

# Utilities Technical Regulation Annual Compliance Report 2020-2021

#### 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 acknowledges the Ngunnawal people as Canberra's first inhabitants and Traditional Custodians. We recognise the special relationship and connection that Ngunnawal peoples have with this Country. Prior to the dislocation of Ngunnawal people from their land, they were a thriving people whose life and culture was connected unequivocally to this land in a way that only they understand and know, and is core to their physical and spiritual being. The disconnection of the Ngunnawal people from Culture and Country has had long-lasting, profound and ongoing health and well-being effects on their life, cultural practices, families and continuation of their law/lore. The Environment, Planning and Sustainable Development Directorate acknowledges the historic dispossession of the Ngunnawal people of Canberra and their surrounding regions. We recognise the significant contribution the Ngunnawal people have played in caring for Country as for time immemorial they have maintained a tangible and intangible cultural, social, environmental, spiritual and economic connection to these lands and waters.

#### Produced by the Environment, Planning and Sustainable Development

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# 1. Introduction

## 1.1 Technical Regulation

The Utilities Technical Regulation (UTR) unit 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:

- > ensure 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
- > ensure the safe and reliable operation and maintenance of regulated utility networks and regulated utility services to protect the following:
  - > 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.

## 1.2 Licensed Utility Providers and Unlicensed Utility Providers

Within the Australian Capital Territory (ACT) some 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 2020–21 included:

- > Electricity transmission TransGrid
- Electricity transmission, distribution and connection – Evoenergy
- > Gas transmission East Australian Pipeline Limited
- > Gas distribution and connection Evoenergy
- > Water and sewerage supply Icon Water Limited

No additional utilities were licensed in the ACT during 2020–21.

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 Inner North Reticulation Network (INRN) – an existing recycled non-potable water network, the owning of registrable dams and the light rail network.



## 1.3 Utility Compliance

UTR was satisfied with the level of compliance by all regulated utilities of the ACT during the 2020-21 reporting period. While there were some 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

- > Progression of revision of the Emergency Management Plan to improve prioritised 11 kV feeder load shedding arrangements and loss of zone substation response preparedness.
- 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 service line insulation condition monitoring.

### 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 longterm Service Capability Projections for its water and sewer networks.
- Under performance of the secondary biological treatment process at LMWCC.
- Icon Water's current review of sewer master plans for its sewer network and treatment facilities.

### Dams

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

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

# 2. Utility Code Review Progress 2020–21

Following the commencement of the UTR Act on 1 March 2015, a major focus of UTR has been a thorough revision of technical codes approved 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. During the reporting period:

- > significant engagement took place between Evoenergy and UTR to develop revised gas technical codes. These will be notified and will become effective in September 2021.
- > significant engagement took place between Major Projects Canberra (MPC), TCCS, Canberra Metro and UTR to develop revised light rail technical codes. These were issued for industry consultation on 19 October 2020
- significant engagement took place between Icon water and UTR to establish the parameters of revised water and sewerage technical codes. Consultation and engagement activity is ongoing.
- > the development of revised electricity distribution technical codes remained on hold.

# 3. Electricity Utility Performance 2020-21 —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.

UTR held concerns in the previous reporting period regarding the general accuracy and quality of data provided by Evoenergy. While UTR notes a renewed effort by Evoenergy to improve its performance, the accuracy and quality of data and associated management systems will continue to be a focus of the UTR to determine performance against the licence and codes. Areas of concern include incident reporting and analysis, safety management, power quality, asset management and emergency management plan improvements.

During the 2020-21 reporting period Evoenergy made significant progress towards satisfying code requirements for power quality requirements due to over voltages arising from inadequate voltage management of its network and in response to increased PV penetration on the network.

During the 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 some of its systems, such as those for safety management and power quality to support the Electricity Safety Plan, enhanced PV databases, and an action plan to address power quality issues.

Evoenergy's performance in delivering electricity distribution services during 2020-21 was overall satisfactory, with some noted areas of improvement. The more salient performance issues are reported below.

## 3.1 Notifiable Incidents

Evoenergy reported the following Notifiable Incidents during 2020–21:

Table 3.1 Notifiable Incidents

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

Evoenergy has advised that the most likely reason for the significant increase in notifiable incidents 'Other' is due to improved reporting of issues, rather than a deterioration of work practices. Evoenergy has also increased its public safety awareness campaign; this is likely to have resulted in an increase in the community calling to report issues or reporting via social media. 'Other' notifiable incidents may include collapse or partial collapse of any structure and any other event identified in a technical code or regulation.

Evoenergy has also advised that 65% of reported incidents were caused by non-network issues (eg. vegetation, third party incidents such as vehicle impact with network assets, and customer installation issues).

UTR and Evoenergy are working together to ensure the reporting, investigation and analysis of incidents meets the requirements of the UTR Act and Codes, as well as improving measures to avoid their occurrence and risk exposure. Evoenergy have committed to review historical data to assess if there are any common causes associated with incident types to identify any prudent risk treatments to reduce risk.



## 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
Total number poles	50,574	50,585	50,373	50,150
- Distribution	49,101	49,112	48,896	48,636
- Transmission	1,473	1,473	1,477	1,514
Number of poles tested	13,419	10,348	11,130	9,295
- Distribution	13,198	9,984	10,774	8,535
- Transmission	221	364	356	760
Number of poles condemned	436	281	332	143
(as a % of poles tested)	(3.25%)	(2.72%)	(2.98%)	(1.54%)
- Distribution	436	281	320	131
- Transmission	0	0	12	12
Number of condemned poles replaced or remediated during year	612	390	307	346
- Distribution	610	386	304	345
- Transmission	2	4	3	1
Number of condemned poles not replaced or remediated within required 12/24 months period	51	0	0	1
- Distribution	51	0	0	1
- Transmission	0	0	0	0
Dangerous poles and pole failures (requires urgent action)	0	6	0	0
- Distribution	0	6	0	0
- Transmission	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 (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 2020-21 Evoenergy continued to attend to condemned poles in a timely manner. 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

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

Vegetation management is a critical aspect of bushfire mitigation. Following the unprecedented 2019–20 bushfire season, the Technical Regulator sought to undertake an independent audit of Evoenergy's bushfire preparedness at the commencement of the 2020-21 bushfire season, which was delayed due to high moisture content in vegetation content in the ACT and began on 1 November 2020. UTR developed the scope of the audit and engaged AMCL Pty Ltd in early 2021, with field inspections of vegetation and lines undertaken in Q4 of 2020-21.

The audit has identified three material noncompliances, nine non-material non-compliances and 19 opportunities for improvement. Most of the discovered non-compliances (material and nonmaterial) are associated with following themes: 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.

Evoenergy was compliant in its implementation of its Bushfire Operations Plan and Vegetation Management (Bushfire and Environmental) Works Plan, and compliant in most aspects of its risk management and vegetation inspection and defect identification practices with the exception of completing a risk assessment when bushfire defects cannot be remediated prior to the bushfire season. The audit also noted that Evoenergy has demonstrated a commitment to improve its overall management of bushfire risk. Evoenergy reported completion of all bushfire inspections and actioned defects prior to commencement of the bushfire season.

On completion of the audit, Evoenergy provided UTR with a corrective action plan to address the non-compliances. Most non-compliances are expected to be closed out by mid-2022 however some will be carried over until 2023 as they will be incorporated into Evoenergy's internal review processes which already have timeframes in place.

## 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.

Evoenergy has advised via its UTR Compliance Report that there are now 36,343 small scale (< 200 kVA) PV installations in the network with 6,897 added in 2020-21, and that 2,369 Inverters were last tested more than five years ago.

Evoenergy has advised that PV Inverter re-test reminders have been 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 progress regarding this management strategy to 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 network boundary and Evoenergy does not work on the customer side of a meter point. Evoenergy has not yet disconnected any customers' PV installation for non-compliance with the retesting requirement. 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 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 2020/21 is included in the Table below:



Investigations carried out based on nature of requests received from customers

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 FY 2017-18.

#### **Table 3.5 SSV Compliance Assessment**

Compliance Parameter	Voltage Limit	2019/20 Random Site Survey	2019/20 Random Site Survey	2019/20 Random Site Survey	2019/20 Random Site Survey
		(measured values)	(measured values)	(measured values)	(measured values)
V99%	253 Volts	256.06 Volts	254.954 Volts	251.995 Volts	250.820 Volts
V50% (UPPER)	244 Volts	253.06 Volts	250.554 Volts	248.290 Volts	246.847 Volts
V50% (LOWER)	225 Volts	239.23 Volts	230.479 Volts	231.615 Volts	232.558 Volts
V1%	216 Volts	227.96 Volts	221.463 Volts	224.616 Volts	224.777 Volts

The SSV compliance assessment results are derived from approx. 100 randomised sites chosen from across the distribution network. Evoenergy's performance in respect of V99% and V1% limits for FY 2019-20 and FY 2020-21 meets the respective limits from the standard. However, the preferred steady state median voltage, upper (V50%), is reported above the preferred performance levels set out in the standard.

Evoenergy's electricity distribution network is likely to be under considerable pressure from increasing solar connections to the network, as shown in the table below, which drive the network voltages up (middle of the day). Additionally, the increased use of electrical energy from gas transitions and electric vehicle charging can likely drive the voltages down (end of the day). It is critical the Evoenergy optimise the voltage management to ensure network performance continues to meet the limits set out in the standard.



Number of rooftop PV systems connected each 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 with Evoenergy. In response, Evoenergy committed to undertake an in-depth analysis of these incidents to mitigate their occurrence. It is pleasing that the number of reported neutral defects in 2020-21 is significantly lower than last year. UTR is currently investigating how this lower rate has been achieved this year and will continue to monitor Evoenergy's performance in managing this safety risk.

#### Table 3.6 Defective Neutrals

	2017-18	2018-19	2019–20	2020-21
Defective neutrals	18	15	88	34

## 3.7 Reliability Indicators

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

The target for SAIDI and SAIFI was met, but as shown in Table 3.7, the 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 less frequently but the durations of outages were longer. UTR will continue to work collaboratively with Evoenergy to ensure reliability continues to be a priority for the 2021-22 period.

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

#### Table 3.7 Electricity Supply Reliability

## 3.8 Emergency Planning

During 2019–20 Evoenergy submitted its annual update of the Electricity Networks Emergency Management Plan (ENEMP) as required by 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. However, 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. UTR will continue to work collaboratively with Evoenergy to ensure these issues are progressed in 2021-22.

### 3.9 Electricity Network Safety Management System (ENSMS)

During the 2020-21 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. A number of these service conductors have been failing, predominantly 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.

Whilst based on failure reports in recent years Evoenergy had been effectively addressing this safety issue, it is concerning that there has been a significant increase in failures during 2020-21 as shown in Table 3.10.

Evoenergy has committed to undertake an analysis of its aging service conductors to understand the nature of issues being experienced with the defective insulation and inform a future program of work UTR will continue to monitor Evoenergy's performance in managing this safety risk.

#### Table 3.10 Overhead Service Conductor Failures

	2017-18	2018–19	2019–20	2020-21
Service Conductor Failures	45	4	51	120



# 4. Electricity Transmission Service Provider Performance 2020-21— Transgrid

TransGrid reported being compliant with its licence to provide electricity transmission services under the Utilities Act for the reporting period and being compliant to code requirements under the UTR Act.

Following approval of the Electricity Transmission Supply Code in 2016, TransGrid has been working with Evoenergy and the ACT Government toward delivery of an additional and geographically separate transmission supply point for the ACT, the Stockdill Substation, and this was completed by 31 December 2020 as required by the code.

TransGrid's overall performance is considered satisfactory.

## 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 content in the UTR ACT and began on 1 November 2020. UTR developed the scope of the audit and engaged AMCL Pty Ltd in early 2021, with field inspections of vegetation and lines undertaken in Q4 of 2020-21.

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

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

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

# 5. Gas Utility Performance 2020-21—Evoenergy

Evoenergy's performance in the provision of gas utility services was satisfactory during the 2020–21 reporting period.

Evoenergy reported being compliant with its licence to provide gas distribution and connection services under the Utilities Act for the reporting period and being compliant to 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 no dangerous incidents during the reporting period 2020–21.

## 5.3 Compliance with Existing Codes

#### 5.3.1 Gas Network Boundary Code

Evoenergy reported no breaches of the Gas Network Boundary Code during the reporting period.

### 5.3.2 Gas—Safety and Operating Plan Code

During the reporting period, 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 Safety and Operating Plan Code.

UTR reviewed the SaOP for the purpose of confirming code compliance and conditionally approved the SaOP upon the inclusion in the next update version of minor requirements (regarding meter inspections and maintenance).

### 5.3.3 Emergency Planning Code

Evoenergy submitted its annual update of the Gas Networks Emergency Management Plan (plan) as required by the Emergency Planning Code 2011.

The plan was tested and approved as providing the coverage intended by the code.

### 5.3.4 Gas Service and Installation Rules Code

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

During the reporting period UTR prepared a draft update of the Gas Service and Installation Rules Code 2013. As previously reported, the draft code addresses safety concerns associated with existing gas metering equipment located inside residential apartments.

Evoenergy's existing Gas Service and Installation Rules continue to support the continuous improvement of the quality, compliance and gas meter installation practices in the ACT, demonstrating Evoenergy's on-going commitment to consumer safety.

## 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 their 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 as a result of its annual network pressure survey. Evoenergy was to finalise the 2020 Network Supply Validation Reports and provide them to UTR by 30 December 2020. The Network Supply Validation Reports were not received during the reporting period. The report has since been received and will be commented on during the next reporting period.

Evoenergy's annual network pressure gauging programs have previously 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 a result 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 was requested to address a number of 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.

#### 5.5.5 Safety Management Systems

As a result of its internal audit and compliance regimes, Evoenergy reported low levels of noncompliances against its safety management systems relating to both network construction and operations and maintenance activities during the reporting period.

The nature of non-compliances reported ranged from general administrative and minor works defects/omissions. All non-compliances identified 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.

UTR officers were unable to fully assess APA Group's performance in the Dalton to Canberra licensed pipeline for the reporting period. UTR will have greater engagement with APA for the next reporting period with a focus on operation, maintenance, and supply management.

## 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 Operating Plan Code 2000 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 Operating Plan 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 2011.

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

# 7. Water Utility Performance 2020-21—Icon Water

## 7.1 Utility Code Review Progress

Over the past few years, UTR and Icon Water have been working collaboratively to develop a revised water and sewerage Technical Code. Monthly meetings occurred during the reporting period to progress the development of the Code. In May 2021, UTR procured a consultant with specialist skills in Utility Code development to review the adequacy of the draft Code, undertake a gap analysis and ensure there was appropriate and effective technical regulation. A report was prepared to assist in finalising the code, with a number of recommendations to be incorporated into the code, and a number of issues to be investigated or considered further. The review allowed the code meetings to progress more strategically, and the Code is on track for completion in 2022.

## 7.2 Emergency Planning

In April and May 2021, Icon Water submitted updates of the Water Supply and Sewerage Emergency Management Plan (WSSEP) and Dam Safety Emergency Plans (DSEPs) as required under the Emergency Planning Code 2011 and the Dam Safety Code 2018. The emergency plans integrate with Icon Water's Australasian Inter-Service Incident Management System (AIIMS) and were accepted as meeting requirements of the codes. In accepting the plans, the Technical Regulator requested:

Improvement to the DSEPs particularly regarding refinement of the inundation mapping in the draft Inground Reservoirs DSEP and the provision of electronic inundation mapping data.

In March 2021, UTR observed an exercise which simulated an emergency at Googong Dam. The emergency exercise activated both the Googong Dam DSEP and the WSSEP. The exercise was competently run and complied with both the DSC and EPC. ACT and NSW SES and Police were also present. Several benefits and improvements were recognised:

- > The provision of opportunities for inexperienced staff to participate and learn under supervision.
- Future improvements to the DSEPs to provide additional advice on how response agencies can use DSEPs as a planning tool.
- > Use of emergency services resources to assist Icon Water in undertaking dam safety assessments during an emergency.

## 7.3 Emergencies and Notifiable Incidents

#### 7.3.1 Territory Declared Emergencies

### **COVID-19 Pandemic**

In January 2021, Icon Water transitioned to a 'new normal', which includes retaining good hygiene protocols, physical distancing measures and flexible working arrangements. Icon Water also resumed standard regulatory monitoring and reporting practices. Icon Waters' performance in the following areas is still being impacted due to the pandemic:

- The introduction of separate water metering for new unit-titled developments
- > Dam Safety Program of Works
- > Capital works program
- > Liquid Trade Waste Management
- > Water Supply and Sewerage Technical Code development

UTR has been monitoring the recovery of the business to normal operating conditions during regular liaison meetings with Icon Water.

### 7.3.2 Notifiable Incidents

During the reporting period, UTR were advised of a number of incidents, including a number of notifiable incidents under the UTR Act.

The first of these incidents resulted from an extended period of rainfall followed by 45 mm of rain on 8 – 9 August 2020. Approximately 115 ML of partially treated sewage overflowed from the Lower Molonglo Water Quality Control Centre (LMWQCC) Bypass Storage Dam into the Murrumbidgee River. UTR raised concerns that the overflow had occurred because the secondary biological treatment process at LMWCC had performed below forecast performance expectations outlined in Icon Water's 2017 Environmental Management Plan. UTR notes that this is only the fourth such overflow since the Bypass Storage dam was commissioned in 1994. Icon Water is actively reviewing its sewerage network master plans for Canberra including LMWQCC and expects to be able to advise it's plans in mid-2022.

A second incident was a major water main failure which caused temporary disruption of water supply to 1,000+ customers in O'Malley. Following its investigation Icon Water is confident of the integrity of the remainder of the water main.

Of the remaining incidents, four were minor contractor damage to the existing mains in the water network causing minimal disruption. Two were Icon Water reported safety incidents not causing personal injury.

## 7.4 Service Delivery Targets for Sewers

One of the most significant environmental risks that Icon Water must manage is the uncontrolled release of raw sewage, given the potential environmental and health impacts of such releases.

Whilst the incidence of breaks and chokes in the Icon Water sewer reticulation network continues to be much higher than the industry average for major water utilities, as noted in Table 1.4.1 below, the incidence of sewer breaks and chokes decreased significantly in 2020-21, returning to frequencies experienced prior to the most recent drought.

Table 1.4.1 Sewer main breaks and chokes (per 100 km of sewer main) reported by Icon Water

Industry Median <sup>1</sup>	2015-16	2016–17	2017-18	2018-19	2019–20	2020-21
30	54	49	56	72	84	52

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

The major factor reducing the frequency of sewer main breaks and chokes in 2020-21 was the prevailing ground moisture conditions in Canberra arising from good rainfall. Similar reductions in frequency of breaks and chokes were reported by Sydney and Hunter Water Corporations. In addition to the contribution of favorable weather conditions, Icon Water report that recent implementation of a preventative maintenance program of identifying and proactively cleaning hot spots has contributed to the improved outcome.

During 2020-21, Icon Water renewed 17 km of sewer, a small increase from the 14 km renewed in both 2018-19 and 2019-20. This is a renewal of 0.6% the Canberra sewer reticulation network in 2020-21 and 1.5% over three years. Consistent with Icon Water's reported plans to defer Stages 4 and 5 of their current sewer renewal program, UTR understand that the length of sewer replaced in 2021 – 2023 will be much reduced as only emergency renewals will be completed.

#### Monitoring Systems for Uncontrolled Discharges of Sewage

Icon Water's 2020–21 to 2023–24 Business Strategy (Statement of Corporate Intent) noted its intention to:

Build a smarter network, and to 'focus on piloting and understanding how smart meters and network sensors (IoT devices) can support our ability to meet our service obligations, reduce the risk of crucial asset failures and create a safer working environment'.

With Icon Water needing to plan for augmentation of trunk sewers in North Canberra and elsewhere to continue to meet service capability requirements, UTR is keen to encourage Icon Water to expand real time monitoring technology to confirm capacity of the existing sewer network. The benefits are that Icon Water can:

- Provide additional 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 to ensure the safe, reliable and efficient delivery of regulated sewerage services.
- > Allow for recalibration of Icon Water's sewerage network hydraulic model, enabling greater confidence in determining if the system can meet its required level of service and assist in identifying timing for future augmentations.
- > Have greater knowledge around the frequency and volume of sewer overflow events from the trunk section of the sewer network and sewage pump stations, resulting in the ability to deliver improved environmental outcomes.

## 7.5 Network Design and Maintenance Code

The Water and Sewerage Network (Design and Maintenance) Code 2000 (W&SN (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 to prepare Service Capability Projections (SCP's) for its water and sewerage networks so that it can demonstrate that it will be able to reliably deliver water and sewerage services to customers in Canberra both currently and into the future. SCP's will 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.

Section 3 of the Code requires that Icon Water prepare SCP's for the next 15 years and update the projections at 5 yearly intervals.

Icon Water provided updates to the SCP reports in 2018 and is due to provide updated projections in 2023. Icon Water has committed to ensure that the content of the planning documents demonstrates the linkage to Water and Sewerage Capital Contribution Code, and the W&SN (D&M) Code (under review). Historically Icon Water has produced a 20-year Capex Plan but has not consistently finalised SCP's. There are, however, encouraging indications that Icon Water is working towards meeting aspects of Section 3 of the W&SN (D&M) Code. Some of these are noted below at Section 7.7'Water Network Design'. Other improvements that Icon Water is making include:

- Updating detailed design requirements for the water and sewer reticulation networks.
- Commencing reviews of long-term strategic planning for water and sewer networks including treatment facilities. In 2012 Icon Water last published the Canberra Sewerage Strategy 2010-2060 for Canberra's two major sewage treatment facilities. These documents, while by no means complete SCP's, are the best Icon Water long-term planning documents available to UTR.
- > A commitment to prepare and publish detailed developer-centric Growth Service Plans for the water and sewer reticulation network. While these documents will primarily focus on infrastructure funded under the Water and Sewerage Capital Contribution Code 2017, UTR envisages that with appropriate additional detail and scope they could also meet expectations of Section 3 of the W&SN (D&M) Code.

### 7.6 Trade Waste

In 2019-20, Icon Water's Liquid Trade Waste (LTW) inspection program was heavily impacted by the Covid-19 shutdown. This resulted from the sudden closure of businesses and social distancing requirements preventing inspections, maintenance. Icon Water used the shutdown period as an opportunity to comprehensively review the LTW customer database with duplicated records and expired approvals to discharge LTW to sewer being identified. A summary of reported LTW details for the last three years is included below:

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

During the 2020-21 reporting period, UTR worked with Icon Water to review the LTW questions Icon Water annually report on. The updated questions will allow improved measurement of LTW customer compliance based on business risk and tracking the resolution of non-compliant customer inspections.

The responses to the updated questions for the reporting period revealed that compliance inspections occurred for 110 (4%) LTW customers. Inspections rightly focused on high-risk businesses with around 50% of high-risk businesses being inspected and 70% of these being identified as non-compliant. Smaller percentages of medium and low risk businesses were inspected, but nevertheless 64-67% LTW customers inspected were identified as non-compliant.

Analysis of the reasons for non-compliance shows a high number of businesses that did not have an approval or contract to discharge LTW to the sewer in place, however Icon Water advises the discharged material itself was generally compliant. Of the 72 businesses inspected which were noted as non-compliant, only 15 (21%) had the issue resolved during 2020-21. Icon Water is working to educate businesses to help resolve sources of non-compliance including the requirements to have the correct approvals and contracts in place and for accurately reporting data to the utility.

Icon Water has previously advised that network protection, customer education and acceptance guidelines of LTW management are to be reviewed in the period 2020–23. This review has progressed and Icon Water plans to brief UTR on the development of LTW standards, associated guidelines and establishment of a LTW roadmap in 2022-23.

Due to lingering effects of Covid-19 on LTW businesses and recent Icon Water staff changes, Icon Water have advised that LTW inspection program recovery will be slow and will extend beyond the 2022-23 reporting period. UTR will continue to liaise with Icon Water to monitor business recovery to normal operational practices.

## 7.7 Water Network Design

In 2016, Icon Water advised that it was unable to provide full fire flow capability to approximately 4,000 water customers across ACT as required by its agreement with the ACT Fire and Rescue. Having recognised this deficiency in the water reticulation network, Icon Water has in the last 5 years:

- > Reconfigured parts of the valving in its water reticulation network
- > Replaced ~23km of undersized or unlined water mains inner north and south of Canberra
- > Augmented undersized sections of the water reticulation network in Pialligo

UTR is encouraged that, in addition to correcting physical deficiencies in the water network, Icon Water has also:

- > Created new hydraulic models for its water reticulation network which now approach industry practice for functionality and accuracy in major urban water utilities across Australia.
- > Aligned its basis for design of the Canberra water reticulation network with other major utilities across Australia.
- > Adopted a basis for fire flow modelling of its water reticulation network that better aligns with Australian Standard AS 2419.1:2017
- > Reviewed changes to water consumption patterns in Canberra since basis for design of the water network was last updated in the 1970's and adopted a basis for hydraulic design of the network which more closely reflects current usage patterns.

UTR is encouraged that Icon Water committed to rectifying identified deficiencies and updating its water reticulation planning practices over this period. During the latter part of 2021 the updated basis for design and modelling practices will be subject to independent peer review to verify they are appropriate.

The revised basis for design of the water reticulation network recognises a significant reduction in per capita water consumption since the 1970's. This mirrors a national trend in Australian water utilities.

### 7.8 Variation to Icon Water Licence

Icon Waters' Licence to provide water and sewerage services under the Utilities Act was reviewed by the Independent Competition and Regulatory Commission (ICRC) during the reporting period. UTR provided input to the licence review as permitted under section 79 of the UTR Act. The new licence came into effect on 1 March 2021. Pursuant to section 79(6) of the UTR Act, UTR advise that the following conditions were added to the license:

- Compliance with the Act: Licensee must comply with any direction given to the Licensee by the Technical Regulator under the Utilities Act.
- > Annual Compliance Reporting: Licensee must report to the Technical Regulator on its obligations under the UTR Act, Technical Codes, any technical requirements outlined in the licence schedule and any other associated technical information that the Technical Regulator reasonably requires to be reported, in a manner, timeframe and format required by the Technical Regulator.
- > Availability of Compliance Report: Licensee must ensure Technical Regulator's annual compliance report or a summary of the annual compliance report, is made publicly available by also publishing it on the Licensee's website.

## 7.9 Non-drinking Water

The Water and Sewerage Network (Design and Maintenance) Code contains provisions for reuse of treated effluent to be included in Service Capability Projections, and that the sewerage network is designed to enhance the potential for reuse of treated effluent. Icon Water ceased effluent reuse from the Fyshwick Sewage Treatment Plant in 2012 as the system was not economically viable. This decision was in line with the outcomes of the ICRC Report into Secondary Water Use. The North Canberra Effluent Reuse Scheme, one of two schemes Icon Water operate, currently supplies customers with non-drinking water that has been supplemented from the potable water network. Only very small volumes of recycled water are sold for reuse from the Lower Molonglo Water Quality Control Centre, the second scheme Icon Water operate at Holt.

### 7.9.1 Reuse Activities

The total volume of recycled water supplied annually by Icon Water since 2017–18 is shown in Table 1.9.1. The volume supplied in 2020-21 is equivalent to less than 25% of one day's potable water supply usage in Canberra.

#### Table 1.9.1 Total volume of recycled water supplied (ML) by Icon Water

Year	2017–18	2018–19	2019–20	2020-21
Volume of recycled water supplied (ML)	77	60	75	25

The 2020–21 National Performance Report, notes that Icon Water supplied the lowest volume of recycled water of all major water utilities. It should be noted that releases to the environment from LMWQCC that are used downstream and recycled water used internally by Icon Water are not considered in the figure reported. Discharge from the LMWQCC also contributes to the ACT net Sustainable Diversion Limit accounting under the Murray-Darling Basin Plan.



# 8. Dams Regulation 2020-21

Section 57 of the UTR Act defines dams greater than 5.0 metres high or with storage volume larger than 250 megalitres as registrable dams. There are 42 such existing dams in the ACT as noted on the ACT Register of Dams. The Technical Regulator has determined 34 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 event of failure of the dam. Owners of listed dams must comply with all requirements of the ACT Dam Safety Code 2018 (DSC). The DSC sets out minimum requirements for design, construction, commissioning, operation, maintenance, monitoring, surveillance and reporting in relation to listed dams to ensure they meet the objectives of the UTR Act.

The DSC 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 generally more stringent for higher risk dams and is consistent with the Australian National Committee on Large Dams (ANCOLD) Guidelines.

There are four owners of existing listed dams in the ACT as noted in Table 2 below. Dam owners' performance in the regulation of the safety of listed dams in the ACT was generally satisfactory during the 2020-21 reporting period.

Dam Owner	Registrable Dams	Listed Dams
Icon Water	19	16
ACT Government (Transport Canberra and City Services)	20	15
Suburban Land Agency (SLA)	1	1
Queanbeyan Palerang Regional Council (QPRC)	2	2
National Capital Authority(1) (NCA)	1	0

#### Table 2 Registrable and Listed Dams in the ACT

(1) This dam is included on the ACT Register of Dams. However, whilst meeting the criteria for a listed dam, it is not listed as NCA is not subject to ACT Dam Safety Regulation. NCA manages Scrivener Dam to the ANCOLD Guidelines

## 8.1 Recently Listed Dams

In 2018–19 the Technical Regulator determined that a further 11 of Icon Water's existing town water service reservoirs as well as 14 existing TCCS dams met the criteria as listed dams as they present a significant to extreme risk of adverse effects on the community in the event of dam failure. This determination was based on the owner's assessment of dam Consequence Category. Following the Technical Regulator's determination, owners are working to demonstrate the safety of these dams in accordance with requirements of the DSC, noting the transition period of up to five years, as permitted in the DSC.

During 2020-21 construction of the Upper Deep Creek Dam (Whitlam Dam) was completed.

During 2019-20 both Icon Water and TCCS requested the Technical Regulator review the earlier determination by submitting revised Consequence Category Assessments. In most instances, although not all, this results in a reduction of the dam Consequence Category, and hence a lowering of surveillance and monitoring obligations on behalf of the dam owner. In some instances, the changed Consequence Category is from High to Low, meaning that the dam need not be listed and would be exempt for regulatory requirements. There has been a regulatory lag in reviewing the Technical Regulator's prior determination, arising from managing the transition of new dams to the DSC. UTR is hoping to be able to resolve this issue during 2022 by acquiring additional staffing and consultancy to assist with the backlog.

## 8.2 Dam Safety Monitoring and Surveillance Regime

To demonstrate the continued safety of listed dams in the ACT, the DSC requires the following for listed dams:

- 1. Regular monitoring and surveillance.
- 2. Preparation of Comprehensive Surveillance Reports every 5 years
- 3. Preparation of Dam Safety Reviews
- **4.** Reporting of identified dam safety deficiencies to the Technical Regulator within 24 hours

All dam owners in the ACT are willingly working to DSC requirements. However, both Icon Water and TCCS have notified UTR that they are having difficulty meeting aspects of DSC transition requirements for completion of Dam Safety Reviews at least in part because of the difficulty in procuring specialist dam safety engineering services and lockdowns restricting movement between States imposed by Covid-19.

To demonstrate the continued safety of listed dams in the ACT, the DSC requires formal Dam Safety Reviews to be completed periodically by dam owners. These are typically conducted for listed dams at intervals of 15 years, with the first review 15 years after a dam is commissioned.

## 8.3 Icon Water Dams

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

In November 2020 GHD completed a third party process and validation Dam Safety Audit of Icon Water's dam safety management system. The findings of the audit report were an encouragement to UTR staff and confirm Icon Water takes its responsibility of dam ownership seriously:

"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, with a number of dam safety reviews and studies, including inspections of the post-tensioned anchors at Googong and Corin dams, having been undertaken for most of the major assets since the previous audit. All personnel interviewed have received dam safety surveillance training in the last five years and display a keen and informed interest in the assets they are managing."; "Surveillance and monitoring procedures in place for all Icon Water dam structures meet the requirements of the ANCOLD Guidelines."; and

"The validation audit confirmed that the processes assessed under the process audit are to a standard that meets the ANCOLD guidelines and the Code (DSC)."

- > Four of Icon Water's large dams have been demonstrated as safe in recent years. 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 scheduled for completion in the latter part of 2022. Some of the passive anchors installed in the right abutment rock outcrop, downstream of the dam, are known to have deficiencies. The need for remedial work to these anchors will be confirmed during the safety review. Noting these deficiencies, Icon Water considers that the societal risk for Bendora Dam is 'Negligible' and poses no immediate risk to the community.
- > Dam Safety Reviews for Icon Water's High Consequence Category Services Reservoirs are due in June 2022 in accordance with the Transition Provisions of the DSC. These have been delayed due to Covid-19 restricting site inspections by interstate-based consultants and will now be completed in the latter part of 2022.
- > A small storage pond at the Stromlo Water Treatment Plant (3.4 Megalitres) has known foundation deficiencies. Icon Water is completing an options analysis to determine how the requirement for storage of waste product water can best be safely met in the future. A final report will be available in 2022.

## 8.4 ACT Government Dams

Transport Canberra and City Services (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 and TCCS is working to transition to full compliance with the DSC within the five-year transition schedule permitted by Schedule 3 of the code.

Key achievements and issues for the reporting period are as noted below, UTR will continue working with TCCS during the next reporting period to address these points:

- A single draft Dam Safety Emergency Plan (DSEP) was submitted by TCCS for their listed dams in May 2021 and is under review by the Technical Regulator. The draft plan was tested in April 2021 for a flood scenario impacting Ginninderra Dam. The test comprised a collaborative office-based workshop and was attended by TCCS dam safety engineers and other key stakeholders including ACT SES.
- Investigations to date indicate that spillway capacity of a couple of TCCS dams may not meet full requirements of the DSC. However, further review during the transition period, including the Dam Safety Review, is needed by TCCS to determine if upgrade of any dam spillways may be needed. Dams with higher Consequence Category Assessment have priority during the transition and their safety will be confirmed prior to that for lower risk dams.
- > TCCS provided a Dam Safety Review for the Southwell Park Retarding Basin (SPRB). SPRB is located on Sullivan's Creek near the northern end of Northbourne Avenue. The review does not provide a summarised statement indicating that the dam is in satisfactory condition, nor does it recommend specific remedial works to rectify specific deficiencies in the dam, and accordingly cannot be considered as complete. UTR understands that this Dam Safety Review will be finalised in 2022.
- Completion of three Dam Safety Reviews by TCCS has been delayed, and so TCCS has not met dates in the transition provisions included at schedule 3 of the DSC. TCCS anticipates completing all three Dam Safety Reviews during 2022. As previously intimated, availability of specialist dam safety engineers and independent peer reviewers has been a significant factor.

## 8.5 Queanbeyan Palerang Regional Council (QPRC) Dams

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

Activity that occurred during 2020-21 included extensive clearing of the downstream wall surface, minor maintenance work and the reconstruction of an associated stormwater system. QPRC are in the process of investigating various remediation options to increase the stability of the Ponds walls and continue to proactively manage the operation of the Ponds.

# 9. Unlicensed Regulated Utilities

## 9.1 Solar Farms

For the period of 2020-21 there were no new solar farm operating certificates issued. The four existing solar farms, Royalla, Mugga Lane, Williamsdale and Mount Majura, generated a total of 82,775MWh which contributes to the ACT's emission reduction targets.

It has been previously reported that the four solar farms combined produced 104.7 MWh of energy during 2019-20. The total production for this report period showed a slight decrease in energy produced, however this can be attributed to La Nina producing greater cloud cover and wet weather in the ACT.

For the period of 2020-21 all solar farms that held an operating certificate reported no incidents and no augmentation to the Technical Regulator. All solar farms were operated and maintained in accordance with their Operating Certificates ensuring the safe and reliable delivery of renewable energy.

## 9.2 Stormwater Harvesting—Inner North Reticulation Network (INRN)

The INRN is a significant stormwater harvesting and irrigation scheme, utilising public assets under the control of TCCS (Roads ACT). 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.

During the 2020–21 reporting period, TCCS continued to engage with UTR to ensure compliance of the INRN. A revised Provision of Service Operating Certificate and associated Implementation Plan was issued on 4 September 2020. 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.

Roads ACT operated, maintained, and modified aspects of the INRN network in accordance with the approved Regulatory Plan including water monitoring requirements. During the report period, the INRN has supplied 77 ML of filtered water to service its customers and injected 47ML to the aquifer. The bioindicators were out of range in water samples collected from some locations of the INRN during December and April 2021. 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 and ensure filtered water provided met customer needs.

## 9.3 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 281 poles in high bushfire risk areas and 30 poles in nonbushfire 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 presummer bushfire pole inspections and vegetation tasks were completed prior to the start of bushfire season in the ACT.

Essential Energy was not included in the 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.

## 9.4 Light Rail

A Provision of Service Operating Certificate was issued to Canberra Metro Operation (CMO) in April 2019. The Operating Certificate allowed CMO to commence Light Rail Stage 1 passenger services in the Territory.

The Operating Certificate was issued with several special conditions with individual compliance timelines to address the issues that arose during the construction phase of the project. Over the FY 2020-21, CMO has progressively demonstrated compliance with all but one special condition. The open condition requires some additional works on the existing switchgears of the Stage 1 electrical infrastructure to improve efficacy of procedures. These additional works are progressing in consultation with relevant stakeholders and are due to complete by December 2021.

One special condition of the Operating Certificate required an independent audit on the safety and performance of three key components of the light rail electrical network, to be undertaken by an IPART auditor, or alternative auditor whose independence and competency is acceptable to the Technical Regulator. CMO has successfully organised the audit. The audit report noted that CMO's procedures, work instructions, and documents were appropriate, allowing the system to be operated in a safe and reliable manner while complying with the regulatory and legislative requirements. UTR is satisfied with the audit findings.

During the FY2020-21, a new Stop in Mitchell, Sandford Street Stop was proposed on existing rail corridor of Light Rail Stage 1. CMO applied to the Technical Regulator for a design and construction approval regarding design and construction of additional electrical infrastructure entailed with the proposed Stop. Successive regulatory approvals were issued, with the final one on 5 March 2021. The final approval was issued with some general conditions, requiring on-going compliance reporting, with the construction progress, to the Technical Regulator. CMO made compliance submissions over the time, including the Independent Electrical Certifier's (IEC) endorsed monthly reports, final certification report, and IEC endorsed Notice of Energisation (NOEs). UTR was overall satisfied with the IEC advice on the electrical works and the final certification report.

In June 2021, the ACT Government agreed to the Technical Regulator Regulatory Strategy – Light Rail Stage 2. This strategy sets out the objectives and general principles for engagement, education, reporting, compliance, and enforcement activities undertaken by the Technical Regulator and Access Canberra to ensure the safe, reliable and efficient delivery of the Light Rail Stage 2 project.

Following delivery of Light Rail Stage 1, the Technical Codes relevant to a light rail utility network were revised. The revision was undertaken to facilitate design, construction, testing and commissioning, operation, and maintenance of more than one light rail utility network in the Territory. Additionally, the revised Codes establish independent certification requirements throughout the design, construction, testing and commissioning, augmentation, or expansion of the light rail electrical infrastructure. The IEC will need to certify the electrical works, supported by the Electrical Supervisor(s), and ensure progressive compliance with the design, codes, and standards. The new Technical Codes are in effect now.



# 10.Focus For 2021-22 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.
- > Review the Utility Networks (Public Safety) Regulation 2001.
- Monitor completion of Icon Water's Fire Flows Modernisation Project and review findings of independent peer review of Water Network Models

- > Review the Water Supply and Sewerage Technical Codes and Emergency Plans for the water sector.
- Assessing the technical justification underpinning Capital Expenditure in Icon Waters 2023-28 Water Pricing Review
- Monitor progress and review of Growth Servicing Plans and associated deliverables for Icon Water.
- > Develop regulatory settings with Icon Water that support the introduction of water unit metering.
- Monitor Liquid Trade Waste recovery from Covid-19 and development of performance metrics.
- > Develop and implement appropriate regulatory settings that support QPRC's replacement sewage treatment plant.
- > Reviewing Icon Waters Long Term Sewerage Master Plan for Canberra and the capacity and performance of Lower Molonglo Sewerage Treatment Plant.
- Ensure Territory, Icon and QPRC large dams are managed in accordance with regulatory requirements.
- > Reviewing the Consequence Category Assessments underpinning the Registration and Listing of Dams.
- Implement and improve the process for assessing applications for operating certificates for rooftop generators of 200kW and over.
- > Review utilities' performance, compliance and incident reporting requirements.
- 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 – Light Rail Stage 2.





# Utilities Technical Regulation Annual Compliance Report 2020-2021