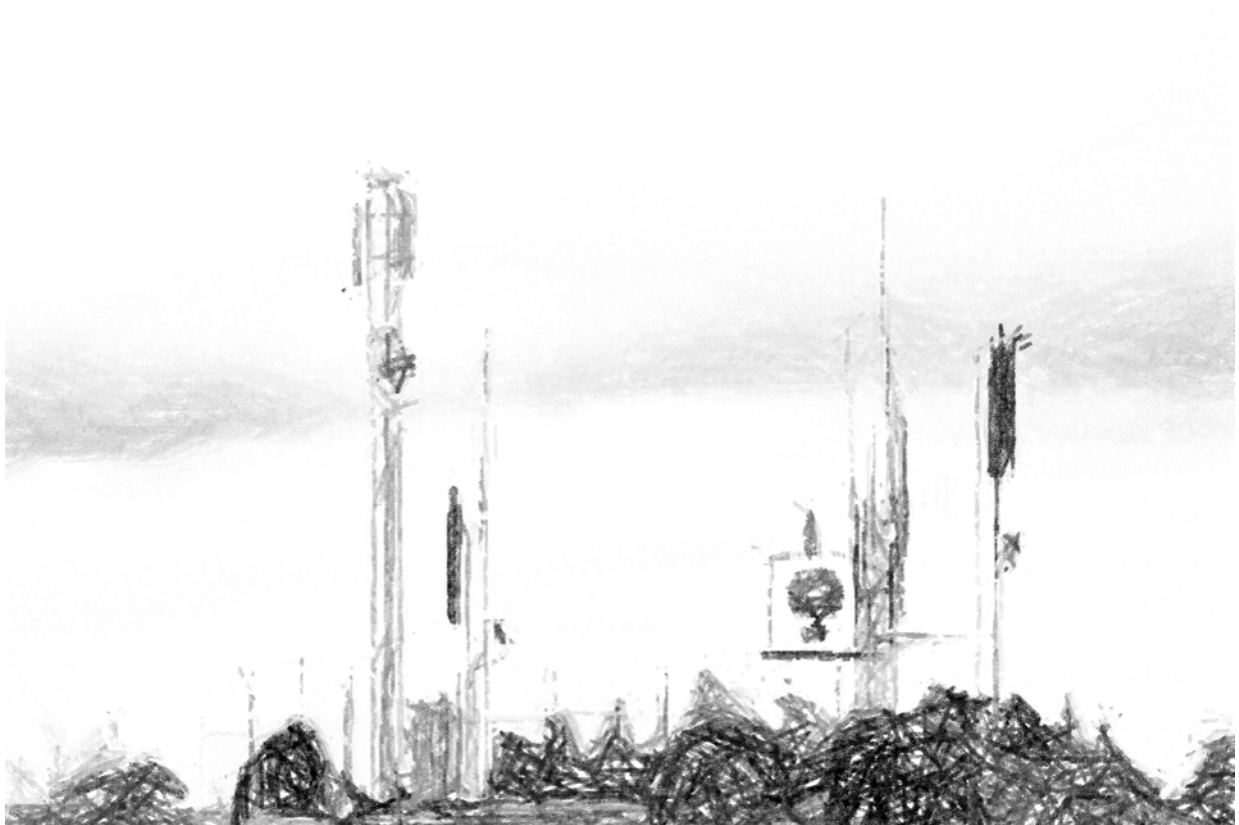


# NORFOLK ISLAND

Regional Council

## Service Review – Telecom



## Version Control

| Version: | Resolution Number: | Effective Date: | Description:                                                                                                                                         |
|----------|--------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.0      | N/A                | 24 Sep 2025     | First Draft                                                                                                                                          |
| 1.1      | 2026/2<br>2026/37  | 27 Feb 2026     | Second draft. Issues and recommendations in the Telstra Report on Norfolk Telecom (January 2026) incorporate in this version.                        |
| 2.0      | 2026/2<br>2026/37  | 1 April 2026    | Incorporate updates from Administrator briefing and other current operational matters.<br><br>Noted at the 1 Apr 2026 NIRC Ordinary Council Meeting. |

### Disclaimer:

This Service Review is provided for information and planning purposes only. It reflects circumstances at the time of preparation and may be subject to change.

## Executive Summary

Norfolk Island Telecom (NT) provides fixed line, mobile and internet services under the Norfolk Island Telecommunications Act 1992. As the island's primary telecommunications provider, NT supports emergency response, business activity, education, health services and community connectivity.

Revenue from user charges has remained relatively stable while operating costs including satellite backhaul and specialist contractor support remain significant. Competition from alternative providers has increased pressure on the subscriber base. Under the adopted 2025–26 budget forecast, Norfolk Telecom is forecast to operate at a deficit of approximately \$1.7 million.

Operations are delivered by a small local team supported by specialist offshore contractors and vendors. Core switching and billing systems are vendor dependent and have functional limitations. Maintenance practices remain largely reactive and digital assets are not fully integrated into lifecycle planning. The Telecom building requires refurbishment. The intermittent 000 emergency service reliability issues in 2025 highlighted the importance of structured lifecycle management and configuration control.

Strengths include committed staff, established operational capability and integration with other Council services. However, system limitations, ageing infrastructure, contractor reliance and a high fixed cost base constrain flexibility and long-term sustainability.

This Service Review identifies three coordinated streams of action:

**Strategic Direction** – Confirm the future service delivery model for Norfolk Telecom to clarify Council's long-term role, service scope, funding pathway and preferred delivery structure before major capital commitments are made.

**Stabilisation and Cost Management** – Review contractor and transmission arrangements, introduce preventive maintenance and digital asset tracking, and address facility and compliance risks to improve operational resilience.

**System Modernisation and Reform Options** – Subject to the outcome of the Strategic Review, consider switching and billing platform transition, digital core renewal, alternative delivery models, or structural reform pathways.

Confirmation of the future Norfolk Telecom service delivery model is the foundational action. It will clarify the level of service Council intends to sustain, the funding capacity available, and the appropriate allocation of operational and capital risk

Norfolk Telecom remains an essential service for the Norfolk Island community. However, under the current conditions, operating deficits, concentrated renewal exposure and satellite-dependent architecture combine to concentrate financial and lifecycle risk within Council. Clear strategic direction including confirmation of Council's long-term role, acceptable service standard and sustainable funding pathway is required before further capital commitments are progressed.

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# 1. Service Review Scope and Purpose

This Service Review examines NT's financial sustainability, service capability, risk profile and infrastructure requirements in the context of increasing technical complexity, rising operating costs and a changing telecommunications market. The review draws on Council planning and operational evidence, including the Operational Plan 2025–26, the draft 2025–26 Telecommunications Asset Management Plan, Day-in-the-Life (DILo) observations, financial analysis and benchmarking against comparable remote and island service providers.

The review has also been informed by the findings of an independent technical assessment of Norfolk Island's telecommunications network commissioned by the Commonwealth (January 2026). That assessment provides an external evidence base regarding network condition, service limitations, resilience and upgrade considerations and is referenced where relevant to inform findings and recommendations.

The scope of this review is limited to NIRC's responsibilities as owner and operator of Norfolk Island Telecom. It does not assess the performance of private telecommunications providers or broader national telecommunications policy settings.

The review identifies strengths, risks and structural challenges and outlines opportunities and options to modernise systems, improve service resilience and address long-term financial sustainability. All figures and options presented are indicative and subject to further investigation, business case development, procurement processes and Council decision-making.

## Terminology clarification – use of 'GSM'

The term 'GSM' appears in some Norfolk Telecom internal and public facing material as legacy terminology from earlier generations of mobile network operation. Norfolk Telecom's 2G GSM network was decommissioned when the current mobile platform was implemented in 2020.

Mobile services are currently delivered using a hybrid 3G and 4G architecture, with voice and SMS services provided via a 3G circuit-switched core and mobile data delivered over a 4G LTE access network. While the term 'GSM' has continued to be used colloquially to describe mobile services, it is no longer technically accurate.

For clarity and consistency, this Service Review does not use the term 'GSM' to describe current mobile services and instead adopts technology-neutral or technically accurate terminology aligned with the network currently in operation

## 2. Service Overview

Norfolk Island Regional Council (NIRC) owns and operates Norfolk Telecom, which provides fixed line, mobile and internet services across the island. The service delivers core communications infrastructure supporting residents, businesses, government agencies and visitors.

**Service Name:** Norfolk Telecom

**Primary Funding Source:** User charges

**Review Period:** February 2026

**Previous Review Period:** July – August 2025

**Governance:** Operates under the Norfolk Island Telecommunications Act 1992 with executive oversight by NIRC. Supported by Council's corporate, HR and finance functions.

This Service Review is informed by Council planning and operational material and by an independent technical assessment of the Norfolk Island telecommunications network commissioned by the Commonwealth (January 2026). That assessment provides an external view of current network capability, limitations and upgrade considerations and is referenced where relevant.

### Scope of Service

- Fixed line telephone via copper and fibre network
- 4G LTE mobile network
- Internet services through ADSL and satellite backhaul
- Primary and secondary Satellite Earth Stations
- PABX services for business and accommodation providers
- Billing and account management systems
- Publication of White and Yellow Pages directories

### Customers

- Households, businesses, government agencies and health and education facilities reliant on stable communications
- Visitors requiring mobile and internet connectivity

### Recent Developments

- New monthly internet data allowances introduced in August 2024
- Cessation in 2024-25 of \$7.35M Australian Government grant subsidising services to boost health and education connectivity
- Incremental improvements in billing systems and customer support

### Staffing

- 5 full time equivalent positions, 1 contract position

### 3. Strategic Alignment

Norfolk Telecom operates under the Norfolk Island Telecommunications Act 1992, which establishes the statutory framework for the provision of telecommunications services on Norfolk Island. The service supports community connectivity, business operations, education and health services, and emergency communications.

Council planning documents recognise telecommunications as essential infrastructure with associated renewal and funding considerations. Alignment with key strategic and governance documents is summarised below.

#### **NIRC Operational Plan 2025–26**

The Operational Plan identifies a specific action (Ref 3.9.1) to:

- Finalise the Telecom Strategy Review, including a business model review and community consultation, and commence implementation of endorsed actions.

The Plan also acknowledges broader revenue and expenditure pressures affecting Council operations, including the cessation of satellite backhaul funding support and the need to pursue service efficiencies across business units.

#### **Telecommunications Asset Management Plan (Draft 2025)**

The draft Asset Management Plan outlines asset lifecycle planning, renewal forecasting and risk management considerations for telecommunications infrastructure.

#### **Long-Term Financial Plan (LTFP)**

The Long-Term Financial Plan projects operating deficits under current assumptions and identifies limited internal capacity to fund major capital renewals without external funding or alternative financing arrangements.

#### **Legislation and Compliance**

The service operates under the *Norfolk Island Telecommunications Act 1992* and applicable Commonwealth legislation. Council policies relating to Work Health and Safety, Asset Management and Risk Management apply to governance and operational delivery

## 4. Operational Priorities 2025 – 2026

The adopted 2025–26 Operational Plan identifies a single dedicated action for Norfolk Telecom.

### Operational Plan Action – NI Telecom

| Ref   | 2025–26 Action                                                                                                                                                             | Measure                                                                  | 2025–26 Target              | Responsibility   |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------|------------------|
| 3.9.1 | Finalise the Telecom Strategy Review (including a business model review and community consultation) and commence implementation of recommendations arising from the Review | Review completed% of scheduled actions arising from the review commenced | By 30 June 2026At least 90% | Office of the GM |

### Other Operational Focus Areas During 2025–26

In addition to the adopted Operational Plan action, management activity during 2025–26 has included operational and financial measures responding to emerging service pressures. These have included:

- Monitoring and review of satellite backhaul cost exposure
- Revenue performance monitoring against adopted budget
- Ongoing oversight of network resilience and emergency service reliability

These items support the financial sustainability and risk management objectives identified in this Service Review. They are operational management activities and are not separately listed as discrete actions within the adopted Operational Plan

## 5. Telecom Services Timeline

The table below outlines significant events, funding changes and review milestones that have influenced Norfolk Telecom's operating environment between 2019 and 2026. It provides historical context for the current financial position, service capability constraints and strategic reform considerations.

| Year             | Key Events                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>2019–2020</b> | <ul style="list-style-type: none"> <li>Hybrid 3G circuit-switched voice and 4G LTE mobile data architecture implemented</li> <li>2G GSM services decommissioned</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>2021</b>      | Telecommunications asset planning identifies ageing copper network and emerging lifecycle risks                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>2022</b>      | <ul style="list-style-type: none"> <li>'Norfolk Telecom Alternate Arrangements – Options Discussion Paper' prepared by GWI</li> <li>Data Demand Report/ prepared forecasting growth in bandwidth requirements prepared by GWI</li> </ul>                                                                                                                                                                                                                                                                                                                                |
| <b>2023</b>      | <ul style="list-style-type: none"> <li>22 May: Commonwealth funding agreement executed to improve internet backhaul capacity to medical and education facilities. Funding package total approx. \$7.35M over multiple financial years, including satellite infrastructure and annual data cost support</li> <li>13–14 June: 36-month Telstra Business Services Agreement (BSA) executed</li> <li>Satellite Data Services ordered under BSA (Schedule 16) with 24-month minimum term. Approx. \$61,648 per month recurring charge for GEO satellite capacity</li> </ul>  |
| <b>2024</b>      | <ul style="list-style-type: none"> <li>April: GWI 'Norfolk Telecom Long Term Strategy Discussion Paper'</li> <li>August: Revised internet data allowances introduced</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>2025</b>      | <ul style="list-style-type: none"> <li>May–July: Intermittent 000 emergency call reliability issues identified</li> <li>Independent technical review commissioned by Commonwealth</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            |
| <b>2026</b>      | <ul style="list-style-type: none"> <li>31 January: 24-month satellite Service Schedule minimum term concluded</li> <li>From 1 February: Service Schedule capable of month-to-month continuation under BSA clause 4.2. BSA framework remains active (to June 2026)</li> <li>Cessation of Commonwealth grant funding arrangement</li> <li>March: Emergency interconnect discussions between Norfolk Telecom and Norfone progressed, with a draft interconnection agreement reviewed by Council and technical input being sought to finalise remaining details.</li> </ul> |

## 6. External Reviews and Strategic Context (2022–2025)

Between 2022 and 2025, Norfolk Telecom has been the subject of multiple external assessments examining governance arrangements, financial sustainability, legislative exposure and technical performance.

While prepared for different purposes, these reviews demonstrate consistent structural themes and inform the recommendation for a formal Strategic Service Model Review.

Between 2022 and 2026, Norfolk Telecom has been the subject of several external assessments examining governance arrangements, financial sustainability, legislative exposure, network architecture and operational capability.

While prepared for different purposes, these reviews consistently identify structural characteristics affecting telecommunications delivery on Norfolk Island. Collectively, they demonstrate that Norfolk Telecom’s long-term role, funding model and service delivery structure have been under active consideration for several years.

### Overview of External Reviews

| Year      | Review                                                                                        | Primary Focus                                                                      |
|-----------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| 2022      | GWJ – Norfolk Telecom Alternate Arrangements Discussion Paper                                 | Governance arrangements and alternative delivery models                            |
| 2022      | GWJ – Norfolk Island Data Demand and Off-Island Connectivity Report                           | Data demand forecasting and satellite connectivity constraints                     |
| 2024      | GWJ – Norfolk Telecom Long-Term Strategy Discussion Paper                                     | Strategic sustainability and Council’s ongoing role                                |
| 2025–2026 | Commonwealth Independent Technical Review (Issues and Recommendation Report – PR3122-REP-001) | Network capability, reliability, infrastructure condition and improvement pathways |

### 2022 Alternate Arrangements Discussion Paper

#### Purpose

Prepared following the 2020 Independent Governance and Financial Audit to assess whether alternative structural arrangements for Norfolk Telecom should be considered.

#### Key Findings

- Norfolk Telecom represents a significant infrastructure asset with operational and financial exposure retained by Council.
- Legislative changes removed reserved rights, increasing exposure to competition while Council retained infrastructure ownership.
- The service was not structurally insulated from financial volatility.
- Alternative delivery arrangements were technically feasible but dependent on Commonwealth engagement and policy alignment.

### **Recommendation Themes / Directional Outcome**

- Option scoring indicated preference for models that reduced direct Council operational and financial exposure.
- Reform options included Government Business Enterprise models, partnership arrangements or divestment pathways.
- Structural change would require Commonwealth involvement and community consultation.

### **Outcome:**

No structural reform implemented. The paper established that alternative delivery models were feasible but not progressed.

## **2022 Data Demand and Off-Island Connectivity Report**

### **Purpose**

Prepared to assess current and projected telecommunications demand on Norfolk Island, including aggregate bandwidth requirements and off-island connectivity capacity.

### **Key Findings**

- Telecommunications demand on Norfolk Island was projected to continue increasing, driven by residential use, business activity and evolving digital services.
- Off-island connectivity is constrained by satellite transmission infrastructure, affecting throughput and latency characteristics.
- Data growth trends indicate increasing pressure on available transmission capacity over time.
- Infrastructure planning would need to consider future demand growth alongside technical and economic constraints associated with remote-island connectivity.

### **Outcome**

The report established the demand and connectivity context within which Norfolk Telecom operates but did not recommend a specific service delivery model.

# 2024 Norfolk Telecom Long-Term Strategy Discussion Paper

## Purpose

Prepared to support renewed engagement with the Commonwealth regarding the long-term provision of telecommunications services on Norfolk Island.

## Key Findings

- Council retains perceived obligation to provide telecommunications services but no longer holds exclusive rights.
- Increased competition reduces revenue pool available to support infrastructure costs.
- Telecommunications operations were forecast to operate at sustained loss.
- Significant reinvestment would be required to maintain contemporary service standards.
- The +672 numbering scheme creates interoperability and digital access constraints.
- Emergency calling arrangements differ from mainland systems and would require enhancement to align with national protocols.
- The obligation placed on Council exceeded its financial and capability capacity to deliver contemporary telecommunications services.

## Recommendation Themes / Directional Outcome

- Engage a mainland telecommunications provider to improve operational capability.
- Initiate discussions with the Commonwealth regarding potential transfer of responsibility.
- Consider migration to the Australian telecommunications' legislative framework.
- Explore transition from +672 to +61 numbering scheme.
- Separate Council operational dependencies in preparation for possible reform.

## Outcome:

No structural change implemented. The paper reinforced financial, legislative and competitive pressures.



## Commonwealth Independent Technical Review – Findings and Recommendations

An independent technical assessment of the Norfolk Island telecommunications network was commissioned by the Commonwealth in late 2025 following service disruptions earlier in the year. The assessment was undertaken by an external telecommunications specialist and examined switching infrastructure, emergency call handling, transmission architecture, billing integration, performance characteristics and medium-term system considerations.

The technical report was finalised in early 2026 and is not publicly released. This Service Review summarises high-level thematic observations only and does not reproduce the report's detailed technical findings or recommendations.

### Overall Assessment

The independent assessment found that Norfolk Telecom's network is operational and capable of delivering essential mobile, fixed line and data services within the constraints of its current architecture.

Core connectivity and coverage were assessed as generally stable for an island-based network reliant on satellite transmission infrastructure.

However, the assessment concluded that the network does not align with contemporary mainland expectations for resilience, redundancy, scalability and feature capability without further system-level investment.

The identified limitations were attributed to structural characteristics of the current design rather than isolated operational failures. These characteristics include:

- Satellite-dependent off-island transmission
- Legacy and hybrid switching architecture
- Vendor-managed specialised components
- Coupled switching and billing systems
- Limited economies of scale

### Core Transmission Infrastructure – Satellite Dependency

The review confirmed that:

- Norfolk Island does not have a subsea fibre cable connection.
- All off-island traffic is routed via commercial satellite services.
- Latency and throughput characteristics are consistent with GEO satellite infrastructure.
- Satellite backhaul represents a significant fixed operating expense.
- There is no fibre-based physical redundancy path.

These conditions are inherent to the current transmission design and align with the structural satellite dependency identified in Section 16.

## Billing Platform and Network Integration

The assessment identified interdependency between switching records and billing systems.

Observations included:

- Billing accuracy depends on correct switching record generation.
- Configuration changes within the switching layer require corresponding billing updates.
- Certain rating and product adjustments require vendor-supported intervention.
- Automation between network events and billing reconciliation is limited.

No systemic billing failure was identified. However, the billing environment is structurally coupled to switching configuration and vendor-managed systems, reinforcing vendor dependency and integration complexity.

## Emergency Calling (000) Services

The assessment examined intermittent emergency call reliability issues experienced in 2025.

Technical analysis identified hardware and firmware conditions within the switching platform that affected call routing reliability. Remedial interventions were implemented and independently validated.

At the time of assessment, emergency calling services were operating reliably, with additional monitoring and backup arrangements in place.

The incident highlighted:

- Sensitivity of legacy switching environments to firmware state
- Reliance on specialised vendor support
- The importance of structured configuration management
- The need for disciplined lifecycle oversight of safety-critical systems

## Network Capability and Service Limitations

The assessment identified limitations in the range of service features deliverable within the current network configuration.

While core connectivity is available, certain functionalities commonly expected in mainland markets are constrained by the hybrid mobile architecture and satellite transmission environment.

These constraints are architectural rather than operational in nature and are increasingly visible as customer expectations evolve.

### Coverage, Performance and Demand

Network testing indicated generally strong mobile coverage in populated areas, with persistent gaps in some western and coastal locations.

Latency and throughput performance were assessed as consistent with satellite-based transmission.

The assessment noted that increasing data demand, evolving applications and changing customer expectations are likely to place incremental pressure on the existing architecture over time.

### Obsolescence and Lifecycle Risk

The assessment identified emerging obsolescence risks across several network components, including switching modules and associated hardware elements.

While assets remain operational, medium-term risks were noted relating to:

- Vendor support horizons
- Firmware lifecycle management
- Hardware replacement lead times
- Security patch exposure

Lifecycle planning for digital systems is less formalised than for physical infrastructure.

### Summary of Findings

The Commonwealth technical assessment indicates that Norfolk Telecom's network can deliver essential telecommunications services but operates within structural characteristics typical of a small island telecommunications environment.

Key themes identified include:

- reliance on satellite transmission for all off-island connectivity
- operational complexity associated with hybrid switching architecture and vendor-supported component
- limited redundancy pathways within the current network design
- growing demand pressures on a satellite-based transmission environment
- emerging lifecycle considerations affecting switching and digital infrastructure assets

## Technical Recommendations

The Commonwealth technical assessment identified a staged program of improvements intended to strengthen network reliability, address platform limitations and support longer-term telecommunications sustainability on Norfolk Island.

While the detailed recommendations are contained within the technical report, they were broadly structured across short-term, medium-term and longer-term time horizons.

### *Short-Term Priorities (Operational Stabilisation)*

Initial actions focus on improving operational capability and addressing known system limitations within the existing telecommunications environment. These actions relate primarily to:

- improving operational management of network configuration and switching systems
- resolving platform and service limitations affecting current telecommunications functionality
- stabilising the existing billing platform and addressing reliability issues affecting service management and customer account
- implementing interim controls to reduce operational dependency between billing and switching systems
- strengthening network planning and coverage management capability
- improving compatibility with commonly used mobile service features
- progressing investigation of long-term connectivity options for the island

These measures are intended to improve day-to-day service capability and operational visibility while maintaining the existing telecommunications architecture.

### *Medium-Term Priorities (Platform Sustainability)*

Medium-term actions focus on addressing core platform limitations and planning for equipment lifecycle management. These include:

- replacement or modernisation of legacy billing and support platforms
- development of a structured equipment obsolescence and lifecycle strategy
- planned replacement of ageing switching infrastructure before end-of-support
- progression of network capability upgrades while maintaining service continuity during transition

These actions are intended to address emerging platform risks and support continued service reliability.

### *Longer-Term Priorities (Strategic Network Modernisation)*

Longer-term recommendations relate to the future structure of telecommunications services and infrastructure on Norfolk Island. These include:

- strengthening network monitoring and management capability through more advanced operational systems
- enabling next-generation mobile network capability as infrastructure is renewed
  - examining opportunities for closer integration with Australian telecommunications systems and infrastructure
  - assessing the long-term implications of Norfolk Island's telecommunications numbering arrangements

These considerations reflect broader strategic questions regarding the long-term delivery model and infrastructure pathway for telecommunications services on the island.

## Consolidated Themes Across Reviews

Across the 2022, 2024 and 2025 assessments, consistent themes emerge:

- Structural financial sustainability risk
- Legislative and competitive exposure
- Architectural and lifecycle constraints
- significant capital investment requirements to maintain contemporary telecommunications capability
- capacity constraints associated with operating telecommunications infrastructure within a small island service environment
- Limited capacity for incremental fixes to resolve structural issues
- The need for clear strategic direction regarding future service model

While none of the prior reviews resulted in structural reform, they collectively demonstrate that Norfolk Telecom's long-term role, funding model and delivery structure have been under active consideration for several years.

This Service Review builds on that history and recommends a formal Strategic Service Model Review to determine Norfolk Telecom's future role, service scope, delivery model and investment pathway

## 7. Quantitative Analysis

### Income Statement – Actuals

Telecom's financial position has shifted from a small surplus in 2024 to a large deficit in 2025. In 2024, income of \$4.95 million exceeded expenditure of \$4.30 million, delivering a surplus of about \$0.66 million. By 2025, income fell to \$3.28 million while expenditure rose to \$5.64 million, resulting in a deficit of \$2.35 million.

The swing is mainly due to a sharp increase in materials and services expenditure and a fall in other income. These changes are consistent with cost pressures noted in the service review, including satellite backhaul and contracted service costs. This highlights Telecom's exposure to external cost drivers and its limited ability to offset them in a small market.

The table below sets out the actual results for 2024 and 2025.

|                                                                   | Orig.   |        |         |         |        |
|-------------------------------------------------------------------|---------|--------|---------|---------|--------|
| <b>Income Statement of - NI Telecom</b>                           | 2026    | 2026   | 2026    | 2025    | 2024   |
|                                                                   | \$'000  | \$'000 | \$'000  | \$'000  | \$'000 |
|                                                                   | Budget  | YTD    | Est.    | Draft   | Actual |
| Income from continuing operations                                 | 2,513   | 156    | 2,513   | 2,044   | 2,479  |
| Other income (Grants)                                             | -       | -      | -       | 1,238   | 2,475  |
| Total income from continuing operations                           | 2,513   | 156    | 2,513   | 3,281   | 4,954  |
| Expenses from continuing operations                               |         |        |         |         |        |
| Employee benefits and on-costs                                    | 642     | 35     | 642     | 512     | 486    |
| Materials and services                                            | 1,980   | 131    | 1,980   | 4,080   | 2,605  |
| Depreciation, amortisation and impairment                         | 824     | 78     | 824     | 830     | 907    |
| Other expenses                                                    | 775     | 55     | 775     | 212     | 298    |
| Total expenses from continuing operations                         | 4,221   | 299    | 4,221   | 5,635   | 4,296  |
| Surplus/ (deficit) from continuing operations before capital amou | (1,708) | (143)  | (1,708) | (2,353) | 658    |

### Budget 2026

The 2026 budget projects revenue of \$2.51 million and expenditure of \$4.22 million, producing a forecast operating deficit of \$1.71 million.

Expenditure is concentrated in materials and services, depreciation, and other operating costs. Materials and services of \$1.98 million reflect satellite backhaul, contracted technical services and operational supplies. Depreciation of \$0.82 million highlights the investment in network asset base, while other expenses total \$0.78 million.

This confirms an ongoing operating deficit under the adopted 2026 budget projections, with revenue from user charges below total operating expenditure.

Under current revenue and cost assumptions, the service does not generate sufficient internal surpluses to fund renewal or upgrade requirements identified in the Communications Asset Management Plan without additional funding sources or reform.

User charge revenue has remained relatively stable over the review period. Growth is constrained by the scale of the local subscriber base and competitive market dynamics.

| <b>Income Statement of NIRC Telecom (Budget 2026)</b> | <b>\$'000</b>  |
|-------------------------------------------------------|----------------|
| Income from continuing operations                     | 2,513          |
| Other income                                          | –              |
| <b>Total income</b>                                   | <b>2,513</b>   |
| Employee benefits and on-costs                        | 642            |
| Materials and services                                | 1,980          |
| Depreciation, amortisation, impairment                | 824            |
| Other expenses                                        | 775            |
| <b>Total expenses</b>                                 | <b>4,221</b>   |
| <b>Surplus / (Deficit)</b>                            | <b>(1,708)</b> |

## Revenue Specification

The Operational Plan 2025-26 reports Telecom revenue of **\$2,512,782**. The detailed budget confirms this is spread across mobile services, fixed line, landline calls, leased circuits, Wi-Fi hot spots and sundry income. Internet services, PABX and directories are noted in the Service Statement as part of the service offering but are not shown with separate dollar allocations in the 2026 budget.

The table below outlines budgeted revenue streams for 2025–26.

| <b>Revenue Stream (2025–26 Budget)</b>   | <b>\$'000</b> |
|------------------------------------------|---------------|
| Mobile Services (SIM/recharge)           | 1,114         |
| Subscribers monthly balance (fixed line) | 1,221         |
| Inward calls (landlines)                 | 159           |
| Leased circuits rental                   | 18            |
| WiFi hot spot sales                      | 27            |
| Other sundry income                      | 2             |
| <b>Total user charges</b>                | <b>2,513</b>  |

The longer-term revenue trend is shown below.

| <b>Revenue</b>                  | <b>2024 Actual<br/>(\$'000)</b> | <b>2025 Actual<br/>(\$'000)</b> | <b>2026 Budget<br/>(\$'000)</b> |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| User charges (Telecom services) | 2,470                           | 2,044                           | 2,513                           |
| Other income (Grants)           | 2,475                           | 1,238                           | –                               |
| <b>Total revenue</b>            | <b>4,945</b>                    | <b>3,281</b>                    | <b>2,513</b>                    |

### Key Points:

- Total revenue has fallen from \$4.95M in 2024 to a forecast \$2.51M in 2026, which reflects the cessation of grant revenue.
- User charge revenue from core services has remained relatively stable, moving from \$2.47M in 2024 to \$2.51M in 2026. User charge revenue has remained relatively stable over the review period. Growth is constrained by the scale of the local subscriber base and competitive market dynamics.



## Expenditure Specification

Total Telecom expenditure increased from \$4.30 million in 2024 to \$5.64 million in 2025, before reducing to a budgeted \$4.22 million in 2026.

The 2025 increase is primarily attributable to growth in materials and services, which rose from \$2.61 million in 2024 to \$4.08 million in 2025. This category includes satellite backhaul, contracted technical services and operational inputs.

The 2026 budget projects a reduction in materials and services to \$1.98 million. This change reflects adjustments in contracted service arrangements and funding occurring across 2025–2026.

The expenditure profile demonstrates that Telecom’s operating cost base is materially concentrated in externally sourced services and technical inputs, limiting discretionary flexibility within the operating model.

### Multi-Year Expenditure Trend

The table below compares expenditure by category across the past two years of actuals and the 2026 budget.

| Expenditure                            | 2024 Actual<br>(\$'000) | 2025 Actual<br>(\$'000) | 2026 Budget<br>(\$'000) |
|----------------------------------------|-------------------------|-------------------------|-------------------------|
| Employee benefits and on costs         | 486                     | 512                     | 642                     |
| Materials and services                 | 2,605                   | 4,080                   | 1,980                   |
| Depreciation, amortisation, impairment | 907                     | 830                     | 824                     |
| Other expenses                         | 298                     | 212                     | 163                     |
| Corporate overheads                    | –                       | –                       | 613                     |
| <b>Total expenditure</b>               | <b>4,296</b>            | <b>5,635</b>            | <b>4,221</b>            |

## 2026 Expenditure Breakdown (Budget)

The table below provides further detail on the 2026 budget allocations, showing the major categories and sub-categories of expenditure.

| Category                      | \$'000       |
|-------------------------------|--------------|
| Employee costs                | 642          |
| Materials & services (total)  | 1,980        |
| • Contractors                 | 1,900        |
| • Materials purchased         | 58           |
| • Inventory issued from store | 15           |
| • Other                       | 8            |
| Depreciation                  | 824          |
| Other expenses                | 163          |
| Corporate overheads           | 613          |
| <b>Total expenditure</b>      | <b>4,221</b> |

### Key Points:

- Contractor costs dominate the expense profile, accounting for nearly half of all expenditure.
- Depreciation remains high which reflects the investment in communications asset base.
- Corporate overheads are explicitly allocated in the 2026 budget and were not separately disclosed in prior years.

## Deficit Position

Telecom's operating result has shifted from a surplus position in 2024 to deficit outcomes in 2025 and 2026.

In 2024, the service recorded a surplus of \$0.66 million. In 2025, this reversed to a deficit of \$2.35 million. The 2026 adopted budget forecasts a deficit of \$1.71 million.

The change reflects:

- A reduction in total revenue between 2024 and 2026
- Volatility in non-user income sources
- An operating cost base that exceeds recurring user charge revenue

User-generated revenue is projected at approximately **\$2.5 million per annum** in 2026 against total expenditure of **\$4.22 million**, resulting in an ongoing funding gap under current service and cost assumptions.

The Long-Term Financial Plan indicates that forecast operating results do not generate sufficient internal surpluses to fund identified capital renewals without additional funding sources.

| Telecom Financial Position | 2024 Actual (\$'000) | 2025 Actual (\$'000) | 2026 Budget (\$'000) |
|----------------------------|----------------------|----------------------|----------------------|
| Total revenue              | 4,945                | 3,281                | 2,513                |
| Total expenditure          | 4,296                | 5,635                | 4,221                |
| <b>Surplus / (Deficit)</b> | <b>+658</b>          | <b>(2,353)</b>       | <b>(1,708)</b>       |

**Source:** NIRC Financial Statements (FY2024, FY2025 actuals); NIRC Operational Plan 2025–26 (Telecom budget)

## 2025–26 Budget Performance (July 2025 – 31 January 2026)

The Special Purpose Financial Statements to 31 January 2026 provide an updated view of Telecommunications' performance for the first seven months of the 2025–26 financial year.

The table below sets out the Telecommunications Statement of Financial Position on 31 January 2026 compared with the prior year position.

### Statement of Financial Position – Telecommunications *(As of 31 January 2026)*

|                                               | 01/07/25 to 31/01/26 | Actual (\$) 2025 | Actual (\$) 2026  |
|-----------------------------------------------|----------------------|------------------|-------------------|
| <b>ASSETS</b>                                 |                      |                  |                   |
| <b>Current assets</b>                         |                      |                  |                   |
| Receivables                                   | 584,417              |                  | 472,505           |
| <b>Total current assets</b>                   | <b>584,417</b>       |                  | <b>472,505</b>    |
| <b>Non-current assets</b>                     |                      |                  |                   |
| Infrastructure, property, plant and equipment | 11,227,830           |                  | 11,795,196        |
| <b>Total non-current assets</b>               | <b>11,227,830</b>    |                  | <b>11,795,196</b> |
| <b>Total assets</b>                           | <b>11,812,247</b>    |                  | <b>12,267,701</b> |
| <b>LIABILITIES</b>                            |                      |                  |                   |
| <b>Current liabilities</b>                    |                      |                  |                   |
| Payables                                      | 357,740              |                  | 357,740           |
| Employee benefit provisions                   | 143,866              |                  | 143,866           |
| Other (accumulated subsidy)                   | 709,626              |                  | –                 |
| <b>Total current liabilities</b>              | <b>1,211,232</b>     |                  | <b>501,606</b>    |
| <b>Total liabilities</b>                      | <b>1,211,232</b>     |                  | <b>501,606</b>    |
| <b>Net assets</b>                             | <b>10,601,015</b>    |                  | <b>11,766,095</b> |
| <b>EQUITY</b>                                 |                      |                  |                   |
| Current year earnings                         | (1,165,080)          |                  | (1,561,421)       |
| Accumulated surplus                           | 10,182,724           |                  | 11,744,145        |

|                          | 01/07/25 to 31/01/26 | Actual (\$) 2025 | Actual (\$) 2026  |
|--------------------------|----------------------|------------------|-------------------|
| IPPE revaluation surplus | 1,583,371            |                  | 1,583,371         |
| <b>Total equity</b>      | <b>10,601,015</b>    |                  | <b>11,766,095</b> |

The Special Purpose Financial Statements to 31 January 2026 indicate that Telecommunications net assets have declined from \$11.77 million of 30 June 2025 to \$10.60 million, reflecting an operating deficit of \$1.17 million during the first seven months of the 2025–26 financial year.

Infrastructure assets reduced from \$11.80 million to \$11.23 million, primarily due to depreciation of telecommunications network assets. Management reporting indicates operating revenue is approximately \$225,000 below budget to January 2026, while operating expenditure is approximately \$125,000 lower than budgeted over the same period, indicating that the deficit is primarily driven by revenue under-performance rather than expenditure growth.

Mobile service revenue is broadly tracking to budget, while landline services are below expectations, consistent with broader industry trends of declining fixed voice usage. The results confirm that Telecommunications is not currently recovering its operating costs through user revenue, with the deficit being absorbed through accumulated surplus and Council support. This reflects the structural challenge of operating telecommunications infrastructure at small scale in a remote island environment, where fixed network costs are spread across a relatively limited customer base.

Over time, this financial profile may place pressure on the sustainability of the service and limit the capacity to fund major network upgrades from operating revenue alone.

#### *Updated Financial Position*

After the period covered by the financial information summarised above, outstanding Telstra invoices totalling approximately \$1.432 million were identified as of 28 February 2026. A payment arrangement is currently being negotiated

## Financial Risks and Sensitivities

Norfolk Telecom operates within a constrained revenue base and a predominantly fixed cost structure. The table below summarises key financial sensitivities under current conditions based on the 2025–26 adopted budget and current known financial commitments.

| Risk Area                        | Rationale                                                                                                                                                                                                                                                  |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Revenue variability              | User charge revenue is constrained by a small customer base. Grant income has ceased.                                                                                                                                                                      |
| Outstanding supplier liabilities | As at 28 February 2026 outstanding Telstra invoices totalled approximately \$1.432 million. A payment arrangement is currently being negotiated.                                                                                                           |
| Fixed cost concentration         | Contractors, depreciation and corporate overheads total approximately \$3.3 million in 2025–26. This exceeds projected user charge revenue.                                                                                                                |
| Contractor reliance              | Approximately \$1.9 million is allocated to contractors, representing around 45 per cent of total expenditure. Internal capacity to substitute for these functions is limited.                                                                             |
| Backhaul and wholesale pricing   | Satellite and wholesale connectivity costs form a substantial component of materials and services expenditure and are externally priced. Management is currently negotiating backhaul plan revisions with potential annualised savings of up to \$500,000. |
| Asset renewal funding            | Annual depreciation of approximately \$0.82 million reflects the scale of network investment. Forecast renewals are not supported by internal operating surpluses.                                                                                         |
| External funding exposure        | Ongoing satellite service costs for Health and Education are currently being carried by Council pending confirmation of departmental funding arrangements.                                                                                                 |

**Note:** This table is descriptive and does not represent a financial forecast or formal risk rating.

## Long-Term Financial Plan (Capital Requirements)

The Long-Term Financial Plan identifies approximately \$7.1 million in communications asset renewals and upgrades over the 2025–2028 period.

These items include system hardware, power supply, PABX, servers, switching equipment and satellite modems. The largest single-year spend is in 2027 driven by major system hardware replacement.

Planned items include:

- System hardware replacement
- Power supply upgrades
- PABX equipment
- Servers and switching infrastructure
- Satellite modems

The largest single-year capital requirement occurs in 2027, driven by scheduled hardware replacement

## Key Financial Observations

The quantitative analysis shows that Norfolk Telecom’s financial position is driven by structural factors rather than short-term changes. Total revenue has reduced from \$4.95 million in 2024 to a forecast \$2.51 million in 2026. The reduction is largely due to the cessation of Commonwealth grant income. Revenue from user charges has remained broadly stable but is limited by the size of the local customer base and competition in mobile and broadband services.

Operating costs do not move in line with revenue. Satellite backhaul, contracted technical services, depreciation and corporate overheads continue regardless of subscriber movements. As a result, revenue changes cannot be offset through cost reduction to the same extent.

The Long-Term Financial Plan identifies approximately \$7.1 million in communications asset renewals over the medium-term period. Current operating results do not generate sufficient surplus to fund these renewals. Capital planning will need to align with the confirmed future service delivery model for Norfolk Telecom to ensure consistency between renewal timing and Council’s long-term service approach.

## 8. Competitor Analysis

Norfolk Telecom operates in a partially contestable telecommunications market. Competitive intensity varies materially by product segment.

The table below summarises the current service segments, active providers and Norfolk Telecom's relative market position based on 2026 budget exposure and observed service substitution patterns.

Market share positions are indicative and reflect revenue-weighted positioning rather than audited subscriber counts.

| Segment                | Players                                                                   | 2026 budget (\$'000)               | Norfolk Telecom                  |
|------------------------|---------------------------------------------------------------------------|------------------------------------|----------------------------------|
| Mobile voice & SMS     | Norfolk Telecom, Norfone                                                  | 1,114                              | Majority but declining (~65–75%) |
| Fixed line subscribers | Norfolk Telecom                                                           | 1,221                              | Sole provider (~100%)            |
| Landline call revenue  | Norfolk Telecom                                                           | 159                                | Sole provider (~100%)            |
| Broadband / Internet   | Norfolk Telecom, Starlink, Sky Muster, Norfone (mobile data substitution) | Embedded within subscriber revenue | Competitive (~55–70%)            |
| Leased circuits        | Norfolk Telecom                                                           | 18                                 | Sole provider                    |
| WiFi hotspots          | Norfolk Telecom                                                           | 27                                 | Predominant                      |



## Market Observations

### Revenue Exposure Concentration

Mobile services represent the single largest exposed revenue segment at approximately \$1.1M. This segment is fully contestable and most sensitive to churn. Even modest market share erosion materially affects operating results because Telecom's cost base is largely fixed.

### Sole-Provider Does Not Equal Growth

Fixed-line subscriber revenue (~\$1.22M) remains uncontested. However, this segment reflects a mature and structurally declining product category globally. While revenue remains stable in the short term, long-term volume erosion risk exists through mobile substitution.

### Broadband Structural Pressure

Broadband competition is multi-provider. Starlink introduces high-performance LEO satellite connectivity independent of NT infrastructure. Sky Muster anchors price expectations to mainland benchmarks. Mobile data services further increase substitution options.

This creates:

- Pricing compression
- Reduced bundling power
- Increased customer expectation of mainland feature parity

### Asymmetric Scale Economics

Competing providers can distribute infrastructure and technology lifecycle costs across national or global customer bases. Norfolk Telecom absorbs switching, billing, satellite backhaul and lifecycle risk within a small local revenue pool.

This structural imbalance increases sensitivity to revenue loss and limits pricing flexibility.

### Deficit Amplification Effect

Approximately half of NT's user charge revenue derives from segments that are either directly contested or exposed to substitution risk. Because contractor, satellite and depreciation costs remain largely fixed, revenue erosion translates directly into increased operating deficit.

## Competitor Player Analysis

The following analysis outlines the principal telecommunications providers operating in the Norfolk Island market. It focuses on structural characteristics, competitive positioning and implications for Norfolk Telecom.

### Norfone

**Market Entry:** 2025

**Primary Segment:** Mobile voice, SMS and mobile data

**Funding Context:** Supported by Australian Government Regional Connectivity Program funding

#### Business Model

Norfone operates as a mobile service provider delivering Australian-numbered (+61) services. Its offering aligns with mainland mobile service standards and includes roaming capability, authentication compatibility and contemporary plan structures.

The model is asset-light relative to a vertically integrated carrier. Core infrastructure and interoperability are supported through mainland carrier relationships and national systems.

#### Structural Advantages

- Alignment with Australian numbering and interoperability frameworks
- Feature parity with mainland mobile services
- Reduced lifecycle burden compared with a fully integrated carrier
- Ability to distribute technology costs across broader operational footprint

#### Competitive Positioning

Norfone directly substitutes Norfolk Telecom's mobile services. It competes primarily on:

- Feature set
- Mainland compatibility
- Perceived modernity
- Customer experience

Switching barriers in mobile are relatively low compared with fixed infrastructure services.

#### Strategic Risk to NT

Mobile represents NT's largest single revenue segment. Continued migration to Norfone has the potential to:

- Reduce NT's highest-margin user charge revenue
- Increase per-user cost burden within a fixed-cost operating model
- Increase deficit sensitivity within a largely fixed-cost operating model

The competitive pressure reflects structural market characteristics rather than short-term fluctuation.

## Starlink

**Primary Segment:** Fixed broadband (LEO satellite)

**Infrastructure Model:** Low Earth Orbit satellite constellation

**Ownership:** Global commercial provider

### Business Model

Starlink delivers direct-to-premises broadband independent of local telecommunications infrastructure. Customers self-install satellite terminals and connect directly to the global Starlink network.

Revenue, infrastructure investment and technology evolution are managed at global scale.

### Structural Advantages

- Lower latency than GEO satellite
- High throughput capacity
- Independence from NT infrastructure
- Rapid technology iteration cycle
- Global cost distribution

### Competitive Positioning

Starlink competes directly with Norfolk Telecom broadband services, particularly for:

- High-usage households
- Businesses requiring consistent data throughput
- Customers prioritising latency-sensitive applications

### Strategic Risk to NT

Broadband churn reduces revenue without reducing NT's satellite backhaul and infrastructure costs proportionally. Because Starlink operates outside the local infrastructure ecosystem, NT cannot influence pricing, feature evolution or service upgrades. This represents an ongoing substitution pathway within the competitive environment.

## Sky Muster (NBN Satellite)

**Primary Segment:** Subsidised satellite broadband

**Ownership Context:** National infrastructure program

### Business Model

Sky Muster services are delivered via the NBN satellite network, a nationally funded telecommunications infrastructure platform owned by NBN Co (a Commonwealth Government-owned corporation). Retail services are provided by commercial Retail Service Providers operating under NBN wholesale arrangements.

Pricing structures are aligned with national NBN wholesale frameworks rather than local cost recovery.

### Structural Advantages

- National subsidy support
- Price anchoring to mainland benchmarks
- Lower perceived risk due to national infrastructure backing

### Competitive Positioning

Sky Muster competes primarily in cost-sensitive segments. It constrains Norfolk Telecom's ability to price broadband services materially above mainland rates.

### Strategic Risk to NT

While Sky Muster may not offer performance parity with Starlink, it:

- Anchors customer expectations on price
- Reduces pricing flexibility
- Expands substitution pathways

The competitive pressure is pricing-based rather than feature-based.

## Competitive Landscape Summary

Across competitor categories, three structural asymmetries exist:

- **Scale Asymmetry**  
Competitors can distribute technology and lifecycle costs across national or global customer bases. Norfolk Telecom absorbs these costs within a small local revenue pool.
- **Funding Asymmetry**  
Some competitors operate with national subsidy support or federal grant assistance. Norfolk Telecom's 2026 operating model relies almost entirely on user charges.
- **Infrastructure Independence**  
Satellite-based providers operate independently of NT infrastructure. This reduces NT's ability to manage wholesale relationships or negotiate leverage.

## Overall Competitive Position

Norfolk Telecom remains dominant in fixed-line infrastructure and PABX services. However, its largest revenue segments (mobile and broadband) are fully or partially contested.

The competitive threat is not characterised by rapid displacement, but by gradual market share erosion in segments that underpin Telecom's revenue base. Market dynamics may continue to evolve as technology and pricing are updated.

This reinforces the importance of clarifying the below before committing to major capital renewal decisions.

- Long-term service scope
- Feature alignment expectations
- Investment pathway
- Funding model

## 9. Benchmarking

Benchmarking Norfolk Telecom against other remote and island service arrangements highlights how different governance, delivery and funding models influence service outcomes and risk exposure. While Norfolk Telecom is owned and directly operated by Norfolk Island Regional Council, most other remote and island communities rely on national carriers, commercial providers or facilitation models rather than local government operation of carrier-grade telecommunications infrastructure.

The examples below are illustrative and are not intended as direct performance comparisons. They demonstrate how responsibility for infrastructure investment, technology lifecycle, and operational risk is distributed in other remote contexts.

## Benchmarking Snapshot

| Provider                       | Ownership / Delivery Model                             | Technology & Systems                                                                                                                  | Revenue Context           | Funding / Support                                     | Relevance to Norfolk Telecom                                                                                              |
|--------------------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Norfolk Telecom</b>         | Council-owned, direct operation                        | 4G LTE mobile network (with legacy circuit-switched voice handling), ADSL & satellite backhaul, PABX, switching and billing platforms | ~\$2.5M (2026 budget)     | Predominantly user charges; no grant income in 2026   | Council retains direct responsibility for service delivery, asset renewal, technology obsolescence and operating deficits |
| <b>Christmas Island</b>        | Commercial and national provider mix                   | 4G LTE mobile and fixed wireless services (CiFi), Telstra mobile services, NBN satellite options; subsea cable backhaul               | Commercial retail revenue | National infrastructure and commercial investment     | Connectivity delivered through private providers and national systems rather than local government ownership              |
| <b>Cocos (Keeling) Islands</b> | National carrier and retail ISP model                  | Mobile services, satellite broadband (including NBN Sky Muster); local access networks                                                | Nationally pooled         | Commonwealth programs and national carrier investment | Demonstrates reliance on national delivery models with limited local operational exposure                                 |
| <b>Lord Howe Island</b>        | No permanent mobile carrier; public connectivity model | Satellite broadband, Wi-Fi networks, private Starlink services; mobile options under assessment                                       | Limited direct revenue    | NSW and Commonwealth planning and funding programs    | Illustrates a non-carrier model where service scope is constrained and connectivity options are staged                    |
| <b>Paroo Shire</b>             | Council facilitation (not service operation)           | National carrier mobile coverage, NBN services, community connectivity initiatives                                                    | Minimal direct revenue    | State and Commonwealth grants and carrier investment  | Council role focused on facilitation and advocacy rather than ownership or operation                                      |

## Key Benchmarking Insights

- **Operating model** – Norfolk Telecom’s council-owned, directly operated model differs from many other remote and island arrangements, where telecommunications services are delivered through national carriers, commercial providers or facilitation models. This places a greater share of delivery, investment and continuity responsibility with Council.
- **Technology responsibility** – In comparator arrangements, responsibility for system upgrades, feature evolution and technology obsolescence is typically carried by commercial operators or national infrastructure programs. Norfolk Telecom retains direct responsibility for managing legacy platforms, system upgrades and lifecycle risk at a local scale.
- **Funding exposure** – Other remote and island communities generally rely on a combination of national infrastructure investment, commercial provider capital and targeted government programs. Norfolk Telecom relies predominantly on user charges, with limited capacity to fund major renewals or service enhancements independently.
- **Risk distribution** – Comparator models distribute operational, cyber and technology risks across larger organisations or national systems. Norfolk Telecom concentrates these risks within a small, locally operated service, increasing sensitivity to cost escalation, vendor dependency and service disruption.

Overall, benchmarking indicates that Norfolk Telecom operates with a higher level of direct operational, financial and technology risk exposure than many other remote service arrangements. This reflects the implications of a locally owned and operated delivery model at small scale, rather than a judgement on service performance.



## 10. Current Telecom Service Delivery Model

### Current Service Delivery Model – Telecommunications

This section describes the current service delivery model for telecommunications, including how responsibilities are structured between Council staff, external specialist support and customer-facing operations. It is descriptive in nature and does not assess the effectiveness of individual providers, systems or delivery arrangements.

#### Key characteristics

Key characteristics of the current telecommunications service delivery model include:

- a high level of Council involvement in the ownership and operation of telecommunications infrastructure
- delivery of mobile, fixed line, internet and PABX services within a single Council-managed service
- reliance on external specialist providers for system support, configuration, switching, billing platforms and vendor-specific expertise
- operation of a locally managed billing and account management function integrated with Council administrative systems
- exposure to day-to-day operational demands and system dependencies associated with a small-scale, island-based telecommunications environment

#### Service delivery structure

Telecommunications services are delivered through a Council-owned and Council-operated service model that combines internal operational capability with external specialist support.

Council retains responsibility for governance, coordination, funding, asset ownership and customer account management, while specialist technical support is provided through contracted vendor arrangements.

Core elements of the current service delivery model include:

#### Council-led Coordination and Oversight

Council is responsible for service planning, prioritisation and oversight of telecommunications services. This includes:

- asset ownership and lifecycle stewardship
- budget management and financial monitoring
- risk oversight and service continuity planning
- vendor and contractor management

- coordination across operational, customer service and corporate functions

Council retains overall accountability for telecommunications service delivery and infrastructure performance.

## Direct Technical Service Delivery

Telecommunications services are delivered directly by Council through an on-island technical team.

This includes:

- operation and maintenance of network infrastructure
- management of mobile and fixed-line systems
- fault response and outage coordination
- service provisioning and disconnections
- on-island infrastructure inspections and troubleshooting

The technical team works in conjunction with external specialists where platform-level or vendor-specific intervention is required.

## Billing and Customer Account Management

Billing and customer account management functions are managed locally by Council.

This includes:

- customer account setup and maintenance
- generation and distribution of monthly invoices
- processing of payments and arrears management
- coordination of service activations and disconnections
- reconciliation of usage records with billing system outputs

Billing platforms are supported through external vendor arrangements for system configuration, upgrades and specialist troubleshooting. Council retains responsibility for billing accuracy, customer communication and financial reporting.

Revenue collection and debtor management form part of Council's broader corporate financial systems, requiring integration between telecommunications usage systems and Council administrative processes

## Customer-Facing Service Functions

Customer enquiries, service connections and billing interactions are supported through Council's customer service and administrative functions.

Technical matters are escalated to Norfolk Telecom staff and, where required, to external specialist providers.

This integrated model means customer interface, billing and infrastructure support operate within a single Council-managed framework.

### External Specialist Support

Specialist technical capability, including support for:

- core switching systems
- billing platforms
- vendor-managed infrastructure
- configuration changes
- system upgrades and patching

is provided through external contractors and service providers.

These arrangements supplement internal capability and provide access to specialist expertise not maintained within Council.

Council remains responsible for oversight, contract management and coordination of these services.

### Integrated Delivery Across Services

Mobile, fixed line, internet and PABX services are delivered as an integrated service.

Shared infrastructure, switching systems, billing platforms and staffing support multiple service lines within a single operating model. This requires coordination across technical, customer and administrative functions and creates interdependencies between systems.

## Roles and responsibilities

Under the current model:

- Council sets strategic direction and retains overall accountability for telecommunications service delivery and asset stewardship.
- Council staff manage day-to-day technical operations, billing processes, customer account administration and coordination of service activities.
- External providers deliver defined specialist technical services under Council direction and oversight.
- Operational, financial and service information, including billing and revenue data, is collected and reviewed by Council to support reporting, planning and governance.

This model reflects the broader role currently undertaken by Council in delivering end-to-end telecommunications services to the Norfolk Island community, encompassing infrastructure ownership, operational management, billing administration and vendor coordination.

## 11. Commercial Satellite Backhaul Contract (Telstra, 2023–2026)

### Contract structure

In June 2023, Norfolk Island Regional Council executed a 36-month Business Services Agreement (BSA) with Telstra. The BSA operates as the overarching contractual framework under which telecommunications services are ordered, including satellite backhaul capacity.

Under this framework, Norfolk Telecom entered into a Satellite Data Services arrangement (Schedule 16), providing:

- 75/75 Mbps fixed GEO satellite solution
- 29.6 MHz allocated satellite bandwidth
- Minimum 24-month committed term
- Defined service levels with rebate-based remedies
- Customer-side responsibility for earth station readiness, importation, installation and regulatory compliance

The structure reflects a standard enterprise satellite services model where Telstra provides managed space segment capacity, while Norfolk Telecom retains responsibility for local ground infrastructure and regulatory compliance.

### Cost profile

The satellite service attracted a Monthly Recurring Charge (MRC) of approximately \$61,648 (ex GST), equating to approximately \$739,776 per annum for the contracted GEO component.

This figure relates to the fixed committed GEO capacity only and excludes:

- Any additional MEO capacity procured outside the base service
- Variable or burst usage adjustments
- On-island operational and staffing costs
- Customer service and support overheads
- Associated transit and routing costs (e.g. Symbio international transit arrangements)

The GEO component therefore represents a significant fixed recurring cost within the Norfolk Telecom operating model. Original 2023 contracted capacity settings were based on higher demand projections than current usage patterns and transmission configuration is currently under review to better align contracted bandwidth with actual demand.

## Commonwealth funding context (2023–2024)

In May 2023, the Commonwealth entered into a separate funding agreement with NIRC providing **\$7.35 million over two years** to improve internet backhaul capacity to the Educational and Medical facilities on Norfolk Island

Under that agreement:

- NIRC agreed to provide up to 300 Mbps to the Educational Facility during Core Hours
- 50 Mbps to the Medical Facility at all times

Importantly:

- This funding agreement is contractually distinct from the Telstra Satellite Data Services contract.
- The Telstra BSA remains a commercial procurement arrangement.
- The Commonwealth agreement governs funding outcomes and performance obligations, not the Telstra contractual framework itself.

This distinction is critical from a governance and audit perspective.

## Sole transit dependency (Symbio)

From 1 April 2024, Norfolk Telecom agreed to use Symbio as its sole transit point for international telecommunications traffic to and from Norfolk Island

This introduces:

- A structural dependency on a single international transit provider
- Concentration of routing risk
- Commercial exposure to rate amendments within the reciprocal framework

Satellite backhaul (Telstra) and international transit (Symbio) therefore operate as interdependent but separately contracted components of the broader connectivity chain.

## Current position (post January 2026)

The fixed 24-month satellite term concluded on 31 January 2026. From 1 February 2026, satellite services have continued on a month-to-month basis pending execution of a new agreement or alternative arrangement.

This transition shifts the arrangement from committed term to commercial continuity, potentially altering pricing leverage, increasing renewal exposure and creating negotiation timing risk.

Confirmation of funding arrangements for major institutional users, including Health and Education facilities, remains external to Council's direct control. Transmission contract commitments may therefore require confirmation prior to finalisation of departmental budget allocations, creating short-term commercial and planning uncertainty.

Satellite backhaul under this contract supports:

- Off-island internet connectivity
- Mobile data routing
- Fixed broadband services
- Core telecommunications switching and service functions

The GEO component remains a foundational recurring cost driver within the Norfolk Telecom operating model.

## 12. Operational Activity and Qualitative Analysis

This section reviews how Telecom operates day to day using the DILO review, service statements and financial data. It examines service demand, systems, workforce practices and operational risks. Delivery is resource intensive, largely reactive, and constrained by system limitations and reliance on external vendors. These operational observations underline the importance of system upgrades, proactive maintenance, and resource planning, which are addressed further in the Findings and Opportunities sections.

### **Service demand**

- Telecom provides landline, 4G LTE mobile, internet and PABX services.
- Demand for landlines is declining while competition is increasing.
- Non-grant revenue has remained flat (\$2.4M in 2024, \$2.4M 2025 and \$2.5M 2026 budget).

### **Operational practices**

- A small team manages plant and equipment, call response and customer support.
- Contractors provide technical support worth about \$1.9M.
- Billing and switching system is dated, prone to dropouts and dependent on offshore support that slows error resolution.
- Daily work is mostly reactive with time spent on customer calls, field repairs and urgent faults. Preventive maintenance is often delayed.
- The Telecom building needs refurbishment with a condition assessment scheduled under the AMP.

### **Systems and tools**

- Core systems are Blue Arcus, TNZI, SES switching, Microsoft Office and Teams.
- Platform vendor pushes upgrades without notice which can cause outages.
- Some servers and equipment are nearing end of life.
- Fault resolution often requires offshore vendors, with local staff using workarounds until fixes are applied.

### **Workforce and resourcing**

- Technical staffing levels are low, limiting capacity to meet new demand or deliver upgrades without external help.
- Workload includes after hours callouts and extended fault resolution, leaving little room for planned maintenance.



## 13. Risk and Compliance Summary

Norfolk Telecom operates within a regulated environment under Commonwealth legislation and Council governance frameworks. Compliance obligations include telecommunications regulation, radiocommunications licensing, work health and safety, privacy, emergency call handling and asset governance requirements.

Operational and strategic risks are documented in the August 2025 Operational Risk Register. These risks reflect the current operating environment across financial, operational, technology, service delivery, cyber/data, market and reputational domains.

The table below summarises key risk themes, their potential impact and current mitigation controls. It is descriptive and does not re-rate risks independently of the adopted register.

### Risk Summary

| <b>Risk Category</b> | <b>Description</b>                                                                                                                               | <b>Potential Impact</b>                                                               | <b>Current Controls</b>                                                         |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| <b>Financial</b>     | Structural operating deficit (~\$1.7M in 2026) driven by high fixed backhaul, contractor and infrastructure costs relative to revenue base       | High – limits reinvestment capacity, renewal funding and long-term sustainability     | Budget monitoring, cost review initiatives, periodic pricing adjustments        |
| <b>Operational</b>   | Reliance on external contractors (~\$1.9M in 2026) for specialist technical and platform support                                                 | High – continuity and dependency risk if vendor terms, pricing or availability change | Active contracts in place; oversight through Council contract management        |
| <b>Technology</b>    | Mobile network architecture and billing platforms require enhancement to support roaming, interoperability and contemporary service expectations | High – reduced competitiveness and constrained feature capability                     | Vendor-based support arrangements; system patching and configuration management |
| <b>Cyber / Data</b>  | Exposure associated with legacy systems                                                                                                          | Medium – risk of service disruption,                                                  | IT policies; Microsoft security tools;                                          |

|                           |                                                                                                             |                                                                        |                                                                                   |
|---------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                           | and distributed vendor dependencies                                                                         | data breach or reputational impact                                     | external system support providers                                                 |
| <b>Service Delivery</b>   | Ageing infrastructure and capacity constraints may contribute to outages and performance variability        | Medium–High – impacts customer confidence and service continuity       | Reactive maintenance; contractor escalation pathways                              |
| <b>Strategic / Market</b> | Market entry of alternative providers (mobile and broadband) reducing customer base in contestable segments | High – revenue erosion and increased deficit sensitivity               | Monitoring of churn; limited product adjustments within current system capability |
| <b>Reputational</b>       | Customer dissatisfaction arising from outages, billing issues or service limitations                        | Medium – potential acceleration of churn and community dissatisfaction | Local customer service team; complaint handling processes                         |

## Compliance

Telecommunications services are subject to statutory and policy obligations under Commonwealth legislation and Council governance instruments.

Compliance is monitored through Council reporting processes, contract management oversight and external audit where applicable.

The table below outlines key compliance areas and governing sources

| Obligation Area                       | Requirement                                                                                                                                                              | Source                                                       |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| <b>Telecommunications Regulation</b>  | Compliance with carrier and service provider obligations including consumer protection, billing accuracy, privacy safeguards and access to emergency call services (000) | Telecommunications Act 1997 (Cth) and associated instruments |
| <b>Radiocommunications</b>            | Spectrum licensing, frequency allocation and equipment compliance                                                                                                        | Radiocommunications Act 1992 (Cth)                           |
| <b>Emergency Call Handling</b>        | Provision of uninterrupted access to 000 emergency call services and interoperability arrangements                                                                       | Telecommunications legislation and ACMA instruments          |
| <b>Work Health and Safety (WHS)</b>   | Safe systems of work for staff and contractors operating on telecommunications assets and infrastructure                                                                 | Applicable WHS legislation                                   |
| <b>Privacy and Data Protection</b>    | Secure handling and storage of personal information and billing data                                                                                                     | Privacy Act 1988 (Cth)                                       |
| <b>Asset Governance</b>               | Planning, lifecycle management and renewal oversight of telecommunications assets                                                                                        | NIRC Asset Management Policy and Strategy                    |
| <b>Service Planning and Reporting</b> | Performance reporting and accountability under adopted Operational Plan                                                                                                  | NIRC Operational Plan 2025–26                                |

## Overall Risk Position

The current risk profile reflects a small-scale, locally operated telecommunications model that combines infrastructure ownership, service delivery, billing administration and vendor coordination within Council.

Risk exposure is concentrated in:

- Financial sustainability
- Vendor and contractor dependency
- Technology lifecycle management
- Market competition in mobile and broadband

These risks are documented and subject to Council oversight. Their persistence reflects structural characteristics of the service model rather than isolated operational issues.

## 000 Emergency Service

Access to the 000-emergency number is a statutory requirement. Norfolk Telecom delivers emergency calling through its Redcom Slice 2100 switching platform, supported by external vendors and subject to national regulatory obligations.

### Incident Context (May–July 2025)

Between May and July 2025, intermittent issues affected the reliability of some 000 emergency calls. The issue presented as failed connections, failure to terminate correctly, or callers requiring multiple attempts to connect.

An independent technical assessment was commissioned by the Commonwealth in January 2026.

### Root Cause

The site assessment identified two contributing technical faults within the Redcom Slice 2100 switching environment:

1. Faulty firmware in both main and standby units, resulting in unreliable DTMF decoding when callers pressed 1, 2 or 3 to select police, ambulance or fire services.
2. A faulty chipset in one unit, generating intermittent noise that interfered with emergency call routing.

These issues were hardware and firmware specific. They were not attributed to backhaul capacity or general network congestion.

### Remediation and Validation

Corrective action included:

- Firmware upgrades to both main and standby Redcom units
- Replacement of the defective chipset

On-site call testing of 000 was conducted from multiple island locations over several days. No further issues were encountered during testing, and the assessment concluded that the emergency calling issue had been resolved.

During the incident period, residents were advised to use local emergency contact numbers as a precautionary measure.

### Ongoing Controls

Post-remediation controls now include:

- Weekly 000 testing conducted by Norfolk Telecom staff

- Routine monitoring of switching performance
- Retention of backup softswitch capability to support service continuity

## Current Status

At the time of the January 2026 independent assessment, the 000-emergency calling function was operating reliably.

The incident highlighted the importance of vendor lifecycle management, firmware maintenance discipline, redundancy validation and structured technical assurance processes. The 000 service is currently operating as intended. Maintaining its reliability and resilience remains a critical compliance and community safety priority.

## Incident Overview

| Item                      | Detail                                                                                                  |
|---------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Period</b>             | May – July 2025                                                                                         |
| <b>Nature</b>             | Intermittent reliability issues affecting some 000 calls                                                |
| <b>Root cause</b>         | Firmware defects and faulty chipset in Redcom Slice 2100 units affecting DTMF decoding and call routing |
| <b>Independent review</b> | Aqura technical assessment commissioned by Commonwealth (Jan 2026)                                      |
| <b>Remediation</b>        | Firmware upgrades, chipset replacement, validated via on-site testing                                   |
| <b>Ongoing controls</b>   | Weekly 000 testing, monitoring, backup softswitch                                                       |
| <b>Current status</b>     | Issue resolved; emergency calling operating reliably                                                    |

## Emergency Interconnect with Norfone

Separate to the 2025 switching incident outlined above, a further emergency communications resilience issue has been raised in relation to interconnection between the Norfolk Telecom and Norfone mobile networks. Correspondence in January and March 2026 indicates that in the absence of a formal emergency interconnect, some mobile-originating 000 calls on the Norfone network are currently dependent on fallback routing through the Norfolk Telecom mobile network rather than being capable of direct routing through a formalised cross-network arrangement.

The issue raised is that if the Norfolk Telecom mobile network is unavailable, emergency calls originating on the Norfone mobile network may also be affected, despite an

alternative mobile network being available on island. Norfone's stated position is that a local emergency interconnect would allow 000 calls accepted on its network to be routed through Norfolk Telecom's fixed network to the local answer point and onward to emergency services, improving continuity of emergency communications during certain outage scenarios.

As of 22 March 2026, Council management advised that it recognised an emergency interconnect as an important safety mechanism and confirmed that a draft interconnection agreement had been prepared and reviewed internally. Council also advised that further technical input was being sought to complete remaining drafting points before the agreement is provided for Norfone review.

This matter is relevant to service resilience and emergency communications continuity. It is distinct from the previously remediated switching fault and remains a current operational matter requiring formalisation of technical arrangements, roles and ongoing responsibilities between the parties.

## 14. Asset Management

Norfolk Telecom's asset management framework is guided by the NIRC Asset Management Strategy (2023), the Other Infrastructure Asset Management Plan (2023), and the draft Telecommunications Asset Management Plan (2025). The stated intent of the framework is to sustain service continuity while balancing cost, risk and renewal priorities within a constrained operating environment.

Telecommunications assets are recorded in the Council Asset Register and supported by ten-year replacement forecasts. The current forecast identifies approximately \$7.1M in renewal requirements over the next decade. This includes replacement of core network infrastructure forecast to reach end of life in 2032.

The asset base spans multiple technical domains, including:

- Mobile access network equipment (radio access and associated hardware)
- Core switching infrastructure
- Satellite transmission and backhaul components
- Copper and fixed-line distribution infrastructure
- Power and supporting site infrastructure
- Billing and switching software platforms

The renewal tables that follow summarise component-level values, annual renewal projections and LTFP distribution by asset category. All figures remain indicative and subject to confirmation through detailed condition assessment and procurement validation.

| Component                 | Total \$          |
|---------------------------|-------------------|
| Other                     | 5,113             |
| Central                   | 2,286,668         |
| Community Services        | 444,123           |
| Fleet                     | 348,031           |
| Land                      | 435,000           |
| Mobile Network            | 3,528,064         |
| Power Equipment and Tools | 7,622             |
| Satellite                 | 1,072,965         |
| Telecom                   | 5,298,965         |
| Terrestrial Network       | 771,491           |
| Transmission              | 13,696,531        |
| <b>Grand Total</b>        | <b>27,894,572</b> |

| Ten year replacement forecast |                  |  |
|-------------------------------|------------------|--|
| FY                            | Total \$         |  |
| 2026                          | 152,300          |  |
| 2027                          | 340,006          |  |
| 2028                          | 56,900           |  |
| 2030                          | 52,000           |  |
| 2032                          | 5,582,700        |  |
| 2033                          | 147,336          |  |
| 2034                          | 625,800          |  |
| 2035                          | 112,800          |  |
|                               | <b>7,069,842</b> |  |

The network core is forecast to reach end-of-life within the current planning horizon (2032 under draft AMP assumptions), at which point renewal or architectural transition would be required.



| LTFP Year          | Power          | System Hardware  | Transmission     | Trunk Distribution | Grand Total      |
|--------------------|----------------|------------------|------------------|--------------------|------------------|
| 2026               | 88,300         | 9,700            | 54,300           |                    | 152,300          |
| 2027               | 21,124         | 318,882          |                  |                    | 340,006          |
| 2028               | 49,000         | 7,900            |                  |                    | 56,900           |
| 2030               | 52,000         |                  |                  |                    | 52,000           |
| 2032               | 88,400         | 3,402,000        | 2,092,300        |                    | 5,582,700        |
| 2033               |                | 96,236           | 51,100           |                    | 147,336          |
| 2034               |                | 35,200           | 590,600          |                    | 625,800          |
| 2035               |                |                  |                  | 112,800            | 112,800          |
| <b>Grand Total</b> | <b>298,824</b> | <b>3,869,918</b> | <b>2,788,300</b> | <b>112,800</b>     | <b>7,069,842</b> |

## Current Asset Management Practice

The present asset management approach provides structured visibility of physical infrastructure assets and replacement timing. The ten-year forecast offers a high-level view of when major components are expected to require renewal and their indicative replacement value.

However, several structural limitations are evident.

## Digital Lifecycle Integration

While physical infrastructure assets are captured within the Asset Register, digital systems such as switching platforms, billing environments and vendor-managed software components are not yet fully embedded within lifecycle modelling or long-term capital forecasts. These systems are operationally critical and increasingly represent material risk exposure as they age.

Digital systems are not yet fully embedded within structured lifecycle planning and long-term capital modelling. As these systems mature, areas requiring ongoing monitoring and forward planning may include:

- Software obsolescence risk
- Vendor support expiry
- Cyber security upgrade requirements
- Compatibility constraints with emerging technologies

Given the pace of change in telecommunications technology, digital asset lifecycle risk can materialise more quickly than traditional infrastructure degradation. Without formal lifecycle modelling, renewal sequencing may become reactive rather than planned.

## Maintenance and Condition Management

Norfolk Telecom does not currently operate a Computerised Maintenance Management System (CMMS). Preventive maintenance scheduling is therefore limited and asset condition data is not systematically captured within an integrated system. Vendor

feedback in 2025–26 also identified the need for scheduled maintenance at the satellite earth station level, reinforcing the importance of proactive asset condition oversight for transmission-critical infrastructure.

Maintenance activity is predominantly reactive rather than supported by a formal CMMS framework. While this approach may be manageable at small scale, it introduces increased exposure to:

- Unplanned outages
- Escalating corrective maintenance costs
- Reduced asset life
- Service continuity risk

The absence of structured condition tracking also reduces the ability to prioritise renewal based on risk and performance data rather than forecast age alone.

## Concentrated Renewal Exposure

The forecast replacement of the network core in 2032 represents a significant capital event. Core infrastructure replacement is not a like-for-like minor upgrade; it may require broader architectural reconsideration depending on:

- Backhaul strategy
- VoLTE migration
- Roaming enablement
- Alignment with Australian mainland interoperability frameworks

This concentrated renewal milestone creates a strategic decision point. Investment in core replacement under the existing operating model may entrench current structural constraints. Alternatively, it could be sequenced as part of a broader system-level transition.

## Financial Interface

The Long-Term Financial Plan projects ongoing operating deficits under the current service model. This constrains internal capacity to fund major renewals from accumulated surpluses.

A funding gap may arise under current operating and capital assumptions due to the following elements:

- Forecast \$7.1M renewal requirements
- Ongoing operating deficit
- High fixed backhaul costs
- Limited revenue growth capacity

Under current financial projections, renewal requirements may place increasing pressure on Council's broader financial position if alternative funding or reform pathways are not identified

## Asset Management Risk Profile

The current asset management framework maintains baseline service continuity. However, the following risk exposures remain:

- Incomplete lifecycle modelling for digital systems
- Predominantly reactive maintenance practices
- Core infrastructure replacement concentration in 2032
- Limited capital funding headroom
- Vendor dependency for specialist systems

These risks are not indicative of immediate system failure. Rather, they reflect structural pressure within a small-scale, locally operated carrier environment.

Strengthening lifecycle integration, implementing structured maintenance systems and aligning renewal sequencing with long-term strategic direction would materially improve resilience and financial predictability.

This section highlights that asset management extends beyond technical maintenance considerations and is linked to the broader strategic question of Norfolk Telecom's future delivery model and investment pathway within Council's adopted planning and financial framework.

## 15. Network Architecture and Performance

Norfolk Telecom operates a locally managed telecommunications network comprising a 4G LTE mobile access layer, legacy voice infrastructure, satellite backhaul and on-island switching and billing platforms.

This architecture enables delivery of core mobile, fixed and data services across Norfolk Island. However, it also embeds structural constraints that influence performance, resilience, scalability and cost.

The following subsections describe each layer of the network architecture and its operational implications.

### Access Network (On-Island Infrastructure)

The mobile access network consists of 4G LTE radio infrastructure distributed across the island. Coverage is generally consistent across populated areas, with performance influenced by terrain, vegetation and site placement.

The LTE layer supports mobile broadband and packet-based data services. Fixed line and enterprise services operate through associated transmission and distribution infrastructure.

At the access level, the network can deliver baseline connectivity consistent with essential service requirements. Limitations arise primarily at core and backhaul layers rather than at the radio access layer itself.

### Mobile Voice Architecture

Norfolk Telecom operates a hybrid mobile voice architecture:

- Voice calls and SMS are delivered via a 3G circuit-switched core
- Mobile data services are delivered via 4G LTE
- Circuit-switched fallback (CSFB) is used for voice calls

Under CSFB, devices temporarily transition from the 4G network to the 3G network during voice calls before returning to LTE for data services.

This model reflects a transitional deployment approach commonly used during migration from legacy circuit-switched networks to fully IP-based Voice over LTE (VoLTE) platforms.

While it supports continuity of service, it constrains:

- Universal VoLTE capability
- Seamless international roaming
- Wi-Fi calling integration
- Advanced IP-based feature sets

Full VoLTE deployment would require broader architectural and backhaul alignment.

## Satellite Backhaul and Off-Island Connectivity

All off-island connectivity is delivered via contracted geostationary (GEO) satellite backhaul.

Satellite backhaul carries:

- Internet traffic
- Mobile data routing
- Inter -carrier voice traffic
- Access to mainland switching and service platforms

## Latency

GEO satellites operate approximately 35,000 km above the earth's surface. As a result, round-trip latency is materially higher than fibre-based networks.

Higher latency influences:

- Call setup times
- Real-time voice performance
- Interactive applications
- VPN performance
- Certain authentication and roaming processes

While latency does not prevent service delivery, it shapes user experience and limits support for some advanced services.

## Capacity and Cost

Satellite bandwidth is contracted capacity. Scaling throughput requires incremental bandwidth procurement, which directly increases operating expenditure.

Unlike fibre networks where marginal bandwidth cost typically declines over time, satellite scaling remains cost-sensitive and commercially structured.

Backhaul therefore represents:

- A significant fixed recurring cost
- A largely non-discretionary operating expense
- A structural constraint on pricing flexibility

## Resilience

Satellite backhaul creates a single international connectivity dependency. While local redundancy may exist within island infrastructure, off-island connectivity remains dependent on:

- Satellite service availability
- Earth station functionality
- Vendor service-level arrangements

This resilience profile differs materially from fibre-connected mainland networks with multiple terrestrial pathways.

## Core Systems and Platforms

Switching, billing and network management systems are locally managed with vendor support.

This model provides operational control but increases:

- Vendor dependency
- Lifecycle management responsibility
- Software and hardware obsolescence exposure
- Coordination complexity across multiple providers

Network monitoring and planning tools are limited compared with national carrier environments. This reduces proactive capacity planning and early fault detection capability.

## Wi-Fi Calling

Wi-Fi calling allows mobile devices to place voice calls and SMS messages over a Wi-Fi internet connection rather than using a cellular radio signal. On Norfolk Island, the behaviour of Wi-Fi calling differs depending on whether a Norfolk Telecom SIM or an Australian carrier SIM is being used.

### Norfolk Telecom SIM

Wi-Fi calling is not currently implemented as a native service feature within the Norfolk Telecom mobile network. The Norfolk Telecom platform does not operate a Voice over LTE (VoLTE) and IP Multimedia Subsystem (IMS) core, which is the architecture normally used by mobile operators to authenticate and manage Wi-Fi calling sessions.

As a result, Wi-Fi calling is not formally supported for Norfolk Telecom subscribers when using their Norfolk Telecom SIM outside the Norfolk Telecom mobile network including on Wi-Fi calling platforms in Australia.

Enabling native Wi-Fi calling for Norfolk Telecom subscribers would require deployment of a VoLTE-capable core network and IMS platform, together with integration of compliant emergency call routing. The independent telecommunications technical assessment (January 2026) identified that implementing these capabilities would require core network upgrades and associated capital and integration cost and would therefore need to be considered as part of broader network modernisation.

## Australian Carrier SIMs (e.g. Telstra)

Visitors using Australian carrier SIM cards (such as Telstra) may be able to place calls using their carrier's Wi-Fi calling service while on Norfolk Island.

In these circumstances the device connects to a local Wi-Fi internet service and the call is routed through the visitor's home carrier network, rather than through the Norfolk Telecom mobile radio network.

Where a 000 emergency call is made from an Australian carrier SIM using Wi-Fi calling on Norfolk Island, emergency call routing recognises the Norfolk Island numbering and switching environment and the call is directed to Norfolk Island emergency services.

## Scale and Structural Economics

Norfolk Telecom operates at small scale relative to national carriers.

Fixed infrastructure, platform and backhaul costs are distributed across a limited subscriber base. This affects:

- Per-user cost
- Investment headroom
- Capacity to fund feature upgrades
- Ability to match mainland service offerings

Scale materially shapes both cost structure and service flexibility.

## Architectural Implications

The current network reflects practical trade-offs associated with operating a carrier-grade service in a remote island environment.

It can reliably deliver essential connectivity. However:

- Satellite dependency introduces latency and cost constraints
- Legacy voice architecture limits feature evolution
- Small scale limits economic flexibility
- Vendor dependency increases lifecycle exposure

Incremental operational improvements may enhance stability and reliability. They cannot fully remove structural constraints embedded in the architecture.

As community expectations increasingly align with Australian mainland telecommunications standards, the gap between expected functionality and cost-effective deliverability becomes more visible. This gap contributes to competitive pressure and customer churn in contestable segments.



Addressing these constraints would require system-level change, external investment or alternative delivery arrangements. The architecture therefore directly informs strategic decisions regarding Norfolk Telecom's future operating model.

## Network Architecture – Key Characteristics, Implications and Risk Type

The table below consolidates the key architectural elements of the current network and identifies the practical service implications associated with each layer. It also categorises the primary source of constraint for governance clarity.

The ‘Risk / Constraint Type’ column distinguishes whether a limitation arises from technical architecture, structural cost settings, vendor dependency, operational tooling or economic scale. These categories are not risk ratings. They are intended to clarify the origin of each constraint and the type of intervention that would be required to address it.

Technical / Architectural constraints relate to system design and platform configuration. Structural / Financial constraints reflect embedded physical or commercial conditions such as satellite dependency and fixed backhaul cost. Vendor / Lifecycle exposures relate to external support arrangements and upgrade timing. Operational constraints relate to processes and monitoring capability. Economic / Scale constraints arise from the limited subscriber base and reduced economies of scale.

| <b>Network Element</b> | <b>Current Arrangement</b>                           | <b>Service Implication</b>                                                                                                           | <b>Risk / Constraint Type</b> |
|------------------------|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Access network         | 4G LTE mobile network                                | Provides baseline mobile coverage across populated areas; advanced feature scalability constrained by core and backhaul architecture | Technical / Scale             |
| Voice handling         | Hybrid LTE data with 3G circuit-switched core (CSFB) | Longer call setup times; limited VoLTE deployment; constrained roaming and Wi-Fi calling capability                                  | Technical / Architectural     |
| Backhaul               | GEO satellite-based off-island connectivity          | Higher latency than fibre networks; bandwidth scaling directly increases operating costs; single international connectivity pathway  | Structural / Financial        |
| Core systems           | Locally managed switching and billing platforms      | Full lifecycle responsibility retained locally; reliance on specialist vendor support;                                               | Vendor / Lifecycle            |

|                  |                                                           |                                                                                                                           |                       |
|------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------|
|                  |                                                           | exposure to upgrade timing and obsolescence                                                                               |                       |
| Monitoring tools | Limited advanced network management and analytics systems | Reduced proactive capacity planning and early detection of performance degradation                                        | Operational           |
| Scale            | Small island-based subscriber base                        | Fixed infrastructure costs distributed across limited customers; higher per-user cost; constrained investment flexibility | Economic / Structural |

## 16. Alternative Telecommunications Service Delivery Models

This section outlines alternative telecommunications delivery structures observed in remote, island and small-scale jurisdictions and frames the strategic positioning options available to Norfolk Island.

The models described are illustrative. They do not represent recommendations and do not imply suitability or preference.

### Structural Context

Norfolk Island's telecommunications arrangements are structurally different from most Australian local government environments.

Council currently:

- Owns carrier-grade infrastructure
- Operates mobile, fixed and data services
- Manages billing and customer accounts
- Contracts satellite backhaul and international transit
- Carries lifecycle, obsolescence and deficit exposure

In many remote jurisdictions, telecommunications services are instead delivered through:

- National carriers
- Government-owned wholesale infrastructure entities
- Public-private partnerships
- Subsidised essential service frameworks

The primary structural difference is how risk, capital and technology evolution responsibilities are distributed.

## Delivery Model Types

The table below summarises common telecommunications delivery models and how responsibility is typically allocated under each structure. These models illustrate how ownership, operations and funding can be distributed between public authorities and telecommunications providers. They are provided for reference and do not determine strategic direction.

| Model                                                      | Primary Service Delivery                                                                                   | Council Role                                                  | Funding Exposure       |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------|
| <b>Council-owned, direct operation</b>                     | Telecommunications services delivered directly by Council                                                  | Ownership, operations, governance and funding                 | High                   |
| <b>National carrier delivery</b>                           | Services delivered by a national telecommunications carrier                                                | Facilitation, advocacy and regulatory interface               | Low                    |
| <b>Government-owned wholesale infrastructure</b>           | Public telecommunications infrastructure owned by government, with retail services delivered commercially  | Limited oversight or policy coordination                      | Moderate (centralised) |
| <b>Wholesale infrastructure with retail carrier access</b> | Infrastructure operated by a wholesale network provider, with multiple carriers delivering retail services | Infrastructure host, policy coordination or limited oversight | Moderate               |
| <b>Co-management or joint venture</b>                      | Shared delivery between a public authority and a commercial telecommunications partner                     | Shared governance and strategic oversight                     | Variable               |
| <b>Outsourced operations</b>                               | Public ownership retained, with network operations contracted to a specialist provider                     | Asset ownership and contract oversight                        | Moderate               |
| <b>Subsidised essential service</b>                        | Telecommunications services delivered with ongoing public funding support                                  | Limited operational role                                      | Variable               |

|                                 |                                                                                 |                                          |                   |
|---------------------------------|---------------------------------------------------------------------------------|------------------------------------------|-------------------|
| <b>Transition or exit model</b> | Service responsibilities transferred to an external telecommunications provider | Transition governance and oversight only | Reduces over time |
|---------------------------------|---------------------------------------------------------------------------------|------------------------------------------|-------------------|

## Strategic Positioning Pathways

The delivery models outlined above represent different ways telecommunications services can be structured. In practice, Norfolk Island's future direction would likely align broadly with one of the following strategic pathways:

- Continued Council-owned operation as an essential utility
- Integration with national telecommunications providers
- Shared delivery arrangements with external partners
- Structural transfer of ownership or service responsibility

Each pathway represents a different allocation of capital responsibility, operational control and long-term risk.

## Structural Trade-Off

Across all delivery models, the key variables are structural rather than technical. The main factors influencing telecommunications delivery include:

- Off-island connectivity (satellite versus fibre-based integration)  
Source of capital investment (local funding versus nationally pooled investment)
- Allocation of operational and lifecycle risk (Council-carried versus distributed across larger systems)
- Degree of local control over pricing, service scope and upgrade timing

Norfolk Island currently combines:

- Local ownership of telecommunications infrastructure
- Satellite-dependent off-island connectivity
- A small subscriber base
- Concentrated renewal exposure, including core system replacement milestones
- Operating deficits associated with fixed transmission and contractor costs

Together, these characteristics concentrate financial, operational and lifecycle exposure within Council.

The strategic decision therefore extends beyond technical optimisation. It involves consideration of:

- Council's appetite for continued capital exposure
- Willingness to trade local control for redistribution of operational and technology risk
- Capacity to fund infrastructure renewal within Long Term Financial Plan (LTFP) constraints
- Community expectations regarding service standards and pricing
- Timing of major infrastructure renewal requirements

In this context, telecommunications strategy becomes fundamentally a question of risk allocation and capital responsibility, rather than network engineering.

## Alternative Service Delivery Model – Norfone

The Norfone NIRC Alternative Operation Business Case outlines a proposed alternative telecommunications delivery model for Norfolk Island.

Under the proposal, telecommunications services would be delivered by Norfone under a long-term agreement with Council. Council would retain statutory oversight functions under the Norfolk Telecom Act.

The proposal represents a commercial business case prepared by an external proponent and does not constitute a Council-endorsed strategy or decision

### Overview of Proposed Model

The Norfone proposal includes the following elements:

- Operation of a 4G/5G mobile network using Nokia infrastructure
- Off-island connectivity delivered through bonded Low Earth Orbit satellite services (Starlink and OneWeb)
- Migration of customers from the existing Norfolk Telecom network to the Norfone network
- Decommissioning of the legacy Huawei mobile network and other ageing infrastructure
- Replacement of copper landline services with VoIP-based services
- Introduction of fibre-to-premises and fixed wireless broadband services
- Transfer of operational staff from Norfolk Telecom to Norfone
- A proposed Council co-contribution during an initial transition period

The proposal describes telecommunications services being delivered by Norfone under agreement with Council rather than direct Council operation.

### Structural Implications

If implemented, the proposed model would change the current telecommunications service delivery structure.

Under the proposal:

- Telecommunications services would be operated by Norfone under agreement with Council
- Council would retain statutory oversight responsibilities under the Norfolk Telecom Act

Implementation of a model of this nature would require consideration of matters including:

- ownership and operation of telecommunications infrastructure
- statutory responsibilities and regulatory obligations



- commercial service delivery arrangements
- workforce transition considerations

### Indicative Cost–Benefit Considerations

The table below summarises potential considerations associated with the proposed model. These observations are indicative only and are provided to assist understanding of the proposal. They do not constitute an assessment or endorsement.

| <b>Consideration</b>        | <b>Potential Benefits for Norfolk Island</b>                                                  | <b>Potential Risks / Considerations</b>                                                                                                                   |
|-----------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Network infrastructure      | Deployment of a new 4G/5G mobile network is proposed.                                         | Migration from the existing Norfolk Telecom network would be required.                                                                                    |
| Internet connectivity       | Off-island connectivity would be delivered through bonded Low Earth Orbit satellite services. | Performance and operational characteristics would depend on satellite capacity and network configuration.                                                 |
| Capital investment          | Network deployment would be undertaken by the proposed operator.                              | Council co-contribution during the transition period is proposed.                                                                                         |
| Operational delivery        | Telecommunications services would be delivered by a commercial telecommunications operator.   | Council would no longer directly operate telecommunications services.                                                                                     |
| Infrastructure transition   | Migration from the existing Norfolk Telecom network is proposed.                              | Allocation of infrastructure ownership, maintenance responsibilities and associated costs would require clarification under any new delivery arrangement. |
| Workforce                   | Transfer of operational staff from Norfolk Telecom to Norfone is proposed.                    | Workforce transition arrangements would require consideration.                                                                                            |
| Regulatory responsibilities | Council would retain statutory oversight                                                      | Regulatory and statutory responsibilities would require                                                                                                   |

|                              |                                                                                                |                                                                                                                                        |
|------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
|                              | functions under the Norfolk Telecom Act.                                                       | confirmation under any revised service delivery model.                                                                                 |
| Emergency telecommunications | The proposed network is described as capable of supporting emergency communications functions. | Statutory responsibility for emergency telecommunications services would require confirmation if service delivery arrangements change. |

## Emergency Calling (000) Interconnection

Emergency calling arrangements require clear technical, operational and governance definition where more than one telecommunications network operator is active on the island.

The Norfone proposal states that the proposed network is technically capable of supporting national emergency communications functions, including 000 emergency calling. Separately, current correspondence indicates that emergency interconnection between Norfolk Telecom and Norfone is also a live operational resilience matter, with a draft interconnection agreement under development.

As at the date of this review the statutory responsibility for telecommunications services remains with Norfolk Telecom and no formal transfer of those responsibilities has occurred.

Any future multi-operator or alternative delivery model would therefore require clear determination of emergency communications roles, technical routing arrangements, fault and outage responsibilities, testing protocols, required approvals and formal operating arrangements before implementation.

## Conclusion

The Norfone proposal presents a potential pathway for modernisation of telecommunications services on Norfolk Island. It includes deployment of new mobile infrastructure, use of Low Earth Orbit satellite connectivity and migration of customers from the existing Norfolk Telecom network.

From a service capability perspective, the proposal may introduce newer mobile and broadband technologies and shift aspects of operational delivery to a specialised telecommunications provider.

However, the proposal does not yet demonstrate a full transfer of Norfolk Telecom's underlying financial, regulatory, infrastructure and service continuity exposure. The proposal indicates that Council would retain statutory oversight and provide a co-

contribution during the transition period while migration from the existing network occurs.

Unless future commercial and legal arrangements clearly allocate infrastructure responsibilities, statutory obligations, financial liabilities and lifecycle costs, Norfolk Telecom may remain exposed to ongoing regulatory, asset management and funding obligations even if operational delivery shifts externally.

Accordingly, while the proposal may improve telecommunications capability on the island, its effect on Norfolk Telecom's long-term financial position and risk profile will depend on how assets, liabilities, statutory responsibilities and ongoing funding obligations are allocated under any future agreement.

## 17. Findings

This section summarises key strengths and challenges identified through financial analysis, operational review, asset documentation, risk records and an independent technical assessment commissioned by the Commonwealth in 2025–26.

The purpose is to describe the current operating state of Norfolk Telecom and the structural conditions affecting sustainability, resilience and performance

### Strengths observed (what's working well)

- **Service continuity under constrained conditions**  
Norfolk Telecom continues to deliver core landline, mobile, internet and PABX services within a small-scale, satellite-dependent operating environment.
- **Local operational capability**  
Technical staff manage switching infrastructure, access networks, customer provisioning and field response within a limited workforce structure.
- **Integrated internal support functions**  
Telecommunications operations are supported by Customer Care, Finance and other Council functions for billing, customer enquiries and administrative coordination.
- **Independent validation of emergency calling functionality**  
An independent technical assessment commissioned following intermittent 000 reliability issues in 2025 identified hardware and firmware faults within the switching platform. Remedial actions were implemented and validated through structured testing. Emergency calling functionality was confirmed to be operating as intended at the time of assessment.

### Challenges identified

The following challenges were identified through this Service Review and include findings from the independent technical assessment commissioned by the Commonwealth. These challenges reflect structural, operational and infrastructure factors affecting the delivery and sustainability of telecommunications services on Norfolk Island.

- **Structural operating deficit**  
Telecom is forecast to operate at an approximate \$1.7 million deficit in 2025–26. High fixed satellite backhaul costs, contractor reliance and limited revenue growth constrain reinvestment capacity and limit internal funding of renewal or system upgrades.
- **Outstanding supplier liabilities**  
Outstanding Telstra invoices totalling approximately \$1.432 million were

identified by 28 February 2026. A payment arrangement is currently being negotiated.

- **Satellite backhaul dependency**

All off-island connectivity is delivered via commercial satellite services. This introduces inherent latency characteristics, weather sensitivity and high recurring cost exposure. Backhaul represents a significant and largely non-discretionary component of operating expenditure.

- **Absence of subsea fibre connectivity**

Norfolk Island does not have a subsea fibre cable connection to mainland Australia. All external traffic is routed via satellite infrastructure, affecting bandwidth scalability, redundancy diversity and long-term cost structure when compared with fibre-connected jurisdictions.

- **Core switching resilience exposure**

The independent technical assessment identified vulnerabilities within the switching platform, including hardware and firmware conditions that affected reliability. While remediated, the findings highlighted sensitivity within the switching layer to firmware currency, configuration accuracy and specialised hardware components.

- **Configuration and change control maturity**

The assessment identified that system stability is highly dependent on disciplined configuration management and version control. Structured documentation, firmware management and controlled change processes are critical in the current architecture.

- **Monitoring and testing regime limitations**

Network monitoring and alerting capability is limited relative to larger carrier environments. The independent assessment highlighted the importance of structured routine testing of safety-critical functions, including emergency call routing, within the existing configuration.

- **Vendor dependency and specialised knowledge concentration**

Core switching, billing and network systems rely on specialist external vendor support. Advanced troubleshooting, firmware management and system evolution are not fully within local capability, concentrating operational knowledge externally.

- **Billing platform dependency and integration constraints**

Billing functions rely on vendor-supported platforms interfacing with switching and provisioning systems. Product configuration, rating logic and certain adjustments require specialist support. Integration between network records and billing systems requires careful coordination, increasing operational complexity and limiting rapid product evolution.

- **Service feature compatibility limitations**

The independent technical assessment identified compatibility gaps affecting

several commonly used mobile service features, including Wi-Fi calling, roaming capability and mobile hotspot functionality.

- **Legacy and hybrid mobile architecture constraints**

The mobile network operates in a hybrid configuration incorporating legacy circuit-switched elements alongside 4G LTE. This increases operational complexity and limits certain service features commonly available in fully IP-based networks.

- **Revenue pressure and competitive erosion**

Customer migration to alternative providers continues to place downward pressure on Telecom's revenue base while fixed operating costs remain largely unchanged.

- **Reactive maintenance environment**

Maintenance tracking and lifecycle monitoring are not supported by a formal Computerised Maintenance Management System (CMMS). Asset performance and intervention scheduling rely on manual processes and vendor input.

- **Workforce scale constraints**

A small technical workforce manages the full telecommunications footprint, concentrating operational responsibility and reducing redundancy in system knowledge.

- **Facility condition**

The Telecom building and associated facilities show signs of ageing infrastructure. A condition assessment is pending to confirm structural and compliance status.

## 18. Opportunities

This section outlines opportunities to strengthen Norfolk Telecom’s financial position, service capability and long-term sustainability. It draws on financial analysis, operational data, asset management plans, the Commonwealth technical review and the wider competitive and regulatory environment.

Opportunities are grouped under three themes:

- **Deficit Reduction Opportunities** – targeting major cost drivers and efficiencies to reduce the funding gap.
- **Service Capability Enhancements** – actions to stabilise day-to-day service delivery and system reliability.
- **Transformation Opportunities** – broader options including funding models, technology shifts and reform of the service delivery approach.

### Deficit Reduction Opportunities

Norfolk Telecom is forecast to operate at a deficit of approximately **\$1.7 million in 2025–26**. Addressing this structural funding gap is the highest priority, as it constrains asset renewal, system modernisation and service resilience.

The principal cost drivers are contractor expenditure, transmission (satellite) costs and reactive maintenance inefficiencies. Revenue growth alone is unlikely to close the gap due to the limited subscriber base.

### Foundational Initiative

#### Future of Norfolk Telecom Service Delivery Model

An independent review to define Norfolk Telecom’s long-term role, delivery model and funding pathway before committing to major capital upgrades.

This review would test options including:

- Managed wholesale model
- Co-management arrangements
- Transmission reform
- Structural exit or asset transfer

This initiative underpins all other deficit reduction decisions.

Alongside this foundational work, there are opportunities to reduce major cost drivers and improve efficiency within the existing operating model. All figures are indicative and subject to business case testing, procurement and Council approval.

## Deficit Reduction Opportunities - Summary table

Costs and benefits are indicative only and will require validation through business cases and procurement

| Initiative                                    | Description                                                                       | Estimated Cost               | Estimated Benefit    | Notes                                   |
|-----------------------------------------------|-----------------------------------------------------------------------------------|------------------------------|----------------------|-----------------------------------------|
| Future Norfolk Telecom Service Delivery Model | Independent review of role, delivery model and funding pathway                    | Consultancy (TBD)            | Variable             | Foundational decision-setting work      |
| Contractor cost optimisation                  | Review, consolidate and renegotiate major contracts; reduce overlap; refine scope | Internal review              | ~\$200–400k per year | Contractors currently ~\$1.9M p.a.      |
| Satellite transmission optimisation           | Review contracted capacity, pricing structure and utilisation                     | Commercial negotiation       | ~\$75–200k per year  | Limited by market constraints           |
| Preventive maintenance & CMMS                 | Implement structured maintenance scheduling and digital tracking                  | \$50–100k (setup + training) | ~\$50–100k per year  | Reduces reactive costs and asset stress |
| Targeted pricing review                       | Review selected commercial and enterprise pricing tiers                           | Internal review              | ~\$75–150k per year  | Must consider market sensitivity        |



## Service Capability Enhancements (stabilisation and risk reduction)

These initiatives improve operational reliability, system integration and service resilience. They do not independently resolve the structural deficit but reduce risk exposure and align with the Commonwealth technical review findings.

These initiatives respond directly to:

- Vendor dependency and integration complexity
- Limited automation between network and billing systems
- Reactive maintenance environment
- Emergency service resilience expectations

### Service Capability Enhancements – Summary Table

The table below summarises opportunities to improve Norfolk Telecom’s operational capacity, system reliability and service resilience. Costs and benefits are indicative only and will require validation through business cases and procurement.

| Initiative                                  | Description                                                                                                         | Estimated Cost                 | Estimated Benefit                                         |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------|-----------------------------------------------------------|
| Modernise switching and billing integration | Improve integration between switching records and billing configuration; reduce vendor-dependent manual adjustments | \$300–500k (capital)           | Reduced fault exposure; improved billing stability        |
| Strengthen billing reconciliation controls  | Increase automation between switching events and billing validation                                                 | Included above or minor uplift | Reduced leakage and configuration risk                    |
| PABX audit and IP transition                | Review legacy systems and migrate toward supported IP-based platforms                                               | \$100–150k                     | Improved compatibility and lifecycle resilience           |
| Upgrade monitoring and assurance tools      | Improve network monitoring capability, including emergency call testing                                             | \$75–120k                      | Earlier fault detection; improved resilience              |
| Implement CMMS                              | Formal maintenance tracking and asset lifecycle visibility                                                          | \$50–100k                      | Reduced reactive maintenance and improved audit readiness |

|                                |                                               |            |                                                |
|--------------------------------|-----------------------------------------------|------------|------------------------------------------------|
| Telecom building remediation   | Address facility risks impacting continuity   | \$100–200k | Reduced WHS and continuity risk                |
| Expand field response capacity | Additional vehicle and technician flexibility | ~\$60k     | Improved response time and service reliability |

## Transformation Opportunities

These opportunities represent structural change rather than incremental improvement. They would require Council direction, feasibility assessment and potentially Commonwealth involvement.

These options are exploratory and should be considered only after the clarifying Council's preferred future role and service model.

### Transformation Opportunities – Summary Table

The table below summarises transformational options, their indicative costs and potential benefits where they could be estimated. These measures are exploratory and would require further feasibility work, business cases and Council direction.

| Initiative                              | Description                                                                   | Estimated Cost              | Estimated Benefit                    | Notes                               |
|-----------------------------------------|-------------------------------------------------------------------------------|-----------------------------|--------------------------------------|-------------------------------------|
| Digital core transition                 | Replace switching, billing and IP core systems with fully supported platforms | \$1.5–2.5M (indicative)     | ~\$200–400k per year (indicative)    | Addresses lifecycle and vendor risk |
| Managed wholesale / co-management model | Outsource core operations while retaining local field capability              | Transition costs TBD        | ~\$400–800k per year (indicative)    | Redistributes technology risk       |
| Undersea fibre feasibility study        | Assess viability of subsea cable to replace or complement                     | Feasibility cost \$250–500k | Long-term cost and latency reduction | Requires Commonwealth partnership   |

|                              |                                                      |                            |                                                                                                                  |                           |
|------------------------------|------------------------------------------------------|----------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------|
|                              | satellite transmission                               |                            |                                                                                                                  |                           |
| Market exit / asset transfer | Explore sale, lease or transfer to external operator | Nil (if externally funded) | Potentially reduces Council's direct operating exposure, subject to commercial terms and transition arrangements | Policy-sensitive decision |

### Transmission Reform (Strategic Consideration)

Norfolk Island currently relies entirely on commercial satellite transmission for off-island connectivity. This:

- Constrains latency and throughput
- Represents a major fixed cost
- Provides no fibre-based redundancy path

A subsea cable would represent structural transformation, not incremental upgrade. Such an initiative would need to be framed as national infrastructure rather than local service reform.

### Overall Opportunity Context

Incremental operational improvements may reduce financial exposure and improve reliability. The current operating model concentrates financial, technological and lifecycle risk within Council.

Meaningful long-term sustainability may require:

- Redistribution of technology and capital risk
- Reform of the service delivery structure
- Or external infrastructure investment

These matters are considered further in the Recommendations section.

## 19. Areas Requiring Specialist Commercial and Technical Analysis

This Service Review identifies structural financial and architectural conditions affecting Norfolk Telecom's sustainability. Detailed modelling of contractor cost composition, transmission alternatives, infrastructure access arrangements, roaming capability and comparative managed service cost structures has not been undertaken within the scope of this review.

These matters involve live market pricing, technical interoperability assessment and commercial structuring considerations that would appropriately be examined through a specialist telecommunications and commercial advisory engagement as part of, or alongside, the future Norfolk Telecom Service Delivery Model.

## 20. Recommendations

The following recommendations are provided for Council and Administrator consideration. Progression of any initiative remains subject to formal decision-making, funding availability and statutory compliance.

These recommendations are sequenced to confirm the **Future Norfolk Telecom Service Delivery Model** as the foundational action. Norfolk Telecom currently carries concentrated financial, technological and lifecycle risk within Council. Without clear direction on its long-term role, service standard and delivery model, further capital expenditure may be incremental, reactive or misaligned with sustainable outcomes.

In addition to the phased recommendations below, Council should progress resolution of outstanding Telstra invoices totalling approximately \$1.4million. This would include negotiation of a payment arrangement and confirmation of the invoice amounts and service components.

All subsequent actions are therefore subject to and informed by the outcome of Phase 1 - confirmation of the future service delivery model.

### Recommendation 1

Confirm the Future Norfolk Telecom Service Delivery Model.

Confirm the future service delivery model for Norfolk Telecom and define:

- Council's intended long-term role in telecommunications delivery
- The appropriate service scope and performance standard
- The preferred delivery model (direct operation, managed wholesale, co-management, or transfer)
- The sustainable funding pathway

The review should explicitly assess:

- The financial sustainability of the current operating model
- Transmission dependency and long-term connectivity pathways
- Technology lifecycle exposure and vendor concentration risk
- The level of contemporary service capability that is realistic and affordable given scale
- Options for redistribution of operational and capital risk
- The legislative framework governing telecommunications on Norfolk Island

As part of this process, the review should:

- Examine the Norfolk Telecom Act and related Commonwealth telecommunications legislation
- Confirm Council's statutory obligations, powers and any constraints on service delivery reform
- Clarify the allocation of responsibilities for emergency calling, interconnection and carrier functions
- Identify whether structural reform options would require legislative amendment, Commonwealth approval or regulatory change

The outcome of this review should provide a formal Council position on:

- Whether Norfolk Telecom remains a direct retail carrier
- Transitions toward partnership or wholesale arrangements
- Or structural reform of the service

Major system replacement or capital commitments should be informed by the outcome of this review to ensure alignment with Council's agreed long-term service direction.

## Phase 2 – Immediate Stabilisation Actions (6–18 months, subject to Phase 1 outcomes)

These actions focus on financial discipline, risk containment and operational resilience while longer term direction is clarified.

### **Network Capability and Coverage Optimisation**

Undertake targeted improvements to mobile network capability and coverage management, including implementation of radio frequency planning tools and enabling commonly used mobile service features such as Wi-Fi calling, roaming capability and mobile hotspot support.

### **Contractor and Commercial Review**

Undertake a structured review of major contractor and vendor arrangements, including satellite transmission and technical support contracts, to:

- Identify scope rationalisation and consolidation opportunities
- Renegotiate pricing where feasible
- Clarify service levels and performance accountability
- Reduce overlap between contractor and internal functions

### **Transmission Contract Review**

Review satellite transmission arrangements to assess:

- Capacity utilisation relative to contracted bandwidth
- Pricing structure and escalation clauses

- Term flexibility and risk exposure
- Potential alternative or hybrid connectivity pathways

### **Facility and Compliance Assurance**

Complete a Telecom building condition assessment and address essential safety, compliance and continuity risks identified.

### **PABX and Voice Environment Review**

Undertake a formal audit of PABX and legacy voice systems to confirm lifecycle exposure and identify a transition pathway consistent with the agreed service model.

### **Preventive Maintenance and Asset Visibility**

Formalise preventive maintenance scheduling and implement foundational digital asset tracking to strengthen lifecycle visibility, reduce reactive maintenance exposure and improve audit readiness.

### **Customer Fees and Charges Review**

Review Norfolk Telecom customer fees and charges to assess alignment between service pricing, operating costs and financial sustainability. This should:

- Examine current tariffs for mobile, broadband and related services
- Assess cost recovery relative to operating and infrastructure costs
- Identify opportunities to simplify pricing structures and improve transparency

Any changes to fees and charges would be subject to Council consideration and approval through the relevant budget and regulatory processes.

These actions are intended to strengthen resilience and cost control regardless of the ultimate service model.

## **Phase 3 –System Modernisation (1–3 years, subject to Phase 1 outcomes)**

These actions involve platform renewal and structural alignment consistent with the agreed service direction.

### **Switching and Billing Platform Transition**

Replace or restructure the current switching and billing environment to:

- Reduce vendor concentration risk
- Improve integration between network events and billing records
- Enhance automation and reconciliation controls
- Align system architecture with the chosen delivery model

**Core Infrastructure Renewal**

Upgrade servers, IP core components and power systems to supported, scalable platforms in accordance with lifecycle planning.

**Lifecycle Integration and Risk Planning**

Embed digital and network assets into formal lifecycle costing, renewal forecasting and risk planning under Council's Asset Management framework.

**Workforce and Field Capacity Optimisation**

Improve workforce planning, scheduling systems and field response capacity to strengthen operational resilience and reduce reactive expenditure.

**Legacy System Rationalisation**

Retire obsolete or low-utilisation systems to reduce complexity, vendor dependency and operating cost.

## Phase 4 –Structural and Long-Term Reform (3+ years, subject to Phase 1 outcomes)

These actions represent structural positioning and funding reform beyond incremental system renewal.

**External Funding and Co-Investment Strategy**

Pursue Commonwealth programs, co-investment partnerships or infrastructure funding pathways where major capital renewal exceeds Council's sustainable capacity.

**Long-Term Connectivity Reform**

Subject to feasibility assessment and funding alignment, investigate structural transmission reform options, including diversification beyond exclusive satellite reliance.

**Mature Asset Management Implementation**

Implement an integrated asset management system, including CMMS, condition monitoring and lifecycle analytics to embed preventive maintenance discipline.

**Structural Reform (if endorsed)**

Progress structural reform options endorsed by Council, including:

- Managed wholesale arrangements
- Co-management or joint venture models
- Or divestment / asset transfer



## 21. Integrated Planning and Reporting (IP&R) Alignment

The recommendations in this Service Review have been developed to align with Council's planning, budgeting and reporting processes. The review does not commit Council to specific actions, funding or delivery models but provides an evidence base to support future planning, prioritisation and decision-making.

### **Community Strategic Plan (CSP) 2016–2026**

The review aligns with Strategic Direction 04 – A successful and innovative community, which focuses on supporting economic activity and strengthening the Island's business environment. Telecommunications infrastructure supports this direction by enabling business operations, tourism services and digital participation across the Island.

Reliable telecommunications also contribute to broader CSP priorities relating to infrastructure reliability, community safety and service access by supporting emergency communications, health services, education and digital connectivity.

The recommendations focus on clarifying Council's role in telecommunications service delivery, managing financial exposure and identifying a sustainable long-term service model.

### **Delivery Program**

If endorsed, relevant actions arising from this review may be considered through future revisions of Council's Delivery Program. Recommendations relating to service delivery arrangements, infrastructure management and operating model clarity support Council's role in managing essential infrastructure services.

### **Operational Plan**

Telecommunications is identified within the Operational Plan as a Council-delivered business activity.

Short-term actions identified in this review may be reflected in future Operational Plans through defined activities, performance measures and resourcing decisions, subject to Council priorities and annual budget approval.

### **Resourcing Considerations**

The review may inform Council's resourcing frameworks, including:

- **Long-Term Financial Plan**, by identifying the cost profile and funding exposure associated with telecommunications service delivery

- **Workforce planning**, by clarifying the balance between internal capability and specialist contractors required to support the service
- **Asset Management Strategy and Telecommunications Asset Management Plan**, by supporting lifecycle planning for network infrastructure, switching systems and digital platforms.

## **Reporting**

Progress against any adopted actions can be reported through Council's existing reporting mechanisms, including Quarterly Business Reporting and the Annual Report.

## 22. Implementation and Monitoring

Implementation of the recommendations should be staged and sequenced in accordance with available funding, workforce capacity and Council priorities. Progression of actions should be guided by the outcomes of the Telecom Service Model Review and aligned with Council's approved plans, budgets and governance arrangements as they are developed and updated over time.

All proposed initiatives are indicative only and subject to further feasibility assessment, business case development, procurement processes and Council or Administrator approval. Cost estimates, timeframes and benefits may change as proposals are refined and funding availability is confirmed.

Monitoring and reporting should occur through existing management and governance processes, including internal reporting and reporting to Council or the Administrators as appropriate. Key risks, dependencies and implementation progress should be reviewed regularly to ensure actions remain aligned with agreed service objectives, funding constraints and community expectations.

This approach supports transparent decision making, effective risk management and adaptive implementation as Council's planning and reporting frameworks continue to mature.

# 1. Appendices

## Acronyms

| Acronym | Full Form                                  |
|---------|--------------------------------------------|
| 000     | National Emergency Call Number             |
| ADSL    | Asymmetric Digital Subscriber Line         |
| AMP     | Asset Management Plan                      |
| BSA     | Business Services Agreement                |
| CMMS    | Computerised Maintenance Management System |
| CSP     | Community Strategic Plan                   |
| CSFB    | Circuit Switched Fallback                  |
| DC      | Direct Current                             |
| DILO    | Day In the Life Of                         |
| FSG     | Field Solutions Group                      |
| FTE     | Full Time Equivalent                       |
| GEO     | Geostationary Earth Orbit                  |
| IP      | Internet Protocol                          |
| IP&R    | Integrated Planning and Reporting          |
| LEO     | Low Earth Orbit                            |
| LTE     | Long Term Evolution                        |
| LTFP    | Long-Term Financial Plan                   |
| MEO     | Medium Earth Orbit                         |
| MRC     | Monthly Recurring Charge                   |
| NBN     | National Broadband Network                 |
| NIRC    | Norfolk Island Regional Council            |
| OPEX    | Operating Expenditure                      |
| PABX    | Private Automatic Branch Exchange          |

|       |                              |
|-------|------------------------------|
| PPP   | Public-Private Partnership   |
| SES   | Satellite Earth Station      |
| SIM   | Subscriber Identity Module   |
| UPS   | Uninterruptible Power Supply |
| VoIP  | Voice over Internet Protocol |
| VoLTE | Voice over LTE               |
| WHS   | Work Health and Safety       |

## Reference Documents

The following documents were referenced in the preparation of this Service Review. This list is not exhaustive and does not include all internal working papers, correspondence, financial extracts or technical records considered during the review process.

### Council Planning and Governance Documents

- Norfolk Island Regional Council – Community Strategic Plan 2016–2026
- Norfolk Island Regional Council – Operational Plan 2025–26
- Norfolk Island Regional Council – Delivery Program (current cycle)
- Norfolk Island Regional Council – Asset Management Strategy
- Asset Management Plan – Telecommunications (Draft), April 2025
- Asset Management Plan – Other Infrastructure (2023)
- Norfolk Telecom Service Statement
- Operational Risk Register – Telecom (August 2025)
- Service Activity – DILO (Day In the Life Of) Telecom

### Legislation and Regulatory Framework

- Norfolk Telecom Act
- Telecommunications Act 1997 (Cth)
- Radiocommunications Act 1992 (Cth)
- Privacy Act 1988 (Cth)
- Work Health and Safety legislation (as applied to Norfolk Island)

### Contracts and Commercial Agreements

### Technical and Independent Assessments