also experience electric shocks from taps and metal appliances. UTR is not aware that Evoenergy has undertaken an analysis of its aging service conductors to understand the nature of issues being experienced with defective insulation.

During the reporting period UTR sought to understand the manner in which Evoenergy provided information about the number of incidents involving defective overhead service conductors, as it appeared that only certain types of incidents involving vegetation interference were reported and not unassisted failures. Following engagement, UTR did not receive any additional information which would have clarified UTR's query about the changed reporting of incidents relating to defective overhead service conductors. Due to uncertainty over the reporting of overhead services relating incidents, the risks arising from these services are unknown.

This issue was actively discussed during the reporting period to establish a common understanding about items that need to be reported as overhead service conductor notifiable incidents and is yet to be resolved.

Table 3.10 Overhead Service Conductor Failures

	2017-18	2018-19	2019-20	2020-21	2021-22
Service Conductor Failures	45	4	51	120	Unknown – data not provided

3.11 Network Losses

In order to demonstrate the effectiveness of Evoenergy's electrical loss minimisation and reduction processes, Evoenergy is required to submit a report under its Licence Schedule 1 section 2 issued by the ICRC. Whilst a report has not been provided to UTR it is noted that Evoenergy report to AER and AER consider the information relative to other Electrical Network providers across the country. It is an opportunity for Evoenergy and UTR to consider if the information provided to AER on the network losses matter suffice for licence reporting.

4. Electricity Transmission Service Provider Performance 2021-22—Transgrid

TransGrid's performance as a transmission utility was satisfactory during the 2021-22 reporting period. TransGrid reported being compliant with licence requirements under the Utilities Act and Technical Code requirements under the UTR Act. TransGrid had one minor non-conformance for not reporting within 24 hours the failure of a 132 kV Line due to a joint corrosion, however TransGrid have since then amended its reporting processes to avoid a re-occurrence.

4.1 Vegetation Management and Bushfire Risk Management

UTR focuses on ensuring the risk of fires originating from electricity transmission are thoroughly mitigated through utilities' planning, maintenance, and ongoing inspection regimes.

Following the unprecedented 2019-20 bushfire season, UTR sought to undertake an independent audit of TransGrid's bushfire preparedness at the commencement of the 2020-21 bushfire season, which was delayed due to high moisture content in vegetation in the ACT which would limit field inspections. UTR developed the scope of the audit and engaged AMCL Pty Ltd in 2021.

The audit found that TransGrid has a mature approach to network risk management demonstrated through its Electricity Network Safety Management System and Bushfire Formal Safety Assessment as well as documented risk controls. No major non-conformances were identified, however some minor opportunities for improvement in identification of vegetation fall-in hazards were noted.

TransGrid had an approved Bushfire Risk Management Plan in place for the 2021-22 period and confirmed that all high-risk defects were rectified prior to commencement of the bushfire season.



4.2 Performance Statistics and Notifiable Incidents

Table 4.2 TransGrid Performance Statistics and Notifiable Incidents

Transgrid Performance Statistics	2017-18	2018-19	2019-20	2020-21	2021-22
Energy not served events (reliability)	Nil	Nil	Nil	Nil	Nil
Major asset failures					
-Primary	Nil	1	Nil	3	2
-Secondary	Nil	18	8	9	1
Number of Poles/Towers					
Owned	407	414	408	421	421
Due for Test/Inspection	407	0	0	0	
-Aerial*	0	238	240	356	348
-Ground*	0	313	348	327	276
Tested/Inspected	407	0	0	0	
-Aerial*	0	238	240	356	348
-Ground*	0	313	348	313	276
Condemned	Nil	2	0	3	0
Number of Vegetation					
Encroachments	16	33	12	16	16
Encroachments not cleared prior Bushfire Season	Nil	11	Nil	Nil	Nil

*Previous data does not split test/inspections into aerial and ground.

Notifiable Incidents	2017-18	2018-19	2019-20	2020-21	2021-22
Death of a person	Nil	Nil	Nil	Nil	Nil
Serious Property Damage	Nil	Nil	Nil	Nil	Nil
Serious Environmental breaches	Nil	Nil	Nil	Nil	Nil
Dangerous Incidents					
-Fires	Nil	Nil	Nil	Nil	Nil
-Electric Shocks	1	Nil	Nil	Nil	Nil
-Other affecting the Public	Nil	Nil	Nil	Nil	1
-Other affecting Workers & Contractors	Nil	Nil	Nil	Nil	Nil

5. Gas Utility Performance 2021-22—Evoenergy

Evoenergy's performance as a gas utility was satisfactory during the 2021-22 reporting period. Evoenergy reported being compliant with licence requirements to provide gas distribution and connection services under the Utilities Act and Technical Code requirements under the UTR Act.

5.1 Ownership and Operation of the ACT Gas Distribution Network

Evoenergy is a partnership between Jemena Networks (ACT) Pty Ltd and Icon Distribution Investments Ltd. Evoenergy owns the ACT's gas distribution network, which comprises more than 4800 kilometres of network. Evoenergy's gas network asset management functions are provided under contract by Jemena Asset Management Pty Ltd (JAM). JAM in turn has a service agreement with Zinfra Pty Ltd for the provision of operations, field services and network construction activities.

5.2 Notifiable Incidents

Evoenergy reported two notifiable incidents during the reporting period 2021-22. Incidents were both a result of external factors damaging gas assets.

5.3 Compliance with Existing Codes

5.3.1 Gas Network Boundary Code

Evoenergy reported no breaches of the [Gas Network Boundary Code 2018](#) during the reporting period.

5.3.2 Gas—Safety and Network Operation Code

During the reporting period 2021-2022, Evoenergy submitted a revised Safety and Operating Plan (SaOP). The SaOP was submitted to UTR accompanied by an independent audit report and certificate of conformance as required under the Code. The certificate of conformance issued by the independent auditor states the SaOP generally conforms to the requirements of the Gas Safety and Network Operation Code.

5.3.3 Emergency Planning Code

Evoenergy submitted its annual update of the Gas Networks Emergency Management Plan as required by the Emergency Planning Code. It was reviewed by UTR and found to comply with the requirements of the Emergency Planning Code.

5.3.4 Gas Service and Installation Code

Evoenergy reported being compliant with the Gas Service and Installation Code for the reporting period 2021-2022. Evoenergy continues to work closely with the UTR to maintain quality, compliance gas meter installation practices in the ACT, demonstrating Evoenergy's on-going commitment to consumer safety.

During the reporting period Evoenergy submitted to the UTR a second revised Gas Service and Installation Rule to be reviewed for acceptance by the Technical Regulator.

5.4 Gas Metering

5.4.1 Gas meter maintenance

Evoenergy reported being compliant with meter management requirements during the reporting period.

5.4.2 Aged gas meter testing and replacement

Evoenergy undertook a review of meter populations reaching the end of their 15-year in-service life. These aged meter populations may be tested, via sample testing, for assessment as to whether their performance (e.g. accuracy and integrity) supports an extension of their in-service life ('life extension').

Testing was undertaken in accordance with AS 4944: 2006 Gas meters – in-service compliance testing.

Evoenergy lodged with UTR a 'Meter Life Extension request', which was accompanied by a Domestic, Industrial and Commercial Meter Life Extension Report. The report detailed the methodology used and justification for extending the operational life of any compliant domestic gas meters by five years beyond their 15-year life.

Evoenergy specified aged meter replacements and/or life extensions in its current year's meter management program. Evoenergy has indicated that 'in-service life extension' of 2,507 residential and 212 industrial/commercial meters and the routine replacement of aged residential meters and I&C meters are to be included in the current period's program.

5.5 Asset Management

5.5.1 Network capacity

Evoenergy confirmed the network's capacity and supply performance as being satisfactory, a result of its annual network pressure survey. Evoenergy's annual network pressure gauging programs have reported that there are no immediate supply issues in the network, with pressures within and at network terminal points being above the required minimum operating pressures.

5.5.2 Gas leakage survey

Evoenergy reported low levels of network mains leakage as an outcome of its annual network leakage survey program. Survey results also indicated that the number and severity of leaks at meter installations identified were also low, being consistent with the previous five years of reporting.

5.5.3 Pipeline protection – Cathodic Protection

Evoenergy reported as being compliant with the protection criteria under AS2832.1 Cathodic protection of metals for Cathodic Protection (CP) Systems and CP performance during the reporting period.

CP systems are required for the on-going integrity and protection of the steel network.

5.5.4 Pipeline protection – High Pressure

Evoenergy continues to implement and monitor improvements required for the management of urban development/encroachment on its pipelines, and facility locations. Improvements in such things as pipeline mapping and urban development controls (e.g. development application review and assessments, clearances, site locations and development proponent liaison processes etc.) have been required to further protect pipeline assets from interference and/or unacceptable increase of risk and performance.

These process improvements continue to be implemented and monitored.

5.5.5 Safety Management Systems

As a result of its internal audit and compliance regimes, Evoenergy reported two areas of minor non-compliances against its safety management systems, relating to operations and maintenance activities during the reporting period.

The nature of non-compliances reported are administrative, are recorded and are to be closed out as part of Evoenergy's on-going safety, audit and compliance regimes prescribed under its Safety and Operating Plan.

5.6 Asset Records, Data and Records Management

UTR acknowledges Evoenergy's continued work in the areas of the provision and quality of Evoenergy asset information, and that such information has improved during the reporting period.

6. Gas Transmission Performance 2020-21— Apa Group

East Australian Pipeline Limited (a wholly owned subsidiary of APA Group) is licensed for one of two transmission pipelines entering the ACT. APA Group operates and maintains the Moomba to Sydney pipeline system including the Dalton to Canberra pipeline.

In conjunction with the UTR annual compliance reporting, APA Group also submits an annual report to the NSW Regulator for the Sydney to Moomba pipeline which includes the Dalton to Canberra licensed pipeline performance information.

6.1 Notifiable Incidents

APA Group reported no serious gas accidents or incidents during the reporting period.

As a part of its commitment to public safety APA Group undertakes routine landholder and local council gas safety awareness programs. These programs seek to mitigate the occurrence of serious gas accidents or incidents.

APA Group also continues to monitor activities on, over and near the pipeline easement via aerial and land patrols to protect the pipeline from third party activities that have the potential to impact the pipeline's integrity or operation.

6.2 Gas Safety and Operating Plan

APA Group reported being compliant with the Gas Service and Installation Rules Code for the reporting period.

The Gas Safety and Network Operation Code requires APA Group to prepare and periodically update a Safety and Operating Plan (SaOP). APA Group utilises the Pipeline Management System (PMS) within the Australian Standards (AS 2885 Pipelines— Gas and Liquid Petroleum) as the basis for satisfying the requirements of the Gas Safety and Network Operation Code. APA Group's PMS details how APA Group safely operates and manages gas transmission assets. APA Group's PMS undertook an independent audit in the 2020-21 reporting period.

6.3 Emergency Planning

APA Group reported being compliant with the Emergency Planning Code for the reporting period and that its Transmission National Emergency Response Management Plan (plan) remained compliant as required by the Emergency Planning Code.

The plan was previously accepted by UTR as providing the coverage intended by the Code.



7. Water Utility Performance 2021-2022—Icon Water

7.1 Revised Water and Sewerage Utility Code Progress

UTR and Icon Water have continued working collaboratively to develop a revised Water and Sewerage Technical Code during 2021-22, with Icon Water completing a legal review of the draft content. Further discussions on the Code are scheduled to resume in early 2023, after a decision on the introduction of unit metering is made by Cabinet.

7.2 Emergency Planning

In April 2022, Icon Water submitted an updated copy of its Water Supply and Sewerage Emergency Management Plan (WSSEP) for annual review in accordance with the Emergency Planning Code. Icon Water advised that the WSSEP had undergone only minor amendments, with no need for significant changes identified over the past year. The plan met the requirements of the Emergency Planning Code and was accepted by the Technical Regulator.

Also in April 2022, Icon Water submitted annual updates of its Dam Safety Emergency Plans (DSEP) for Cotter River Dams (Corin, Bendora and Cotter), Googong Dam, the Lower Molonglo Water Quality Control Centre (LMWQCC) Bypass Storage Dam and the Water Supply Inground Reservoirs in accordance with the [ACT Dam Safety Code 2018](#) (the Dam Safety Code). The emergency plans integrate with Icon Water's Australasian Inter-Service Incident Management System (AIIMS) and were accepted by the Technical Regulator. A draft DSEP was submitted for Stromlo Dam in accordance with the transition program for the Dam Safety Code, and its acceptance is under consideration by UTR.

Via meetings with ACT Dam Owners and the ACT State Emergency Service, UTR has determined that across ACT, Dam Owners are maturing in their outlooks to DSEPs, with Icon Water having well developed DSEPs. UTR will continue to work with all Dam Owners on the amendment and submission of DSEP's, with the aim of receiving approvals of all necessary emergency agencies with the submission of the DSEPs to the Technical Regulator.

7.3 Emergencies and Notifiable Incidents

7.3.1 Territory Declared Emergencies

COVID-19 Pandemic

Icon Water satisfactorily managed challenges presented by the Covid-19 Pandemic over the reporting period, including the 10-week lockdown occurring from mid-August to the end of October 2021. While the lockdown had a significant impact throughout the ACT, it did not impact on Icon Water's delivery of water and wastewater services to the community.

Lingering impacts of the pandemic can be seen in the Liquid Trade Waste and Dam Safety areas of Icon Water and are discussed in sections 7.6, 8.1 and 8.4. UTR is monitoring the recovery of the business to normal operating conditions during liaison meetings with Icon Water.

7.3.2 Notifiable Incidents

During the reporting period, UTR were advised of 13 incidents, including several notifiable incidents under the UTR Act. Details of the most significant incidents are given below:

- a) Controlled Release of Partially Treated Sewage from the Bypass Storage Dam

Three overflows of partially treated sewage occurred from the Bypass Storage Dam at LMWQCC to the Molonglo River as noted in Table 7.3.1. These followed one overflow event in 2020. In all cases, a rain event, in already saturated catchments, resulted in a significant increase of inflow and infiltration into the Canberra sewerage network (CSN) and in turn LMWQCC. All incidents were reported to the EPA and other relevant stakeholders as required. Notwithstanding the presence of La Niña conditions across Australia, four overflow events in two years is well above the once in 6 years on average for such overflow events agreed with the EPA. These incidents are discussed further in Section 7.4.3.

Table 7.3.1: Details of Bypass Storage Dam Overflow events at LMWQCC in 2020-22

Dates of Overflow Events	Rainfall during event (mm)	Max. sewage inflow during rain event (ML/day)	Max. volume sewage treated and discharged at outfall (ML/day)	Total volume of partially treated sewage overflowing Bypass Dam (ML)
8 – 10 August 2020 ¹	45	329	152	114
4 – 6 September 2021	50	252	150	20
12–14 November 2021	50	238	154	50
25–27 November 2021	39	278	143	79

1 Overflow from previous reporting period

b) Sewage Pumping Station (SPS) Malfunction

At 4am on 1 October 2021, a local computerised controller at the Lower Stranger SPS, Bonython, failed in a manner not seen previously by Icon Water staff or the manufacturer. Due to the nature of the failure, it was not reported as an alarm on Icon Water's Supervisory Control & Data Acquisition (SCADA) system, which is monitored continuously, and so Icon Water did not respond. The SPS subsequently started to overflow raw sewage into the adjoining Lower Stranger Pond. Once Icon Water attended site approximately 48 hours later, the issue was rectified within the hour. Icon Water estimated that 700 kilolitres of raw sewage overflowed directly into Lower Stranger Pond. The EPA were notified immediately as required by Icon Water's Environmental Protection Agreement for the sewer network. The EPA attended site and took action to warn the public to avoid primary contact with the pond water. Modifications to alarm systems have since been made to reduce the likelihood of this type of failure occurring again. Service capability criteria for SPSs are discussed further in Section 7.4.4.

c) Chlorine Gas Leak at Googong Water Treatment Plant (WTP)

On 3 March 2022, during treatment plant startup activities, Icon Water staff identified a chlorine gas leak at the Googong WTP. Chlorine gas used at the WTP had leaked from the chlorine dosing system, but was below Safe Work Australia exposure standards. As Icon Water staff had appropriate personal protective equipment, they were not exposed to the gas, and there was no potential harm to the public. Since Stromlo WTP was operational at the time there was no interruption in drinking water production. The incident was reported to WorkSafe ACT, and Icon Water subsequently undertook an investigation into the root causes of the incident.

d) Water contamination Incident at Latham

On 24 March 2022, Icon Water reported that an incident with potential to lead to contamination of the water supply had occurred in Latham. The incident resulted from a sewer rising main being struck during the repair of a leaking water main. Icon Water investigated the incident, with subsequent laboratory testing confirming that no contamination had occurred. The incident was reported to ACT Health, and Icon Water subsequently undertook an investigation into the root causes of the incident. It also resolved to update procedures to ensure that future risk of this type of incident recurring is minimised.

7.4 Sewage Service Delivery Targets and Performance

7.4.1 Targets

One of the most significant environmental risks that Icon Water manages is the uncontrolled release of raw sewage, given the potential environmental and health impacts of such releases. The Environmental Management Plans for the network and LMWQCC agreed with the EPA provide for the following capacity-based targets for the sewerage system:

- Convey any sewage flows up to a 1:10 average recurrence interval (ARI) rain event within the sewer¹.
- Controlled release of partially treated effluent from the bypass storage dam at LMWQCC should occur not more frequently than once in 6 years on average.

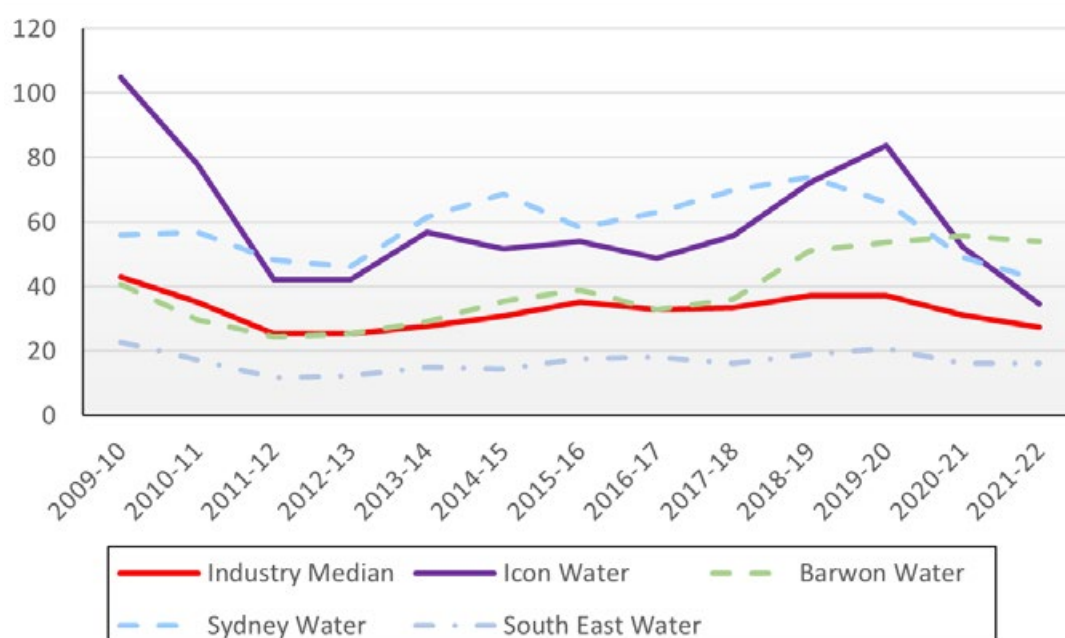
Icon Water's asset management target for the sewer network is that less than 66 breaks and chokes per 100 kilometers of sewer network occur annually on a five-year average. Sections of the network experiencing the highest rate of breaks or chokes historically or experiencing multiple breaks or chokes in a single year are generally considered for renewal under the sewer renewal program. Icon Water suspended its sewer network renewal program in 2020-21. The quantum of renewals is expected to be caught up in 2023-24 and the program will continue through the 2023-28 regulatory period.

7.4.2 Sewer Network Performance

a) Sewer Breaks and Chokes

In Canberra, the incidence of sewer main breaks and chokes increases during extended dry weather and drought conditions. In drought conditions, many trees will seek out moisture, and their roots can enter the sewer system, causing chokes (blockages) and breaks (cracks in pipes). Icon Water advises that almost 90% sewer breaks and chokes are caused by tree roots. Increased rigidity and ground movement of the soil around the sewer pipes can also increase the likelihood of pipes cracking. Figure 7.4.1 shows the trends in rates of sewer breaks and chokes for major Australian urban utilities.

Figure 7.4.1: Sewer breaks and chokes per 100 km for Major Urban Utilities



¹ Bureau of Meteorology, National Performance Report 2020–21: urban water utilities, Part B, February 2022 (ISBN: 978-1-925738-36-0) Industry Median for Major Utilities (100,000+ connected properties)

¹ There are, however, areas of the trunk network that were constructed prior to the existence of these standards. The majority of these sewers are of sufficient depth that surcharging can generally occur without risk of sewer overflow to the environment (Canberra Sewer Network Environment Management Plan)

Figure 7.4.1 shows

- > The industry median of sewer main breaks and chokes for Major Urban Utilities is well below Icon Water's target and historic average.
- > At the end of the drought in 2020, Icon Water's rate of breaks and chokes reached a recent historic high, and were above the target for the sewer network.
- > Under the La Niña climatic conditions of the past two years, Icon Water's rate of breaks and chokes progressively decreased to well below the target for the sewer network with 2021-22 reporting the lowest rate of sewer breaks and chokes for Icon Water since the National performance report commenced reporting.
- > In 2021-22, Icon Water had the fifth highest incidence of breaks and chokes amongst Major Urban Utilities, just above the industry median. This is an encouraging outcome.

Overall, the performance of the sewer network is most probably attributable to ground conditions and the age profile of Icon Water's sewer assets. UTR is not aware that Icon Water sewer maintenance practices are significantly different to other urban utilities. Icon Water will need to continue to review its design standards and maintenance practices periodically to enable long-term sustained reductions in the sewer breaks and chokes rate. A lower rate of break and chokes is likely to be beneficial in prolonging asset life of pipes in the sewer network.

a) Sewer Network Overflows

The sewage overflow events over the last six reporting periods are given in Table 7.4.1.

Table 7.4.1: Sewage overflow events

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Reported to EPA	17	33	46	40	17	294
With cause undetermined	46	45	52	477	233	43
Total	1320	1577	2155	1929	1201	956
Properties subject to repeat overflows	350	420	592	829	506	226

Table 7.4.1 shows that the total number of sewage overflows events from the sewerage network decreased during the reporting period. Icon Water advises that the significant decrease in the number of overflows with undetermined cause is due to more accurate and detailed reporting by field staff of the cause of sewer breaks and chokes. The increase in number of events reported to the EPA is due to a change in the categories included in the figure rather than any sudden change to the performance of the sewer network.

7.4.3 Sewage Treatment Plant (LMWQCC) Performance

As reported in Section 7.3.2, three overflows of partially treated effluent occurred from the LMWQCC bypass storage dam to the Molonglo River during the reporting period. This was in addition to the incident in the previous reporting period.

As agreed with the ACT community in the early 1990's and noted in the Service Delivery targets in 7.4.1, overflows from the LMWQCC bypass storage dam should occur not more frequently than once in 6 years on average. Although currently experiencing La Niña climatic conditions, four events in two years are an indication that parts of LMWQCC are operating close to or beyond their service capability during wet weather. The capacity limitations at LMWQCC were first reported in the *Icon Water LMWQCC Canberra Sewerage Strategy 2010-2060*, where a capacity upgrade was recommended to occur by 2023. Icon Water has proposed this capacity upgrade as one of its major projects for the 2023-2028 Regulatory Period. Construction is scheduled for commencement in 2026 with commissioning anticipated around 2028. Therefore, if La Niña conditions prevail, bypasses of partially treated sewage from the bypass storage dam to the Molonglo River are likely to continue regularly during the more significant winter and spring rainfall events until the upgrade is commissioned.

Service capability criteria noted for the secondary and tertiary elements of LMWQCC in the *LMWQCC Canberra Sewerage Strategy 2010-2060* is that these elements of the plant should be capable of processing up to 300 ML/day during wet weather events (3 x Average Dry Weather Flow) without diversion to the bypass storage dam. During the three rainfall events in 2021 which resulted in overflow from the bypass storage dam, the plant processed and discharged via the outfall only 143 – 154 ML/day, well below the noted service capability criteria. This supports the fact that augmentation of the secondary treatment system is needed now to restore service capability criteria, and so that the average frequency of overflows of the bypass storage dam also meet criteria agreed with the Canberra public.

7.4.4 Sewage Pump Station Service Performance

As noted in section 7.4.1, the Environment Management Plan for the sewer network agreed between Icon Water and the EPA, indicates that elements of the sewer network should contain flows up to a 1:10 ARI rain event when operating at full capacity. Although experiencing a major overflow event during the reporting period (see Section 7.3.2 above), the Lower Stranger SPS probably also meets this broad service capability criteria agreed for the sewer network.

For SPSs to achieve the service target set for the sewer network, a subset of service targets pertinent specifically to SPSs is needed. The subset includes criteria around power supply and pump control system reliability, pump capacity, standby pumping availability and SPS wet well volume.

UTR has followed up the incident at Lower Stranger SPS by asking Icon Water about service capability targets and capability for all 27 SPSs across ACT to confirm compliance with Icon Waters service capability criterion for the sewer network agreed with the EPA. Non compliances will be documented in Icon Water's Sewerage SCPs to be prepared during 2023.

7.4.5 Monitoring Systems for Sewerage Network

With Icon Water needing to plan for major investments to augment trunk sewers in North Canberra and elsewhere to continue to meet service capability requirements, UTR is keen that Icon Water expand monitoring technology to confirm capacity at critical points of the existing sewer network. The benefits are that Icon Water can at comparatively small cost:

- > Provide additional monitoring data to aid in the decisions regarding the timing of augmentation of major sewer assets. This is consistent with the objectives of the UTR Act which requires Icon Water ensure the safe, reliable and efficient delivery of sewerage services.
- > Allow for recalibration of the sewer network hydraulic model, enabling greater confidence in determining if the network can meet its required level of service and assist in identifying timing for future augmentations, or need for renewal.
- > Have more accurate knowledge around the frequency and volume of sewer overflow events, in the trunk section of the sewer network, at designated sewer overflow points and SPSs, resulting in Icon Water having improved ability to manage environmental outcomes.

7.5 Network Design and Maintenance Code

7.5.1 Review of Service Capability Projections (SCPs)

[The Water and Sewerage Network \(Design and Maintenance\) Code 2000](#) (the D&M Code) prescribes minimum standards for the design, construction, operation and maintenance of Icon Water's water and sewerage networks. It also requires Icon Water prepare Service Capability Projections (SCPs) for the water and sewerage networks so that it can demonstrate that it is able to reliably and efficiently deliver water and sewerage services to customers, now and into the future in accordance with agreed service standards. SCPs recognise the need to provide for:

- > Augmentation of water and sewer networks as the population of Canberra increases;
- > Provision for renewal of existing assets, when they reach the end of their service life; and,
- > Changed service capability requirements, some of which may be the result of changed regulatory requirements.

The D&M Code requires that Icon Water review SCPs at 5 yearly intervals to ensure their continued relevance, with the next updates scheduled for 2023. Icon Water has committed to ensuring that the content of 2023 SCPs responds to requirements of both the Water and Sewerage Capital Contribution Code, and the D&M Code. Historically Icon Water has produced a 20-year Capex Plan but has not consistently finalised SCPs linking service capability criteria and asset needs.

UTR is aware of Icon Water progress in preparing the 2023 SCPs including:

- > Updating detailed design standards for the water and sewer reticulation networks;
- > Updating the basis for hydraulic design of the water network;
- > Commencing review of long-term strategic plans for water and sewer networks including treatment facilities. For example, the 2021 draft Sewerage Strategic Plan initiates a review of the Canberra Sewerage Strategy 2010-2060, published in 2012;
- > Preparing Asset Management Plans (AMPs) for all nine areas of the business: Sewage Collection and Transfer, Sewage Treatment Plants, Water Distribution Reticulation and Metering, Water Sources, Water Treatment Plants, Non-drinking water, Land and Buildings, ICT and Fleet. These plans will be reviewed by UTR in the next regulatory period; and
- > A commitment to prepare and publish detailed developer-centric Growth Service Plan for the water and sewer reticulation network by March 2023. While these documents primarily focus on providing information for Developers and planning agencies to improve visibility of planned infrastructure upgrades, UTR envisage that this will be part of the suite of planning documents which meet the obligations of the D&M Code.

Collectively these documents indicate that Icon Water is well placed to finalise updated SCPs in 2023.

7.6 Liquid Trade Waste

Icon Water has a legal requirement to manage discharge of Liquid Trade Waste (LTW) to protect public health, safety of personnel, the environment and Icon Water's sewerage infrastructure and operational processes.

7.6.1 Liquid Trade Waste Monitoring in 2021-22

A summary of reported LTW customer numbers for the last four years is included in Table 7.6.1. The table shows similar figures for 2020-21 and 2021-22. Icon Water have advised, as part of their ongoing review of customer data, they have identified that there could be as many as 1300 to 1700 unapproved customers missing from Icon Water's data base of LTW customers. It should be noted that this number was impacted by having two COVID impacted years where Icon Water was unable to actively inspect customers and capture new customers.

Table 7.6.1 Liquid Trade Waste Customers reported

	2018-19	2019-20	2020-21	2021-22
Liquid Trade Waste Customers	5,194	2,158	2,522	2,559
Sites with Grease Interceptor Traps	1,695	1,295	1,502	1,474

The impact that was experienced due to the Covid-19 shutdown on Icon Water's LTW inspection program continues to be impacted by staff shortages.

During the reporting period,

- > 52 LTW customer site inspections were completed, a halving from the 110 completed in the prior reporting period.
- > High-risk customers accounted for 22% of all site inspections.
- > The rate of site inspection of high-risk customers halved from the previous reporting period, equivalent to inspection of these customers premises only once in 5 years.
- > 45% of high-risk customer inspections were identified as non-compliant.
- > Overall, 29% all site inspections undertaken were identified as non-compliant.

- > Of the 15 customers inspected which were noted as non-compliant, only 1 (7%) had the issue resolved during 2021-22. This outcome follows on from 2020-21 when there were 57 reported unresolved non-compliances from a total of 72 non-compliant LTW customer inspections.

With the current poor rate of LTW customer compliance, the high-risk customer cohort should be inspected at least annually, and until compliance is consistently above 90%. UTR understand that this is reflected in Icon Water's current and future programs. Improved management of performance of low and medium risk LTW customers is also needed. Icon Water have developed a standard that is consistent with industry practice; once implemented this will see improvements in these areas of concern. Recommended practice across rural NSW is that LTW customer's premises are inspected at least annually, and more frequently for high-risk customers or where noncompliance is evident. For food preparation premises where a waste tracking system is not in place, there is a recommendation that premises are inspected at least once a year.

UTR notes an opportunity for considerable improvement in Icon Water's management of its LTW customers.

7.6.2 Liquid Trade Waste Roadmap

Icon Water has embarked on a project to overhaul its current LTW management practices, with a goal to improve the LTW compliance framework, and ultimately LTW customer compliance. In 2021-22, it undertook a number of activities, culminating in the following outcomes.

- > Preparation of LTW Policy and Guidelines.
- > Improvements to data collection and collation.
- > Improvements in knowledge of the impact of LTW.
- > Input to development of future LTW regulatory obligations in the draft Water and Sewerage Technical Code.

One aspect of its information discovery for the LTW project is the understanding that LTW could contribute 20% – 30% of total flow to LMWQCC. With Icon Water planning to undertake major capital upgrades at LMWQCC during the 2023-28 Regulatory Period, it is appropriate that it consider how LTW customers could contribute fairly towards the cost of treating LTW.

7.7 Water Network Design

The mains network supplying water throughout the suburbs of Canberra supports multiple uses, notably water for drinking, washing, bathing, commercial uses, irrigation of gardens and firefighting. There are several specifications the network attempts to meet based on these various uses.

In 2015-16, Icon Water first advised that it was unable to provide full fire flow capability to approximately 4,000 water customers (~3%) across ACT as required by its agreement with the ACT Fire and Rescue (ACTF&R). In the intervening years Icon Water has deliberately acted to correct the situation. During 2021-22 Icon Water reported that it had completed actions agreed with UTR to rectify identified deficiencies in the water reticulation network and with water network planning practices.

- > Icon Water has replaced approximately 23km of undersized or unlined water mains in the inner north and south of Canberra as well as augmenting some mains in Pialligo.
- > Icon Water has created new hydraulic models for its water network which are consistent with industry standards of other Australian major urban water utilities.
- > Icon Water has revised its basis for design of the water network recognising a significant reduction in per capita water consumption since the 1970's. This mirrors a national trend in Australian water utilities.
- > Icon Water has subjected the updated basis for design and modelling practices to independent peer review, which verified these as appropriate.
- > Icon Water has negotiated an update to the agreement with ACTF&R, including adopting the basis for the agreed levels of service to the ACTF&R for the water network that better aligns with Australian Standards.
- > The project was completed with the publication of the revised hydraulic basis for design of the network and signing a new agreement with ACTF&R in 2022.

UTR is encouraged that after the major non-compliance of approximately 4,000 water customers was identified, Icon Water committed to progressively investigating inadequacies in the water network as well as undertaking network performance verification practices.

Six sections of local water network were identified as non-complying with ACTF&R requirements in 2020-21 and were again reported as non-compliant in 2021-22. A total of 39 customers are impacted. Icon Water advises that all sites will be rectified by 2025.

7.8 Non-drinking Water

Icon Water currently operates one reuse scheme which sells very small volumes of recycled water from LMWQCC to a single customer from a recycled water pipeline along Stockdill Drive in Holt.

In 2021-22 the total volume of recycled water sold by Icon Water was 18.5 Megalitres. This is equivalent to approximately 15% of the volume of potable water supplied in a single day to Canberra. Recycled water sold by Icon Water is not a significant component of the urban ACT Water cycle.

When Canberra experiences extended droughts such as the Millennium Drought of 2000-2010, the ability to recycle treated effluent would assist with sustaining the supply of potable water to Canberra. Icon Water's Drought Management Plan identified the need to consider all available supply options including purified recycled water, which uses advanced treatment processes to produce water from treated effluent that meets drinking water quality standards.



Stromlo water treatment plant (copyright Icon Water)

8. Dams Regulation 2021-22

Section 57 of the UTR Act defines dams greater than 5 metres high or with storage volume larger than 250 Megalitres as ‘registrable’ dams. There are 41 such existing dams in the ACT as noted on the [ACT Register of Dams](#), plus two dams currently in the planning and design phase which will transfer to TCCS upon commissioning. The Technical Regulator has determined 33 of these dams as ‘listed dams’ in accordance with section 69 of the UTR Act. Listed dams are dams that the Technical Regulator considers present a risk of significant adverse effects on the community in the very rare event of failure of the dam. Existing registrable and listed dams regulated by UTR are noted in Table 8.1.

Owners of listed dams must comply with all requirements of the [Dam Safety Code 2018](#). The Dam Safety Code sets out minimum requirements for design, construction, commissioning, operation, maintenance, monitoring, surveillance, and reporting to ensure listed dams meet the objectives of the UTR Act, and that risk to the ACT community is acceptable.

The Dam Safety Code requires owners of listed dams to conduct an ongoing surveillance and monitoring program for the dams to demonstrate to the Technical Regulator their continuing safety. Using a risk-based approach, the required frequency of surveillance, monitoring and reporting is more stringent for higher risk dams and is consistent with the [Australian National Committee on Large Dams](#) (ANCOLD) Guidelines.

There are three owner operators of existing listed dams in the ACT as noted in Table 8.1 below.

Table 8.1: Existing Registrable and Listed Dams regulated by UTR

Dam Owner	Registrable Dams	Listed Dams
Icon Water	18	16
ACT Government (Transport Canberra and City Services)	21 ¹	15 ¹
Queanbeyan Palerang Regional Council (QPRC)	2	2
National Capital Authority (NCA)	12	-

Note 1: Two new registrable dams currently in the planning and design phase will transfer to TCCS upon commissioning and may be listed depending on their assigned consequence category.

Note 2: Scrivener Dam is self-regulated by the NCA, however, it meets the criteria for a listed dam.

8.1 Compliance with the 5-year Dam Safety Code Transition Program

The Dam Safety Code expanded the number of dams in the ACT subject to regulation from five to the current 33. Schedule 3 of the Dam Safety Code allowed owners of dams newly subject to regulation up to 5 years to demonstrate that these dams are safe. High and Extreme Consequence Category dams have a shorter permitted period to transition to the full requirements of the Dam Safety Code.

Key factors in demonstrating compliance with the Dam Safety Code are that for all their dams, owners’ have:

- > Dam safety monitoring, surveillance and reporting systems compliant with ANCOLD;
- > Dam Safety Emergency Plans (DSEPs) agreed with ACT SES, ACT Policing and accepted by the Technical Regulator; and
- > Current ANCOLD Dam Safety Reviews accepted by the Technical Regulator.

In annual returns to the Technical Regulator, dam owners have confirmed that their dam safety monitoring, surveillance and reporting practices comply with Dam Safety Code requirements.

Status of DSEPs and Dam Safety Reviews for each owner is summarised in Tables 8.2 and 8.3 below.

Table 8.2 DSEP Compliance of Listed Dams: Status by Dam owner at 30 June 2022

Dam Consequence Category ¹	Number of dams compliant with Dam Safety Code Transition Provisions			All dams at 30 June 2022
	Extreme ²	High ²	Significant ²	
Compliant DSEP ³	June 2019	June 2020	June 2022	
Icon Water	4 of 4	10 of 10	2 of 2	16 of 16
TCCS	0 of 3 ^{4,5}	0 of 6 ⁵	0 of 6 ⁵	0 of 15 ⁵
QPRC	-	-	0 of 2	0 of 2

Table 8.3 Current Dam Safety Review Compliance of Listed Dams: Status by Dam owner at 30 June 2022

Dam Consequence Category ¹	Number of dams compliant with Dam Safety Code Transition Provisions			All dams at 30 June 2022
	Extreme ²	High ²		
Compliant Dam Safety Review ⁶	June 2020	June 2022		
Icon Water	4 of 4	2 of 10 ⁷		6 of 14
TCCS Dam8	0 of 34	2 of 6		2 of 9

Note 1: Risk to the downstream community in the very rare event that the dam was to fail. Category determined in accordance with ANCOLD Guidelines and noted on the [ACT Register of Dams](#). Consequence Categories of most dams are under review and changes to a number of Consequence Categories are under consideration by UTR.

Note 2: Compliance timeframes are prescribed in Dam Safety Code Schedule 3.

Note 3: A compliant DSEP is one that is accepted by ACT State Emergency Services and the Technical Regulator.

Note 4: TCCS review of the Consequence Categories of its dams proposes Extreme Consequence Category dams being reclassified to High Consequence Category, pending acceptance by the Technical Regulator.

Note 5: TCCS have submitted a draft DSEP covering numerous dams, but it has not been accepted by the parties in Note 3.

Note 6: A dam safety review is compliant with the Dam Safety Code if it is prepared in accordance with ANCOLD Guidelines, accompanied by an independent peer review report and submitted within one month of completion. .

Note 7: Icon Water review of the Consequence Categories of its dams proposes a number of High Consequence Category dams being reclassified as lower Consequence Category dams, pending acceptance by the Technical Regulator.

Note 8: TCCS has submitted Dam Safety Reviews for all Extreme Consequence Category dams (refer note 4) but these have not met all criteria of Note 6.

All dam owners in the ACT are willingly working to Dam Safety Code requirements. In June 2023, the Dam Safety Code transition Schedule 3 transition period will conclude, with Dam Safety Reviews for Significant Consequence Category Dams becoming due. However, both Icon Water and TCCS have notified UTR that they are having difficulty meeting aspects for completion of Dam Safety Reviews at least in part because of the difficulty in procuring specialist dam safety engineering services, an impact that has been compounded by travel restrictions during the pandemic shutdowns. This shortage is likely to persist for some years, and accordingly UTR will review with dam owners the required schedule for compliance with Dam Safety Code dam safety reviews in the next reporting period.

8.2 Review of Consequence Category Assessments

Following approval of the Dam Safety Code in 2018, both Icon Water and TCCS embarked on a rigorous review of Consequence Category Assessments (CCA) for their dams. UTR consider this to be a prudent response to approval of the Dam Safety Code, so that these utilities are confident that they are not overinvesting in their dams either by way of regular surveillance and monitoring cost, or the need for future investment in the dams to bring them into alignment with ANCOLD requirements. The process of review has been difficult for UTR, as it has endeavored to confirm a consistent basis for CCA of dams. This is an issue common to all dam regulators across Australia.

UTR is encouraged that both Icon Water and TCCS, as owners of most dams in ACT, have been willing to work with UTR to confirm the future basis for assessment of CCA.

As the review has progressed, it has become evident that a number of dams will be reclassified to a lower Consequence Category, although a few will be reclassified to a higher Consequence Category. Some dams will cease to be listed dams, and no longer subject to UTR regulation.

UTR anticipates that the review will be completed in 2023 with a recommendation to the Technical Regulator of an updated CCA for each dam currently on the ACT Dams Register.

8.3 Reported Dam Safety Incident for 2021-22

Dam owners are required to report identified dam safety deficiencies and incidents to the Technical Regulator within 24 hours of detection. Only one dam safety incident was reported during the period. This was a white incident (the lowest category of incident) occurring at TCCS's West Belconnen dam in November 2021. This dam has a CCA of Low and is not a listed dam. Surface blisters were identified at the toe of the dam, and TCCS responded by placing sandbags on the spongy areas and drafting plans to install dam filters to manage seepage. An incident closure report should be available shortly.

8.4 Icon Water Dams

Table 8.2 above shows that Icon Water is fully compliant with its annual DSEP updates. Whilst ACT SES is seeking further refinements, the existing plans have been accepted as being suitable for use in an emergency.

Table 8.3 above shows that Dam Safety Reviews have been completed for 6 of the 14 listed dams. Dam Safety Reviews for the dams subject to the Dam Safety Code provisions are currently being progressed. Icon Water has advised that all will be provided as draft by the end of 2023. The difficulty in obtaining suitable consultants to complete dam safety reviews and lingering impacts of Covid-19 are impacting Icon Water's ability to meet the Dam Safety Code transition schedule.

As noted in the 2020-21 Annual Report, an independent auditor engaged to review Icon Water compliance has noted that "The overall standard of the dam safety management processes and conformance to ANCOLD Guidelines — and the ACT Dam Safety Code and NSW Dams Safety Regulations—is high."

The Dam Safety Review of Bendora Dam was originally scheduled by Icon Water for completion by mid-2021. However due to delays associated with Covid-19 and difficulties obtaining specialist dams engineering input, the review is now expected to be available as draft for review in June 2023.

A small storage pond at the Stromlo Water Treatment Plant (3.4 Megalitres) has known foundation deficiencies. Icon Water had indicated it would complete an options analysis to determine how the requirement for storage of waste product water can best be safely met in the future. The report has not yet been received by UTR. Most recently Icon Water has indicated a completion date for the options report in 2023.

8.5 ACT Government Dams

TCCS is the operational custodian of registrable and listed dams on behalf of the ACT Government under a Provision of Service Operating Certificate which sets out how TCCS will manage and maintain these dams to ensure that they do not present an undue risk to the ACT community.

TCCS dams were first subject to regulation under the Code in mid-2018. TCCS is working to transition to full compliance with the Dam Safety Code within the five-year transition permitted by Schedule 3 of the Dam Safety Code.

Key achievements and issues for the reporting period are as noted below.

- > The program to revise the CCAs for their portfolio of dams to ensure that they are not overinvesting in their dams in terms of regular surveillance and monitoring cost, or the need for future investment in the dams to bring them into alignment with ANCOLD requirements.

- > Continued work on the draft single DSEP to meet the requirements of ACTSES. Due to the number of dams in the TCCS portfolio requiring a DSEP, TCCS have engaged consultancy services to provide the required information.
- > Submission of a Dam Safety Review for the Southwell Park Retarding Basin.
- > Submission of Dam Safety Reviews for Ginninderra, Gungahlin and Yerrabi Dams.
- > Completion of the Point Hut Dam Safety Review; with the report to be submitted to UTR shortly.

UTR is presently working with TCCS on the submission of Dam Safety Reviews in accordance with the Dam Safety Code requirements. This includes the submission of a transmittal letter indicating TCCS's response to the independent peer review report, and measures that will be undertaken to rectify any dam deficiencies.

8.6 QPRC DAMS

The Provision of Service Operating Certificate for the Queanbeyan Sewage Treatment Plant Maturation Ponds 2 and 3 (the Ponds) was issued in January 2021. The Ponds are Listed and have a Significant Consequence Category because of the potential environmental impacts that could occur in the event of a failure. The key focus of the Operating Certificate is managing the operation of the Ponds to minimise the risk of pond wall collapse during the remaining 3-4-year service life, until the Ponds are decommissioned on the completion of the planned new sewage treatment plant.

Vegetation clearing and other works undertaken on the downstream faces of the embankments in 2020-21 appears to have stabilized the condition of the Ponds, however, leakage continues through the embankments.

UTR holds concerns relating to the management of water levels in the Ponds during high inflow events to the sewage treatment plant and the extra load this imposes on the embankments and leakage rates. UTR anticipates receiving the required Operation and Maintenance Manual and DSEP for the ponds in 2023.



Inner North Reticulation Network - Flemington Road Pond - Filtration

9. Unlicensed Regulated Utilities

9.1 Stormwater Harvesting Network

The Inner North Reticulation Network (INRN) is a significant stormwater harvesting and irrigation scheme, utilising public assets under the control of TCCS to supply water for irrigation purposes. Water supplied to customers in the inner north suburbs via the INRN infrastructure includes clubs, several playing fields and schools. In addition, water is supplied from a standpipe to various construction contractors via trucks for construction purposes, including dust suppression and tree watering. Further details on the INRN area available from this link: [Inner North Reticulation Network](#). INRN is exempt from the requirement for a licence under Section 22 of the Utilities Act, and operates under a Provision of Service Operating Certificate, as required by the UTR Act.

TCCS has reported that all actions in the Implementation Plan (developed in 2020 at the time of issue of the revised Provision of Service Operating Certificate) have been completed. The Implementation Plan was developed based on recommendations by the independent certifier and liaison with UTR to enhance the INRN's compliance with Operating Certificate requirements.

During the reporting period,

- > An annual report on the operation and maintenance of the INRN was received as required under the Provision of Service Operating Certificate.
- > The INRN supplied 22 ML of pond filtered water and 12.4ML of aquifer sourced water to its customers and injected 109 ML to the aquifer.
- > The monitoring program showed that microbiological water quality indicators were out of range in 13 water samples collected from across locations of the INRN during year. Customers and relevant regulatory bodies were notified and further actions in accordance with the Regulatory Plan were undertaken by Roads ACT to mitigate the impact (for example when results of Flemington Pond exceeded the threshold, pumping ceased from the pond, and high quality water from the aquifer was supplied instead).

- > TCCS operated, maintained, and modified aspects of the INRN network in accordance with the approved Regulatory Plan including water monitoring requirements.

9.2 QPRC Sewerage System in ACT

QPRC has a number of sewerage assets located in the ACT, including trunk sewers connecting the NSW QPRC sewerage network to the QPRC sewage treatment plant which is also located in the ACT.

In February 2021 the Minister granted an exemption to QPRC for the requirement for a licence for the provision of sewerage services in the ACT under the Utilities Act 2000. A condition of this exemption was that QPRC apply for a Provision of Service Operating Certificate for the existing QPRC Sewerage system in the ACT. The application for the Provision of Service Operating Certificate together with the required Regulatory Plan were received in April 2022. This Provision of Service Operating Certificate will be in place until the new QPRC sewage treatment plant is commissioned.

A further requirement of the exemption was the requirement for QPRC to apply for a Design and Construction Operating Certificate for the planned new sewage treatment plant which is currently at EIS approval stage. The Design and Construction Operating Certificate for the new plant is expected to be issued, after the EIS is approved and prior to commencement of construction works.

9.3 Solar Farms

Currently there are four solar farms that hold operating certificates in the ACT. They are Royalla, Mugga Lane, Williamsdale and Mount Majura. During the reporting period of 2021-22, there were no new operating certificate applications received for any additional solar farms. The operating certificate for Mugga Lane solar farm was renewed on 10 June 2022.

In 2021-22 there were no notifiable incidents and augmentation reported to the Technical Regulator. The three existing solar farms, Royalla, Williamsdale and Mount Majura were operated and maintained

in accordance with their respective Regulatory Plans, ensuring safe and reliable delivery of renewable energy. Royalla, Williamsdale, and Mount Majura solar farms generated 32027.43 MWh, 15602.7 MWh and 3746.36 MWh, respectively during the reporting period.

Due to a sale process going on for Mugga Lane solar farm, the Utilities Technical Regulation team did not receive response to the Annual Compliance Questionnaire for this reporting period.

Table 9.3 Solar Farm Generation

Solar Farms	FY 2020-21 (MWH)	FY 2021-22 (MWH)
Williamsdale	19908.28	15602.68
Royalla	34712.15	32027.43
Mt.Majura	4136.20	3746.36
Mugga Lane	24108.32	No data received
Total	82864.95	51376.47

9.4 Essential Energy

Essential Energy is a NSW government owned corporation with responsibility for building, operating and maintaining the largest electricity network in Australia. Essential Energy is exempt from the requirement for a licence, under section 22 of the Utilities Act. They were granted an operating certificate by the Technical Regulator in 2018 for distribution and connection of electricity services for the portion of its network that is within the ACT, valid for an initial 10-year period and renewable at the end of that period.

Essential Energy's ACT assets consist of 280 poles in high bushfire risk areas and 30 poles in non-bushfire prone land (urban) areas. It was reported that there were no notifiable incidents relating to infrastructure in the ACT during the reporting period. Essential Energy reported that all pre-summer bushfire pole inspections and vegetation tasks were completed prior to the start of bushfire season in the ACT. One non-conformance occurred regarding a private power line not being inspected by the due date, but subsequently completed and the system has now been rectified.

Essential Energy was not included in the vegetation audit undertaken by AMCL Pty Ltd as it was confirmed that an audit was already being undertaken at the direction of IPART, the NSW regulator, that covered bushfire preparedness for the same period. The audit was completed in February 2021 and no major non-conformances were identified, however the audit findings noted that Essential Energy should work with the UTR to ensure ACT requirements around vegetation clearance distances and methods of reporting are being adequately met. Essential Energy had a Bushfire Risk Mitigation Plan in place for the 2020-21 financial year.

9.5 Light Rail

A Provision of Service Operating Certificate was issued to Canberra Metro Operations (CMO) in April 2019 which allowed CMO to commence Light Rail Stage 1 passenger services in the ACT. The Operating Certificate was initially issued with several special conditions, which have now mostly been closed. The Operating Certificate had only one special condition outstanding during 2021-22 which required some additional works on the existing switchgears at traction power station 3 to improve efficacy of operational procedures. CMO developed the design of the switchgear in consultation with relevant stakeholders and to the satisfaction of the independent certifier, with installation works to be commenced in October 2022.

A light rail utility specific Annual Compliance Questionnaire was developed during 2021-22 in consultation with relevant stakeholders. CMO provided its submission for 2021-22 Annual Compliance Questionnaire on 29 September 2022. The submission is assessed as satisfactory and confirms that CMO is complying with the technical and regulatory obligations under the UTR Act, including Technical Codes and its Operating Certificate.

The responses provided by CMO demonstrate that the electrical network and installation are being operated

and maintained effectively to provide safety and protection to workers, the public, property and the environment. An external audit conducted in June 2021 on CMO's safety management systems found that 'the safety procedures are suitable for the electrical installation and are being followed'. CMO's Electrical Safety Management System document was reviewed under the audit, which sets out overarching safety requirements for personnel when working with, or testing, electrical and mechanical apparatuses associated with the electrical network and installation, and no non-conformances or issues with the document arose from the audit.

There were no stray current issues reported during 2021-22 which could have impacted the utilities assets near the DC Traction System, and on-going quarterly reports of Rail-to-Earth resistance records were provided to Stray Current Working Group members in accordance with the Stray Current Management Plan. Additionally, there were no impacts to the electricity distributor's network from the DC Traction System.

CMO reported to have completed all planned maintenance activities on its network assets in compliance with its Technical Maintenance Plan and the Operations Electrical Maintenance Plan, with no asset failures being reported for 2021-22. CMO reported 3 planned outages and 8 unplanned outages on its network assets.

Following the development of the Technical Regulator's Regulatory Strategy for Light Rail Stage 2 in June 2021, further engagement between UTR and CMO occurred to identify opportunities to improve regulatory and approval processes. This engagement resulted in identifying three additional guidance documents to be developed. These documents were the Regulatory Plan Development Guide, Regulatory Process Flow Guide, and Incident Reporting Guideline. The first two guidance documents were developed in consultation with CMO and published on UTR's website during 2021-22, and the remaining one is still being developed.

Engagement regarding Light Rail Stage 2A continues to occur between CMO, UTR and other relevant stakeholders. CMO has been awarded a contract to undertake the design and construction works for expanding the existing depot to house the additional light rail vehicles (LRVs) which are due to be procured for upcoming Stage 2A. Additionally, CMO is undertaking a traction power study to determine whether an additional traction power station on the existing Stage 1 alignment will be sufficient to cater for additional power to charge the LRV on-board batteries whilst the LRVs are traversing in Stage 1 alignment. The batteries will provide traction power to the LRVs to allow them to move in the proposed wire-free design of Stage 2A.



Lightrail - Traction power station- Harrison

10. Focus For 2022-23 Work Program

- > Review utility compliance with new gas codes and ensure adequate management of the gas distribution network.
- > Review utility compliance with new regulatory settings that require gas meter safety inspections to be undertaken in apartments with internal gas meter sets.
- > Monitor risks from development applications to ensure consideration is given to impacts of critical utility infrastructure nearby, with an emphasis on gas transmission pipelines.
- > Continue to engage in the National Gas Law & Rules amendments (Hydrogen/Gas blending), National Gas Regulators Forum and Energy Regulatory Authorities Council.
- > Progress the revision of the Electricity Technical Code with Evoenergy.
- > Undertake new audits of electricity utilities to assess regulatory compliance, and monitor utilities are implementing corrective actions identified in previous audits.
- > Continue to work with Evoenergy to enhance the Electricity Emergency Plan with respect to prioritised feeder load shedding, and loss of zone substation response plan.
- > Monitor progress of enhancements and review of Evoenergy Electricity Network Safety Management System (and associated FSAs and safety plan) for compliance with the technical code and AS 5577, including formal incident analysis & risk treatment decisions.
- > Ensure Evoenergy continues to improve management of power quality.
- > Provide technical advice to EPSDD and CMTEDD to support the successful implementation of the ACT Big Battery project.
- > Provide technical advice to EPSDD to support the Gas transition/phase out project.
- > Ensure the safe installation and operation of multiple large battery programs across the Territory.
- > Assist unlicensed regulated utilities to prepare draft Dam Safety Emergency Plans suitable for acceptance by the Technical Regulator.
- > Review Icon Waters guidelines and standards for the introduction of water meters in units.
- > Establish regulatory settings for QPRCs sewerage assets in the ACT, including the existing sewage treatment plant at Queanbeyan and the planned replacement plant.
- > Guide Icon Water during their preparation of Water and Sewerage Network Plans to ensure long term capacity and performance of network assets including Lower Molonglo Sewerage Treatment Plant.
- > Facilitate the development of Icon Waters Long Term Sewerage Master Plan for Canberra through the ACT Wastewater Strategic Planning Working Group.
- > Ensure Territory, Icon and QPRC large dams are managed in accordance with regulatory requirements.
- > Review Dam Safety Reviews for a number of listed TCCS and Icon water dams.
- > Work with TCCS to renew its Provision of Service Operating Certificate for the INRN.
- > Implement and improve the process for assessing applications for operating certificates for rooftop generators of 200kW and over.
- > Enhance regulatory capacity through partnering arrangements with interjurisdictional regulators to harmonise regulatory environments.
- > Further develop the capacity of engineering and regulatory staff through work with the ACT Chief Engineer and ANU RegNet School of Regulation and Governance.
- > Provide advice to statutory office holders regarding the introduction of hydrogen.
- > Review and monitor compliance with Light Rail Stage 1 Operating Certificate.
- > Ensure governance and legislative changes in preparation and to support delivery of Light Rail Stage 2A.
- > Develop a suite of documents to support the Technical Regulator's Regulatory Strategy for Light Rail Stage 2.



ACT
Government