PUBLIC VERSION

POWER GENERATION CORPORATION

(Trading as Territory Generation)

2019-20 STATEMENT OF CORPORATE INTENT

Introduction

The growth in solar penetration continues to impact on our business as solar reduces our market share and Territory Generation (TGen), as the generator of last resort, continues to supply stability to the system, leading to increased costs per megawatt hour as overheads are absorbed over a smaller market.

As a result of our predictions of decreased sales without a commensurate reduction in costs, the Board has accepted the requirement of a $16.5 million net impairment of assets, recognising that our assets cannot provide the return that they used to.

In recognising this, we also need to write-off our current deferred tax asset of $45.5 million (an offset against future taxes) as we are unlikely to be in the position of paying tax in the foreseeable future.

TGen has undertaken a detailed cost and budget review, and identified reductions which deliver savings, while maintaining core capability. The organisation continues to tightly manage costs and has built in a $3.0 million per year reduction in controllable costs. Staff numbers have reduced as major capital works come to an end.

Investments over the past few years are now starting to pay off in increased efficiencies and a focus on safety has meant no lost time injuries for 164 days. As well, a significant new customer has been contracted in Alice Springs.

A cooperative EA negotiations process has given staff and management certainty for the next four years.

A significant project to improve efficiency at Channel Island was carried out successfully, largely by our own staff. This showcased the skill levels in house and provided a cost competitive solution. The Board is very supportive of Management's intention to have a highly skilled workforce.

Completion of Alice Springs and Tennant Creek Major Projects will improve efficiency and reliability but has been delivered much later than expected leading to increased supervision costs and a significant delay in achieving benefits.

Commercial environment

Our commercial environment continues to be difficult as households increase the installations of solar panels on their roofs and Jacana has recently signed contracts with three solar farms which will have a capacity of 45MW. Our prediction for the Statement of Corporate Intent (SCI) period is that solar generation capacity will grow from about 30MW at present to over 140MW by 2022/23. Despite this growth, it is unlikely that TGen will be able to retire plant through this period as it will be needed to guarantee stability of the system in times of cloud cover. TGen is developing a proposal for a large battery in the Darwin/Katherine system to support system stability at lower economic and environmental costs than the use of spinning reserve.

Despite the efforts of many, the consultations on the structure of the electricity market, as well as reliability standards and ancillary charges continue. It is hoped that a decision will be reached in the 2019/20 financial year as it is difficult to predict financial outcomes for TGen in the absence of market rules.

In this uncertain policy environment, TGen suggests a continuation of last year's pricing approach with the Government agreeing to forgo a dividend through the SCI period and our wholesale price will be increased on an indexation basis rather than at full cost recovery. This avoids uncertainty for customers while consultation on market design continues.

Other than the impairment and deferred tax asset write-off, TGen has delivered financially in accordance with last year's SCI. We still cannot predict a dividend for government over the next four years and will need support with major capital works and therefore will only focus on essential projects and/or those that provide a significant return.

Fuel

TGen relies on fuel (gas and diesel) to produce the majority of the electricity supplied to retailers. Combined, this accounts for more than 50 per cent of the operating costs of the business. To ensure security of electricity generation, TGen requires not only certainty over the availability of gas but also the availability of transportation. Predicting TGen's demand for gas and transportation is becoming more of a challenge given the transition to renewable energy. TGen's gas is currently supplied under contract from Power and Water Corporation, which has a long-term contract with sufficient available gas and transportation to meet TGen's needs.

Reporting against Legislative Requirements

Section 40 of the *Government Owned Corporations Act 2001 (GOC Act)* provides that the SCI must specify, in respect of the financial year to which it relates and each of the two following financial years, the following information:

1. the objectives of the Corporation;

The objectives of the Corporation are:

- To be a safe and efficient thermal generator providing system stability and generation of last resort through a period of transition to 50 per cent renewable energy.
- To provide trusted advice to government in our areas of expertise.

2. the nature and scope of the activities to be undertaken by the Corporation;

TGen provides five (5) distinct products and services:

1. *Energy*

   The provision of energy in the form of megawatt hours (MWh) required to meet retailers' customer loads.

2. *Frequency control and contingency support services*

   Services that ensure that there is sufficient reserve capacity (Spinning Reserve), contingency frequency, voltage and inertia support services to minimise fluctuations in voltage and outages from system interruptions, e.g. generator trips and network disturbances or faults. The provision of these services allows supply to be maintained dynamically in the event of system or network disturbances and minimises associated load shedding.

   These services are traditionally provided from the generation plant. Battery technology can provide elements of these services more cost effectively than traditional methods, which is why TGen is investing in a battery energy storage system in Alice Springs and exploring options for Darwin/Katherine.

   The requirement and demand for these services is managed by the System Controller and regulated through the System Control Technical Code and Secure System Guidelines.

3. *Network support services*

   Provision of services to ensure voltage levels are maintained in the network.

   This includes the provision of facilities and services to mitigate the impact of network interruptions mainly on the Darwin/Katherine interconnector.

   This also includes the provision of services to shift load to manage network capacity issues. e.g. Alice Springs Battery Energy Storage System (BESS).

4. *System security services*

   TGen maintains dual fuel supply redundancy in the form of diesel storage and generation capacity in Darwin, Katherine, Tennant Creek and Alice Springs to ensure that generation can be maintained in the event the primary fuel supply (gas) is interrupted.

   TGen also maintains additional generation capacity to ensure greater system security over the accepted N-1 (peak generation capacity-maintained accounting for the loss of the largest unit). This additional investment is an insurance against multiple unit outages.

5. *Black start services*

   In the event all generation is lost (System Black), TGen maintains black start generation to ensure that the stations and network can be reenergised. This capability is maintained continuously to ensure high availability.

   The recent announcements on the structure of the new Northern Territory Electricity Market (NTEM) arrangements may impact on the categorisation and pricing for these services going forward.

3. the material risks faced by the Corporation and the strategies to minimise these risks;

The introduction of solar power on residential and business rooftops as well as large scale solar farms provides a threat to the viability of TGen. This is because the cost of producing solar power is below the marginal cost of producing power from gas in the Northern Territory. This is the existential risk to the Corporation.

The loss of revenue means that the fixed overheads of the business must be recovered over smaller sales therefore pushing up the average price. This will lead to further losses in a competitive market or higher tariffs in a less free market. Meeting the market will mean a significant cut to overheads and/or impairment of assets and reduction in return to Government as the owner.

This is mitigated to some degree by the fact that solar generators can only produce at this low cost for about six hours a day on average over the year and that regulators will insist on these generators providing a contribution to the stability and reliability of the system through the purchase of ancillary services.

An associated risk is the pricing of ancillary services which provide reliability and stability for the system. TGen considers the current pricing is well below the cost of providing them which means TGen is cross-subsidising its competitors. Department of Treasury and Finance (DTF) is undertaking this review in consultation with Power and Water Corporation as the System Controller and Market Operator and other market participants .

TGen is also at risk from the entry of a thermal generator with more efficient equipment and/or access to cheaper gas. This has already occurred with EDL at Pine Creek Power Station.

The table below summarises the highest-rated strategic risks facing the business. All other recognised risks are captured in Territory Generation's Risk Register.

Key Risk	Mitigation strategy
Developments and improvements in disruptive technologies leading to losing market share, reduction in revenue and output due to decreasing demand and price.	• Re-organise business with a reduced cost base. • Alternative revenue streams / business models. • Negotiate flexible long term gas agreement. • Efficient pricing of ancillary services. • Investment in battery storage projects.
Inadequate IT security which enables unauthorised access to TGen's SCADA / control systems network.	• Network access controls. • System access controls. • Firewall protection (NTG). • Virus protection. • Audit logs. • Secure network system & NTG Security Guidelines. • Review of cyber risks and systems & audit of current systems and security measures ICT strategy.
Return on equity not achieved and missing financial targets.	• Due diligence and costings prior to project. • Analysis of market to assess probable rapid changes which may affect returns. • On-going monitoring, protections, tight fiscal controls. • Performance guarantees built into contracts. • Wholesale pricing. •
Market rules design put TGen at a commercial disadvantage via increased responsibility and inability to recover costs/investment.	• Work with DTF to ensure market rules are fair to all parties.
Significant incident resulting in injury or death of a worker/ visitor.	• Safety Management Plan. • Environment Management Plan. • Integrated Change Management Process. • Electrical tagging & testing, test equipment. • Restricted access to high risk areas. • Safety signage. • PPE provided and training as appropriate. • Security / monitoring. • SSOW implementation. • Safety governance & consultation.
Loss of gas supply from Power and Water Corporation (PWC) for an extended period resulting in the need to run diesel.	• Fuel Emergency Advisory Committee - emergency planning. • Diesel storage. • Engagement with PWC gas unit on planned works and back-up arrangements.

	• Enter into new gas supply agreement with other gas suppliers & emergency fuel cover. • Exploring more efficient plants and alternate energy sources. • Having emergency procedures. • Exploring additional back-up gas storage facilities. • Emergency supply of fuel via trucks. • Confirmation and reliance on PWC having agreements with Inpex, ConocoPhillips and Central Petroleum for emergency gas supply.
Breach of Acts, regulations and / or generation licence obligations resulting in licence being revoked or suspended.	• Compliance Framework, Policy and Compliance Register. • Monitoring and communication of licence requirements. • Regular reporting to Board on compliance activities and progress. • Clearly defined escalation process. • Annual Compliance Report to the Utilities Commission. • Regular reporting to the NT Environment Protection Agency.

4. the strategies to improve the financial performance of the Corporation;

The Corporation has addressed efficiencies in the operational part of the business, principally through its Transformation Project, in particular the development of the Remote Operations Centre and the upgrade of machinery in Tennant Creek and Alice Springs. The new generating units in Tennant Creek have been in operation since December 2018 and fuel efficiency benefits are being realised. The new units at Owen Springs have been contributing more to the Alice Springs Network since late February 2019, and will gradually transition to the primary power station in Alice Springs, enabling full realisation of project benefits.

A System Control imposed constraint on overall output from Weddell Power Station has recently been lifted, effectively raising TGen's capacity in the Darwin/Katherine region by over 30MW. This has allowed TGen more flexibility in ensuring that the most efficient units are dispatched and run at more efficient loads.

The node swap at Channel Island Power Station has enabled lower operation of the less efficient generators, again contributing to the increase in overall efficiency of the Darwin/Katherine system.

The Alice Springs battery energy storage system (BESS) is expected to reduce the amount of spinning reserves required to be provided by TGen's generators in Alice Springs, reducing fuel as well as maintenance costs.

Modifications have been made to MAN units at Owen Springs Power Station to improve running performance by enabling greater reliability of gas operation on the units and therefore limiting the run time on diesel, being a more expensive fuel.

Operational costs across the business are monitored on an ongoing basis to assist in identifying other possible areas for cost savings. Savings identified to date have included a competitive tendering process across all power stations for cleaning contracts; the removal of a physical security guard at Weddell Power Station and replacing with turnstile access and security camera monitoring from Channel Island Power Station using CCTV.

The Corporation undertook an organisation restructure of corporate overheads to adapt to changes in the external environment which was rolled out from 1 July 2018 and as a result, efficiencies are being gained and FTE numbers have been significantly lower over the 2018/19 financial year than anticipated in our prior SCI.

5. the capital investment plans of the Corporation that have been approved by the Government Owned Corporation's shareholding Minister;

The table below summarises major capital expenditure (capex) that has been approved by the shareholding Minister:

Item ($ Million)	**18-19**	**19-20**	**20-21**	**21-22**	**22-23**
Owen Springs & Tennant Creek	19.4	0.0	0.0	0.0	0.0
Remote Operations Centre	0.9	0.0	0.0	0.0	0.0
Total approved	**20.3**	**0.0**	**0.0**	**0.0**	**0.0**

Other Capital Expenditure:

The table below summarises other capital expenditure by value:

Item ($ Million)	**18-19**	**19-20**	**20-21**	**21-22**	**22-23**
Projects greater than $1 million	8.9	20.4	23.7	20.6	17.9
Projects less than $1 million	3.7	2.3	1.7	0.0	0.9
Total other capex	**12.6**	**22.7**	**25.4**	**20.6**	**18.8**

Total Capital Expenditure:

The total forecast for capital expenditure is:

Item ($ Million)	**18-19**	**19-20**	**20-21**	**21-22**	**22-23**
Total all items	**32.9**	**22.7**	**25.4**	**20.6**	**18.8**

6. the financial targets and other measures by which the performance of the Corporation may be judged;

The primary focus of the 2019/20 targets is to ensure that the great accomplishments of the past financial year become business as usual (BAU) operational objectives and to further enhance the opportunities for refinement of functions across the Corporation. The Board has assembled a detailed report of the Key Performance Indicators (KPIs) across the TGen business in order to clearly define the strategic direction for the coming financial year. The strategic direction of the Corporation is aligned to driving constant improvement in all areas focused on Key Result Areas (KRAs) for the SCI period.

The Corporation will continue to utilise the Strategic Plan Progress Update Report to detail the specific action plans for each business unit and function. Through ongoing reviews of key lead and lag indicators, the Corporation will be assessing the headway being achieved towards our strategic goals. From these evaluation sessions between the Executive Leadership Team and senior management, the effectiveness of the current action plans will be reviewed, any adjustments necessary will be made to continue the positive momentum or realign the efforts of the specific business unit.

A major influence on the ongoing direction of the Corporation will be the potential impact of emerging technologies, the future developments in the local energy market and the role TGen must play in the security of supply to all customers. Detailed below is an overview of the key performance objectives of the Corporation to meet these challenges and set the benchmark for the continued success of the overall business.

KRAs	KPI Measure	Target	Action Area
Safety			
We will have an embedded behavioral based safety culture, where safety is the core of everything we do.	• Safe act observations and safety interaction reporting rates. • Lost time injury frequency rate (LTIFR).	Monthly allocated targets met or exceeded. Zero LTIFRs recorded.	Continuous improvement approach to safety systems, processes, leadership, behaviors and reporting.
Finance			
We will achieve our agreed controllable SCI outcomes. *We will monitor and report the impact of uncontrollable events against our SCI.* *An accepted and transparent understanding of the cost of ancillary services.* *Our financial planning is based on more up to date market information.*	• Achievement of budgeted outcomes EBITDA/current ratio/ROA/ROE/Debt to equity ratio/EBIT. • Approved suitable critical supply arrangements. • TGen ancillary service products are transparently costed to meet the requirements of the system control technical code.	Targets met or exceeded. Approved by Board. Approved by Board.	Understanding, measuring and actively managing financial drivers with a focus on financial sustainability.
Stakeholders & Customers			
We will be a trusted, reliable and cost effective supplier, delivering quality products and services.	• Effective stakeholder management plan is implemented. • New WESAs negotiated.	Implemented stakeholder plan. Approved by Shareholder.	Continue to engage with stakeholders and customers with a focus on creating valued outcomes.

	• Pricing and risk management policies annual review completed.	Approved by Board.	
Sustainability			
We will have a sustainability reporting framework and system that identifies the social, environmental and economic performance of TGen.	• The measurement and reporting of regulated system carbon intensity. • Annual review of renewable and alternative energy transition plan.	Decrease in trend TGen's emissions to be no greater than tCO2-e 1,000,000 total tonnes for the year. Plan produced.	Continue to efficiently provide energy support and ancillary services to achieve a decreasing carbon intensity trend on all systems in which we operate.
Internal Processes			
We will be efficient and effective in providing products and services that meet our customer's needs.	• Operating expenditure (less energy) as percentage of total revenue. • Operating expenditure (less energy) per sent out MWh generated. • Operational efficiency across all sites. • Major environmental incidents. • Identify new technologies and develop appropriate business cases.	Achieve 36% or less. Achieve $55.67 MWh or less. Achieve a total TGen average energy efficiency of 32% as sent out. Achieve zero major incidents. Two business cases presented to the Board.	To deliver efficient and reliable core business operations in a rapidly changing environment.

	• Delivering an annual review of whole of system reliability, cost and efficiency report. • Plant Availability across portfolio.	Annual review delivered to the Board. Achieve a total TGen average of 88%.	
People and Culture			
We will have a corporate culture that attracts, retains and develops highly skilled people aligned with the TGen vision and values.	• Annual performance appraisal completion rates. • Employee engagement survey. • Compliance training provided as per training schedule.	Achieve 90% completion rate. Achieve 70% engagement survey result. Achieve 90% training completed on time.	Building a positive culture and developing capability to work towards achieving Territory Generation's vision.

7. the accounting policies to be applied in the accounts of the Corporation; and

Power Generation Corporation (the Corporation) trading as Territory Generation was established on 29 May 2014 under the *Power Generation Corporation Act 2014 (PGC Act).*

The Corporation is declared to be a Government Owned Corporation for the purposes of the GOC Act.

The Board of Directors is responsible to the shareholding Minister for the financial performance of the Corporation.

The principal accounting policies adopted in the preparation of the financial statements are set out on pages 39-45 of the 2017/18 Annual Report. These policies have been consistently applied to all years presented, unless otherwise stated.

8. any other matter that may be agreed on by the shareholding Minister and Territory Generation's Board of Directors.

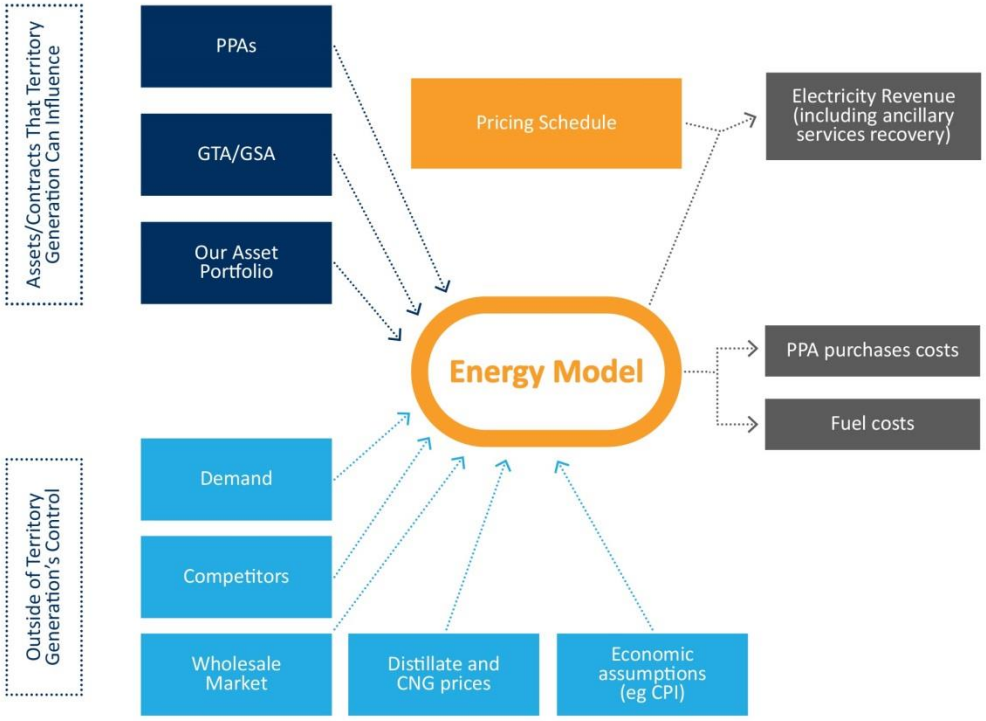
No other matters are applicable at this time.

1 Appendix 1 – Financial Projections

1.1 Methodology

An integrated model has been developed to forecast the financial outcomes for the business over the stated three year strategic planning period.

The diagram below summarises the key energy revenue and cost components of the forecast and the related inputs and outputs.



The methodology for the development of the forecast is outlined below.

- Firstly, the annual forecast energy demand is determined by region (power system).
- The expected network and system support services are determined, together with known operational constraints likely to be imposed by the system controller. These are overlaid as operating parameters in the dispatch model to estimate the required system security.
- The generation output of each unit at each station is then determined to meet demand requirements based on a cost-effective method of producing supply, which includes TGen's units, electricity purchased under power purchase agreements (PPAs), and potential competitors. The key inputs of this "dispatch model" are the short run marginal cost of all units in the market, the availability of units and forecast demand by hour.
- The volume of fuel (both gas and diesel) used by each of TGen's power stations is then determined based on amount of electricity produced and assumed thermal efficiency of plant. The cost of fuel includes both the fuel commodity and associated transportation charges.

- Electricity that is sold (including production and purchases) is then priced according to the business's current and planned pricing schedule.
- Personnel numbers have been based on the planned organisational structure as it evolves over time which has been aligned with the strategic direction.
- Personnel costs have been aggregated from a bottom-up forecast by individual and role across the planned evolving organisational structure, inclusive of all allowances and on-costs.
- The repairs and maintenance and capital expenditure projects have been identified, prioritised and reviewed in the context of the strategic direction and projected operational outcomes of the business, and incorporate the expected reallocation of internal labour costs in line with accounting standards.
- The remaining forecasted operating expenditures are based on a bottom-up review of requirements taking account of historical spend and the future strategic direction of the business.
- As a consequence of all revenue, cost and capital input assumptions, a theoretical test of the carrying value of the Corporation's assets is undertaken (Impairment Test). As a result of this Impairment Test, any Cash Generating Units which have been unable to demonstrate their fair value have been subject to the application of a forecasted impairment. This reduces the carrying value of the assets, as well as the future depreciation stream.
- Finally, the application of taxation regulations and accounting standards is applied to forecast profits and losses on a rudimentary basis to ensure regulatory compliance.

1.2 Key Assumptions

The financial forecast has been based on the following key assumptions:

<table>
<tr><th>Item</th><th>Assumption</th></tr>
<tr><td>Electricity consumption</td><td>
For each of the regulated regions, TGen used the annual energy rates provided in the latest available Power System Review (PSR). For this SCI, it was the 2016/17 PSR. The 50% Renewable Policy forecast of energy was chosen to reflect government policy and provide consistency.

For the Darwin/Katherine region, the declining economic situation coupled with the strong uptake of rooftop solar is reflected in negative growth for the forecast period. The situation is repeated in Alice Springs which demonstrated a steadier decline across the forecast period. Tennant Creek is the only regulated network to show an increase in load and that is not until the second half of the forecast period. The system sent out growth rates are summarised in table below.

<table>
<tr><th>System Sent Out Growth</th><th>19/20</th><th>20/21</th><th>21/22</th><th>22/23</th></tr>
<tr><td>Darwin/Katherine</td><td>-2.98%</td><td>-0.60%</td><td>-0.36%</td><td>-0.31%</td></tr>
<tr><td>Alice Springs</td><td>-2.25%</td><td>-2.07%</td><td>-1.88%</td><td>-1.72%</td></tr>
<tr><td>Tennant Creek</td><td>-0.17%</td><td>-0.09%</td><td>0.17%</td><td>0.17%</td></tr>
</table>

While the emphasis is on the (energy) sent out growth rate which is inherently an exogenous variable, the peak demand which is inherently an endogenous variable in the Dispatch Energy Model (DEM) changes based on multiple model inputs. Therefore, maximum (peak) demand output from the DEM is not directly comparable to the maximum demand assumptions in the 2016-17 PSR. The assumed peak maximum demand for each region is outlined in table below.

<table>
<tr><th>Peak Demand (MW)</th><th>Existing</th><th>19/20</th><th>20/21</th><th>21/22</th><th>22/23</th></tr>
<tr><td>Darwin/Katherine</td><td>271.89</td><td>271.92</td><td>270.66</td><td>271.99</td><td>272.99</td></tr>
<tr><td>Alice Springs</td><td>50.04</td><td>51.49</td><td>50.45</td><td>49.52</td><td>48.68</td></tr>
<tr><td>Tennant Creek</td><td>8.55</td><td>8.54</td><td>8.53</td><td>8.55</td><td>8.56</td></tr>
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</td></tr>
</table>

Competition

Incoming competition to the NT power generation market has been flagged for some time, and is expected to continue to adversely impact market share.

Based on publicly available information, Territory Generation has assumed the following generation installations will be competitors for market share in each region.

Region	Installed Capacity (MW)	Average Capacity (MW)	Maximum Annual Energy (MWh)	Introduction Date
Darwin/Katherine				
Gas Fired Thermal				
Pine Creek	27	27	200,886	Existing
Solar				
Darwin Airport *	5.6	1.4	12,264	Existing
Darwin Airport	10	2.5	21,900	1-Jan-20
Darwin Airport	30	7.5	65,700	1-Jan-21
Defence Department*	12	3.0	26,000	1-Jan-20
Tetris (Manton)	10	2.5	21,900	1-Jan-20
Tetris (Batchelor)	10	2.5	21,900	1-Jan-20
Katherine Solar	25	6.3	53,500	1-Jan-20
Alice Springs				
Solar				
Airport Corporation	5	1.3	10,950	1-Jul-20
Airport Corporation	5	1.3	10,950	1-Jul-21
Tennant Creek				
Solar				
Airport Corporation	2	0.5	4,380	1-Jan-21

**Behind the meter installations*

The following table highlights the summary of the expected introduction of competition, in terms of installed capacity by year of installation, for each of the markets in which TGen operates. This includes both solar and thermal generation capacity.

Installations Capacity (MW)	Existing	19-20	20-21	21-22	22-23
Darwin/Katherine	32.6	99.6	129.6	129.6	129.6
Alice Springs	0	0	5	10	10
Tennant Creek	0	0	2	2	2
Total	**32.6**	**99.6**	**136.6**	**141.6**	**141.6**

TGen estimates that the impact on the gas consumption of the Corporation through the introduction of competition will be profiled as follows:

Gas Displaced (PJ)	Existing	19-20	20-21	21-22	22-23
Darwin/Katherine	2.40	3.21	4.22	4.77	4.77
Alice Springs	0.00	0.00	0.12	0.25	0.25
Tennant Creek	0.00	0.00	0.06	0.12	0.12
Total	2.40	3.21	4.4	5.14	5.14

Electricity Demand

The result from the assumptions of expected electricity consumption and of the expected impact of competition on Territory Generation's market share is demonstrated by the forecast sent out electricity from Territory Generation.

Region (MWh)*	18-19	19-20	20-21	21-22	22-23
Darwin/Katherine	1,398,193	1,253,664	1,150,208	1,104,543	1,097,920
Alice Springs	211,787	200,958	186,433	178,410	175,381
Tennant Creek	31,717	37,161	32,300	27,193	27,269
Yulara	20,477	18,345	18,278	18,278	18,278
Kings Canyon	1,279	772	772	772	772
Total	**1,663,453**	**1,510,900**	**1,387,991**	**1,329,196**	**1,319,620**

2018-19 Actuals to February plus forecasts for March to June.

Electricity supply – TGen's asset portfolio

<u>Existing Power Station Assets:</u>

TGen's existing plant is assumed to be maintained and operated to optimise its outputs and costs in accordance with the approved Asset Management Plan throughout the SCI period.

Major southern region power generation capacity upgrade projects will be finalised and fully commissioned and operational during the final quarter of the 2018/19 financial year.

This includes the $75 million capacity expansion project at Owen Springs Power Station, involving the installation of 10 new reciprocating gas engines, which will effectively double the power station capacity to 77MW.

The $26 million upgrade project at the Tennant Creek Power Station involves the installation of 3 new reciprocating gas engines, and the commissioning of 1 new and 1 existing diesel engine. The commissioning of these projects will see a reduction of CO^2 emissions in these markets by approximately 20 per cent.

Finalisation of the Owen Springs project will initiate the final stages of transition to closure for the aging Ron Goodin Power Station..

Fuel Purchases

By far, the largest single cost item for TGen is the cost of energy, including gas and diesel input costs, together with Power Purchase Agreements. The amount of fuel required to generate from TGen's power stations is based on the forecast volume output from each unit and the efficiency of each unit based on an assumed heat rate curve.

For 2019/20, the cost of delivered gas is based on the current short-term agreement with PWC. For the purposes of the SCI, TGen have assumed that the current short-term agreement will be continued with PWC, with terms and conditions substantially the same.

In 2022/23 one heat recovery steam generator, which powers half of the steam turbine could be turned off due to the high level of start/stop cycling being applied due to high mid-day levels of solar power. This is because the steam turbine and heat recovery systems are not designed for frequent stops. If this occurred it would increase gas costs to TGen by approximately $2.6m. It has been assumed that constraints would be applied to other system participants to enable the steamer to run at full load and therefore these additional gas costs have not been included.

Diesel usage is based on the historical proportion of usage for the level of output. The reduction in diesel in the 2019-20 SCI for Alice Springs and Tennant Creek are attributable to the new gas plants installed in these regions.

Diesel Feed (PJ)	**18-19**	**19-20**	**20-21**	**21-22**
Darwin-Katherine	0.0026	0.0025	0.0024	0.0026
Alice Springs	0.0144	0.0133	0.0127	0.0125
Tennant Creek	0.0032	0.0018	0.0010	0.0010
Yulara	0.0465	0.0463	0.0463	0.0463
Kings Canyon	0.0083	0.0083	0.0083	0.0083
Volume (PJ)	**0.0750**	**0.0722**	**0.0707**	**0.0707**
Cost ($000s)	2,529	2,499	2,508	2,570
Average Price ($/GJ)	**33.71**	**34.59**	**35.49**	**36.36**

Repairs and Maintenance (R&M)

R&M expenses include the cost of materials, internal and external labour. The expenses have been estimated by power station unit over the planning period and comprise of planned maintenance and an allowance for unplanned maintenance. The estimated spend over the period is as follows:

Power Station ($Million)	18-19	19-20	20-21	21-22	22-23
Channel Island	9.7	9.5	9.3	9.4	9.2
Weddell	1.7	3.0	3.2	2.6	2.9
Katherine	0.8	2.9	1.8	1.9	1.8
Tennant Creek	1.1	1.7	2.6	2.6	2.4
Ron Goodin*	1.3	0.0	0.0	0.0	0.0
Owen Springs	4.3	4.3	5.8	6.5	7.5
Kings Canyon	0.3	0.4	0.5	0.5	0.4
Yulara	1.5	1.8	1.0	1.2	1.2
Total	**20.7**	**23.6**	**24.2**	**24.7**	**25.4**

**Ron Goodin shutdown during 2019/20*

Compared with subsequent years, the forecast spend is higher for all years due to the reallocation of the cost of materials from operational costs. Delays to commissioning of the Owen Springs enhancement project, and a subsequent need to continue to operate Ron Goodin Power Station has resulted in continued unexpected costs being incurred in maintaining this ageing plant.

Personnel Numbers

Staff roles have been based on an assumed organisational structure of the business to align with the overall strategic direction. A reduction in personnel is expected as a result of improved systems and processes being implemented and the transition to closure for the Ron Goodin Power Station. The FTE targets in the 2018/19 SCI remain in the 2019/20 SCI.

Personnel Costs

Wages are assumed to increase by 2.5% pa for executive staff and 2.5% pa for 2019/20 and thereafter for all employees in line with the TGen Enterprise Agreement recently approved by 86% of employees who voted in the process. This will be subject to approval by Fair Work Commission anticipated to be finalised by late May 2019. The previous agreement expired 15 July 2018. In addition, forecasts include allowances for expected redundancies in the 2019/20 and 2020/21 financial years.

Operational Projects

Operational projects are non-capital projects intended to improve safety, reliability, efficiencies or reduce the costs of doing business.

The projects associated with sites are associated with operational safety, reliability or cost improvements.

The projects associated with ICT systems are reflected in reduced future costs for ICT, but also provide improved decision making performance and allow for reduced headcount.

Description ($'000)	19-20	20-21	21-22	22-23
Pine Gap Project	11,077	4,684	0	0
Site based operational improvement projects	216	222	230	244
Pronto system improvement projects	120	51	52	53
Payroll system scoping	98	76	52	53
Supply chain improvements	85	102	104	53
OT Cyber Security Integration project	560	329	340	352
Infrastructure Optimisation	440	0	0	0
Security Improvements	380	326	334	342
Hudson Creek Protocol Interchange - Scoping	100	0	0	0
Other	0	0	0	0
Total operational projects	**13,076**	**5,790**	**1,112**	**1,097**

Committed Savings

Commited savings have been assumed for the full period of the SCI.

Item ($ Million)	19-20	20-21	21-22	22-23
Committed savings	3.0	4.2	3.8	4.3

A formal work plan will be developed to create and test initiatives to achieve the delivery of the committed savings.

Capex

Major Capital Expenditure:

The table below summarises approved major capex:

Item ($ Million)	18-19	19-20	20-21	21-22	22-23
Owen Springs & Tennant Creek	19.4	0.0	0.0	0.0	0.0
Remote Operations Centre	0.9	0.0	0.0	0.0	0.0
Total approved	**20.3**	**0.0**	**0.0**	**0.0**	**0.0**

Capex over $1 million:

The table below summarises capex projects over $1 million:

Item ($ Million)	18-19	19-20	20-21	21-22	22-23
CIPS C6 Rotor Replacement & Major Overhaul	3.3	4.1	0.0	0.0	0.0
CIPS 132 kV Node 3 & 4 Swap Over	3.2	0.4	0.0	0.0	0.0
All sites supply & install CCTV	1.2	0.0	0.0	0.0	0.0
CIPS Second Gas Pipeline	0.2	7.8	3.0	0.0	0.0
CIPS C8 & C9 132 kV Cable Replacement	0.2	1.9	1.4	0.7	0.0
CIPS C1-C6 132 kV Cable Replacement	0.4	1.5	0.0	0.0	0.0
WPS W2 Hot Section Exchange	0.0	3.9	0.0	0.0	3.9
CIPS unit 8 & 9 Control System Upgrade	0.1	0.5	2.0	1.5	0.0
WPS W1 Major Overhaul	0.0	0.0	4.4	0.0	0.0
WPS W3 Major Overhaul	0.0	0.0	3.5	3.5	0.0
C1/C2 Repower	0.0	0.0	8.9	0.0	8.0
CIPS C6 Cooling Tower Refurbishment	0.3	0.0	0.0	1.3	0.0
Earthing Remediation (all sites)	0.0	0.3	0.5	1.0	1.0
CIPS C8 B Service	0.0	0.0	0.0	6.6	1.0
C6 Life Extension Works - to be defined	0.0	0.0	0.0	2.0	1.0
CIPS - Demineralised Water Treatment Plant	0.0	0.0	0.0	0.0	1.0
Emergent works	0.0	0.0	0.0	4.0	2.0
Total Capex >$1M	**8.9**	**20.4**	**23.7**	**20.6**	**17.9**

Other Capex:

The table below summarises other capex (less than $1 million):

Item ($ Million)	18-19	19-20	20-21	21-22	22-23
BAU Other	3.7	2.3	1.7	0.0	0.9
Total other capex	**3.7**	**2.3**	**1.7**	**0.0**	**0.9**

Total Capex:

The total forecast for capex is:

Item($ Million)	18-19	19-20	20-21	21-22	22-23
Total all items	**32.8**	**22.7**	**25.4**	**20.6**	**18.8**

Fixed Assets and Depreciation Expense

The cost and book value of fixed assets is based on the fair value recorded in the Corporation's accounts.

Depreciation rates are forecast on a mix of depreciating on the basis of equivalent operating hours for the Prime Movers, and all other depreciable assets on the straight line method over their useful lives. An approximate apportionment of depreciation expense by method is provided below:

Straight line 90%

Equiv. operating hours 10%

A capitalisation threshold of $10,000 has been adopted, with new assets capitalised and depreciated from the time they are available and ready for use.

CPI

Revenue and cost escalation assumptions are based on contractual or employment obligations where applicable.

Where no mandated escalations exist, the following CPI rates have been assumed:

- 2019/20 – 1.7%
- 2020/21 – 1.9%
- 2021/22 – 2.3%
- 2022/23 – 2.5%

Debt and Interest

Debt is interest only and is assumed to be extended upon maturity through the SCI period.

	18-19	19-20	20-21	21-22	22-23
Average Interest Rate	4.41%	4.37%	4.48%	4.60%	4.66%

Tax

Tax expense is assumed at the corporate tax rate and includes the impact of tax effect accounting on taxable income over the period.

Dividend

The Territory is considered to have the right to receive a dividend from applicable entities calculated at 50% of the 30 June post tax surplus, subject to Board approval.

The SCI forecasts adopt a dividend holiday consistent with that approved by the

<table>
<tr><td></td><td>Treasurer for the 2018-19 SCI in order to build a sustainable cash balance, given the SCI assumptions.</td></tr>
<tr><td>Impairment of Assets</td><td>Where the carrying value of a group of assets is higher than the fair value, that is the present value of the expected future cash flows, then the assets are impaired.

Based on the Board’s view of wholesale electricity prices in the regions we operate, the following impairments have been forecast to be triggered during the 2018/19 financial year.

<table>
<tr><th>Region</th><th>$ million</th></tr>
<tr><td>Darwin/Katherine</td><td>55.8</td></tr>
<tr><td>Kings Canyon</td><td>0.6</td></tr>
<tr><td>Impairment</td><td>56.4</td></tr>
<tr><td colspan="2">Reversal of Previous Year Impairment</td></tr>
<tr><td>Alice Springs</td><td>(39.9)</td></tr>
<tr><td>Net Impairment</td><td>16.5</td></tr>
</table>
</td></tr>
</table>

1.3 Financial Analysis and Key Indicators

Territory Generation Financial and Forecasting Model
2019-20 SCI

	Forecast 2019	Forecast 2020	Forecast 2021	Forecast 2022	Forecast 2023
KPI's					
Profitability					
EBIT	($5,353,366)	$23,935,908	$28,709,766	$28,964,491	$31,091,807
Revenue	$262,793,455	$272,976,798	$260,363,671	$258,766,946	$270,000,205
Profitability	**(2.04%)**	**8.77%**	**11.03%**	**11.19%**	**11.52%**
Return on Total Assets					
EBIT	($5,353,366)	$23,935,908	$28,709,766	$28,964,491	$31,091,807
Average Total Assets	$377,292,942	$357,431,752	$367,568,893	$378,538,325	$393,969,956
Return on Total Assets	**(1.42%)**	**6.70%**	**7.81%**	**7.65%**	**7.89%**
Return on Equity					
NPAT	($60,707,779)	$15,846,658	$18,880,000	$17,947,396	$19,275,219
Average Equity	$80,366,134	$65,435,573	$82,798,902	$101,212,600	$119,823,907
Return on Equity	**(75.54%)**	**24.22%**	**22.80%**	**17.73%**	**16.09%**
Interest Cover					
EBIT	($5,353,366)	$23,935,908	$28,709,766	$28,964,491	$31,091,807
Interest Expense	$8,810,100	$8,801,029	$8,995,905	$9,229,282	$9,326,768
Interest Cover	**(0.6x)**	**2.7x**	**3.2x**	**3.1x**	**3.3x**
Debt to Equity					
Total Debt	$200,000,000	$200,000,000	$200,000,000	$200,000,000	$200,000,000
Average Equity	$80,366,134	$65,435,573	$82,798,902	$101,212,600	$119,823,907
Debt to Equity	**2.5x**	**3.1x**	**2.4x**	**2.0x**	**1.7x**
Current Ratio					
Current Assets	$64,916,328	$65,859,873	$65,149,671	$72,201,289	$88,008,226
Current Liabilities	$175,941,203	$73,363,279	$58,201,651	$59,278,309	$41,893,934
Current Ratio	**0.4x**	**0.9x**	**1.1x**	**1.2x**	**2.1x**
Return on Capital Employed					
EBIT	($5,353,366)	$23,935,908	$28,709,766	$28,964,491	$31,091,807
Capital Employed	$176,151,994	$289,407,029	$314,165,828	$325,430,863	$361,336,806
Return on Capital Employed	**(3.04%)**	**8.27%**	**9.14%**	**8.90%**	**8.60%**
Return to Government					
Tax Paid plus Dividends Paid	($1,237,785)	$0	$0	$0	$750,900
Average Equity	$80,366,134	$65,435,573	$82,798,902	$101,212,600	$119,823,907
Return to Government	**(1.54%)**	**0.00%**	**0.00%**	**0.00%**	**0.63%**
End					

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