

Northern Territory Electricity Market Priority Reform Program

Introductory notes on scope and work program

June 2020

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Contents

1. Purpose	4
2. Background	4
3. Summary of priority reforms	5
4. Priority areas for change and scope	6
4.1. Reliability.....	6
4.2. Dispatch	8
4.3. Essential system services.....	10
4.4. Settlement	12
5. Roles and responsibilities	14
6. Stakeholder consultation	15
6.1. Stakeholder Working Group.....	16
6.2. Implementation Working Group.....	16

1. Purpose

The purpose of this paper is to inform stakeholders of government's intention to implement priority reforms to the electricity market arrangements in the Northern Territory to facilitate greater levels of competition and adoption of emerging technologies for the benefit of Territory electricity consumers. The paper provides introductory notes for stakeholders on:

- the components that will form the priority electricity market reforms (the 'scope')
- the work program for design and implementation of the new arrangements (the 'work program')
- opportunities for stakeholder engagement.

2. Background

The Northern Territory electricity supply industry is undergoing a significant transition and reform is required to facilitate increased market entrants and emerging technologies that will support the government's target of 50 per cent renewable energy by 2030, while maintaining secure, reliable and least-cost electricity for consumers and taxpayers.

The objectives of the Territory's electricity supply industry regulatory framework as set out in the *Electricity Reform Act 2000* are to:

- promote efficiency and competition in the electricity supply industry
- promote the safe and efficient generation, transmission, distribution and selling of electricity
- establish and enforce proper standards of safety, reliability and quality in the electricity supply industry
- establish and enforce proper safety and technical standards for electrical installations
- facilitate the maintenance of a financially viable electricity supply industry
- protect the interests of consumers of electricity.

In line with these objectives, since 2000 the legislative arrangements have provided for third-party access to the Power and Water Corporation's (PWC) three regulated electricity networks, which is a key enabler of competitive generation and retail sectors and improved efficiency, together with arrangements to facilitate buying and selling of electricity between generators and retailers.

In 2014, the contestable retail and generation businesses of PWC were separated to create two new government owned corporations, Jacana Energy (retail) and Territory Generation (generation). PWC retained responsibility for system control, electricity networks, water and sewerage and Indigenous Essential Services.

The presence of multiple separate retail and generation businesses requires the establishment of arrangements for:

- coordination of operation (dispatch) of electricity generation
- ensuring there is sufficient generation capacity available to deliver a reliable electricity supply
- facilitating financial settlement between retailers and generators
- equitable and efficient sharing of the costs of power system security services (essential system services).

Accordingly, in May 2015, the Interim Northern Territory Electricity Market (I-NTEM) commenced in the Darwin-Katherine Interconnected System (DKIS). The I-NTEM was the first step (or a precursor) to implementing fit-for-purpose long-term market arrangements to further reduce barriers to entry to, and improve the efficiency of, the generation and retail sectors, including by providing arrangements for buying and selling electricity and enhancing cost transparency, while maintaining reliability and security. The I-NTEM was designed and implemented using a minimalist approach to developing systems and regulatory arrangements. It leveraged existing arrangements and utilised legacy systems and practices. This was appropriate at the time because the purpose of the I-NTEM was to provide a vehicle for familiarisation and testing of processes, and roles and responsibilities of parties.

However, since the introduction of the I-NTEM, interest and activity in the DKIS has increased and the current I-NTEM arrangements will be significantly challenged by the rapidly evolving generation profile in the DKIS with increased amounts of solar energy generation and other emerging technologies.

The Department of Treasury and Finance (DTF) undertook public consultation in February 2019 on the development of a long-term market design, the NTEM, which is a capacity plus energy market. Following the consultation, the Northern Territory Government has established this work program to design and implement priority reforms recognising the need to ensure the Territory’s market arrangements are capable of facilitating increased market participants and accommodating emerging technologies in the DKIS.

As with all electricity markets, ongoing reform of the Territory’s electricity market arrangements will be required to ensure they are fit for purpose over time. As they are developed, transparency regarding future reform will be important to provide certainty to industry regarding government’s direction and vision for the Territory’s electricity sector.

3. Summary of priority reforms

The Northern Territory Government has identified a package of coordinated priority reforms to existing market arrangements in the DKIS to facilitate increased market participants and accommodate emerging technologies in the DKIS. This will ensure efficient, secure and reliable electricity supply and support government’s renewable energy target.

The priority reforms relate to reliability, dispatch, essential system services and settlement arrangements. Table 1 sets out a high level description of each component of the priority electricity market reforms and a summary of the need for change, with further discussion on the need for the priority reforms and the scope of change set out in sections 4.1 to 4.4.

This paper is intended to provide introductory notes on the work program and scope for stakeholders. The description of each component in this paper is deliberately high level and does not include detailed technical design. The detailed design of each component will be informed through engagement with stakeholders.

Table 1 – Summary of priority reforms

Component	Need for change
Reliability	<p>There is currently no formal system-wide standard for reliability of supply to ensure electricity costs are as low as possible for consumers while ensuring electricity is continuously supplied to consumers with minimal (or an ‘acceptable’ level of) power outages.</p> <p>An existing requirement on generators mandate that they must have sufficient capacity to meet their customers’ (retailers) demand. This is an inefficient approach to ensuring reliability, and incompatible with a generation fleet comprising different technologies.</p>

Component	Need for change
	<p>Further, it does not establish a standard taking into account an appropriate cost-reliability trade off.</p> <p>An overarching system-wide standard is needed.</p>
Dispatch	<p>The current I-NTEM dispatch arrangements commenced in 2015 and were designed to trial a competitive arrangement with the then maximum of two generation businesses for a limited time. The arrangements are inefficient, do not include provision to optimise the use of energy and essential system services, cannot manage a number of plausible operational situations and will be unable to efficiently manage the increased amounts of solar generation.</p> <p>Significant change is needed.</p>
Essential system services	<p>Essential system services are a relatively large proportion of system cost in the DKIS. There are a number of factors that can materially impact essential system service requirements, including the changing generation mix.</p> <p>Current arrangements assume Territory Generation is the sole provider of all types of essential system services. Other generators must compensate Territory Generation for their share of costs in accordance with a codified price.</p> <p>The codified price requires review as there has been substantial activity in the DKIS since it was set in 2015. The price review will also provide greater transparency to government and industry on the cost of providing these services.</p> <p>In addition to the implementation of reforms to the provision of essential system services by Territory Generation, potential arrangements for the market provision of essential system services in the Territory's regulated electricity systems will be reviewed.</p>
Settlement	<p>The I-NTEM is a virtual market, and existing out-of-balance energy settlement arrangements will not accommodate foreseeable contractual arrangements for sale of energy between multiple market participants.</p> <p>Changes are required to ensure energy settlement arrangements can accommodate foreseeable contractual arrangements.</p>

4. Priority areas for change and scope

This section provides a high level discussion on the need for each of the priority electricity market reforms. The detailed design of each component will be informed through engagement with stakeholders.

4.1. Reliability

Need for change

Reliability of a power system, in its simplest form, describes the risk that not all customer loads may be able to be supplied all of the time because there is insufficient generating or network capacity available¹.

¹ It is important to distinguish between reliability and security of a power system. Reliability is related to amount of generating (and network) capacity that has been built and is available for service. Security, on the other hand is concerned with the ability of a power system to remain intact in the face of disturbances.

The level and timing of investment, retirement and day-to-day availability of generation capacity, are factors that determine a substantial percentage of the cost of electricity supply, which is ultimately borne by consumers.

Accordingly, the level of generation capacity should not be so high that consumers pay for unnecessary capacity through their electricity tariffs or so low that consumers experience unacceptable levels of power outages. The purpose of a reliability standard is to ensure an appropriate balance is met. The benefits of a reliability standard in ensuring an efficient level of generation capacity in an electricity system apply equally to an electricity sector that operates with a monopoly structure and a competitive market with high levels of generation and retail activity. In an electricity system with a capacity market or mechanism, and multiple generators, retailers and prospective new entrants, a reliability standard is the starting point to allocate responsibility for capacity to individual participants.

There is no formal reliability standard for the DKIS or for any of the Territory's electricity systems². To date, a number of metrics have been used to assess reliability in the Territory, including by the Utilities Commission in its Power System Reviews. However, while a range of metrics are used for assessment or benchmarking purposes, there is no set formal standard mandating that a level of reliability must be met. Provision of adequate capacity has relied on previous investment by the former integrated utility. Most of these assets are now the responsibility of Territory Generation but are ageing and government policy in relation to renewables has created a different investment landscape to the past.

As part of the priority electricity market reforms, a reliability standard and associated framework for ensuring the standard is met will be implemented for the DKIS. A reliability standard and associated framework will ensure an appropriate balance between keeping electricity costs as low as possible for consumers while ensuring electricity is continuously supplied to consumers with minimal (or an 'acceptable' level of) power outages.

Scope of changes

The proposed changes are:

- establish a reliability standard informed by detailed reliability analysis modelling of the DKIS
- design and implement a suitable long-term reliability framework to ensure achievement of the reliability standard.

It is anticipated that lead times will be required for development of capability and to allow market participants (particularly retailers) time to prepare for the new arrangements. Further, retailer compliance timeframes will depend on the planning period determined and transitional arrangements may be provided. Compliance timeframes will be developed and consulted on as part of the detailed design.

² Section 4.4A of the SCTC is the closest existing requirement to a reliability standard. It is a generator obligation mandating that generators must have sufficient capacity to meet their customers' (retailers) demand and the Utilities Commission may issue (but to date has not) guidelines on how generators are to do this. Requiring each generator to provide reserve for each of its customers is inefficient and incompatible with a generation fleet comprising different technologies and ignores the opportunity to share reserves in a common network.

Timing

Table 2 provides an overview of expected timing of changes to reliability arrangements in the DKIS.

Table 2 – Timing for reliability changes

Action	Expected timing
Publish issues paper inviting initial written submissions	August 2020
Publish draft review report setting out draft policy position and recommendations and inviting further written submissions	October 2020
Publish final review report setting out detailed policy position and recommendations	January 2021
Implementation of legislative, regulatory or code changes	Late 2021
Implementation of required procedures and systems	To be determined through consultation
Commencement of reliability changes	To be determined through consultation

4.2. Dispatch

Need for change

Dispatch relates to the issuing of instructions by the system controller to a generation unit to start or stop in order to provide a specified level of energy or essential system service (such as spinning reserve). The system controller must ensure generation units are dispatched to meet system demand and must take into account security constraints.

Dispatch under the current I-NTEM is based on security-constrained economic dispatch, meaning that further to taking into account security constraints, the system controller must dispatch at the lowest cost possible. There is no intention to move away from this principle as it supports the overall efficiency of dispatch (and cost of supply) while maintaining power system security. However, there is a need to make some changes to the current I-NTEM arrangements to ensure dispatch is as efficient as possible. This reflects that the current arrangements were only meant to be transitional.

Under the current arrangements, generators make a 'one shot' submission on price and availability to the system controller a day ahead of actual dispatch, each weekday. A generator's price incorporates an amortisation of start-up costs requiring the generator to forecast when, and for how long, its generation unit(s) will run. No re-bidding or price variability is permitted.

Using this information, the system controller establishes a merit order dispatch plan (pre-dispatch information) a day ahead, taking into account the network operating limits or constraints on dispatch needed to ensure secure operation of the system. On the day, the system controller is required to make decisions looking only at a 30-minute period, 30 minutes in advance of that period based on the current state of the power system and any updates on plant availability. Second-to-second operation of the power system is managed through the system controller's automatic generation control system.

Under these arrangements, there are two factors impacting the overall efficiency of dispatch:

- There is a lack of intertemporal (that is, more than the next 30-minute period) consideration. This may not lead to the most efficient dispatch decisions across the day
- Generators' prices are informed by their assumptions on generation unit run times based on information available to them a day ahead. Therefore prices, and consequently merit order, are not informed by the most up-to-date information on the day. Further, prices and the merit order are not informed by the most complete set of information held with the system controller, including information on demand, the state of the system on that day and the availability of other generators.

These two factors impact efficient dispatch and both factors will become more significant as large-scale solar PV generators enter the power system and the level of behind-the-meter solar PV continues to grow. The intermittent nature of this technology will increase demand volatility and impact the demand profile and, on the supply side, the availability of large-scale solar PV generators may be more variable. This will increase the impact of the above two factors on efficiency of dispatch because the system controller will need to turn on and off gas generation units more frequently and generators' ability to accurately forecast run times will be further reduced.³

Therefore, changes to dispatch arrangements are required to address the lack of intertemporal consideration and to remove the reliance on generators' day ahead run time assumptions in informing merit order.

Scope of changes

Given the challenges impacting the efficiency of dispatch are significant and will become more acute as increased levels of solar energy generation enters the system, the scope of changes to dispatch arrangements have been designed to be implemented quickly.

The proposed changes are:

- the introduction of an intertemporal requirement to ensure the system controller must consider dispatch requirements over an appropriate scheduling horizon, not just for isolated short periods. This will ensure dispatch decisions are informed by expected demand and power system conditions over a period that allows for efficient scheduling decisions, including consideration of the trade-offs between start-up and operating costs of generation units
- adoption of a centralised unit commitment and dispatch process, which will require:
 - generators to provide cost information (such as start-up and operating costs) but will not require them to make assumptions regarding run times
 - the system controller to use the cost information provided by generators, as well as a broad range of whole-of-system information it has available to make decisions about which generation units to dispatch, when and for how long, on an intertemporal basis.

³ It is noted that the PWC's generator performance standards include forecasting requirements that will provide a greater understanding of the availability of large-scale solar PV generators. This may assist in understanding demand volatility, but it will not remove the volatility. Further, it will not assist in understanding demand volatility from behind-the-meter solar PV.

A move to centralised unit commitment and dispatch will place more responsibility on the system controller (rather than generators), however, given the information and holistic view of the power system held by the system controller, it is best placed to have this responsibility.

The alternative option to centralised unit commitment and dispatch to address the issues associated with relying on 'one shot' day-ahead price submissions is to introduce re-bidding arrangements like those in the National Electricity Market (NEM). However the increased overhead costs associated with this approach required to provide market participants with a whole-of-system view and information in order to make informed decisions are likely to offset any potential benefits for market participants. This is a key consideration in an electricity system with a small customer base like the DKIS. Accordingly, centralised unit commitment and dispatch has been determined the most suitable option.

Timing

Table 3 provides an overview of expected timing of changes to dispatch arrangements in the DKIS. The timing reflects the need for urgent changes to dispatch arrangements.

Table 3 – Timing for dispatch changes

Action	Expected timing
Informal consultation on draft detailed design paper via Stakeholder Working Group	July 2020
Publication of final detailed design information paper	September 2020
PWC consultation on draft SCTC changes	September 2020
PWC to submit proposed varied SCTC to Utilities Commission	October 2020
Utilities Commission decision on SCTC changes	December 2020
Implementation of required procedures and systems	Early 2021
Commencement of dispatch changes	Mid 2021

The Utilities Commission has the discretion to review and consult on the proposed varied SCTC in the manner and to the extent it considers appropriate, prior to making a decision on whether to approve the proposed variations to the SCTC. Accordingly, the timeframe in the table above for the Utilities Commission's review of the proposed varied SCTC is indicative and subject to the discretion of the Commission.

4.3. Essential system services

Need for change

Essential system services are required to support power system security. The Power and Water Corporation as the system controller is responsible for dispatching essential system services in accordance with the System Control Technical Code (SCTC).

Currently essential system services are provided almost exclusively by Territory Generation, except at times when it is not practically possible such as during certain islanding events.

Other generators benefit from Territory Generation's provision of essential system services through the maintenance of system security in the DKIS in which they operate. In recognition of this benefit and Territory Generation's provision of these services, other generators must compensate Territory Generation at a rate of \$5.40 per MWh (the 'rate'), as codified in the SCTC. The intent of this arrangement is to ensure other generators pay their share (based on their output) of the costs of essential system services.

The codified rate was set in 2015 and requires review. There has been substantial activity in the DKIS likely to have impacted on the provision of essential system services and thus Territory Generation's cost of providing them. It is also foreseeable that future activities and events will impact on the provision of essential system services, such as the introduction of substantial new solar energy generation or new technical requirements. Therefore, arrangements should ensure the rate remains up to date on an ongoing basis for as long as it is in place.

Additionally, the current codified price does not provide clarity of the costs of individual or categories of essential system services captured by the rate. Introducing this further degree of transparency would provide for a better understanding by government and industry of the cost of key services required to support power system security.

Scope of changes

The proposed changes are:

- updating the quantum of the rate paid to Territory Generation for essential system services by other generators
- codifying the process for reviewing and updating the quantum of the rate to ensure the rate remains up to date
- improving the transparency of costs for individual and categories of services captured in the rate, such as by defining and separately costing each essential system service required

The quality of input data, as well as the appropriateness and transparency of processes and methodology for calculating the revised rate, will be critical to ensuring stakeholder confidence in the outcome.

Review of the competitive provision of essential system services

In addition to the implementation of changes to the provision of essential system services by Territory Generation, the Northern Territory Government recognises that there may be benefits from contestability in the provision of essential system services.

In reviewing essential system services, the Design Development Team will review potential arrangements for the market provision of essential system services in the Territory's regulated electricity systems (Darwin-Katherine, Alice Springs and Tennant Creek).

Timing

Table 4 provides an overview of expected timing of changes to essential system services arrangements.

Table 4 – Timing for essential system services changes

Action	Expected timing
Publish issues paper inviting initial written submissions	June 2020
Publish draft review report setting out draft policy position and recommendations and inviting further written submissions	September 2020
Publish final review report setting out detailed policy position and recommendations	December 2020
Implementation of legislative, regulatory or code changes	Early 2021
Implementation of required procedures and systems	Mid 2021
Commencement of essential system service changes	Late 2021

4.4. Settlement

Need for change

Settlement refers to the process of reconciling the energy produced by generators and the energy supplied to customers of retailers to determine the quantum of financial payments required to be made between generators and retailers for the sale of energy and essential system services. Settlement can either be gross settlement (where the settlement applies in respect to all energy produced) or net settlement (where the settlement process applies only in relation to out-of-balance energy, being energy more or less than contracted amounts between generators and retailers). Arrangements for the DKIS will remain as net settlement.

The current I-NTEM is a virtual market in that all commercial transactions continue to occur through bilateral contracts between generators and retailers. A market operator function within PWC prepares virtual net settlement statements for any out-of-balance energy. Additionally, settlement statements are prepared regarding essential system services payments in accordance with the current requirements of the SCTC and are provided to the participants to make payments between each other. Currently, no financial transactions occur via the market operator.

In addition to virtual settlement arrangements, the existing out-of-balance arrangements are not sufficiently flexible to accommodate foreseeable circumstances, such as certain types of contractual arrangements that could exist between generators and retailers. Therefore, it is necessary to either mandate the type of contractual arrangements that market participants must have to remove the possibility of there being energy out-of-balance that needs to be settled or ensure energy out-of-balance settlement arrangements are sufficiently flexible to accommodate a limited range of foreseeable contractual arrangements that market participants may utilise. The former is not likely to be satisfactory to market participants and it will not result in efficient outcomes. Therefore, changes to out-of-balance arrangements for energy are required.

The transition to allow financial settlement for energy out-of-balance means that consideration needs to be given to management of the risk of participant default to ensure financial integrity. This risk will not be substantial as the market will have net settlement and any out-of-balance will be cost based, compared to gross settlement based on energy-only bid prices in markets such as the NEM. Accordingly, a participant

prudential obligation like the one in place in the NEM is considered excessive and a range of options will be considered to ensure the preferred approach is proportionate to the risk, including by avoiding or minimising the need for market participants to hold significant working capital or provide bank guarantees.

The DKIS must also move away from the current approach of settling at each generators' sent-out point (known as pool price points) as it will become increasingly complex and eventually unworkable. This is because under the current approach there is a need to relate each generator's sent-out energy to the load at each customer connection point. Therefore as part of the changes proposed, consideration will be given to the introduction of a reference node, which is a physical location within a power system at which out-of-balance energy is settled. This will also include consideration of the implications of a single reference node if material levels of network congestion occur between Channel Island and Katherine, and whether arrangements should be put in place to mitigate those implications without requiring the market participants to have different contractual arrangements in place for the northern and southern regions of the DKIS. The design of the reference node arrangements should balance the requirement for an appropriate level of pricing accuracy (and mitigate against perverse pricing outcomes) while avoiding the introduction of excessive complexity and associated costs. Options for development of a fit-for-purpose arrangement are being developed for consultation.

Scope of changes

With increasing numbers of market participants, contractual arrangements between them could change at any time. Therefore, settlement arrangements for the DKIS must be changed to accommodate foreseeable contractual arrangements for sale of energy between market participants as soon as practicable. For this reason, the scope of changes to settlement arrangements have been designed to be implemented quickly.

The proposed changes are:

- changes to out-of-balance arrangements for energy, including to:
 - introduce financial settlement of an energy out-of-balance pool by the market operator (moving away from current virtual settlement)
 - ensure energy out-of-balance arrangements are designed to accommodate a limited range of foreseeable types of contractual arrangements into which market participants may enter
 - implementation of appropriate arrangements for management of participant default risk that are proportionate to the level of risk for the net energy settlement market
 - introduction of reference node arrangements. This will include consideration of options to address the risk of perverse pricing outcomes if there is material network congestion.

Settlement arrangements for essential system services will not be amended as part of the scope of priority changes identified above. This does not preclude the possibility of further changes to settlement arrangements in the future if required.

Timing

Table 5 provides an overview of expected timing of changes to settlement in the DKIS. The timing reflects the need for urgent changes to settlement arrangements.

Table 5 – Timing for settlement changes

Action	Expected timing
Informal consultation on draft detailed design paper via Stakeholder Working Group	July 2020
Publication of final detailed design information paper	September 2020
PWC consultation on draft SCTC changes	September 2020
PWC to submit proposed varied SCTC to Utilities Commission	October 2020
Utilities Commission decision on SCTC changes	December 2020
Implementation of required procedures and systems	Early 2021
Commencement of settlement changes	Mid 2021

The Utilities Commission has the discretion to review and consult on the proposed variations to the SCTC in the manner and to the extent it considers appropriate, prior to making a decision on whether to approve the proposed variations to the SCTC. Accordingly, the timeframe in the table above for the Utilities Commission's review of the proposed varied SCTC is indicative and subject to the discretion of the Commission.

5. Roles and responsibilities

A clear understanding of key roles and responsibilities will be important to ensure the successful design, implementation and operation of the priority electricity reforms. These are summarised below. Where relevant, this summary also highlights key bodies and key operational responsibilities post-implementation of the priority reforms.

Design Development Team

The Design Development Team is a small working group established to oversee the delivery of the priority electricity market reforms.

The Team comprises officers of the Economic Policy unit of DTF and the Office of Sustainable Energy within the Department of Trade, Business and Innovation (DTBI).

The Team will be responsible for preparation of information and consultation papers, conducting Stakeholder Working Group workshops and overseeing project management and implementation.

Power and Water Corporation System Controller and Network Provider

PWC is licenced under the *Electricity Reform Act 2000* as the system controller and network provider for the Territory's regulated electricity systems and has the functions of operating the networks and monitoring and controlling the operation of the power system to ensure it operates reliably, safely and securely. This extends to operating and administering wholesale electricity market arrangements. The system controller is responsible for preparing the SCTC under section 38 of the *Electricity Reform Act 2000* and the network provider has the responsibility for publishing the NTC under regulation 25 of the *Electricity Reform (Administration) Regulations 2000*.

The system controller and network provider will play an important role in ensuring the successful implementation of the electricity market reforms. They will be responsible for progressing the necessary SCTC and NTC changes and also need to ensure their systems and process are appropriate to ensure the timely and practical implementation.

Utilities Commission

The Utilities Commission is the independent regulator in relation to the Territory's electricity supply industry (excluding in relation to network regulatory matters that are now under the jurisdiction of the Australian Energy Regulator).

The Utilities Commission has two key roles relevant to the priority electricity market reforms.

As touched on above, the Utilities Commission must approve any proposed changes to the SCTC and NTC in accordance with section 38(1) of the *Electricity Reform Act 2000* and regulation 25 of the *Electricity Reform (Administration) Regulations 2000* respectively. In performing its role including when determining whether to approve proposed changes, the Utilities Commission has regard to objectives set out at section 6(2) of the *Utilities Commission Act 2000*.

As regulator, the Utilities Commission also has a compliance and enforcement role that is important to ensure successful implementation and operation of the priority electricity market reforms. Most relevantly, it licences electricity entities with licence conditions that require compliance with protocols, standards and codes applying to the electricity entity under regulations (among other licence conditions). In accordance with regulation 3D of the *Electricity Reform (Administration) Regulations 2000*, the Utilities Commission has the functions of overseeing the exercise of the system control of the power systems and operation of wholesale markets, and monitoring and enforcing compliance by electricity entities of the SCTC.

6. Stakeholder consultation

Consultation with stakeholders is critical to ensure that the priority electricity reforms deliver benefits to the Territory's electricity industry and ultimately Territory electricity consumers.

A tailored and targeted approach to stakeholder consultation will be adopted for each of the priority electricity market reforms. This approach recognises different levels of consultation will be appropriate for different reforms, given the nature of the reforms proposed and their urgency.

Two key modes of engagement are proposed:

1. Informal consultation on draft design papers through Stakeholder Working Group workshops.
2. Publication of consultation papers and invitations to make written submissions.

The above could be supplemented by one-on-one meetings, presentations and workshops with stakeholders as necessary.

Elements of the priority electricity market reforms will need to be implemented through amendments to the SCTC and Network Technical Code and Planning Criteria (NTC) prepared by PWC, as the licensed system controller and network operator, and approved by the Utilities Commission, as the independent regulator.

Amendments to the SCTC and NTC will need to be made in accordance with the legislative requirements of the *Electricity Reform Act 2000* and *Electricity Reform (Administration) Regulations 2000* respectively, and relevant provisions such as the requirement on the system controller and network provider to consult with electricity entities. The electricity market reforms to be implemented through code changes will need

to be subject to public stakeholder consultation by PWC, with stakeholder submissions to be considered prior to a proposed varied SCTC or NTC being submitted to the Utilities Commission for approval.

Given the significance of the changes that are expected, to the extent practical PWC will seek to consolidate draft SCTC changes before approval is sought from the Utilities Commission. This will ensure that code change consultation and approval processes are streamlined and SCTC development is coordinated across the different priority reform areas.

6.1. Stakeholder Working Group

A Stakeholder Working Group will be established to inform the detailed design of the priority electricity market reforms. The purpose of the Stakeholder Working Group is to give stakeholders an opportunity to provide informal feedback on the design of the proposed reforms outside (and additional to) formal consultation processes.

Ideally, a series of Stakeholder Working Group workshops on the priority electricity reforms would be conducted as required. However, there may be a need to adapt these plans (and possibly hold workshops via videoconference or on-one-one meetings rather than group meetings) due to the logistical challenges that may be posed by COVID-19 restrictions. Regardless of the form of 'workshops' undertaken, all efforts will be made to ensure consultation arrangements are appropriate and provide a reasonable opportunity for all stakeholders to participate.

Interested parties that would like to participate in the Stakeholder Working Group may nominate an appropriate representative. Any organisation or business is eligible to nominate a representative, however, representation is to be limited to one person per organisation or business. Alternates will be permissible. Once nominations are provided and the membership of the Stakeholder Working Group is formed further detail will be provided to members about upcoming consultation, and the role and operation of the group.

Nominations are to be emailed to electricityreform@nt.gov.au by **Friday 19 June 2020**. The following details should be provided in a nomination email:

- name of representative
- organisation
- contact phone number
- contact email address.

6.2. Implementation Working Group

The implementation of the priority electricity market reforms will require coordinated action by government and t PWC as system controller and network provider given their responsibility in respect to the SCTC and NTC respectively.

An Implementation Working Group, comprising members of the Design Development Team (DTF and DTBI) and officers of the PWC as system controller and network provider, has been established to coordinate the implementation of the priority electricity market reforms.

Where implementation of changes is through PWC codes, the system controller or the network provider (as relevant) will have an important role in implementation in accordance with the current legislative framework. Where changes are to be implemented through legislative changes (e.g. amendments to Acts or regulations) the Northern Territory Government will be fully responsible for implementation.