DIGITAL RMI PROJECT

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

FINAL

November 2020

Republic of the Marshall Islands

Ministry of Transportation and Communications (MTC)
Ministry of Finance (MOF) and
National Telecommunications Authority (NTA).

Digital RMI Project (P171517)

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

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PREAMBLE

This Environmental and Social Management Plan (ESMP) has been prepared for the Republic of the Marshall Islands (RMI) Digital RMI Project, pursuant to national regulations and the World Bank's Environmental and Social Framework.

The ESMP addresses all project components and has been prepared for the entire project. The ESMP provides a description of institutional arrangements, environmental and social risks, health and safety risks, mitigation, monitoring, and the management of Contractors.

Along with this ESMP, other environment and social instruments required under the Environmental and Social Framework have been prepared, including the Stakeholder Engagement Plan (SEP) (appended), and Environmental and Social Commitment Plan.

All instruments have been disclosed on the Ministry of Finance website www.rmi-mof.com/division-of-international-development-assistance/news-and-updates/ .

1. INTRODUCTION

RMI faces many of the development challenges common to small, remote economies with dispersed populations. Small size and remoteness increase the costs of economic activity and make it difficult to achieve economies of scale. Remoteness also imposes significant transport costs that increase the costs of trade and fundamentally constrain competitiveness of exports of goods and services in world markets. These same factors, in addition to various structural elements, also increase the cost and complexity of providing telecommunications services.

The Government of RMI (GoRMI) has recognized the need to stimulate digital development and increase access to digital services, and is preparing the Digital RMI Project (the Project) to expand access to the internet, promote private sector investment in climate resilient digital services and establish the critical foundations for digital government services and the RMI digital economy. In broad terms, the Project has been developed in recognition that in RMI very limited access to high-speed Internet and cost of digital services constrains the ability of individuals and business to unlock the full potential of a digital economy.

The GoRMI has adopted the following three distinct development priorities under the Project, for the sector to stimulate digital development and increase access to digital services:

(1) Market structure reforms, developing digital government and the digital economy to bring digital services to the people;

(2) Building on improved connectivity for Government, its public service providers (e.g. health and education services) and its citizens to get better use out of the enhanced technology and services; and

(3) Legal and regulatory reforms to support the proposed market structure reforms and the rollout of digital services. These priorities have been incorporated in the Digital RMI Project.

The Implementation Agencies for the Project are the Ministry of Transportation and Communications (MTC) Ministry of Finance (MOF) and the Marshall Islands National Telecommunications Authority (NTA).

2. Digital RMI Environmental and Social Management Plan (ESMP)

2.1. Environmental and Social Management Documentation

In order to manage Project environmental and social risks, this Environmental and Social Management Plan (ESMP) provides an analysis of Project impacts and identifies appropriate mitigation measures, including who is responsible for implementation. It incorporates a stakeholder engagement plan which outlines how the Project will ensure affected and interested parties will receive information and be consulted throughout the life of the Project. The ESMP includes the Stakeholder Engagement Plan (SEP). An Environmental and Social Commitment Plan (ESCP) is referenced in the legal agreement between the Bank and the Government of RMI (GoRMI) and defines key actions and responsibilities for Project implementation.

2.2. Purpose and Scope of ESMP

Pursuant to the WB Environmental and Social Framework (ESF), an environmental and social assessment is required to assess impacts and risks as the basis for the Project ESMP. Initial Project screening based on field investigations, stakeholder meetings and desktop study of similar projects in the region as well as a review of potential options indicates the Project is classified as a moderate risk project.

The ESMP assessment has found potential impacts are minor, mostly site specific and reversible; and can be effectively managed through mitigation strategies outlined in this ESMP.

Additionally, no involuntary land acquisition or resettlement will be required and land access required for installation or maintenance of ICT equipment will rely on existing NTA land access arrangements. Any other land access will only be undertaken with the full agreement of land owners or occupiers. A land access process will be prepared during implementation to confirm voluntary arrangements and ensure the Project is developed in line with the principles of ESS 1 and 5.

From a social perspective, the project is assessed as moderate risk due to potential adverse impacts of NTA reform on current employees (and their families) if retrenched; concern that improved internet access will increase exposure to harmful digital content and result in increased gender based violence (GBV), sexual exploitation and abuse (SEA), sexual harassment (SH), violence against children (VAC), bullying and peer pressure, and/or human trafficking. Further, people living in neighboring islands will not receive the same level of digital services as residents of Ebeye and Majuro, although access will be improved with potential for future expansion.

Given this context, the purpose of the Project ESMP is to set out the mitigation, monitoring, and institutional measures required to eliminate, offset or reduce adverse environmental and social impacts to acceptable levels in line with relevant RMI laws and regulations, the World Bank Environmental and Social Framework, and best practice experience in the Marshall Islands.

2.3. Integration of ESMP

It is the responsibility of the Project Implementation Unit (PIU) to ensure that this ESMP is fully integrated throughout implementation. The ESMP shall form part of any bid documentation, TOR or partnership agreement for physical works, and it shall be the PIU's responsibility to ensure that ALL

procurement documents, partnership agreements (including Public Private Partnership (PPP)) and contractual specifications is subject to review against this ESMP and the January 2017 version of the World Bank standard procurement documents to ensure that all relevant safeguard measures are captured at the bid stage and in all contracts.

Further the PIU shall ensure that this ESMP is considered in review of any Terms of Reference (TOR) for Technical Assistance developed for the Project. The E&S risk management requirements for any design or supervision of the Project will be fully integrated into TOR to ensure that all E&S risk management responsibilities allocated within the ESMP are realized at the tender stage. The ESMP will also be used for risk management of the social aspects of the project, including regulatory aspects, market reform, policy development etc.

As such, the ESMP will be fully integrated within the Project to ensure all required measures are fully understood and adhered to by all responsible parties leading to successful implementation.

2.4. Disclosure

The ESMP is to be publicly disclosed by the Ministry of Communications and Transport (MCT), Ministry of Finance (MOF) and the Marshall Islands National Telecommunications Authority (NTA) as the agencies responsible for project implementation. A public flyer radio advert and/or Facebook post on MOF and NTA Facebook page will alert the public to the disclosure of the instruments. Likewise, MCT will ensure that several copies of all prepared E&S risk management instruments are available locally at the ICT office and easily accessible to affected groups and local Non-Governmental Organizations (NGOs).

The ESMP will be reviewed, updated and approved if necessary. For each approved updated version of this ESMP, the PIU will be responsible for disclosure through the above channels.

3. PROJECT DESCRIPTION

The Project components will be structured as follows:

3.1. Component 1. Public Private Partnership and Market Structure Reform

This component will strengthen national digital connectivity infrastructure and trigger substantial new private sector-led investment, expand coverage, support the introduction of better climate and disaster connectivity services, and lower pricing. It will finance technical assistance and the public financing costs associated with restructuring NTA and closing the viability gap between the obligations imposed on the private investor under PPP and the value of the transaction to the private sector on a purely commercial basis.

(a) *Transactional, legal and regulatory support for the PPP and associated market structure reforms*. Technical support and capacity building activities for the development and implementation of the PPP transaction and associated reforms, including: (i) consultation processes, validation of design, costs, preparation of tender documentation, and marketing and bidding through a competitive process; and (ii) development and implementation of the legal and regulatory enabling environment, including for the Contract Administration Agent (CAA) to monitor and promote compliance by the private sector operator during the PPP period.

(b) *Supporting reform by establishing InfraCo and enabling vertical unbundling by financing the buy-out of minority shareholders in NTA*. Financing the purchase by Government of the initial authorized capital stock of InfraCo, which will be applied by InfraCo to finance the costs associated with the buy-out of the approximately 16 percent of private shareholders of NTA. The buy-out price will be set by negotiations between InfraCo and the private shareholders on a willing buyer/willing seller basis according a valuation methodology presecribed in the Project Operations Manual. The NTA stock purchased by InfraCo will then be swapped for key NTA assets (such as the interest in HANTRU-1, mobile towers and land leases) which will be transferred from NTA to InfraCo.

(c) *Supporting high-quality, low-cost digital infrastructure and services under PPP arrangements*. Viability Gap Financing to the private operator for achieving specified milestones, including the pre-payment of debts; rollout out of new investments in disaster and climate resilient digital infrastructure in Majuro, Ebeye and the 34 inhabited neighboring islands; decommissioning obsolete infrastructure and services; achievement of new price, coverage and service standards; and the transfer of assets and key operational staff to InfraCo at the end of the PPP period. Performance standards will be set as part of the PPP bidding process, which will shift performance risk to the private operator pursuant to terms and conditions specified in the PPP and prescribed under the licensing framework.

3.2. Component 2. Digital Government Platforms and Digital Skills

This component will finance a range of interventions and investments focused on priority government services (e.g., eHealth and e-education) and initiatives (improving services on the neighboring islands), beginning with the development and implementation of a Digital Government Strategy (DGS) under the supervision of the PSC. The DGS will be linked to priority business process reviews, the development of government enterprise architecture and the rollout of a national government portal and priority digital services. Specific job creation and skill development initiatives will also be prioritized as part of the transition to the digital economy This component will include the following subcomponents.

(a) *Development of a Digital Government Strategy (DGS)*. This subcomponent includes developing a digital government strategic framework on the direction, principles and practices for the use of digital technologies, including stakeholder consultations and developing processes for implementation. The DGS will set the direction for the use of digital technologies, with the ultimate intent of improving Government business process and workflow efficiencies, improving the quality of life for citizens and residents, while reducing the complexity for businesses transacting with Government. The DGS will follow a "whole of Government" approach, which will also specify governance, services delivery, investment roadmap and implementation arrangements. A process for putting in place digital authentication mechanisms, digital delivery platforms, digital payment gateways, share platforms and common standards and interoperability mechanisms will be pursued.

(b) *Digital skills Development*. This subcomponent will finance various job creation and digital skills initiatives, focusing particularly on changing nature of digital infrastructure and digital services. The emphasis will be on developing strategies to address possible job losses that may occur due to increased digital activities, digital platforms and improved connectivity services. Closely linked with existing World Bank-supported activities focused on strengthening the education system and promoting skills development,[1] this subcomponent will also provide support to identify opportunities and modalities to train citizens with the skills needed to succeed in a digital economy.

(c) *Digital ID*. This subcomponent will finance a nationwide digital ID platform to facilitate authentication of identity and electronic signatures online. Its objective will be to increase access to and enable the digitalization of public and private sector services. Priority services for digital ID may include financial services (e.g. remittances and account opening), uniquely identifying patients in the health sector, uniquely identifying students and for other trusted transactions through the digital government platform and in the digital economy (e.g. e-commerce), including facilitating Know Your Customer (KYC) requirements.

(d) *Secure Government Network and Data Center, Disaster Recovery/Business Continuity and Government Cloud (G-Cloud)*. This subcomponent will finance design and procurement of Digital Government Infrastructure and Platform to support information systems and applications, including secure email, for government users. Proprietary and open source options will be considered. This subcomponent will consider and evaluate alternative data center or cloud computing ownership models taking into consideration climate change impacts, disaster risks security, resource management, operational and capital cost of operations, continuity of operations, and total cost of ownership. Remote and local data center options will be analyzed, including to promote compatibility and interoperability with existing and proposed digital platforms and solutions, for example the Public Financial Management (PFM) system(s).[2]

(e) *Implementation of pilot e-Service(s)*. This subcomponent will finance the development of one or two priority digital services, based on a readiness assessment for digital services (institutional as well as technical). It will also support advisory services to implement modifications of associated business processes within relevant ministries and agencies. The focus will be on developing e-services and smart solutions in key sectors (potentially aligned with the objectives under current initiatives to

[1] RMI Education and Skills Strengthening Project (P171924)
[2] Project to Strengthen budget execution and financial reporting systems (P163131)

strengthen PFM,[3] health,[4] education,[5] and improve service delivery on the neighboring islands) that build on and demonstrate the value of using shared digital government infrastructure and services, and will build on the single window "Government Portal" initiative to provide convenient access to various government services.

(f) *Gender Development Office Support.* Strengthening the institutional capacity of the Gender Development Office to carry out activities to increase participation in the digital economy on a gender informed basis, including policy development, research, monitoring and evaluation, citizen engagement, and outreach activities relating to digital literacy and digital entrepreneurship. This subcomponent will assist the Gender Development Office in contributing to gender informed policy development associated with the roll out of digital infrastructure and services, particularly the passage of gender-sensitive legislation relating to harmful digital communication. The capacity of the Gender Development Office to monitor and mitigate issues and concerns associated with digital harms from a gender perspective will also be strengthened.

3.3. Component 3. Legal and regulatory enabling environment for Digital Government, Digital Economy and Cybersecurity

This component will provide technical assistance for the legal and regulatory enabling environment needed to underpin the investments in digital government and the digital economy. It will also provide ongoing support for traditional telecommunications regulatory priorities, particularly to promote investment, technological innovation and evolution, and the long-term interests of users of digital services.

(a) *Regulatory support for the long-term development of the Information and Communications Technology (ICT) sector*. Technical support will be provided to develop and implement the legal and regulatory enabling arrangements appropriate to ensure the successful development of the sector and promote the long-term interests of users, including for a Telecommunications Officer who will assume regulatory responsibilities for the sector when competition begins at the end of the PPP period.

(b) *Legal and regulatory framework for Digital Government*. Technical support and capacity building activities for establishing, modernizing and implementing the legal and regulatory frameworks, and institutional and data governance arrangements, needed to support digital government and the digital economy, particularly cybersecurity, cybercrime, data protection, digital ID, digital transactions, e-commerce and Netsafe principles and practices.

(c) *Creation and rollout of a Government's Cyber Security Program*. Technical assistance and capacity building activities for the development of operational and administrative standards, assurance, monitoring, audit and Cyber-Security Emergency Response Team (CERT) capabilities. The Cyber Security Program will also include comprehensive security training and awareness programs for all government users, government IT and security professionals, management, citizens and the private sector.

[3] *Ibid*
[4] Multisectoral Early Childhood Development Project (P166800)
[5] RMI Education and Skills Strengthening Project (P171924)

3.4. Component 4. Project Implementation Support

This component will finance a Project Implementation Unit (PIU). The PIU will be established within the Ministry of Transportation and Communications (MTC). The PIU will be responsible for overall Project management and coordination. Other aspects of Project administration (procurement, financial management, audit, communications and environmental and social risk management) will be supported by the Central Implementation Unit (CIU) in the Division of International Development Assistance (DIDA), which has been established within the Ministry of Finance (MOF) and which currently provides support to all World Bank-financed operations in RMI.

3.5. Project Development Objective Indicators

Project progress will be measured against the following Project Development Objective (PDO) - level results indicators:

- People provided with access to the Internet (number) (disaggregated by gender)[6]
- Expanded access to internet services on neighboring islands (percentage of neighboring islands with internet access)
- Private sector providers in RMI (number)
- Hours lost per year by end users due to climate events (percentage)
- Reduction in CO2 emissions per end user (percentage)
- Digital government strategy adopted (yes/no)
- Regulatory framework for digital services adopted (yes/no)

3.6. Environmental and Social Risk Classification

The Project is categorized as a Moderate Environmental and Social Risk Rating.

The Project environmental risks were described in the ESRS as moderate, relating primarily to managing construction impacts during installation and maintenance and the decommissioning of obsolete equipment. Risks to the community and workers during installation and maintenance relate to health and safety disruptions to access to properties and businesses; shallow trenching (e.g. around 20cm) may result in minor earthworks. Indirect risks relate to the disposal of obsolete and redundant equipment from the public (faxes, phones etc.). These types of risks and impacts are low in magnitude, predictable and expected to be temporary and site-specific and can be managed through compliance with the World Bank Group EHS Guidelines and Good International Industry Practice, training of workers and good supervision and oversight of mitigation measures.

The Project was designated an overall Moderate social risk rating, relating to construction impacts which can be adequately managed. During operation, risks associated with increased connectivity may include cyber-bullying, addiction and exposure to illicit material, and risks relating to unequal access based on gender, age or ability. Social benefits, such as access to information, education and employment, and impacts of increased connectivity can be managed through effective social assessment, and stakeholder engagement with a focus on improving and removing gaps to access for all (including the vulnerable) and developing E&S risk management within the institutional frameworks to ensure equitable access and

[6] World Bank Corporate Results Indicator

means to engage with and complain about services. The project may require small scale land acquisition or temporary changes in access but priority will be given to Government owned or controlled land in order to minimize risks. The issues associated with the development of an e-services platform and digital identification will be considered during the social assessment and as part of stakeholder engagement activities. A moderate risk rating is proposed primarily because the project is not complex and/or large, does not involve activities that have a high potential for harming people or the environment, and is located away from environmentally or socially sensitive areas.

The risk of sexual exploitation and abuse/sexual harassment (SEA/SH) is assessed as **low**. The project is not expected to employ a significant migrant workforce and worker behavior can be informed by appropriate training and code of conduct. SEA/SH service providers are available in RMI and will be consulted during project preparation.

4. PROJECT ELEMENTS - PHYSICAL INVESTMENTS

4.1. Overview of program

The objective of the physical investment program is to upgrade the telecommunications infrastructure to provide modern, reliable and low ongoing cost infrastructure for RMI.

The physical program is effectively split into two separate elements: the upgrades for Majuro and Ebeye, and upgrades and expansions of coverage to the neighboring islands.

The program for Majuro and Ebeye will look and feel like a traditional civil infrastructure project. Where underground build is determined to be the best approach there will be civil build in the utility easement areas of the roads, installation of new cables and the reinstatement of the roading surface. If overground wires are determined to be the best approach, this will involve wires strung on existing telecommunications poles.

The new fiber cables and infrastructure in Majuro and Ebeye will free up space. It is expected, but not yet confirmed, that the existing NTA sites of Laura, Airport and Rita will no longer be required and space freed in the existing main NTA buildings in Majuro and Ebeye. Surplus buildings and associated infrastructure on Majuro are expected to be repurposed or removed.

The neighboring islands will receive a different set of upgrades. These will provide an upgrade, but it will not provide the same level of services that will be available in Majuro and Ebeye. This difference in capability will require specific mitigation to ensure that neighboring islands can get as equivalent an outcome as possible.

An overview of the existing infrastructure is set out in Annex 5 which mostly involves replacing existing assets that are housed in the main telephone exchange buildings and on mobile towers with newer, high performing, but smaller and more efficient technology.

4.1.1. New Fiber network for Majuro and Ebeye

Building the new fiber network and connecting it to each premise throughout Majuro and Ebeye is a major project. Once planned, it will involve constructing civil build through the utility easements adjacent most roads and then, with appropriate consent, connecting each individual premise to the new network.

The fiber build project consists of three stages:

1. **Planning.** This involves the detailed planning for the end to end build of the network and how customers will be connected to the network. The goal of the planning stage is to ensure that the appropriate trade-offs are made. This is done prior to selection of the PPP partner and the output will set many of the contractual conditions that they will be required to meet.

2. **Building the communal network**. This is building the “common” infrastructure that runs down each street in the utility easement and allows any individual customer to connect to the network.

3. **Connecting** each individual customer to the network. This involves getting individual consent from each tenant, building and land owner to install new network from an individual premise back to the communal network.

1. Planning Stage – 2021 Prior to transaction

The project intents to complete this stage before the PPP provider is chosen.

The detailed design determines precisely where and how the cables and other infrastructure (such as pits and streetside cabinets) will be deployed. It will confirm where utility easements are used and confirm (and resolve) and access to private property. The planning stage will outline the processes that need to be followed to connect individual customers to the network.

Completing the design up front provides certainty to the bidders and to the GoRMI and key stakeholders and allows the trade-offs to be explicitly made by GoRMI and then enforced in the PPP contract.

The fiber build requires trade-offs which are better determined prior to the contract being set:

- The extent to how and where the network is placed below or above ground. This makes a significant difference to cost, impact to citizens while the build project is underway and the long term operational costs. This will include any negotiations for pole access and costs. Further detail on the different technical approaches are outlined in Annex 6.
- The extent and standard of hard-surface reinstatement for underground build.
- The use of any private property for the communal network as opposed to being in the utility easements.
- The processes and procedures developed and approved for managing consent when connecting individual premises to the communal network.
- Employment Health and Safety processes for building and connecting customers to the network

The design will route the network around private property, authorised and unauthorised encroachments into the existing easement space by individuals, existing utility services and the current copper networks. It is expected to use a combination of offshore network design expertise and local assistance to provide a solution. The teaming of offshore expertise with local support means that this is possible to be completed inside COVID 19 restrictions.

Out of the design process, there may be situations where the best option may be to negotiate a private property easement to build the communal network. This is where it may be a lower cost to manage the complications of private land access and agreement compared to building in the available utility space. If this is required, an appropriate land access process will be used.

The process design will also include how the process of connecting individual customers is to be managed. Connecting individual customers will require the installation of new equipment and cables on and through private property. The processes will include both the technical requirements and the consenting processes to install new fiber equipment on private property. All customer connections are voluntary.

Once the technical and process design is complete, they will be subject to stakeholder (particular emphasis on including all other utility, roading, pavement owners and municipal authorities) consultation and final approval. The objective is again for both the project outcome and for the prospective PPP partner, it is preferable that significant issues are resolved before the contract is concluded.

2. **Communal Fiber Build – 2022/3**

The main physical activity will be the laying of new fiber networks in the street / utility easement areas as per the approved design. It will be undertaken by the PPP partner and their contracting suppliers.

New equipment and termination frames will be installed in the exchange building to power and connect the new fiber networks. This is smaller and has lower power consumption than the equipment used to

connect to the copper networks. Space in the existing building will need to be created to allow for this to be built before the copper network equipment can be removed later.

The major part of the project involves the actual fiber cable build, installing the associated infrastructure to support and maintain the network and then to make the network ready to be able to connect each individual home or premises back to the network. This stage is intended to have little private land access requirements[7].

This is referred to as the communal network; it is the common network that runs past each house or premise. The diagrams below show where the communal fiber network is expected to be built in Majuro and Ebeye:

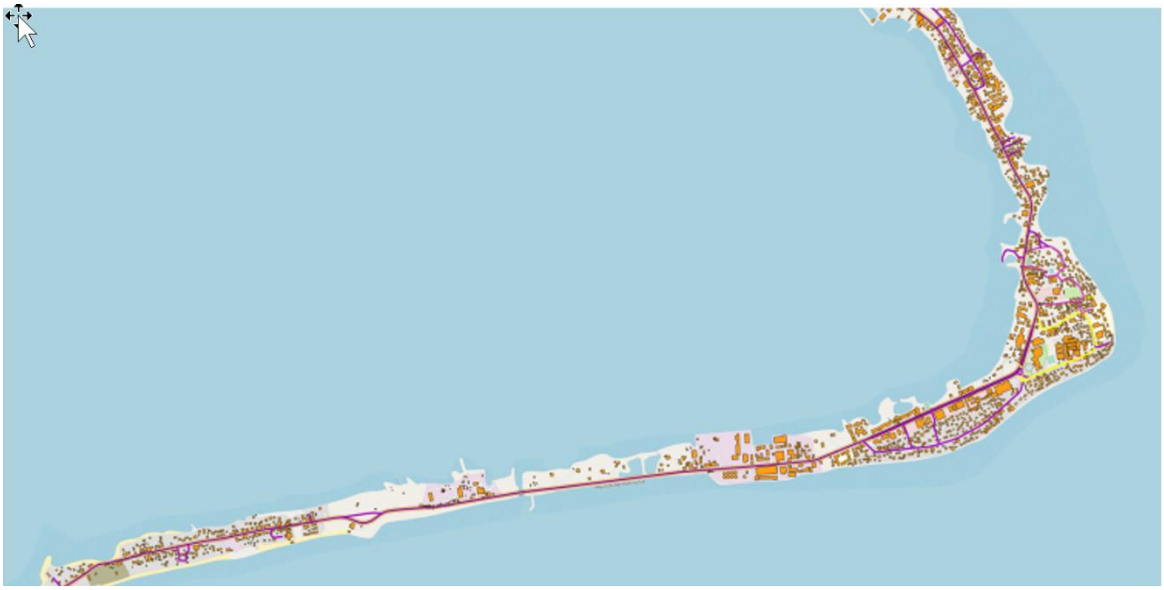


Figure 1 - Partial map of Majuro highlighting the main communal network path for the new fiber network. The fiber will be built along all main roads.

Figure 2 - Ebeye showing the expected main fiber path

[7] Private land should only be required where it has been explicitly identified and agreement confirmed during the design phase.

The following diagram shows the components involved in building the network. The network is built such that any premise that is passed by the communal infrastructure is able to easily be connected once requested by the customer. The communal network construction will potentially have a wide impact. It is to be built in the road or within NTA's utility easement and will need to be carefully managed to avoid unacceptable nuisance and interference with community day to day activities. Engagement with community, utility and municipal stakeholders in the design phase must continue through the build phase so that issues encountered during construction can be resolved quickly.

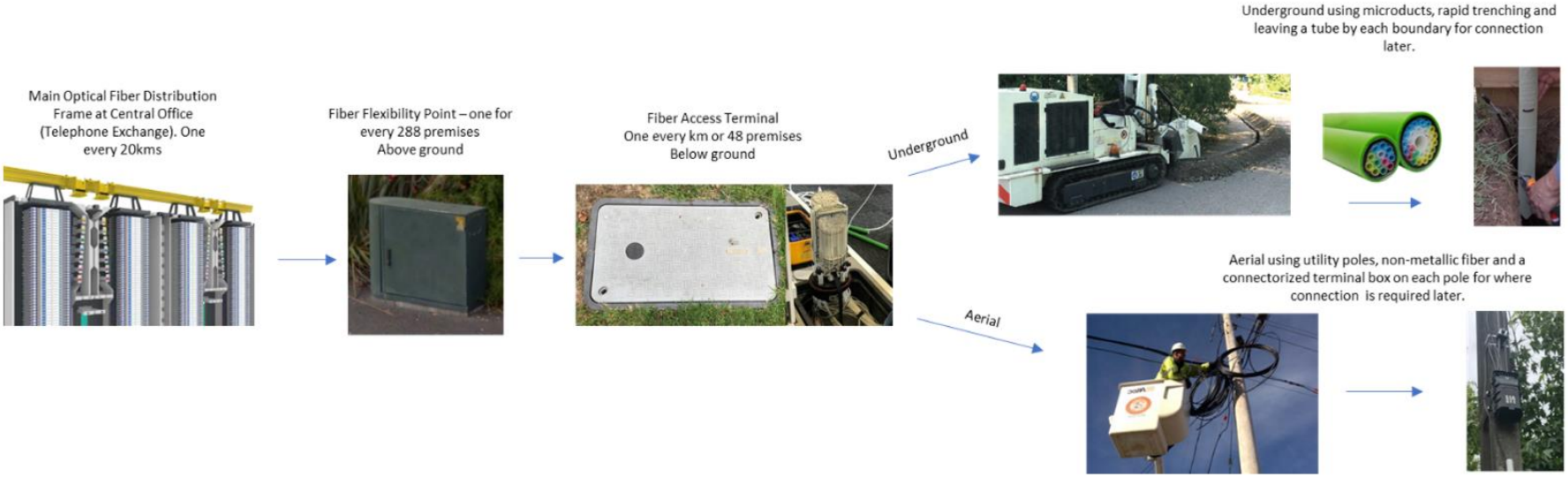


Figure 3 - High level components in building the communal fiber network

3. Connecting each individual premise to the new fiber network

Once the communal network is built outside any given premise, each individual premise needs to be physically connected to the network in the street. This is done only with the consent of all relevant parties (tenant, building and land owners) and involves the installation of an underground or overhead cable between the street and the private property.

The process will start with either an offer from the PPP provider to an existing customer, or a new customer contacting the PPP provider to request service. The service is expected to be a free upgrade, offering considerably better service and speed for the same or lesser price.

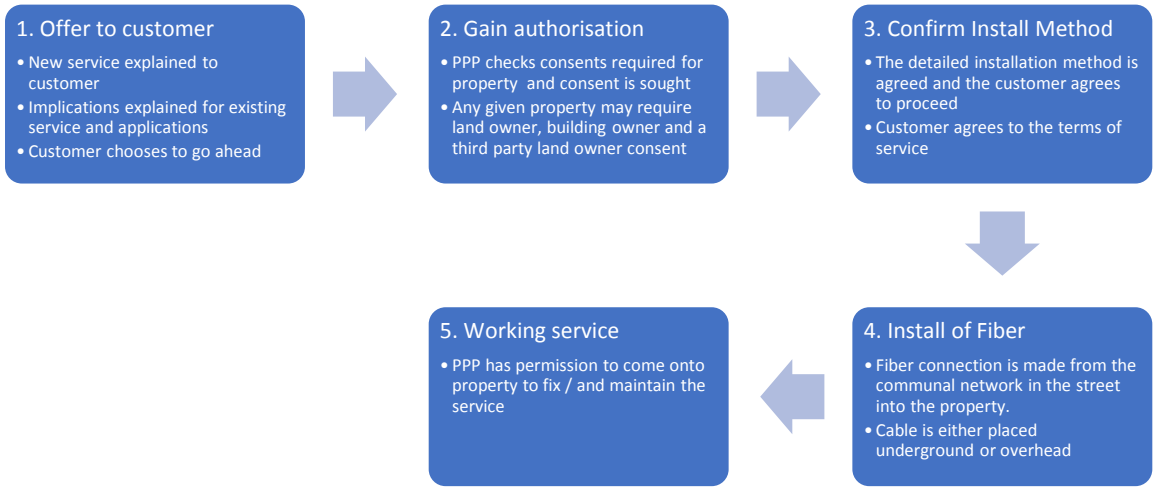


Figure 4 - Individual customer and consent workflow

Where there is a large common landowner or large building (for example with an apartment building containing a number of tenants) the PPP provider will seek to gain these consents early on, even before the network is built. Gaining these consents at the earliest stage will mean only the end consumer consent is required to deliver service. These activities will be undertaken concurrently and delays in agreement will not affect commencement of construction of the communal network.

Complexities and frustrations could arise when a customer requests services and third party consent is required to build the network from the communal network in the street to the requesting customer. This can happen where there are shared access rights to a driveway and all landowners must consent. Any individual owner can frustrate the process. This is best mitigated up front by communal network design that minimises the need for third party access and through education and stakeholder management at the commencement of the project as to the benefits of the project. During the fiber to the home process for individual households or business, it is up to the customer to secure all third-party consents at step 2 (above) and this consent process will be outlined in the land access plan or POM or both. For example, where fiber cable is required to be laid along a common driveway.

Once consent is granted, and the customer agrees to the terms of service and the proposed construction method, then build commences. The diagram below shows the different components of the connection.

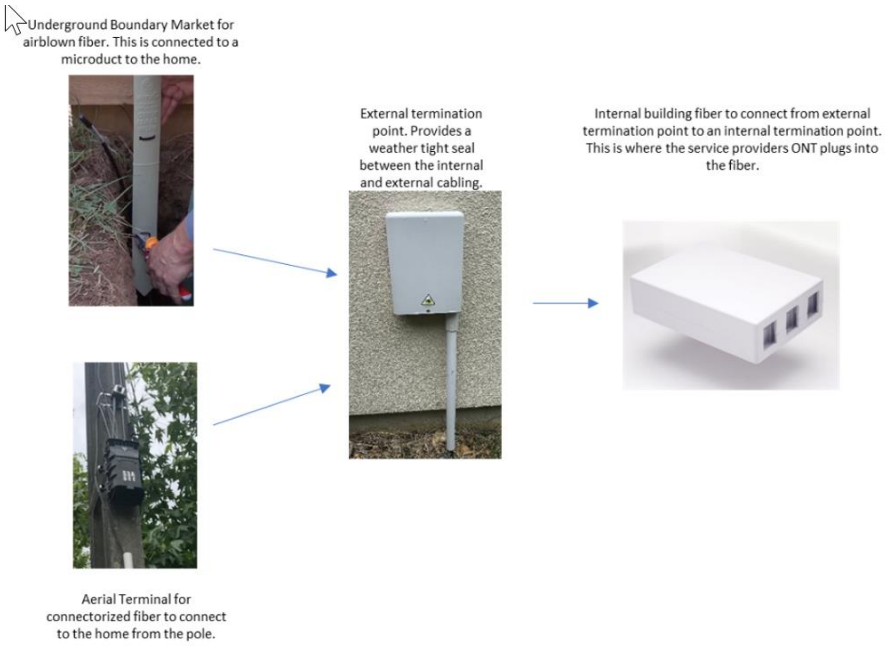


Figure 5 - Connecting each home to the communal fiber network

New modems or gateways (Optical Network Terminator – ONTs) will be installed in every home that takes up the service, replacing previous broadband devices. to enable connection to the internet. (Figure 6). Existing ADSL broadband modems will be gathered and disposed of as part of the project. The PPP operator will collect these at the time of installation of new equipment and arrange for offshore disposal as e-waste.

Figure 6 - Example of Optical Network Terminator (ONT) from Nokia. Most ONTs today include WiFi and other services like traditional telephone support. These replace the existing copper (ADSL) broadband modem or WiFi Gateway. They are about the same physical size and require the same sort of low power consumption in the home.

4.2. Upgrade of wireless networks in Majuro and Ebeye

The changes will likely see the existing wireless (2G/4G and Wi-Fi) networks replaced and or upgraded. Changes to the mobile network should have limited impact.

This will largely involve replacing existing antennas on the current towers or adding new antennas and radio units. Any additional radio antennas and units will be smaller as the will operate at higher frequencies than what NTA has currently deployed. They will add additional capacity to the mobile network.

Figure 7 shows a mobile tower upgraded to Gigabit LTE (4.9G). The larger panels at the top of the tower are the same low band antennas used in RMI. The smaller boxes are the radio heads and antennas used for the higher frequencies used for the additional capacity. These smaller boxes are how additional capacity will be delivered as part of the upgrade.

The new operator is likely to prefer to deploy additional frequencies on the existing towers than secure new sites.

Additional sites will typically be small, self-contained units that will affix onto existing utility poles.

Figure 7 - Example of upgraded mobile tower in Queenstown NZ. Multiple frequencies have been added to provide Gigabit throughput.

4.3. Retirement of copper and associated systems in Majuro and Ebeye

All the equipment that is currently connected to the copper network, for both traditional voice and broadband will be decommissioned. This will provide a significant space and power saving. Buildings that are currently used, such as the Nortel Shelters in Majuro, will no longer be required.

Some of the equipment may have salvage value. The equipment may have limited value as spares but most likely it will simply require appropriate disposal. All the existing broadband modems will be scrap. This has waste management implications as discussed in Section 8 of this ESMP.

The copper network in the ground does have value. However the cost of extracting the network from the ground is expected to be more than it is worth. The copper network is not ducted and removing (and restoring the existing hard surfaces that cover it) it will be a substantial project and it is doubtful that it has an economic merit. The copper cables don not in themselves pose any long term issue if left in situ. A decision on the fate of the copper assets will be determined during the project and will follow the mitigation measures in the ESMP.

4.4. Retirement of buildings and space no longer required

The fiber network allows for longer transmission distances. This will mean much higher speeds and reliability but also less need for the same number of buildings, especially in Majuro. Some limited infrastructure may be

needed in Laura, but everything else can be served by the main NTA building. Majuro will only require one main central office in Delap. A small cabinet may be required in Laura (Figure 8).

The existing Laura, Ajeltake, Airport and Rita sites could all be disposed of, reused or repurposed.

It is also likely that some or all of the space inside the NTA HQ could be freed up once the copper network is decommissioned.

This should allow a considerable saving in land costs, power and maintenance.

Figure 8 - Example of powered telecommunications cabinet with battery backup that would provide for the Larua needs compared to the existing Shelter and associated infrastructure. Fiber equipment is on the left, cable termination on the right.

4.5. Retirement of TV network

The new fiber network will support reliable internet based video content distribution. Both international and domestic services will be able to be supported. This will mean that the existing receiver Satellite dishes and the TV transmission equipment housed at Rita can be decommissioned and the buildings repurposed.

4.6. Neighboring Island Upgrade

The existing NTA plan has upgrades scheduled to the existing DAMA Satellite services on the neighboring islands. In 2019 NTA signed a contract with Intelsat to upgrade the existing sites to provide mobile 2/3G services to each island and internet services to Schools and Dispensaries.

This plan is expected to reach all populated atolls, providing mobile phone coverage to close to the entire population. Approximately 60 new mobile sites will be built under the existing NTA plan. This will replace the existing equipment and add a small mobile cell. This small cell will require a small pole of approximately the same sized as a normal utility pole user for power distribution.

Where there is no existing equipment, NTA will acquire a new site and install a small shelter for the equipment and batteries. A small solar array will provide power.

The NTA Intelsat program also will deliver limited bandwidth to all schools and all dispensaries. This will involve approximately a further 120 sites. For these additional sites, the school or dispensary will be responsible for siting the satellite terminal and providing the necessary power infrastructure.

These NTA upgrades are already contracted and are not part of the scope of this program.

Once these upgrades are complete, a second range of upgrades will be required from 2023 to upgrade the capacity to 4G and to provide more capacity to the schools and dispensaries. This will involve installing additional equipment to upgrade the radio units to provide additional capacity. This second upgrade will have very limited physical impact.

The outer islands will have limited capability compared to the capability in Majuro and Ebeye

Whilst the upgrades will make a significant improvement in communications to the neighboring islands, they will not provide the same level of service or experience as in Majuro and Ebeye.

The initial upgrade by NTA will provide very limited mobile communications; voice calls and texting. There may be limited data services but they will be expensive per Mbyte and or slow. Users (and digital application developers for e-Govt) on the neighboring islands should not expect the same sort of mobile service that is currently available on Majuro or Ebeye.

The systems deployed to Schools and Dispensaries will be equally limited. and initially only suited to administration and management of schools rather than modern e-Learning and cloud based applications available in Majuro and Ebeye through the use of the new fiber network. It will not be possible to provide the same services across all of RMI.

This capability gap between Majuro and Ebeye will be enduring

Improvements in satellite technology will close the gap, the next generation of Satellite services, called Low Earth Orbit (LEO) Satellites[8] promise to provide a better technical solution than currently available and importantly provide coverage over the Marshall Islands. In an absolute price / performance sense, services will improve for the neighboring islands.

However, these services will still be an order of magnitude poorer than what Majuro and Ebeye would expect to receive and it means that despite the continuous improvements, the neighboring islands will always be at an infrastructure disadvantage.

The graph below shows the expected speeds available for schools across RMI. Majuro and Ebeye will always have and order of magnitude better capability.

[8] There are a number of providers (Oneweb, Starlink, Telesat) who are launching hundreds of satellites. Pricing and service viability is yet to be proven but the significant investment and early information looks promising. Starlink has offered beta testing of a ~100Mbps service for $99 per month with a $500 terminal cost. https://observer.com/2020/10/spacex-reveal-pricing-of-starlink-beta-service/

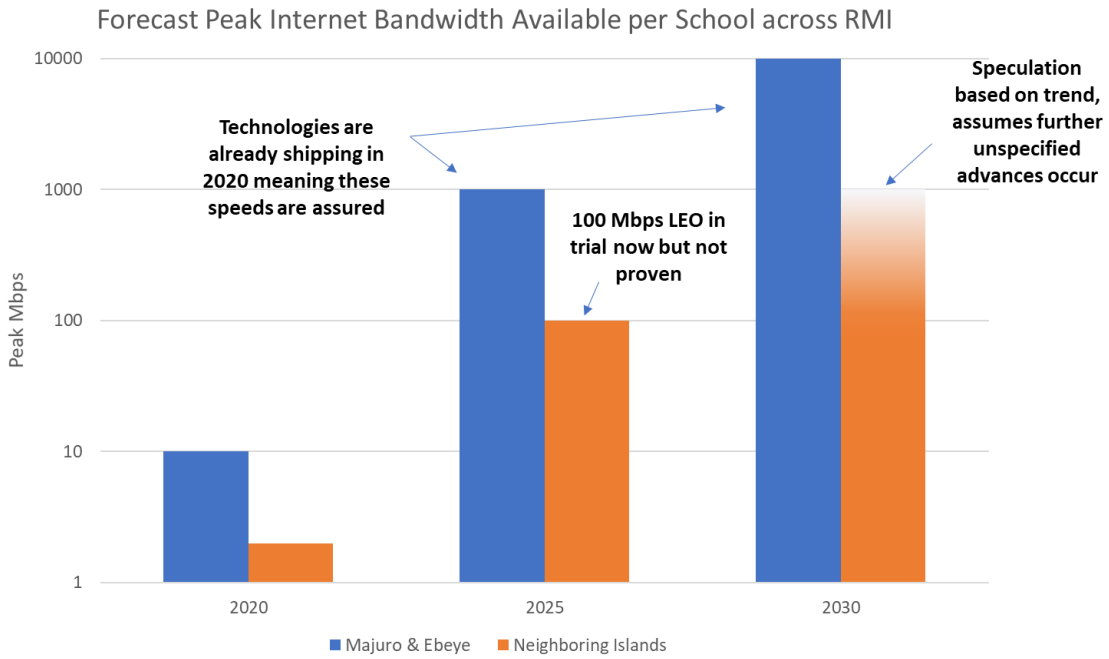


Figure 9 - Comparison between forecast peak internet speeds available in Fiber connected Majuro and Ebeye vs the Satellite connected Neighboring islands.

The project scope includes mitigations for the relative difference in communications capability

Given the technology paths currently available, it is not feasible for the neighboring islands to have the same level of communications capability as Majuro and Ebeye. The project will develop additional technical mitigations to provide a similar outcome using the available technology.

For schools this is likely to involve deploying cache infrastructure (local servers on island to mimic the internet) and other technology to limit the bandwidth required yet provide a good experience to students. This will require more management and investment than would have been the case had there been better technology available.

For e-Govt applications, additional investment will be required to develop neighboring islands variants that work in the limited bandwidth available. This additional step will slow uptake across all of RMI but will still ensure that functional applications are able to be delivered to all.

5. POLICY, LEGAL AND REGULATORY FRAMEWORK

5.1. Introduction

This section describes the following RMI legal and regulatory instruments relevant in the context of evaluating and managing environmental and social impacts of the project:

- Country specific policy, legal and administrative frameworks relevant to the project;
- World Bank environmental and social standards (ESS) relevant to the project;
- World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines) relevant to the project; and
- Other relevant international and regional conventions that are adopted by the Borrower, such as Stockholm Convention for Persistent Organic Pollutants, Basel Convention for hazardous wastes and disposal.

5.2. Country specific policy, legal and administrative frameworks relevant to the project

5.2.1. Introduction

The GoRMI operates under a mixed parliamentary-presidential system as set forth in its Constitution. Elections are held every four years, with each of the twenty-four constituencies electing one or more representatives (senators) to the lower house of RMI's uni-cameral legislature, the Nitijela. The President, who is head of state as well as head of government, is elected by the 33 senators of the Nitijela.

Legislative power lies with the Nitijela. The upper house of Parliament, called the Council of Iroij, is an advisory body comprising twelve traditional leaders. The executive branch consists of the President and the Presidential Cabinet, which consists of ten ministers appointed by the President with the approval of the Nitijela. The twenty-four electoral districts into which the country is divided correspond to the inhabited islands and atolls.

Article II of the Constitution contains a Bill of Rights which outlines the basic rights afforded to people in the Marshall Islands. These rights include equal protection to men and women and freedom from discrimination, personal autonomy and privacy, access to health education and legal services, ethical government and other rights retained by the people.

5.2.2. General

RMI Constitution: The Constitution of the Republic of the Marshall Islands mandates the government of the RMI to be responsible to safeguard and maintain heritage and ensure that the islands can continue to provide a home to the people of the Marshall Islands for generations to come.

Local Government Act 1980: An Act providing the manner of operation of the system of local government. Each atoll has its own local Council.

5.2.3. Environmental Legislation

National Environmental Protection Act 1984 (NEPA): An Act to provide for the establishment of a National Environmental Protection Authority (EPA), and for the protection and management of the environment. Marshall Islands environmental impact assessment legislation is found largely in Part IV. The NEPA Act 1984 is supported and further elaborated in a set of eight regulations for protection of surface and marine waters, and

air quality, and managing of potential impacts from earth works, sanitation systems, waste, and new infrastructure development. The Act and these regulations, along with the Coast Conservation Act 2008, provide the framework for the protection of resources and environmentally sustainable development in RMI. The 1994 Environmental Impact Assessment Regulations (Regulations) promulgated by the RMI EPA provide project proponents specific details for the environmental impact assessment processes.

The most relevant national regulation for this project is Environmental Impact Assessment Regulation 1994.

Environmental Impact Assessment (EIA) Regulation 1994: The central environmental planning legislation in RMI aims to ensure that environmental concerns are given appropriate consideration in decision-making for any new infrastructure project. The EIA regulation requires a preliminary proposal for every development activity and applies a two-step assessment process to determine the level of assessment required. For projects involving earthmoving, the development proposal is submitted to the RMI EPA via a Major or Minor Earthmoving Permit Application. It is reviewed through an internal RMI EPA Preliminary Environmental Assessment (PEA) process. This process will apply to Project construction works associated with the project.

Step 1 is an initial evaluation to determine if the activity has the potential for significant effects on the environment.

Step 2 is either the issuance of an Earthmoving Permit with conditions (e.g. Minor and some Major applications), or a requirement for an EIA for proposals (e.g. Major applications) assessed to have potential significant impact which will be reviewed and form the basis of an approved decision with conditions, or a not-approved decision. Given the proposed scope and scale of the physical works intended for the Digital RMI Project it is anticipated that activities will be addressed under the minor category.

For major projects, conditions pre- or post-EIA may include a requirement for an Environmental Management Plan (EMP). In cases where a proponent ESMP has been drafted prior to the submission of an Earthmoving Permit Application, it may require modification to meet the conditions of approval.

Solid Waste Regulations 1989: The purpose of these regulations is to establish minimum standards governing the design, construction, operation and maintenance of solid waste storage, collection, and disposal systems. The Regulations cover the management of bulky waste such as appliances, tree branches or other oversize waste such as interior building cladding. The Regulations also define hazardous waste as any waste or combination of wastes which pose a substantial present or potential hazard to human health or living organisms because such wastes are non-degradable, or persistent in nature, or because they can be lethal, or because they may otherwise cause or tend to cause detrimental cumulative effects. The Regulations list the general requirements for the storage of solid waste as well as detailing the type of containers that may be used to store solid waste. The Regulations also govern the handling of hazardous waste and waste oil within RMI.

Kwajalein Atoll Local Government, Kwajalein Atoll Solid Waste Management Plan 2019 – 2028: Solid Waste Management Plan – Ebeye (SWMP-E) developed to enable Kwajalein/ Ebeye to establish a technically sound and financially sustainable solid waste management (SWM) system. The SWMP-E consists strategic elements and a mid-term action plan for the first five years. Solid waste management issues targeted under the plan are summarized as follows:

- Waste Reduction and Recycling through the Container Deposit Legislation (CDL) Program
- Improvement of the Current Final Disposal Site
- Maintenance of Collection Service

- Financial Sustainability with Sound Institutional Setting

The SWMP-E covers solid wastes generated by households, institutional and commercial operations, which is termed Municipal Solid Waste (MSW). The Plan does not cover medical waste and hazardous waste.

Solid waste from the Digital RMI project will be addressed pursuant to the Contactor Solid Waste Management Plan and will not involve disposal to Ebeye landfill (disposal will be offshore as set out in Annex 3).

The National Environment Management Strategy 2017-2022 is a commitment by RMI to conserve and improve its environment for current and future generations. The NEMS 2017–2022 promotes sustainable development and integrates environment conservation and the proper governance of development efforts. The strategic plan is based on the thematic areas in the State if the Environment of atmosphere and climate; land; marine; biodiversity; culture and heritage; built environment (including solid waste management), and nuclear legacy.

Solid waste from the Digital RMI project will be addressed pursuant to the Solid Waste Management Plan Guidelines (Annex 3) and will not be inconsistent with this high level planning document.

5.2.4. Labor Legislation

Labor (Non-Resident Workers) Act 2006: Sets out various requirements of workers including the need to hold work visas by foreign (other than United States of America) contractors and workers including fly-in fly-out consultants who are restricted by the 30-day entry visa limit. No other Labor Legislation constraints apply to workers potentially engaged on project activities.

Public Service Commission Act 1979: Established the Public Service Commission (PSC) which is the employing authority of the government charged with the responsibility for developing, coordinating, regulating, and administering all personnel matters relating to and affecting the Public Service. Some statutory agencies whose personnel administrations are governed by their respective Board of Directors do not fall under PSC. This includes the NTA.

There is no Occupational Health and Safety (OHS) legislation in RMI.

5.2.5. Relevant International Conventions

Stockholm Convention for Persistent Organic Pollutants	Purpose of the Stockholm Convention is to protect human health and the environment from Persistent Organic Pollutants. RMI became a Party to the Convention on 27 January 2003 and the Convention entered into force globally on 17 May 2004.
Basel Convention for hazardous wastes and disposal; and	Basel Convention is an international treaty that is designed to ensure the safety of the environment by reduction of transport of hazardous waste between nations, such as from more to less developed countries. RMI became a Party to the Convention on 27 January 2003 and the Convention entered into force on 27 April 2003.
Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)	RMI ratified the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) on 2nd March 2006, wherein RMI made a commitment to ensure that the principles for equality are adhered to and that discriminatory practices including SEAH are abolished.

Convention on the Rights of the Child (CRC)	RMI ratified the CRC in Oct. 1993, a human rights treaty that sets out the civil, political, economic, social, health and cultural rights of children, defined as someone under the age of eighteen. On 29 Jan 2019, the GoRMI signed the optional protocol to the CRC on the sale of children, child prostitution and child pornography.
Convention on the Rights of Persons with Disabilities (CRPD)	RMI ratified the CRPD on 17 March 2015 and passed the Rights of Persons with Disabilities Act which commit the GoRMI to protect the rights and dignity of persons with disabilities. Of relevance to the Digital RMI Project are CRPD provisions on inclusive education and accessible infrastructure.

5.3. Assessment of World Bank Environmental and Social Standards and Policies

5.3.1. Environmental and Social Standards

Using the WB ESS, overall project risks are classified as Moderate[9], with five of the ten standards screened as more than minor relevance as set out below.

Required Project Environmental and Social Standard Actions	
Environmental and Social Standards	**Required Measures and Actions**
ESS1 Assessment and Management of Environmental and Social Risks and Impacts	**Relevant** CIU will support the management of environment, social, health and safety risks and impacts of the project including mobilization of environmental and social risk management specialists if necessary. The ESMP details (a) the measures to be taken during the implementation of the project to eliminate or mitigate adverse environmental and social impacts, or to reduce them to acceptable levels and (b) the actions needed to implement the measures. a.
ESS2 Labor and Working Conditions	**Relevant** The project will require contractors to install equipment, 4G and the terrestrial fiber network and across the country. Workers are likely to be direct employees or contractors; there is no expectation of community workers. ESS2 requirements will be mandated through the project ESMP, bid documents, contracts and in the PPP agreement, and supervised by the CIU Safeguards Specialists (with specialist support contracted to the PMU when required). Written Labor Management Procedures (LMP) will be prepared during early project implementation. The LMP will describe the findings of the ESA, national labor policies and practices, the types of project workers that are likely to be involved, worker influx, the procedures to apply ESS2, and a grievance mechanism. The LMP will also address labor management issues associated with restructuring under Component 1. These issues will include potential job losses and job changes arising from restructuring of

[9] As set out in the Concept Project Environmental and Social Review Summary (ESRS).

Required Project Environmental and Social Standard Actions	
Environmental and Social Standards	**Required Measures and Actions**
	NTA operations and withdrawal of many legacy services like the traditional phone line and TV service. OHS management is included in this ESMP.
ESS3 Resource Efficiency and Pollution Prevention and Management	**Relevant** There will be no emissions of pollution and no significant energy or water use required in installation or operation of the infrastructure. Waste will be produced during installation, renovation and removal of redundant infrastructure and can be effectively managed under the ESMP to avoid and limit waste to landfill and maximize recycling and reuse. A consumer e-waste initiative will contribute to safe management, recycling and disposal of redundant and obsolete electronic and telecommunications equipment.
ESS4 Community Health and Safety	**Relevant** The risks to community health and safety are considered to be minor and manageable. These include road and pedestrian safety and during installation of fiber optic cable (which could be either above or below ground) and mitigation will be defined in the ESMP. The Contractors may bring in workers from overseas though the numbers are not expected to be significant. The social assessment prepared during project preparation assesses a range of issues in RMI relating to imported labor, gender, child labor, demand for sex workers, and trafficking and has identified suitable management and mitigation measures in the ESMP.
ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	**Relevant** Access to land will be required to 1) install the fiber network in Majuro and Ebeye, which may be on existing electricity poles, on new poles, or buried underground in shallow trench; 2) install satellite dish or towers (depending on technical requirements) for 4G access on the neighboring islands; and 3) Fiber to the home / business. Experience on previous projects in RMI has shown that Government-leased land is preferable (and generally available) for the installation of key infrastructure and should be prioritized for the project. The project will rely on existing NTA easements and land access protocols. Where access to private land is required, land occupier and land owner consent will be obtained on a voluntary basis at all times. If such consent is not obtained then the project will not proceed for that particular land unit. Most project infrastructure is flexible in its location and land owners will have power to deny access to project activities. A RPF is not necessary as no new land access is anticipated.
ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources	**Not Relevant** Project activities will be within existing infrastructure precincts on NTA leased or easement land. These areas are mostly urban, mostly road easements and urban properties, and all sites are

Required Project Environmental and Social Standard Actions	
Environmental and Social Standards	**Required Measures and Actions**
	highly modified and do not have any natural values. Most infrastructure has a small footprint and is flexible in its location and areas of natural habitat or conservation value can be avoided. Any physical disturbances related to the FTTH activities, will be low risk, minor impact and readily mitigated. The ESMP contains mitigation measures to avoid and remedy the minor impacts on vegetation.
ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	**Not relevant.**
ESS8 Cultural Heritage	**Relevant** The footprint of the infrastructure is small and will mostly be laid within road reserve or on NTA-leased land. Most infrastructure is flexible in its location and cultural heritage sites can be avoided. The ESMP contains mitigation measures to avoid impacts on cultural heritage, including consultation, identification of key sites and the implementation of chance find procedures.
ESS9 Financial Intermediaries	**Not relevant.**
ESS10 Stakeholder Engagement and Information Disclosure	**Relevant** An SEP and Project Grievance Mechanism (GM) have been prepared as set out in this ESMP. The GM will be made publicly available to receive and facilitate resolution of concerns and grievances in relation to the project, consistent with ESS10.

5.3.2. World Bank Group Environmental, Health and Safety Guidelines

The World Bank Group's EHS Guidelines represent good international practice for managing environmental, social, and community/occupational health and safety risks in project design and implementation. EHS Guidelines also outline performance levels and measures for facility development, construction and decommissioning and use of latest technologies at reasonable cost.

When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects are expected to achieve whichever is more stringent.

5.3.2.1. General EHS Guidelines

Guideline 1.0 - Environmental

The General Environmental EHS Guideline provides methods and approaches for the management of wastewater, noise and dust during construction, water conservation and solid waste management.

Guideline 2.0 - Occupational Health and Safety

The fundamental premise for OHS under the EHS Guidelines is that "*Employers and supervisors are obliged to implement all reasonable precautions to protect the health and safety of workers*" and that "*Companies should hire contractors that have the technical capability to manage the occupational health and safety issues of their employee".*

The EHS Guidelines also require that prevention and control measures to minimize occupational hazards should be based on comprehensive job safety analyses (JSA). Annex 2 contains a Health and Safety Management Plan Guideline which incorporates a basic JSA methodology. If necessary, the CIU Safeguards Advisor will assist the contractor in undertaking the JSA and preparing its Health and Safety Management Plan. The principles are:

- Eliminating the hazard by removing the activity from the work process. Examples include substitution with less hazardous chemicals, using different manufacturing processes, etc.;
- Controlling the hazard at its source through use of engineering controls. Examples include local exhaust ventilation, isolation rooms, machine guarding, acoustic insulating, etc.;
- Minimizing the hazard through design of safe work systems and administrative or institutional control measures. Examples include job rotation, training safe work procedures, lock-out and tag-out, workplace monitoring, limiting exposure or work duration, etc.; and
- Providing appropriate personal protective equipment (PPE) in conjunction with training, use, and maintenance of the PPE.

Guideline 3.0 - Community Health and Safety

This guideline provides approaches and methods for drinking water quality, life and fire safety for building design and structural design of buildings. Some guidance may be useful for new building construction and renovation, relating to traffic safety (transport of materials) and communicable disease control from imported labor.

Guideline 4.0 - Construction and Decommissioning

The Construction and Decommissioning EHS Guideline provides guidance for specific community and occupational health and safety and environmental issues relating to new buildings or building renovation.

5.3.2.2. EHS Guidelines for Telecommunications

The WB EHS Guidelines for Telecommunications are applicable to telecommunications infrastructure such as fixed line and wireless voice and data transmission infrastructure, including long distance terrestrial and submarine cables (e.g. fiber optic cables), as well as radio and television broadcasting, and associated telecommunications and broadcasting installations and equipment.

Table 1 sets out an evaluation of the WB EHS Guidelines for Telecommunications against the activities proposed for the Digital RMI Project.

Table 1: Digital RMI evaluation again WB Telecommunications EHS Guideline

Element from WB Telecommunications EHS Guidelines	Relevance to DIGITAL RMI Project
Environment	
• Terrestrial habitat alteration • Avian collisions • Aquatic habitat alteration • Marine Habitat alteration • Visual Impacts • Aircraft navigation safety	Digital RMA activities will wherever possible align with existing NTA infrastructure corridors which are located on Majuro and Ebeye in urban environments and consequently no adverse impact on terrestrial marine or aquatic habitats or avian behavior[10] are anticipated. Visual impacts and impacts on aircraft navigation and safety will be similar to or less than existing potential impacts of existing structures and facilities. Activities on outer islands will be undertaken similarly within NTA existing development areas which are not sited in ecologically significant areas and will not create more impacts than existing structures and facilities. The ESMP identifies avoidance of vegetation impacts as part of contractor operations. (Section 9 of this ESMP).
• Hazardous materials and waste	The proposed activities will not involve use of hazardous materials (other than small quantities of fuel used for operational equipment). Considerations of fuel management are included in ESMP contractor operations (Section 9 of this ESMP). Renovation, decommissioning and the consumer e-waste initiative will all have the potential for hazardous waste. The Solid Waste Management Plan Guidelines (Annex 3) addresses this issue.
• Electric and magnetic fields (EMF)	Fiber-optic equipment does not emit EMF. The evidence of adverse health risks from EMF from 4G and other mobile technology is weak. Measures to minimize any such risk include limiting public access to antennae tower locations and utilizing existing structures as far as possible.
• Emissions to air	Emissions from telecommunications projects may be primarily associated with the operation of vehicle fleets, the use of backup power generators, and the use of cooling and fire suppression systems. These matters are not relevant to the scale and extent of RMI Digital Project activities.
• Noise	The principal source of noise in telecommunications facilities is associated with the operation of backup power generators. This is not relevant to RMI Digital Project activities which will rely on existing infrastructure and will not increase the scale of existing impacts.
Occupational Health and Safety • Electrical safety • Electromagnetic fields (occupational) • Optical fiber safety • Elevated and overhead work • Fall protection • Confined space entry • Construction	Addressed in Section 9 of this ESMP.
Community Health and Safety	Addressed in Section 9 of this ESMP.

[10] There are no endemic birds at the species level in the RMI, although the nation has one regionally-restricted bird that is endemic at the subspecies level and is important culturally. *Ducula oceanica ratakensis* is considered locally to be extremely threatened, with some estimates that only 12 individuals of the subspecies survive. The *ratakensis* subspecies is protected under RMI law. The only sure population of the ratakensis subspecies is on Nallo islet, Mili atoll (approximately 8.5 miles north of Mili Island. (Anurandha G. 2017, "Proposed Important Bird Areas in the Republic of the Marshall Islands" report prepared for BirdLife International Pacific Partnership, Suva, Fiji, August 2007.)

5.4. Comparison of Environmental Assessment Requirements

Contents of Assessment Report	Environmental Impact Assessment (EIA) Regulation 1994 – Earthmoving Permit	World Bank Environmental and Social Framework
Report type / title	Earthmoving Permit Application (minor) or EIA for Major Proposals	Environmental and Social Management Plan (ESMP)
Policy, legal and administrative framework		Yes
Description of development proposal	Yes. Application requires full description of activity.	Yes. The policy allows for options to be proposed as part of the description of the proposal, as long as all foreseeable risks and impacts are identified and suitably managed.
Description of area to be affected (environment and social)	Yes	Yes
Nature of proposed changes	Yes	Yes
Location Map / Site Plan	Yes	Yes
Justification for the proposal	Yes	Yes
Assessment of impacts	Yes	Yes (significant only)
Mitigation of impacts	Yes (major only)	Yes (significant only)
Alternatives	No	Not for ESMP, only ESIA
Public consultation	Yes (major only)	Required, and a summary provided in the report.
Institutional arrangements		Yes
Capacity building		Yes
Budget		Yes

5.5. National Security Risk

"National Security" has been identified by GoRMI as a matter to be addressed by every new RMI development project. "Security" is identified in the ESF as an issue to be addressed pursuant to Policy Paragraph 4(a), Policy Paragraph 20 [under "Environmental and social "risk classification], ESS1 Page 16 Objectives - (d), ESS1 Para23, ESS1 Page 23 "(e) Social and Conflict Analysis (b) and (c).

The Digital RMI Project potentially presents a risk in respect of national security through use of insecure technology or engagement of "at-risk" contract personnel who may pose a risk to national security.

The design stage of project will involve a "national security" analysis to

(i) identify specific national risks associated with use of inappropriate technology or engagement of "at-risk" contract personnel; and

(ii) Identify mitigation and monitoring measures to the satisfaction of GoRMI; and (ii) incorporate measures in bid documents to manage national security risks to the satisfaction of GoRMI.

6. ENVIRONMENTAL AND SOCIAL MANAGEMENT ROLES AND RESPONSIBILITIES

Three main bodies will constitute the governance arrangements under the project:

The **Implementation Agencies** for the Project are the Ministry of Transportation and Communications (MTC) Ministry of Finance (MOF) and the Marshall Islands National Telecommunications Authority (NTA).

A Project Steering Committee (PSC) has been established by Cabinet to oversee project implementation and provide strategic guidance. The Project Steering Committee ensures coordination among implementation agencies (MTC, MOF and NTA), and provide a platform for regular sharing of information and reporting on project progress. The PSC currently comprises the heads of each implementing agency, the Chief Secretary, the Secretary of Culture and Internal Affairs, and is chaired by the Minister of Education. As the project develops the PSC will seek engagement from non-governmental organizations, including agencies that represent vulnerable stakeholder groups.

The Project Implementation Unit (PIU), to be housed within the MTC, will have responsibility for the day-to-day operations and supervision of project consultants and contractors other than those engaged by the PPP partner as discussed below. The PIU will include civil servants to maximize government buy-in and build management capacity. The PIU will engage a Contract Administration Agent to supervise the implementation of the PPP agreement. The CAA will be required to have an environmental and social specialist to ensure the ESMP is implemented for all PPP responsibilities.

As noted in Section 3.1, the **PPP partner** will assume the performance risk and will build this infrastructure using its own procedures and transfer these assets to the SPV upon completion. Details of the PPP partner have yet to be finalized, but for the purposes of this ESMP it is assumed that the PPP partner will be the entity responsible for physical works addressed in this ESMP, that the PPP partner will engage contractors to undertake these works and mitigation measures are directed at the PPP partner and its contractor(s).

The CIU, housed within DIDA in the MoF will provide procurement and financial management support to the project. In addition, the CIU Environmental and Social Advisors will: i) provide technical assistance and oversight to the PIU to implement the ESMP, SEP, LMP and ESCP for all components; ii) provide assistance and support for all stakeholder engagement and E&S risk management requirements of the project; iii) supervise the CAA and, where necessary, provide environmental and social risk management advice to the CAA and PPP partner and the SPV in respect of compliance with the ESMP or other E&S matters; iv) prepare the LMP and update the ESMP and SEP throughout project implementation and v) be responsible for oversight of the project grievance mechanism in coordination with the PIU Project Manager.

7. SOCIAL IMPACT ASSESSMENT

7.1. Introduction

The ESMP Social Impact Assessment (SIA) is primary drawn from GoRMI statistics and reports and from Project documents completed to date, including the Concept Environmental and Social Review Summary (ESRS), the Project Appraisal Document (PAD), and the Draft Gender Analysis, all of which have involved stakeholder engagement and consultation (see the Stakeholder Engagement Plan, Annex 4, for details). In addition, information and perspectives gained through CIU Safeguard Team consultations have informed this analysis, which has a specific focus on vulnerable groups including women, children and youth (who are by negatively impacted by digital content), people with disabilities, and those without access to digital services due to cost or connectively issues.

This section outlines the expected social impacts, potential risks and mitigation requirements related to implementation of the RMI Digital Project.

7.2. Culture, Population and Demographics

Marshallese society is based on a system of exogamous matrilineal clans; traditionally, people lived in extended family groups of three or more generations. Each person belongs to his or her mother's *bwij,* or lineage and has rights to use lineage land and other property. These lineage groups own most of the land in the Marshall Islands; land can only be "owned" by citizens. Most Marshallese have land rights on several atolls or islands. Traditionally, the succession of land rights gave women a position of great importance and influence in society. As such, women were traditionally the decision-makers and owners of land resources. However, modernization has changed traditional land tenure practices in many ways as noted in the *National Gender Mainstreaming Policy;*

> *"Gender stereotyping has led to the belief that a woman's place is in the home while men should occupy the public space and be the breadwinner. Additionally, positions of leadership and decision-making are now regarded as male roles".*

The RMI has a population of 53,158 (2011 Census) with density varying markedly by atoll/island. Average household comprised is 7.2 members; however in urban areas 33% of households have nine or more people (compared with 25% in rural areas). This distribution pattern contributes to existing urban housing shortages and dense living conditions, with one quarter of all urban households using only one room for sleeping. An estimated 26% of households in RMI are headed by women and about 80% of these are in Majuro and Kwajalein. Women marry, on average, at 24 years compared with 26 years for men.

The RMI has the second youngest population in the Pacific region. In 2016, approximately 60% of the population was less than 24 years, with 19% under 14 years of age. This age structure means that there is likely to be a high population growth rate for some years to come (unless there is high out-migration and/or change in reproductive rates), which will lead to increasing future demand for goods, services, jobs and natural resources, including fresh water and food.

The population of the RMI has been steadily migrating from neighboring atolls and islands to the two urban centers of Majuro and Kwajalein in search of better economic opportunities and services. As such, the urban population continues to grow resulting in depletion of the groundwater resources due to increasing water demand and pollution. Urbanization is also contributing to the decline of the outer island economy, thereby increasing the gap between rich and poor.

7.3. Employment and Livelihoods

The 2011 national census indicates a total of 12,647 people in the labor force, with 51% of all men of working age engaged in either paid or unpaid work, compared to 28% of women of working age - which is a 23% difference. Men are more likely to work for wages or salaries than women, and women are more likely to be engaged in producing goods for sale with 30% of women working in craft and related occupations compared with 23% of men. The majority of women in neighboring islands are involved in income-generating activities in goods production and processing and the cultural industry, with this income being essential for family survival. Youth unemployment in the RMI is especially high at 63%, with female youth averaging a 67% unemployment rate.

There are also differences in income and wages earned by women and men with women's averages wages measured at USD$7,595 annually compared with USD$10,772 for men in the same jobs. Similarly, average household income for women headed households is 41% lower than for male headed households[11]. While this significant gap does not include income of other household members, it does point to the economic vulnerability of female headed households. Improving women's employment and livelihood options has been a national priority over the past decade.

> *Women's economic empowerment remains a key challenge as women continue to face limited job opportunities and remain under-represented in management positions. Women in the workplace also face weak protections mechanisms and laws, particularly in the private sector.*
>
> National Gender Mainstreaming Policy

According to the GoRMI 2017 Statistical Yearbook, about 40% of the total RMI labor force is employed by government agencies, which represents a gradual increase since 2015. The public payroll is dominated by the education sector (45.7% in 2017) and the health sector (22.1% in 2017) which together account for about 70% of government workers.

In FY 2017, the private sector employed 6193 people, up from 4983 in FY 2013. The industries employing the highest number of people were: Wholesale and Retail Trade (1965); Extra Territorial Organizations and Bodies (1042); Transport, Storage and Communications (728); Fisheries (696); Construction (659) and Eduction, excluding government workers (544).

7.4. Governance and Leadership

At national level, the participation of women in legislative and executive branches of government remains unbalanced: two women currently serve as members in the thirty-three seat *Nitijela* (parliament). However, in 2015, RMI became the first independent Pacific Island Country to elect a female head of state.

Local government in the RMI is administered by the Ministry of Culture and Internal Affairs (MOCIA). Each inhabited atoll/island has a Local Council headed by a Mayor who is chosen by Council Members who themselves are elected to office every four years. Individual islands are represented in the Atoll Local Government by a Councilman who represents constituent interest. Local governments are responsible for the passage of regulations and ordinances affecting their atoll, and generally play a significant role in community affairs. Local council activities include: local police services, solid waste collection, and maintenance of local roads. Funds are disbursed to the local councils on an annual basis in relation to the size of the population being served. Mayors report to the MOCIA every three months.

In addition to the local governments, traditional leaders are responsible for many decisions affecting the community. The *Iroij* (chief) and *Alaps* (traditional landowners) have significant influence in governance and decision-making processes though governance mechanisms are being influenced by the number of people migrating to the urban areas from neighboring islands. While women have the right to sit on the *Council of Iroj* (which serves a largely consultative function on matters of custom and tradition) the practice is for sisters to designate a brother to represent the family's interests; three of the twelve seats on the *Council of Iroj* are currently occupied by women.

Participation of women in leadership and decision-making positions remains low throughout RMI, owing to traditional gender norms and stereotypes surrounding women's roles and responsibilities. Of women employed in the public service, they comprise 38% of management positions[12]. Women are also underrepresented on boards of statutory bodies and state-owned enterprises, comprising only 25% of board memberships[13].

The NTA reform process provides an opportunity for up-skilling and retraining female employees for new positions within the company or for project related work such as installation of new telecommunication equipment and construction. In this regard, it will be important to collaborate with the upcoming World Bank Education and Skills Strengthening Project to connect retrenched workers with training opportunities.

7.5. Gender-Based Violence

In addition to the gender differential in employment and governance spheres, the *National Gender Mainstreaming Policy* states that the very high rate of gender-based violence in the country poses a major barrier to achieving social and economic development goals. Violence against women and girls in the Marshall Islands "is alarmingly high" with 51% of women experiencing intimate partner physical and/or sexual violence in their lifetime. Attitudes about domestic violence, from the perspective of both men and women serve to perpetrate the prevalence of domestic violence, with 85% of women agreeing domestic violence is justified under certain circumstances. Furthermore, many women who experience abuse prefer to keep this matter private for fear of shame and/or retribution[14]. Throughout RMI violence has been historically dealt with through family or clan avenues.

7.6. Access and Use of Digital Services

In the RMI, women and men access the internet and use digital services at similar rates, despite the significant gender gap present in developing and least developed countries.[15] While sex-disaggregated data is unavailable for mobile phone and internet subscriptions in the RMI, a study of 2020 data on the advertising audience for social media platforms in the Federated States of Micronesia indicated a relatively equal distribution of accounts between men and women[16]. During stakeholder consultations conducted in early 2020 for the Project Gender Analysis, there was no evidence of a gendered divide in digital access and/or use of ICT uptake.

However, while available evidence suggests that increased availability of digital services is equally shared by men and women, the Project Gender Analysis points out that:

[12] Republic of the Marshall Islands. National Review for the Beijing Platform for Action BPfA+25. 2019.
[13] Ibid.

[15] Draft Gender Assessment, Digital RMI Project, Nov. 2020
[16] Women comprise a slightly greater proportion of the advertising audience on Facebook at 52.4% of the population. While data is available for other social media platforms, the limited number of users renders them less representative than the Facebook sample https://datareportal.com/reports/digital-2020-marshall-islands

"Persistent inequalities in terms of economic opportunity violence against women and girls, and participation in leadership and decision-making mean there is a continued risk of these inequalities impacting women's ability to take full advantage of the socio-economic impacts associated with improvements in digital infrastructure….This is relevant when it comes to expanded access to internet services for neighboring island citizens.[17]"

As such, it will be important for project implementing agencies to collect disaggregated data in order to monitor and track trends in access and usage throughout the country.

The Project is not expected to cause significant impacts relating to sexual exploitation and abuse and sexual harassment (SEA/SH). During construction, a relatively small number of workers will be required to lay fiber and replace supporting infrastructure. Workers will primarily be NTA employees though depending on the final PPP arrangements, some international workers are possible. Worker behavior will be governed by a Workers Code of Conduct which will be accompanied by appropriate training; and a grievance redress mechanism (GRM) will be established to allow the community to raise complaints, including those relating to SEA/SH.

7.7. Level of Technology Planned Urban vs Neighboring Islands

There is a significant difference between the fiber that Majuro and Ebeye will get and the Satellite service that the neighboring islands. Service will be better for the neighboring islands in comparison with the situation today, but still worse than the urban islands. The project will look to upgrade service as the technology improves but it will still be relatively worse.

For education and e-Govt applications, additional measures will be taken to mitigate for the poor network capability. For schools this will mean investing in and managing on school caches which will store approved content, and for other e-Govt apps it will be modifying successful apps that work in Majuro and Ebeye to work in a poor communication environment.

7.8. Cost of Internet at Household Level

Fixed internet is expected to stay the like the present, with a potential downward trend. The quality of the service though will be considerably better, meaning that instead of paying $50 and getting internet that "sort of" works, customers will now get internet than can do everything (like stream Netflix, reliable video calls) that increases the utility. Households and businesses that have internet today will pay the same and get considerably more. For houses that cannot afford internet, mobile prices are expected to be lower and promotion directed to achieve high rates of penetration. The PPP provider will have incentives to drive usage and uptake. Marketing and educating the public on the new services, creating new pricing bundles and offers to stimulate the market is anticipated to be a major focus for the new operator.

7.9. Numbers of workers likely to be engaged for construction and installation work

At this stage only a very rough estimate can be provided on numbers of workers likely to be engaged for construction and installation work – approximately 20 staff in Majuro and 4-6 in Ebeye. These are likely to be existing NTA staff with potentially some additional contract resources in Majuro. The size of the outside construction team (doing the work in the street building the communal network) will depend on exactly the methodology used and how much machinery is used but could mean an additional 20 to 40 workers. The

[17] Gender Assessment, Digital RMI Project, Nov. 2020, page 4

project will ensure that these workers sign Code of Conducts and receive training on SEAH, public and community health and safety etc.

7.10. Land Access

Construction works, particularly the installation of fiber optic network in Majuro and Ebeye, will take place within the existing NTA access arrangements. At this stage, no decision has been made on whether the cable will be installed above or below ground but this will be confirmed during Planning stage (first year of implementation). If underground works are necessary, these will take place within existing road easements along the main roads in Majuro and Ebeye. Where access to private land is necessary, this will be a voluntary process. No involuntary land acquisition will be necessary; where access can't be voluntarily negotiated, alternative routes (fiber is flexible and can be routed around obstacles) or an aerial route (on existing poles) will be used. Installation or upgrade of equipment to improve service will take place on/within existing antenna or other NTA infrastructure and will have no impacts on land.

7.11. Expected Social Benefits

The project is expected to bring about significant economic and social benefits by supporting investment in climate resilient digital infrastructure, and by mobilizing private sector investment to increase access to higher quality, lower cost digital services. Affordable, high-speed internet has been associated with socio-economic empowerment by increasing users' access to services, including education, employment and health. In addition, access to ICTs can be especially beneficial to marginalized and vulnerable populations by helping to improve their voice in decision making processes, engagement with government services and inclusion within the digital economy[18]. For women in the RMI, this represents an important opportunity to address existing barriers, as outlined above.

The social benefits expected to accrue through improved and expanded digital connectivity include:

i. *Increased access to government information and services* - made possible through the new digital ID and improved internet access in areas where office visits are not possible, will make it easier for people to enroll in programs, access subsidies and benefits, acquire passports, register births and deaths etc.

ii. *Increased access to banking services* which will enable people living in remote areas to open bank accounts, pay bills, transfer funds and access credit needed for micro-small business development, customary obligations, education expenses and home repairs.

iii. *Improved educational outcomes* by connecting teachers and students with the vast array of teaching and learning materials available on the internet to supplement existing resources, and by increasing home schooling options, especially for secondary and post-secondary students residing in areas where in-person learning in all subjects is not available. Women with child and home care responsibilities will also benefit from access to home-based, flexible learning opportunities including massive open online courses (MOOCs). Enhanced online administration –course enrolments for the College of RMI; on line reporting to students and parents; up to date truancy register; national statistics reporting and monitoring

iv. *Improved employment prospects* by increasing awareness of training opportunities provided by educational institutions (such as NTC, CMI and USP) and NGOs (such as WAM and WUTMI) leading to improved participation rates and enhanced knowledge and skills required for employment. Further, given the heavily constrained job market in the RMI, and especially in the neighboring islands, new employment prospects could become available in the digital space (such as web-designers, database

[18] RMI Digital Project, DRAFT Gender Assessment, Nov. 2020

administrators, social media managers and telemarketers) as a result of upgraded and expanded coverage throughout the country. This is an area that NTC could explore and support under the upcoming World Bank-RMI Education and Skills Strengthening Project.

v. *Improved health outcomes* by providing the public with relevant, user-friendly information on wellness and disease prevention; by connecting health care workers in remote areas with urban-and overseas based professionals for consultations, and by enabling access to new information on disease identification and management. Benefits in primary and secondary care outcomes will accrue by enabling online diagnosis and treatment; digitizing medical records to improve accuracy and responsiveness of care; enhancing statistical reporting and administration and expanding medical professional training and development opportunities.

vi. *Increased access to NGO support services* which is especially important for people who are vulnerable due to unemployment, domestic violence, illness, addiction, disabilities, aging, isolation, lack of transportation, and those living in remote locations.

vii. *Increased capacity to address GBV, SEAH and child abuse* by enabling victims and informants throughout the country to report concerns and seek assistance, in confidence, using an on-line platform such as a National Help Line, staffed by trained professional who could liaise with police and legal system, activate referrals and organize safety nets as needed. Expanded GBV and child protection services could be explored in collaboration with the MOCIA and WUTMI.

viii. *Improved early warning and crisis response capabilities* for emerging and emergency situations including climate and health events, which could lead to improved preparedness, increased resilience and saved lives – especially those who are most vulnerable. As such, the Project should share information and plans with the Office of Environment Planning and Policy Coordination (OEPPC) to increase awareness of this opportunity.

ix. *Improved connectivity to family, friends and social networks* in the RMI and abroad, which can build social capital, reduce isolation, marginalization and stress especially during times of uncertainty - and may also dissuade urban and overseas migration.

x. *Improved ability to collect and analyze information* from organizations and individuals throughout RMI as the basis of national and sector specific policy and program development and monitoring. This will enable government agencies to be more responsive to changing circumstances and needs.

7.12. Key Risks and Mitigation Strategies

Despite expected positive benefits, there are a number of risks which need to be fully considered and carefully managed through comprehensive pre-intervention analysis, participatory stakeholder engagement, regular sharing of project information in accessible formats, and adherence to approved E&S risk management and grievance mechanisms. These risks and recommended mitigation strategies are outlined below.

Market Structure Reform

The privatization and restructuring of the National Telecommunications Authority will improve economic viability and create efficiencies, but may also have an impact on employment numbers. As such, it is essential the reform process is clearly set out and agreed and includes significant consultation and transparent information sharing with potentially affected people.

The need for specific strategies to safeguard NTA staff and families affected by downsizing is stressed in this ESMP and will be specified in the approved Employment Plan (refer to Draft dated Nov 12, 2020).

From a stakeholder engagement perspective, it is essential that a comprehensive *NTA Communication and Engagement Strategy* (NTA-CTS) is developed and approved by the relevant parties (including the NTA Board)

as soon as possible. The purpose of fast-tracking this Strategy is: i) to minimize stress by reassuring employees that benefit packages are being developed; ii) to reduce rumors and promote sharing of accurate information about Project supported reforms; iii) to show respect to current employees; and iv) to ensure retrenched staff have adequate time to plan for the future.

A labor management procedure (LMP) for the Project will be prepared during implementation as required by ESS2. This will identify relevant project workers, describe working conditions (including terms and conditions of employment, non-discrimination and equal opportunity practices, workers organizations, the Project approach to under age workers, confirm prohibition of forced labor, and outline a grievance mechanism for workers. It will also address occupational health and safety arrangements in line with ESS2 requirements and the appropriate EHS guidelines. No community workers are anticipated.

The LMP will also address the impacts of restructuring and confirm arrangement for any staff made redundant. This will include a description of the positions that will no longer be required, process for identifying those eligible for redundancy packages including criteria for determining employee "vulnerability status" with due consideration to age, gender, number of dependents, number of people from the same household employed at NTA, and employability (based on level of education/specialized training/years of experience) etc. as a basis for determining compensation levels. Timeframe, notice period and consultation approach also be included. Consultation should be based on the "engage early and often" approach and be underpinned by key reform principles (including transparency, non-discrimination, fair compensation, gender equality, "dialogue-informed reform"). It should also specify the type, method, and timing of staff communication and engagement events and, take into account the following requirements:

i. Ensure all NTA staff based in Majuro and Ebeye are fully aware of the reform process including transition timing and sequencing. In this regard, information sessions/awareness materials need to be rolled out as soon as possible to reduce confusion and anxiety.
ii. A process should also be introduced during initial communications to enable staff to ask questions and raise concerns, *in confidence,* and to receive a response within an agreed period of time. Implementing agencies and Project staff need to pre-determine how this information will be correlated and how responses will be managed.
iii. Once developed and approved, ensure all NTA staff are routinely updated about severance and benefit packages, including up-skilling and re-training options to inform personal/family decision-making.

<u>Sexual exploitation, abuse and sexual harassment</u>

As noted in the Project Gender Assessment[19], gender-based violence (GBV), including all forms of physical, sexual and psychological abuse, is seriously entrenched in RMI society, which raises concern about the impact of increased internet/social media access on domestic violence. This assessment indicates that women are generally more concerned about online privacy and security than men due to their higher vulnerability and are disproportionately affected by the shame and stigma associated with SEAH.

Further, studies conducted in the Pacific reveal that parents and caregivers are concerned about children's access to digital content and exposure to age and culturally inappropriate material, which can lead to an "erosion of cultural values and practices". They also reported feeling ill-equipped to control or protect their children online, which highlights the need to provide support in this area (as per Subcomponent 2.6).

[19] Digital RMI Project, PAD, Annex xx: DRAFT Gender Assessment, Nov 2020

In the RMI context, stakeholders consulted during project preparation and particularly in relation to the Gender Analysis engagement (see Annex 4) indicates that Twitter is the preferred platform for younger users, and that is where the majority of bullying, harassment and vilification occur. People also raised concern that the increased use of social media could accentuate jealousies between men and women leading to violence. In this regard, it was noted that cell phones are regularly destroyed by "jealous husbands and boyfriends". Project consultations also highlighted that the RMI has limited capacity to deal with concerns over online violence, pornography and the sharing of other illicit material. The absence of a legislative and policy framework on cyber safety or harmful digital communication in RMI[20] accentuates this risk, which will be addressed by the project through sub-components 3.2.6., 3.3.2 and 3.3.5.

The potential for SEA/SH impacts during construction is limited by the relatively low number of construction workers, and the majority of works taking place in the main urban islands where access to health and specialist support are greatest. However, a worker code of conduct will be prepared prior to effectiveness which outlined expected worker behavior, clarifies sanctions against workers, outlines how any incidents of SEA/SH are reported and addressed, and includes a grievance redress mechanism.

Based on this analysis, the following mitigation measures are required to reduce the risk of SEAH, cyberbullying and the normalization of violence.

i. Consult with SEAH service providers at national and island level during project start-up to establish reporting, referral and support mechanisms that are child and victim friendly.

ii. SEAH service providers should be involved in the ongoing monitoring of SEAH incidents and the effectiveness of Project safeguards.

iii. Provide training for school personnel, students and parents to increase awareness of SEAH issues and how exposure to inappropriate content online can seriously harm children's development, and the need for close supervision and monitoring of sites accessed by young people.

iv. Support the development of a regulatory framework, including legislation, policy and procedures to address harmful digital communications proactively and through enforcement.

v. Ensure all workers engaged by the project sign a Code of Conduct prohibiting any form of SEAH and attend mandatory awareness training.

vi. Ensure proper oversight and supervision of project workers as set out in works contracts.

<u>Inequality in access and benefits</u>

There is potential that the public will raise concerns regarding inequality in access and benefits from improved ICT services for numerous reasons including: user-pay costs exceed financial means; lack of access to digital equipment and/or a reliable power source; remoteness and lack of connectivity; lack of digital or language literacy; and the unique challenges faced by people with disabilities and the elderly in using new technology, especially where dexterity is required.

As noted in the Project Gender Analysis, the lack of disaggregated telecommunications data in the RMI, along with a lack of regulatory provisions to collect disaggregated data, presents a significant risk for efforts to

[20] The lack of formal legislative or regulatory framework means that there is no avenue for individuals to lodge complaints of harmful digital practices, or database by which to formally track the number of instances. This results in a complete absence of quantitative data by which to assess this gap, hence the reliance on qualitative and anecdotal data in this instance.

monitor user gaps and trends. The Project is expected to respond to these concerns through Component 2f (Gender Development Office support) and support to MTC and others to ensure collection of sex-disaggregated statistics around telecommunications subscriptions, access and use.

From an M&E perspective, the Project will monitor gender impacts and facilitate sex disaggregated analysis through the following indicators: (i) presence of collection of sex disaggregated internet access statistics (Y/N), (ii) ratio of women to men telecommunication subscribers/users (baseline assumption to be maintained at 50:50 ratio).

Land Use and Access

Construction works, particularly the installation of fiber optic network in Majuro and Eybye, will take place within the existing NTA access arrangements. At this stage, no decision has been made on whether the cable will be installed above or below ground but this will be confirmed during Planning stage (first year of implementation). If underground works are necessary, these will take place within existing road easements along the main roads in Majuro and Ebeye. Where access to private land is necessary, this will be a voluntary process. No involuntary land acquisition will be necessary; where access can't be voluntarily negotiated, alternative routes (fiber is flexible and can be routed around obstacles) or an aerial route (on existing poles) will be used. Installation or upgrade of equipment to improve service will take place on/within existing antenna or other NTA infrastructure and will have no impacts on land.

Impact to land will be reduced if the Project decided to opt for aerial installation of the the fiber optic cable. In this case, the cable will be run on existing poles adjacent to power lines; while some land access may be required for access and equipment installation it is expected to be short term and temporary. Though not anticipated at this stage, installation of any new poles required for the fiber optic cable will be undertaken on public land or within existing NTA arrangements as a priority, though private land may be used if needed and a voluntary arrangement is made with the land owner and in accordance with the Land access process.

The project will upgrade or replace existing equipment on the outer islands which will improve access and provide additional capacity. No land impacts are anticipated as all works will take place on land and building already used by NTA and existing access arrangement are not required. If additional land is required for any reason, NTA or Government owned/leased land will be prioritized and any private land will only be used in accordance with voluntary lease arrangements consistent with the Land Access process.

Once the communal infrastructure is installed, connections to individual homes will be undertaken though a voluntary agreement between the household and service provider. This will need to involve the consent of all relevant parties which could include the homeowner, tenant, building or landowner. The Land access process will outline requirements which will include consultation with all parties and informed consent for any works and could include: proactively engagement with businesses and building owners; the use of a communal network design that minimizes the need for third party access; provision of early and on-going, user-friendly public information, and through regular stakeholder engagement to explain project benefits and respond to questions and concerns. This engagement should target landowners in areas of interest, places of businesses etc.

While land access is relevant to the Project, there will be no involuntary land acquisition and therefore a RPF under ESS5 is not considered necessary. Involuntary land acquisition or access is excluded from the Project. As land access arrangements are essential to meeting the objectives of the Project however, a Land Access process will be prepared to ensure impacts ad adequately managed and to describe voluntary arrangements and consultation practices. Livelihood impacts associated with any land take is not anticipated but an assessment process will be included in the Land access document to ensure impacts are adequately managed.

Health and Safety in Design

Effective management of health and safety issues requires the inclusion of health and safety considerations during design processes in an organized, hierarchical manner that includes the following steps:

- identifying project health and safety hazards and associated risks as early as possible in the project cycle including the incorporation of health and safety considerations into the worksite selection process and construction methodologies;

- involving health and safety professionals who have the experience, competence, and training necessary to assess and manage health and safety risks;

- understanding the likelihood and magnitude of health and safety risks, based on:

    - the nature of the project activities, such as whether the project will involve hazardous materials or processes;

    - the potential consequences to workers if hazards are not adequately managed;

    - designing and implementing risk management strategies with the objective of reducing the risk to human health;

    - prioritizing strategies that eliminate the cause of the hazard at its source by selecting less hazardous materials or processes that avoid the need for health and safety controls;

    - when impact avoidance is not feasible, incorporating engineering and management controls to reduce or minimize the possibility and magnitude of undesired consequences;

    - preparing workers and nearby communities to respond to accidents, including providing technical resources to effectively and safely control such events; and

    - Improving health and safety performance through a combination of ongoing monitoring of facility performance and effective accountability.

8. ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

8.1. Introduction

Potential environmental risks associated with project are confirmed as moderate (using the WB assessment of risk) and relate primarily to managing construction impacts during installation and maintenance. [21]). Section 8.2 is proportional to the nature and scale of activities and risks.

8.2. Environmental and Social Impacts, Mitigation and Responsibilities

The following table addresses potential environmental and social impacts, mitigation measures and responsibilities associated with the Project.

[21] World Bank (WB) Report No: ESRSC01087, dated February 5, 2020.

ENVIRONMENTAL IMPACTS/ISSUES					
Project Activity	Significant Potential Impacts/Issues	Mitigation Measures	Location	Timing/Duration	Responsibility
Design/Pre-Construction Phase					
General					
Environmental and social risk management Integration	E&S risk management requirements not being adhered to or considered during the infrastructure planning and design process	• The ESMP, LMP, SEP shall be included in the TORs or partnership agreements. • Detailed design to address all issues. E&S risks associated with detailed design and regular maintenance to be informed by the ESMP, CIU and CAA environmental and social advisors and stakeholder engagement. All impacts shall be avoided where possible through site selection, prioritization of sites and technologies and consultation.	All	During preparation of bid documents	PIU Procurement Team;
	E&S risk management requirements not being contractually applicable to the Contractor during project implementation	• The ESMP will be included in the Contractors / Suppliers specification and contract. • Specific mitigation measures for the contractor / supplier shall be highlighted in the general conditions, with particular reference to Environmental provisions set out in Section 9 of this ESMP and OHS clauses from Annex 2 of the ESMP.	All	During preparation of bid documents	PIU Procurement Team
	RMI EPA legislation not adhered to during project implementation	• Submit Application for Major or Minor Earthworks Permits for all earthmoving activities with RMI EPA.	All	Prior to commencement of works	PPA partner (supported by CIU)
Contractor Capacity	A Contractor with little understanding of ESMP or E&S risk management matters initiates the work and causes damage, impacts and complaints	• Conduct a 1 day Contractor ESMP training workshop for Contractor PPP Partner and PIU as part of the kick-start process on contract award. Workshop to review ESMP implementation, mitigations, monitoring and responsibilities. Workshop to also include Code of Conduct for workers including training on appropriate behavior; service provider	Majuro and Ebeye	During kick-start meetings	CAA, CIU, PPP Partner

ENVIRONMENTAL IMPACTS/ISSUES					
Project Activity	Significant Potential Impacts/Issues	Mitigation Measures	Location	Timing/Duration	Responsibility
		available to address any incidents of SEA/SH; general awareness of the GRM for SEA/SH and generally.			
Project Implementation (See Section 0 of ESMP)					
New fiber installation					
Design new fiber networks to build the communal network.	Land access for communal fiber network installation.	• Install new communal fiber network only within NTA's existing utility easement and lease arrangements. • Community stakeholder engagement • Different build approaches based on the best mix of environmental, short and long run costs, resiliency and technical considerations • Designer to determine necessary reinstatement standards reflecting existing infrastructure status and consultation with key stakeholders.	Majuro and Ebeye	Installation	PPP Partner and Designer, overseen by CCA and supported by CIU.
Installation (excavation) for new communal network cable	Nuisance and interference with day to day community activities through physical installation of fiber network. Disturbance to vegetation, nests and burrows.	• Co-ordination with other utilities and the roading and pavement owners to minimize/avoid interference with community activities as far as practicable. • Manage network installation activities in line with land access process (see social impacts) , to avoid unacceptable nuisance and interference with community day to day activities such as through physical works blocking access or posing hazards and community safety risks. • Avoid trees and plants where possible. Reinstate vegetation to the satisfaction of the owner. • Avoid nests, burrows and other features where possible.	Majuro and Ebeye	Preparation of Bid Documents and during Installation	PIU Procurement Team and PPP Contractor Supervised by CAA and supported by CIU

ENVIRONMENTAL IMPACTS/ISSUES					
Project Activity	Significant Potential Impacts/Issues	Mitigation Measures	Location	Timing/Duration	Responsibility

		• Use Microducts and Microtrenching technology [specialist machinery to cut a narrow slot (approx. 65mm for a ~40mm duct) in existing hard surface and then deploying a flexible duct for the fiber cables].
		• Contract specification to require reinstatement of hard surfaces (consideration of using a one pass mortar).
		• Contractor to
		  ○ Notify roadside properties by letter or visit providing details of the project, potential access restrictions during construction and likely timing of activities – discuss alternative access, avoiding works during peak times.
		  ○ Hold on-site meetings with affected parties (if requested)			

	OHS risk to workers and community members during installation	• Contractor to adopt and update OHS clauses from Annex 2 of the ESMP. • Contractor to adopt best practices to avoid minimize or mitigate risk to workers and community members	Majuro and Ebeye	Preparation of Bid Documents and during Installation	PPA Partner and Contractor Supervised by CAA and supported by CIU
Install associated infrastructure to support and maintain the network					
Connect individual houses or buildings to the communal network.	Land access from communal network to individual properties	• Connection of communal network to individual properties only to take place after obtaining occupier and landowner agreement to the new service, agreement to the location and placement of the cables and consent to technicians entering their house and installing the cable. This will be undertaken in line with the Land access process. • If difficulties arise in obtaining both occupier and landowner consent as above, consider	Majuro and Ebeye	Preparation of Bid Documents and during Installation	PIU Procurement Team and Contractor

ENVIRONMENTAL IMPACTS/ISSUES					
Project Activity	Significant Potential Impacts/Issues	Mitigation Measures	Location	Timing/Duration	Responsibility
		offering WIFI hotspot technology to enable access.			
	Nuisance and interference with day to day household and individual activities through physical connection with communal network.	• Co-ordination with property owners and occupiers to obtain prior and voluntary approval or reach mutually agreed alternative.	Majuro and Ebeye	Preparation of Bid Documents and during Installation	PPP Provider/Contractor
	Future nuisance to landowners and occupiers through future upgrades or expansion to cope with increased demand.	• Allow for additional premises, increased number of fibers and connections from a given premises. • Build network to take upgrades and cope with changes in demand over its expected life.	Majuro and Ebeye	Preparation of Bid Documents and during Installation	Designer, PIU Procurement Team.
New modems or gateways (Optical Network Terminator – ONTs) to be installed in every home that takes service replacing the previous broadband device.	Disposal of existing ADSL broadband modems, [They will have no value other than as e-waste] - generation of solid waste from project activities has the potential to create an impact on the Majuro and Ebeye landfills both of which are already overburdened.	• Collect ADSL broadband modems. • Bid documentation to require the Contractor to develop a Solid Waste Management Plan as part of the Method of Works Plan and following the guidelines in Annex 3 of this ESMP • Only export overseas to approved e-waste facilities.	Majuro and Ebeye	Preparation of Bid Documents and during Installation	PPP provider/Contractor; CAA to supervise.
Install new equipment and termination frames in the exchange building to power and connect the new fiber networks.					
Create space within existing exchange building to provide for new equipment (before later removal of	Interference with existing operations of exchange building.	• Close liaison with network operator to avoid interference • New equipment has smaller footprint and lower power consumption than the equipment used to connect to the copper networks – energy efficiency benefit. • Follow OHS requirements (Section 9 of ESMP) • Bid documentation to require the Contractor to develop a Solid Waste Management Plan as part of the Method of Works Plan and	Majuro	Installation	Design/PPP provider/Contractor; CAA.

ENVIRONMENTAL IMPACTS/ISSUES					
Project Activity	Significant Potential Impacts/Issues	Mitigation Measures	Location	Timing/Duration	Responsibility
copper network equipment).		following the guidelines in Annex 3 of this ESMP.			
Upgrade of wireless networks					
Replace or upgrade existing wireless (2G/4G and Wi-Fi) networks – replace existing antennas; install additional antennas.	Disposal of existing antennas on the current towers – waste management implications.	• Broader environmental impacts mitigated by any additional radio antennas and units being smaller; additional antennas adding significant additional capacity to the mobile network; deploying additional frequencies on the existing towers than secure new sites. • Installation of additional antennas [small, self-contained units] affixed to existing utility poles located within existing NTA corridors on Ebeye and Majuro will avoid potential land access issues. • Bid documentation to require the Contractor to develop a Solid Waste Management Plan as part of the Method of Works Plan and following the guidelines in Annex 3 of this ESMP. • Follow OHS requirements (Section 9 of ESMP)	Majuro and Ebeye	Installation	PPP provider/Contractor; CAA.
Retirement of copper and associated systems					
Decommission all equipment currently connected to copper network [voice and broadband].	Potential solid waste disposal issues	• Bid documentation to require the Contractor to develop a Solid Waste Management Plan as part of the Method of Works Plan and following the guidelines in Annex 3 of this ESMP. • Significant space and power saving. • Buildings that are currently used, such as the Nortel Shelters in Majuro, will no longer be required – consideration to be given to repurposing buildings before demolition and disposal. • Wherever possible address salvage of equipment for repurposing or use as spares	Majuro and Ebeye	Installation	PPP Provider

ENVIRONMENTAL IMPACTS/ISSUES					
Project Activity	Significant Potential Impacts/Issues	Mitigation Measures	Location	Timing/Duration	Responsibility
		before considering disposal in accordance with SWMP. • No waste to be disposed in RMI.			
Obsolete and redundant consumer equipment	Legacy solid and hazardous waste issues with upgraded network and retirement of old networks. These will end up in the landfills or dumped over time and add to the littering and pollution issues in RMI.	• Require PPP partner to operate a consumer e-waste / take back scheme. A ToR to be developed in consultation with RMIEPA. • Prepare and implement 'e-waste' drives, public awareness campaigns, collection points, and recycling and disposal pathways for obsolete or redundant consumer items (phones, faxes, batteries, etc.).	All locations	Installation, operation	PIU to ensure this is in the PPP contract PPP Partner to implement, with support from NTA, MTC, CIU, RMIEPA and others. CCA and CIU to supervise.
Retirement of buildings and space no longer required					
Decommissioning of building and freeing up of space.	The fiber network allows for longer transmission distances - higher speeds and reliability – with reduced need for same number of buildings, especially in Majuro. Some limited infrastructure [a small cabinet] may be needed at Laura; Majuro will only require one main central office in the main NTA HQ building in Delap [could rely on freed-up space provided by decommissioning of copper network]. Potential waste management issues with decommissioning (demolition) of existing buildings at Laura, Ajeltake, Airport and Rita.	• Preference to be given to repurposing buildings rather than demolition. • Retirement of buildings should allow a considerable saving in land costs, power and maintenance. • Bid documentation to require the Contractor to develop a Solid Waste Management Plan as part of the Method of Works Plan and following the guidelines in Annex 3 of this ESMP. • No waste to be disposed of in RMI.	Majuro	Design; Installation	Design, PPP Provider/Contractor
Retirement of TV network					

ENVIRONMENTAL IMPACTS/ISSUES					
Project Activity	Significant Potential Impacts/Issues	Mitigation Measures	Location	Timing/Duration	Responsibility
Decommissioning of existing Satellite reception dishes and the TV transmission equipment housed at Rita.	Potential waste management issues with decommissioning of existing TV network facilities at Rita.	• Preference to be given to repurposing buildings rather than demolition. • Retirement of buildings should allow a considerable saving in land costs, power and maintenance. • Bid documentation to require the Contractor to develop a Solid Waste Management Plan as part of the Method of Works Plan and following the guidelines in Annex 3 of this ESMP.	Majuro	Design; Installation	Design, PPP Provider/Contractor
Neighboring Island Upgrade					
Secondary [4G] upgrades of existing DAMA Satellite services on neighboring islands (to follow current NTA upgrades).	Potential social impacts associated with upgrade to 4G (See social impact section of ESMP).	• Upgrade capacity to 4G will provide more capacity to the schools and dispensaries.	Neighboring Islands	Late installation [2023]	PPP Provider/Contractor

SOCIAL IMPACTS/ISSUES			
Significant Potential Impacts/Issues	**Mitigation Measures**	**Location**	**Timing/Duration**
<u>NTA Reform:</u> • Creates job losses • Retrenched employees unable to find alternative work for equal pay • Loss of income affects employee and family security and well-being and leads to hardship	• Prepare a labor management procedure (LMP) for the project in line with the requirements of ESS2. This will address all project workers and describe the Project's approach to addressing the risks and issues associated with NTA restructuring. • Develop comprehensive NTA Communication and Engagement Strategy (NTA-CTS) for approval by all relevant parties, including NTA Board, PSC, PIU and CIU. The NTA-CTS needs to be fast-tracked for the reasons outlined in Section 7.11 • Ensure all NTA staff based in Majuro and Ebeye are fully aware of the reform process including transition timing and sequencing. In this regard, information sessions/awareness materials need to be rolled out as soon as possible to reduce confusion and anxiety. • Institute a question and answer process ASAP to enable NTA staff seek information *in confidence,* and receive a response within an agreed period of time. Implementing agencies need to pre-determine how this information will be correlated and how responses will be managed. • Once severance packages are developed and approved, ensure all NTA staff are regularly updated about their options including up-skilling and re-training choices • Ensure criteria for determining employee "vulnerability status" is developed and approved with due consideration to age; gender; number of dependents; number of people from the same household employed at NTA; employability (based on level of education/specialized training/years of experience) etc. as a basis for determining compensation levels. • Develop and implement a Grievance Redress Mechanism for NTA Employees, separate from the overall project GRM	Majuro and Ebeye	NTA-CTS

SOCIAL IMPACTS/ISSUES			
Significant Potential Impacts/Issues	**Mitigation Measures**	**Location**	**Timing/Duration**
Harmful Digital Content • Children are exposed to inappropriate internet content (including sexual, violent and racist material) and/or experience cyber-bullying which negatively affects their development • People become involved with human trafficking • GBV, which is already high in the RMI, is perpetuated through exposure to digital content that normalizes abusive behavior, and through social media use which creates jealousies and conflict between men and women.	• Consult with SEAH service providers at national and island level during project start-up to establish reporting, referral and support mechanisms that are child and victim friendly. • SEAH service providers should be involved in the ongoing monitoring of SEAH incidents and the effectiveness of Project safeguards. • Prior to operation of improved internet access in all islands, provide training for school personnel, students and parents to increase awareness of SEAH issues and the need for close supervision and monitoring of sites accessed by young people. • Support development of a regulatory framework, including legislation, policy and procedures to address harmful digital communications proactively and through enforcement [who is responsible for this? And when will this take place?].	In all areas where the new digital system is installed	Prior to operation of improved internet network

SOCIAL IMPACTS/ISSUES			
Significant Potential Impacts/Issues	**Mitigation Measures**	**Location**	**Timing/Duration**
<u>Inappropriate Worker Conduct</u> • Project workers including consultants and contractors engaged to install equipment or carry out maintenance behave inappropriately, including incidents involving SEA/SH with any member of the public	• Ensure all workers engaged by the Project sign a Code of Conduct prohibiting any form of SEAH and attend mandatory awareness training. • Ensure proper oversight and supervision of workers engaged by as set out in works contracts. • Ensure proper signage at all project worksites including invitation to contact information the project if stakeholders would like more information or wish to raise concerns • School management is informed of upcoming works in immediate area and given copies of GRM • Ensure people in all areas where project works is taking place are aware of the GRM	Project workers sign Code of Conduct Project workers attend mandatory SEAH training Ongoing supervision of workers Signage is placed at all work sites Schools notified of works in area	**At time of contract signing** Within 30 days of engagement **Throughout project works** Prior to commencement of works

SOCIAL IMPACTS/ISSUES			
Significant Potential Impacts/Issues	**Mitigation Measures**	**Location**	**Timing/Duration**
<u>Land Access</u> • Voluntary small scale land acquisition through lease arrangements may be requested • Conflict could arise if landowners are unwilling to give consent to tenants requesting connection to new digital system	• Prepare a Land access process to minimize impacts associated with land. Where possible, priority will be given to Government owned or controlled land; use will be made of existing NTA land lease and access arrangements. The Land access process will include all works such as installation of the communal infrastructure, installation of new hardware and connecting fiber to the home. • All land access arrangements must be voluntary and compulsory land acquisition is prohibited by the project. The Land access process will describe voluntary land donation arrangement, include consultation arrangement to ensure the general public is well informed about project works and benefits and how to get information and/or raise concerns. Materials should be user-friendly, and as jargon-free as possible • Develop GRM to address situations where customers are unable to connect due to installation access issues	Prior to Project Effective Date Ebeye and Majuro Contextualized to specific islands	

9. CIVIL WORKS CONTRACTOR – ENVIRONMENTAL, SOCIAL, HEALTH AND SAFETY CLAUSES

It is expected that the PPP partner will be responsible for infrastructure installation and decommissioning under Component 1.

Instructions to the PPP partner preparing the contractor's bid documents:

The following environmental, social, health and safety clauses shall be incorporated in bid documents for contracted works. Site-specific mitigation to be inserted in the bid documents, along with the specific mitigation measures prescribed in this ESMP.

The CAA environmental and social advisors will be responsible for the oversight of the environmental, social, health and safety activities of the contractor, and will review draft bid documents and will conduct periodic on-site visits to monitor and supervise progress. The CIU environmental and social advisors will be supporting the process and overseeing the role of the CAA advisors.

9.1. General – Preparation of Contractor's Environmental and Social Management Plan

The Contractor must prepare an Environmental and Social Management Plan (C-ESMP), to be cleared by the PPP Partner and the CIU prior to works starting, which includes the following:

- Health and Safety Management Plan (refer to Annex 2 of the Project ESMP for details);
- Staff responsible for environmental management, consultation and community liaison, health and safety management, complaints management and reporting to the client;
- Risk register documenting the site-specific and project specific risks;
- Waste management plan (refer to Section 9.7 and Annex 3 of the ESMP for details);
- Traffic management plan where traffic-related risks are identified as medium, high or very high. This should include what controls are required for truck drivers (training, qualifications, speed, times of day for transportation of equipment), what controls are required to warn motorists and pedestrians about transport-related risks (heavy loads, wide loads, slow vehicles) and keeping people safe when working in the road easement;
- Training plan and training records relating to environmental controls, consultation and social impact management, health and safety.

9.2. Potential Asbestos Containing Material or Lead Paint

If, during the course of construction or demolition, materials, structures or other infrastructure is discovered that has the potential to contain asbestos the Construction Contractor should immediately cease works and contact the CIU Environmental Specialist for advice. An Asbestos Management Plan will be prepared prior to the re-commencement of construction / demolition works.

The Construction Contractor shall test painted surfaces for lead prior to demolition or renovation. If paint tests positive for lead, procedures will be developed to contain the materials and avoid environmental release. Disposal requirements will be outlined in the Contractor's Solid Waste Management Plan, to be developed based on guidance in Section 9.7 and Annex 3 of the ESMP.

9.3. Electrical Safety

Site-specific mitigation to be inserted in the bid documents.

- Only trained and certified workers shall be engaged to install, maintain, or repair electrical equipment;
- Workers shall:
    - deactivate and properly ground live power distribution lines before work is performed on, or in close proximity to, the lines;
    - Ensure that live-wire work is conducted by trained workers with strict adherence to specific safety and insulation standards.
- Where maintenance and operation is required within minimum setback distances, specific training, safety measures, personal safety devices, and other precautions should be defined in a health and safety plan14;
- Prior to excavation works, all existing underground cable installations should be identified and marked. Drawings and plans should indicate such installations;
- All electrical installations or steel structures, such as masts or towers, should be grounded to provide safety as the electrical current chooses the grounded path for electrical discharge. In cases where maintenance work has to be performed on energized equipment, a strict safety procedure should be in place and work should be performed under constant supervision;
- Personnel training should be provided in revival techniques for victims of electric shock.

9.4. Occupational Exposure to EMF

Site-specific mitigation to be inserted in the bid documents.

- The Contractor shall ensure that where applicable, and commensurate with the associated level of risk to workers, the following measures will be adopted:
    - Identification of potential exposure levels in the workplace;
    - Training of workers in the identification of occupational EMF levels and hazards;
    - Establishment and identification of safety zones to differentiate between work areas with expected elevated EMF levels compared to those acceptable for public exposure, limiting access to properly trained workers;
    - Personal exposure monitoring equipment should be set to warn of exposure levels that are below occupational exposure reference levels (e.g. 50 percent).
    - Action plans to address occupational exposure may include deactivation of transmission equipment during maintenance activities, limiting exposure time through work rotation, increasing the distance between the source and the worker, when feasible, use of shielding materials; or installation of ladders or other climbing devices inside the mast or towers, and behind the transmission beams.

9.5. Optical Fiber Safety

Site-specific mitigation to be inserted in the bid documents.

Workers involved in fiber optic cable installation or repair may be at risk of permanent eye damage due to exposure to laser light during cable connection and inspection activities. Workers may also be exposed to minute or microscopic glass fiber shards that can penetrate human tissue through skin or eyes, or by ingestion or inhalation. Measures to prevent, minimize, and control injuries related to fiber optic cables installation and maintenance include the following as appropriate to the risk of activities being undertaken:

- Worker training on specific hazards associated with laser lights, including the various classes of low and high power laser lights, and fiber management;
- Preparation and implementation of laser light safety and fiber management procedures which include:
    - Switching off laser lights prior to work initiation, when feasible
    - Use of laser safety glasses during live optical fiber systems installation
    - Prohibition of intentionally looking into the laser of fiber end or pointing it at another person
    - Restricting access to the work area, placing warning signs and labeling of areas with potential for exposure to laser radiation, and providing adequate background lighting to account for loss of visibility with the use of protective eyewear
    - Inspecting the work area for the presence of flammable materials prior to the installation of high-powered laser lights
    - Implementation of a medical surveillance program with initial and periodic eye examinations;
    - Avoiding exposure to fibers through use of protective clothing and separation of work and eating areas.

9.6. Community and Worker Health and Safety

Site-specific mitigation to be inserted in the bid documents.

- The Contractor shall at all times implement all reasonable precautions to prevent and reduce accidents and injuries to staff and workers and protect the health and safety of the community.
- The Contractor shall prepare and implement a Health and Safety Management Plan commensurate with the identified health and safety hazards at the construction site and it shall include activities related to construction (such as the transportation of materials and working in road easements).
- The Contractor shall at all times provide and maintain construction plant, equipment and systems of work that are safe and without risks to health. This shall include maintaining equipment, engines, and related electrical installations in good working order; maintaining a clean and tidy workspace; providing guards and rails, signals and lighting; providing work site rules, safe working procedures and allocating appropriate places to carry out the work.
- The Contractor shall provide, at his/her own expense, the protective clothing and safety equipment to all staff and labor engaged on the Works to the satisfaction of the Employer's representative.

Such clothing and equipment shall include, as a minimum:

- high visibility vests for workers directing traffic;
- protective boots and gloves for the workforce undertaking excavation works;

If the Contractor fails to provide such clothing and equipment, the Employer shall be entitled to provide the same and recover the costs from the Contractor.

- All the Contractor's personnel shall, before commencing work, have an induction course on environmental management and safety and health at the site. The information and training shall be on the site and have duration of at least two hours.
- The Contractor shall prepare and implement a Traffic Management Plan to ensure that any traffic and/or pedestrian hazards caused by the works are adequately managed.
- The Contractor shall adopt the following for workers working at height:
  - The area around which elevated work is taking place should be barricaded to prevent unauthorized access. Working under other personnel should be avoided;
  - Hoisting and lifting equipment should be rated and maintained and operators trained in their use. Elevating platforms should be maintained and operated according to established safety procedures that include such aspects as equipment and use of fall protection measures (e.g. railings), movement of location only when the lift is in a retracted position, repair by qualified individuals, and the use of effective locks to avoid unauthorized use by untrained individuals;
  - Ladders should be used according to pre-established safety procedures including proper placement, climbing, standing, and the use of extensions.
  - Implementation of a fall protection program that includes training in climbing techniques and use of fall protection measures; inspection, maintenance, and replacement of fall protection equipment; and rescue of fall-arrested workers, among others;
  - Establishment of criteria for use of 100 percent fall protection (typically when working over 2 meters (m) above the working surface, but sometimes extended to 7m, depending on the activity). The fall protection system should be appropriate for the tower structure and necessary movements, including ascent, descent, and moving from point to point;
  - Installation of fixtures on tower components to facilitate the use of fall protection systems.
- The Contractor shall implement confined space entry management procedures where workers will be entering confined spaces.

9.7. Waste Management

Site-specific mitigation to be inserted in the bid documents.

- The Contractor shall prepare a Waste Management Plan as per Annex 3 of the Project ESMP.
- The Contractor shall, at all times, keep construction areas, including storage areas used, free from accumulations of waste materials or rubbish.

- Contractor ensures all construction waste is recycled or re-used as far as practicable at all construction locations.

- All residual waste shall be stored and handled on site in accordance with the requirements of the Solid Waste Regulations 1989 and the World Bank Group EHS Guidelines to avoid littering and pollution to ground, coastlines or water.

- All waste that is not able to be reused or recycled locally shall be contained and exported from RMI to a suitable recycling or waste disposal facility, in compliance with international regulations. The details of waste export shall be contained within the Waste Management Plan, for clearance by the client prior to implementation. All documentation for export, including permits, receipts, tracking documentation will be shared with the client for verification.

- All wastewater and sewage from construction facilities shall be managed in accordance with this ESMP, national and local government requirements and World Bank Group EHS Guidelines, and the Contractor shall, as necessary, obtain a permit or other appropriate documentation approving the storage, treatment and disposal methods being used. The Contractor shall provide details in the C-ESMP.

9.8. Prevention of Water and Air Pollution

Site-specific mitigation to be inserted in the bid documents.

- The Contractor's construction activities shall be performed by methods that will prevent entry, or accidental spillage, of solid matter, contaminants, debris, and other pollutants and wastes into marine waters and underground water sources. Such pollutants and wastes include, but are not restricted to, refuse, garbage, cement, sanitary waste, and oil and other petroleum products.

- Excavated materials or other construction materials shall not be stockpiled or deposited near or on waterbody perimeters or in a position where storm water runoff can entrain sediment and cause turbidity in waterbodies.

- Wastewaters from concrete preparation, or other construction operations, shall not be permitted to enter waterbodies without the use of control methods such as sediment filters.

- During the conduct of construction activities and operation of equipment, the Contractor shall utilize such practicable methods and devices as are reasonably available to control, prevent, and otherwise minimize atmospheric emissions or discharges of air contaminants.

- Equipment that shows excessive emissions of exhaust gases due to poor engine adjustments, or other inefficient operating conditions, shall not be operated until corrective repairs or adjustments are made.

- During the performance of the construction works the Contractor shall carry out proper and efficient measures wherever and as often as necessary to reduce the dust nuisance, and to prevent dust which has originated from its operations from damaging dwellings or causing a nuisance to persons.

- Implement fuel management procedures and spill prevention and control measures applicable to the delivery and storage of fuel for construction activities.

9.9. Preservation of Vegetation

Site-specific mitigation to be inserted in the bid documents.

- All trees and other vegetation shall be preserved and shall be protected from damage by the Contractor's construction operations and equipment.
- Movement of labor and equipment for access to the work shall be performed in a manner to prevent damage to vegetation or property.

9.10. Construction Facilities

- On completion of works, all temporary buildings, including any concrete footings and slabs, and all construction materials and debris shall be removed from the site.

9.11. Sourcing of Aggregates for Construction

- All aggregates used for project works shall be sourced from recycled materials within RMI, or from outside of RMI.

9.12. Worker Accommodation

- All workers shall be provided with safe and healthy accommodation, with potable drinking supply, running water, septic tank or reticulated wastewater collection and treatment, separate sleeping quarters (with separation of washrooms, bedrooms and toilets for men and women), and access to recreation areas / facilities. No new workers camps or worker accommodation facilities will be constructed (permanently or temporarily) for the workforce.

9.13. Worker Code of Conduct

- All workers shall be required to sign and adhere to a code of conduct relating to worker behavior to avoid harm to community members. Training will be provided to outline appropriate behavior and sanctions for nonconformance and general awareness of SEA/SH, along with general awareness of the GRM for SEA/SH.

9.14. Cultural Heritage Chance Find Procedures

- In accordance with the *RMI Historic Preservation Act 1991*, when a person working on the project discovers a cultural heritage site or item, the following procedures should be followed:
  - Stop the activities in the area of the chance find.
  - Delineate the discovered site or area (e.g. fencing).
  - Secure the site to prevent any further disturbance, damage or loss. In cases of human remains, arrange for a guard to watch the site until the police, local government and / or National Cultural Commission representative or person with delegated authority take over.
  - Prohibit the collection of any object by any person.
  - Notify the local government and RMI Historic Preservation Office within 24 hours (and police if it is human remains).

- Any objects that are found must be handed over to the Historic Preservation Office.
- Project works can resume only after instruction is provided from the Historic Preservation Office.

10. MONITORING AND REPORTING

The CAA (Component 1) and CIU environmental and social team (for all components) is responsible for monitoring and reporting on implementation and outcomes of the ESMP, SEP (including GM) and LMP, and reporting to the Implementation Agencies. Specific monitoring tasks include:

- LMP: Checking that LMP has been complied with on engagement of direct and contracted workers. Each process will be checked prior to contract signing and CIU environmental and social team will provide feedback to ensure compliance.
- LMP: Checking that the LMP GM has been explained to workers and that grievances are being managed and closed out as per the LMP and ESS2. Within two months of workers being engaged and the GM progress checked at least 6 monthly or within one month of a grievance being lodged.
- Works: The CAA will conduct at least monthly visits to work sites to monitor the environmental and social performance of Contractors. The first visit will be prior to works commencing. Once the CESMP is approved, by the CAA and CIU environmental specialist, the CAA will prepare a checklist for site visits to observe compliance with the CESMP. All monitoring will be observational. The CIU may assist with observational visits depending on the timing and availability of CAA team in-country.
- GM: The PIU Project Manager and CIU social specialist will monitor GM implementation on a 2 monthly basis, recording – number of grievances, complaints and queries lodged, number outstanding, number closed.
- Incident monitoring: Any complaints or incidents, such as noise, will be monitored on a case by case basis.

The CAA and CIU environmental and social team will provide 6 monthly reports to Implementation Agencies. Reports will include a progress report, monitoring outcomes, incidents, and summary of key risks requiring management.

In the case of an environmental or social incident, this will be promptly reported by the Project to the Bank. This will include any incident or accident related to the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers. Minor incidents will be reflected in the six-monthly reports but serious incidents will be notified by the PIU Project Manager to the World Bank immediately (within 24 hrs) with follow up as necessary.

11. CAPACITY DEVELOPMENT AND TRAINING

11.1. Capacity Development

The Implementation Agencies (MTC, MOF and NTA) have no in-house E&S risk management specialists, therefore the CAA will fill this capacity gap and will be required to have environmental and social specialists as part of their contract administration team for the PPP monitoring under Component 1.

The CIU environmental and social team will work with the PIU, IAs and the CAA to apply the ESMP and other instruments as required throughout the project. The team will contribute to the development of annual work plans, and ensure activities such as consultation, environmental and social site visits and review of bid documents are included.

11.2. Training

CIU environmental and social team are responsible for training the PIU, CIU, Project Steering Committee, MTC, MOF and NTA staff involved in the project on their environmental and social roles and responsibilities. Training to be undertaken within three months of the project Effective Date. Training will cover matters such as:

- Training the PIU on the requirements for preparing EHS and social clauses in the CAA ToR and the PPP agreement.
- Training all those involved in the GM including SEA/SH and code of conduct
- Consultation and engagement training, awareness raising and support.
- ESMP, RMI legal obligations and WB Group EHS Guidelines requirements for facility design, construction and operation.
- LMP requirements for engagement of direct and contracted workers.

Specialist resources will be engaged to address SEA/SH risks, deliver training on the code of conduct, and support SEA/SH related grievances if applicable. A framework budget will be agreed during implementation which will be based on final construction design and geographic support needs.

12. BUDGET

The following is an indicative budget for implementing the ESMP, LMP and SEP. These items are over and above those considered to be covered by normal operations and normal duties of the CIU environmental and social team, which are covered by CIU budget. Contractors environmental and social management will be incorporated into the Contractor's costs.

Budget Item	Detail	Cost Estimate (USD)
Stakeholder consultations	Catering, venue hire, media, materials, travel and accommodation, translation and interpretation services, etc. All components.	$30,000
CAA E&S advisor	Supervision of Component 1 activities. Travel costs, remote and in-country support. [Full Project Cycle]	part of CAA budget
Capacity development training, awareness raising including SEA/SH.	Venue, stationery, refreshments, training materials and delivery.	$15,000
Monitoring and reporting	Travel and accommodation costs in Ebeye, Majuro; neighboring islands report production costs (non-staff costs);	$35,000
GM related costs	Personnel, communication, transportation, office support costs include SEA/SH	$25,000
Total		$105,000

13. ANNEXES

Annex 1: Abbreviations and Acronyms

Annex 2: Health and Safety Management Plan Guidelines

Annex 3: Contractor Solid Waste Management Plan

Annex 4: Stakeholder Engagement Plan (including Grievance Mechanism)

Annex 5: Summary of Existing Infrastructure

Annex 6: Fiber in Majuro and Ebeye

Annex 1: Abbreviations and Acronyms

ADSL	Asymmetric Digital Subscriber Line
CEDAW	Convention on the Elimination of all forms of Discrimination Against Women
CIU	Centralized Implementation Unit of DIDA
CRC	Convention on the Rights of the Child
CRPD	Convention on the Rights of Persons with Disabilities
DIDA	Division of International Development Assistance
DSLAM	Digital Subscriber Line Access Multiplexer
DSL	Digital Subscriber Line
DMR	Digital Microwave Radio
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPA	Environmental Protection Authority
ESMP	Environmental and Social Management Plan
ESRS	Environmental and Social Review Summary
ESS	World Bank Environmental and Social Standards
FTTN	Fiber to the Node
FTTH	Fiber to the Home
GBV	Gender Based Violence
GIS	Geographical Information System
GM	Grievance Mechanism
GoRMI	Government of the Republic of the Marshall Islands
ISP	Internet Service Providers
IT	Information Technology
JSA	Job Safety Analyses
LMP	Labor Management Procedure
LTE	Long Term Evolution (4G)
MOF	Ministry of Finance
MTC	Ministry of Transportation and Communications
MWIU	Ministry of Works, Infrastructure and Utilities
NEPA	National Environmental Protection Act
NTA	National Telecommunications Authority
OHS	Occupational Health and Safety
PEA	Preliminary Environmental Assessment
PIU	Project Implementation Unit (for Digital RMI Project)
PMU	Project Management Unit (of the MWIU)
PPE	Personal protective equipment
PPP	Public Private Partnerships
PSTN	Public Switched Telephone Network
RMI	Republic of the Marshall Islands
SEAH	Sexual Exploitation and Abuse and Sexual Harassment
SEP	Stakeholder Engagement Plan
VSAT	Very Small Aperture Terminal
WB	World Bank

Annex 2: Health and Safety Management Plan Guidelines

A.1 OBJECTIVE

The objective of these Guidelines is to provide guidance on the:

- key principles involved in ensuring the health and safety of workers and the community is protected;
- preparation of Health and Safety Management Pan and associated Job Safety Analyses (JSA); and
- implementation of Health and Safety Management Plan and JSA during project implementation.

The key reference document for this Guideline is the World Bank Group's *Environmental, Health, and Safety (EHS) Guidelines* (April 2007) together with the relevant Industry Sector EHS Guidelines available at www.ifc.org/ehsguidelines.

A.2 PRINCIPLES

Employers must take all reasonably practicable steps to protect the health and safety of workers and the community and provide and maintain a safe and healthy working environment. The following key principles are relevant to maintaining worker health and safety:

A.2.1. Identification and assessment of hazards

Each employer must establish and maintain effective methods for:

- Systematically identifying existing and potential hazards to employees and the community;
- Systematically identifying, at the earliest practicable time, new hazards to employees and the community;
- Regularly assessing the extent to which a hazard poses a risk to employees and the community.

A.2.2. Management of identified hazards

Each employer must apply prevention and control measures to control hazards which are identified and assessed as posing a threat to the safety, health or welfare of employees and the community, and where practicable, the hazard shall he eliminated. The following preventive and protective measures must be implemented order of priority:

- Eliminating the hazard by removing the activity from the work process;

- Controlling the hazard at its source through engineering controls;
- Minimizing the hazard through design of safe work systems;
- Providing appropriate personal protective equipment (PPE).

The application of prevention and control measures to occupational hazards should be based on comprehensive job safety analyses (JSA). The results of these analyses should be prioritized as part of an action plan based on the likelihood and severity of the consequence of exposure to the identified hazards.

A.2.3. Training and supervision

Each employer must take all reasonably practicable steps to provide to employees (in appropriate languages) the necessary information, instruction; training and supervision to protect each employee's health and to manage emergencies that might reasonably be expected to arise in the course of work. Training and supervision extends to the correct use of PPE and providing employees with appropriate incentives to use PPE.

A.2.4. General duty of employees

Each employee shall:

- take all reasonable care to protect their own and fellow workers health and safety at the workplace and, as appropriate, other persons in the vicinity of the workplace;
- use PPE and other safety equipment supplied as required; and
- not use PPE or other safety equipment for any purpose not directly related to the work for which it is provided.

A.2.5. Protective clothing and equipment

Each employer shall:

- provide, maintain, and make accessible to employees the PPE necessary to avoid injury and damage to their health;
- take all reasonably practicable steps to ensure that employees use that PPE in the circumstances for which it is provided; and
- make provision at the workplace for PPE to be cleaned and securely stored without risk of damage when not required.

The application of prevention and control measures to occupational hazards should be based on comprehensive job safety analyses (JSA). The results of these analyses should be prioritized as part of an action plan based on the likelihood and severity of the consequence of exposure to the identified hazards.

A.3 Job Safety Analysis

Job safety analysis (JSA) is a process involving the identification of potential health and safety hazards from a particular work activity and designing risk control measures to eliminate the hazards or reduce the risk to an acceptable level. JSAs must be undertaken for discrete project activities such that the risks can be readily identified and appropriate risk management measures designed.

This Guideline includes a template for a JSA that must be completed and included as an attachment to the Health and Safety Sub-plan.

A.4 Implementation

A.4.1. Documentation

A Health and Safety Management Plan must be prepared and approved prior to any works commencing on site. The Health and Safety Management Plan must demonstrate the Contractor understands of how to manage safety and a commitment to providing a workplace that enables all work activities to be carried out safely. The Health and Safety Management Plan must detail reasonably practicable measures to eliminate or minimize risks to the health, safety and welfare of workers, contractors, visitors, and anyone else who may be affected by the operations. The Health and Safety Management Plan must be prepared in accordance with the World Bank Group EH&S Guidelines.

A.4.2. Training and Awareness

Provisions should be made to provide health and safety orientation training to all new employees to ensure they are apprised of the basic site rules of work at / on the site and of personal protection and preventing injury to fellow employees. Training should consist of basic hazard awareness, site-specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate.

Visitors to worksites must be provided with a site induction prior to entering and must be escorted at all times while on site. This induction must include details of site hazards, provision of necessary PPE and emergency procedures. Visitors are not permitted to access to areas where hazardous conditions or substances may be present, unless appropriately inducted.

A.4.3. Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE) provides additional protection to workers exposed to workplace hazards in conjunction with other facility controls and safety systems.

PPE is considered to be a last resort that is above and beyond the other facility controls and provides the worker with an extra level of personal protection. The table below presents general examples of occupational hazards and types of PPE available for different purposes. Recommended measures for use of PPE in the workplace include: ·

- Active use of PPE if alternative technologies, work plans or procedures cannot eliminate, or sufficiently reduce, a hazard or exposure;

- Identification and provision of appropriate PPE that offers adequate protection to the worker, co-workers, and occasional visitors, without incurring unnecessary inconvenience to the individual;

- Proper maintenance of PPE, including cleaning when dirty and replacement when damaged or worn out. Proper use of PPE should be part of the recurrent training programs for Employees

- Selection of PPE should be based on the hazard and risk ranking described earlier in this section and selected according to criteria on performance and testing established.

Objective	Workplace Hazards	Suggested PPE
Eye and face protection	Flying particles, molten metal, liquid chemicals, gases or vapors, light radiation.	Safety Glasses with side-shields, protective shades, etc.
Head protection	Falling objects, inadequate height clearance, and overhead power cords.	Plastic Helmets with top and side impact protection.
Hearing protection	Noise, ultra-sound.	Hearing protectors (ear plugs or earmuffs).
Foot protection	Falling or rolling objects, pointed objects. Corrosive or hot liquids.	Safety shoes and boots for protection against moving & falling objects, liquids and chemicals.
Hand protection	Hazardous materials, cuts or lacerations, vibrations, extreme temperatures.	Gloves made of rubber or synthetic materials (Neoprene), leather, steel, insulating materials, etc.
Respiratory protection	Dust, fogs, fumes, mists, gases, smokes, vapors.	Facemasks with appropriate filters for dust removal and air purification (chemicals, mists, vapors and gases). Single or multi- gas personal monitors, if available.
	Oxygen deficiency	Portable or supplied air (fixed lines). On-site rescue equipment.
Body/leg protection	Extreme temperatures, hazardous materials, biological agents, cutting and laceration.	Insulating clothing, body suits aprons etc. of appropriate materials.

A.5 Monitoring

Occupational health and safety monitoring programs should be part of the Health and Safety Management Plan and verify the effectiveness of prevention and control strategies. The selected indicators should be representative of the most significant occupational, health, and safety hazards, and the implementation of prevention and control strategies. The occupational health and safety monitoring program should include:

Safety inspection, testing and calibration: This should include regular inspection and testing of all safety features and hazard control measures focusing on engineering and personal protective features, work procedures, places of work, installations, equipment, and tools used. The inspection should verify that issued PPE continues to provide adequate protection and is being worn as required.

Surveillance of the working environment: Employers should document compliance using an appropriate combination of portable and stationary sampling and monitoring instruments. Monitoring and analyses should be conducted according to internationally recognized methods and standards.

Surveillance of workers health: When extraordinary protective measures are required (for example, against hazardous compounds), workers should be provided appropriate and relevant health surveillance prior to first exposure, and at regular intervals thereafter.

Training: Training activities for employees and visitors should be adequately monitored and documented (curriculum, duration, and participants). Emergency exercises, including fire drills, should be documented adequately.

Accidents and Diseases monitoring: The employer should establish procedures and systems for reporting and recording:

- Occupational accidents and diseases
- Dangerous occurrences and incidents

These systems should enable workers to report immediately to their immediate supervisor any situation they believe presents a serious danger to life or health.

All reported occupational accidents, occupational diseases, dangerous occurrences, and incidents together with near misses should be investigated with the assistance of a person knowledgeable and competent in occupational safety. The investigation should:

- Establish what happened
- Determine the cause of what happened
- Identify measures necessary to prevent a recurrence

Job Safety Analysis (JSA)

Add Organisation Name:

Ref: Version:

Business details			
Business name:		Contact person:	
Address:		Contact position:	
Contact phone number		Contact email address:	
Job Safety Analysis details			
Work activity:		Location:	
Who are involved in the activity:		This job analysis has been authorized by: Name: ..... Position:..... Signature: ..... Date:	
Plant and equipment used:			
Maintenance checks required:			
Tools used:			
Materials used:			
Personal protective equipment:			
Certificates, permits and/approvals required			
Relevant EHG Guideline, codes, standard MSDSs etc. applicable to			

Risk Assessment

**Use the risk rating table to assess the level of risk for each job step.

		Likelihood				
		1	2	3	4	5
Consequence		**Rare** The event may occur in exceptional circumstances	**Unlikely** The event could occur sometimes	**Moderate** The event should occur sometimes	**Likely** The event will probably occur in most circumstances	**Almost Certain** The event is expected to occur in most circumstances
1	**Insignificant** No injuries or health issues	LOW	LOW	LOW	LOW	MODERATE
2	**Minor** First aid treatment	LOW	LOW	MODERATE	MODERATE	HIGH
3	**Moderate** Medical treatment, potential LTI	LOW	MODERATE	HIGH	HIGH	CRITICAL
4	**Major** Permanent disability or disease	LOW	MODERATE	HIGH	CRITICAL	CATASTROPHIC
5	**Extreme** Death	MODERATE	HIGH	CRITICAL	CATASTROPHIC	CATASTROPHIC

Risk rating

Low risk: Acceptable risk and no further action required as long as risk has been minimized as possible. Risk needs to be reviewed periodically.

Moderate risk: Tolerable with further action required to minimize risk. Risk needs to be reviewed periodically.

High risk: Tolerable with further action required to minimize risk. Risk needs to be reviewed continuously.

Critical risk: Unacceptable risk and further action required immediately to minimize risk.

Catastrophic: Unacceptable risk and urgent action required to minimize risk.

Risk controls

The hierarchy of control can be used as an effective tool to deal with health and safety issues at work. Use the type of control suggested as measures to deal with the hazard. Aim to use control measures from as high on the hierarchy of control list as possible. If that is not possible the next option down the list or a combination of the measures should be implemented. The least effective control measure is the use of personal protective equipment (PPE) and it should be used as a last resort or a support to other control measures. Information and training should be integrated with all levels of control to explain how controls work.

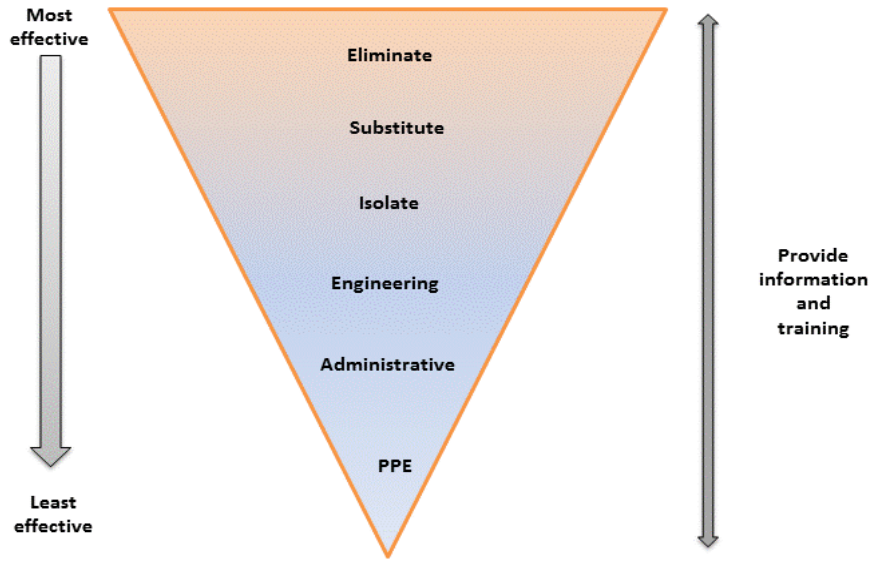
1. **Eliminate** – if it is possible, the hazard should be removed completely. For example, get rid of dangerous machines.

2. **Substitute** – replace something that produces the hazard with something that does not produce a hazard. For example, replacing solvent based paint with water based paint. Risk assessment on the substitution must be conducted to ensure that it will not pose another hazard.

3. **Engineering control** – isolate a person from the hazard by creating physical barrier or making changes to process, equipment or plant to reduce the hazard. For example, install ventilation systems.

4. **Administrative control** – change the way a person works by establishing policies and procedures to minimize the risks. For example, job scheduling to limit exposure and posting hazard signs.

5. Use **personal protective equipment** (PPE) – protect a person from the hazard by wearing PPE. For example, wearing gloves, safety glasses, hard hats and high-visibility clothing. PPE must be correctly fitted, used and maintained to provide protection.



Hierarchy of control

JSA – Action steps

Step No	Job step details	Potential hazards	Risk rating**	How to control risks***	Name of persons responsible for work

Review number: Version: Review number: Version:

This job safety analysis has been developed through consultation with our employees and has been read, understood and signed by all employees undertaking the works:		
Print Names:	**Signatures:**	**Dates:**

Review No	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**
Initial:								
Date:								

Annex 3: Solid Waste Management Plan Guidelines

These requirements will form the basis for the Contractors management of their solid waste during construction and decommissioning of equipment. They will also form the basis for managing waste from the consumer e-waste initiative. These SWMP guidelines satisfies:

1. The requirements of this ESMP;
2. The requirements of the World Bank
3. Meets the following minimum standards:
    i. No RMI landfills are to be used for any waste. All waste is to be recycled or disposed of offshore at a permitted facility.
    ii. No dumping or storage of any waste in RMI or in any other location except as provided in this ESMP.
    iii. Compliance with Basel Convention and any other relevant international conventions for export of hazardous and non-hazardous waste.
    iv. Identify and utilise suitable local recycling and reuse options.
4. Requires the usual good practice of solid waste management, including:
    i. Segregation of waste
    ii. Secure storage for waste
    iii. Adopting the waste hierarchy: (i) avoid; (ii) reduce; (iii) reuse; (iv) recycle
    iv. Collaborating with other sectors, waste generators and government initiatives for cumulative benefits

DISPOSAL PROTOCOLS

The follow disposal methods will be used for all generated project solid waste streams:

Waste Stream	Disposal Method	Responsible Agency	Responsible Agency
General Waste (not including reusable, recyclable or organic materials)	Offshore in permitted landfill. Mauro and Ebeye Landfills will not be used for any project waste	Contractor	PPP Partner
Organic or compostable Waste	Disposed of composting site with approval of RMIEPA	Contractor in consultation with RMIEPA	NA
Recyclable waste (metal, e-waste)	Contractor will remove it offshore at an approved facility.	Contractor	PPP Partner

Reusable waste (excess materials or clean fill, building materials)	Reusable waste to be offered to the MWIU and the community.	Contractor in consultation with RMIEPA, MWIU	NA
Hazardous wastes (spent lubricant, spill contaminate derived from renovation and decommissioning, and e-waste, fuel, batteries)	To be disposed of offshore under the conditions of the Basel convention. Contractor to use the RMIEPA to facilitate the export of hazardous waste.	Contractor in consultation with RMIEPA	PPP Partner

Implementation of SWMP

1. Collection and Storage: The Contractor will provide dedicated and clearly marked areas at their laydown site for storage of waste prior to their disposal. Hazardous waste will be stored in consultation with requirements of RMIEPA, and in any case stored at an identified laydown site, in covered watertight areas. For consumer e-waste initiatives, segregated waste will be stored in a water tight area, to be agreed with RMIEPA.
2. On-site: The Contractor will ensure that all employees understand how the waste management system (housekeeping, sorting and storage) will work on-site, including bin placement and access.
3. Disposal: Waste will be stored in containers until shipped overseas. Offshore disposal only to approved sites and according to chain of custody documentation procedures.
4. Clearly assign and communicate responsibilities: ensure those involved in the project are aware of their responsibilities in relation to the SWMP.
5. Training: be clear about how the various elements of the SWMP will be implemented.
6. Monitor: to ensure the plan is being implemented, monitor on-site as per the ESMP monitoring plan. Keep records of all waste and its final destination, including chain of custody documentation for all waste exported.

Annex 4: Stakeholder Engagement Plan

A.1 INTRODUCTION

A.1.1. General

The Republic of the Marshall Islands (RMI) Government, with the support of the World Bank, has prepared the *Digital RMI Project* (hereafter the Project) to expand access to the internet, promote private sector investment in climate resilient digital services, and establish the critical foundations for digital government services and the digital economy in the RMI. The Project is expected to commence in 2022 and be completed by 2026, at a total cost of $US 28M.

A.1.2. Stakeholder Engagement Plan

Pursuant to the World Bank's Environmental and Social Framework (ESF), as set out in Environmental and Social Standard 10 (ESS10), this Stakeholder Engagement Plan (SEP) and Grievance Mechanism (GM) were prepared in the context of planned activities, with due consideration to expected impacts and potential risks.

The purpose of this SEP is to outline how stakeholder engagement will be optimized through: i) transparent and timely sharing of Project information with specific groups of people and with the general public as end-users and consumers; and ii) participatory consultations with parties directly affected by the Project, including:

- National Telecommunications Authority (NTA) Board members, shareholders and employees
- Landowners where project infrastructure is located
- Education and health sector officials
- Gender Development Office (Community Development Division, Ministry of Culture and Internal Affairs) staff and clients
- Private sector business owners/managers
- Existing and potential internet users at large, as well as those who may have access issues due to the reasons outlined in Section 7.12..

The SEP is an essential tool for effectively managing communication between Project implementing agencies, the Project implementation team, key stakeholder groups and those who may be impacted by Project works.

The goal of this Plan is to ensure that all stakeholder groups:

- Have easy access to timely and accurate information about the Project
- Are able to express their views to inform Project design and implementation, and
- Are aware of the Project Grievance Mechanism (GRM) in the event they are dissatisfied with any aspect of the Project (see Section 5).

Implementation of this SEP will involve the following steps:

i. Confirming stakeholder identification and analysis
ii. Determining the best methods to engage with different stakeholders and beneficiary groups
iii. Disclosing relevant information in accessible formats and mediums
iv. Consulting with key stakeholder groups
v. Integrating stakeholder feedback in project planning and delivery
vi. Addressing and responding to grievances, and

vii. Reporting to stakeholders.

This SEP is a "live" document which will be updated in response to evolving circumstances, demands and lessons learned throughout project implementation.

A.1.3. Project Summary

The Project has four components and twelve sub-components as shown in Table 1.

Table 1: Summary of Project Components and Subcomponents

Component 1	**Market Structure Reform** This component will strengthen national digital connectivity and trigger substantial new private sector-led investment, expand coverage and support the introduction of better climate and disaster connectivity services and lower pricing. This support is organized around three subcomponents.
Subcomponent 1.1	Supporting provision of high-quality, low-cost digital services under PPP arrangements
Subcomponent 1.2	Strengthening national connectivity infrastructure
Subcomponent 1.3	Bridging the connectivity gap for neighboring islands
Component 2	**Digital Government Platforms and Digital Skills** This component will finance a range of interventions and investments focused on priority government services and initiatives commencing with the development and implementation of a Digital Government Strategy (DGS) under the supervision of the IGTF. The DGS will be linked to priority business process reviews, the development of government enterprise architecture and the rollout of a national government portal and priority digital services. This support is organized around six subcomponents.
Subcomponent 2.1	Supporting development of the Digital Government Strategy (DGS)
Subcomponent 2.2	Supporting digital skills development
Subcomponent 2.3	Establishing Digital ID system
Subcomponent 2.4	Securing Government Network and Data Center, Disaster Recovery/Business Continuity and Government Cloud (G-Cloud)
Subcomponent 2.5	Implementing pilot e-Service(s)
Subcomponent 2.6	Providing support to Gender Development Office
Component 3	**Enabling environment for Digital Government and Digital Economy** This component will provide TA to develop the legal and regulatory enabling environment needed to underpin investment in digital government and digital

	economy and will also provide support in regulatory priorities for the telecommunications sector, for the long-term interests of users of digital services. This support is organized around three subcomponents.
Subcomponent 3.1	Telecommunications transactional support
Subcomponent 3.2	Legal and regulatory framework for Digital Government
Subcomponent 3.3	Creation and rollout of Government's Cyber Security Program
Component 4	**Project Implementation Support** This component will finance Project personnel including short and long term staff/consultants/contractors; support the Project Implementation Unit (PIU), and provide technical and other assistance through the Central Implementation Unit (CIU) based in the Division of International Development Assistance (DIDA), Ministry of Finance.

Project Activities will be undertaken at the following locations:

i. Majuro: NTA Office and across Majuro from Rita to Laura (communal network and individual connections)
ii. Ebeye: NTA Office and the across Ebeye (communal network and individual connections)
iii. 24 inhabited neighboring islands.

A.1.4. SEP Disclosure, Implementation and Accountability

Project implementing agencies include the Ministry of Finance, Banking and Postal Services (MOBPS), the Ministry of Trade and Communications (MTC), and the Marshall Islands National Telecommunications Authority (NTA). The Ministry of Culture and Internal Affairs (MOCIA), Gender Development Office (GDO) will collaborate with planning, delivery and monitoring of Subcomponent 2.6.

A Project Steering Committee (PSC), established by Cabinet to provide oversight and strategic guidance, can play an important role in ensuring adequate stakeholder engagement throughout project implementation, including regular feedback from vulnerable groups. As such, the PSC could expand its membership to include representation from women, youth and disability organizations.

The Project Implementation Unit (PIU), to be established within the MTC, will have responsibility for overall management, coordination and administration including procurement, finances, auditing, and communication functions. The CIU, housed within DIDA in the MoF, will support Project preparation and implementation to: i) provide technical assistance and oversight to the PIU to implement the ESMP, SEP, LMP and ESCP for all components; ii) provide assistance and support for all stakeholder engagement and E&S risk management requirements of the project; iii) supervise the CAA and, where necessary, provide environmental and social risk management advice to the CAA and PPP partner and the SPV in respect of compliance with the ESMP or other E&S matters;-(iv) prepare the LMP and update the ESMP and SEP throughout project implementation and v) be responsible for oversight of the project grievance ~~redress~~ mechanism in coordination with the PIU Project Manager.

This SEP will be publicly disclosed by the MCT, the MOFPBS and the NTA as the agencies responsible for Project implementation. Newspaper announcements, radio adverts and notices via the Mayors'

Association will alert the public to the disclosure of E&S risk management instruments online and through hard copies available free of charge at the ICT office for affected and interested parties.

A.2 STAKEHOLDER IDENTIFICATION AND ANALYSIS

To ensure relevant and meaningful engagement, project stakeholders can be divided into three main groups:

i. Affected Parties: Includes persons, groups and other entities who are directly influenced (actually or potentially) by the project and/or who are closely engaged in Project development and implementation, including decision-making on mitigation and management measures;

ii. Other Interested Parties: Includes individuals/groups/entities that may not experience direct impacts from the Project but who consider or perceive their interests as being affected by the project and/or who could affect the project and the process of its implementation in some way (for example through an ability to influence and make decisions on the Project); and

iii. Vulnerable Groups: Includes persons who may be disproportionately impacted or further disadvantaged by the project (compared to other groups) due to their particular vulnerability[22], and who may require special efforts to ensure their equitable representation and participation in project planning and decision-making processes.

It is especially important to understand how a project can affect disadvantaged or marginalized groups of people (positively and negatively), who often do not have adequate voice to express their views or to benefit from project activities. Finding effective ways to engage with these people is critical to meeting the needs of the most vulnerable members of society.

Project stakeholders that fall into these categories are summarized below.

A.2.1. Affected parties and beneficiaries

Affected Parties include:

- NTA Board members, shareholders and employees (and their families)
- Landowners where Project infrastructure is located
- Education and health sector officials
- Gender Development Office staff and clients
- Women United Together Marshall Islands (WUTMI) and other NGOs providing support services
- Teachers, parents and students
- Community at large in terms of development of digital Government platforms and legal and regulatory framework for Government digital services.

A.2.2. Other interested parties

Other Interested Parties include:

[22] Vulnerability status can stem from an individual's or group's race, national, ethnic or social origin, color, gender, language, religion, political or other opinion, property, age, culture, literacy, sickness, physical or mental disability, poverty or economic disadvantage, and dependence on unique natural resources.

- Ministry of Finance
- Ministry of Trade and Communications
- Majuro and Ebeye Chambers of Commerce, and private sector business owners/managers
- National Training Council (NTC), College of the Marshall Islands (CMI) and the University of the South Pacific (USP)
- Office of Environment Planning and Policy Coordination
- Non-Government Organizations - including WAM, WUTMI, Youth to Youth in Health and IOM.
- Internet users at large.
- Prospective clients of future offerors of telecommunications services

A.2.3. Disadvantaged / vulnerable individuals or groups

Disadvantaged stakeholders include those who have less opportunity to benefit from project supported services, and those whose jobs are affected by project activities. Vulnerable groups include those who could be harmed in some way through heightened exposure to the internet. Specifically, stakeholders in this category include:

- People employed at the NTA whose jobs may be affected through privatization
- People who are unable to afford internet services even if this was available
- People who do not have the equipment required to benefit from improved access including phones and computers
- People who do not have access to a steady and reliable power source
- People living with disabilities, who may not be able to access improved internet services without specialized equipment and/or software
- Students attending schools and patients attending health services without digital access
- Teachers and health care workers who do not have access to information and resources available on the internet
- Children and young people who access harmful digital materials which has a negative effect on their development and values identification
- People who become victims of cyberbullying, sexual exploitation, abuse or sexual harassment, with women, girls and people with disabilities being especially vulnerable.

A.3 STAKEHOLDER ENGAGEMENT PROGRAM

A.3.1. Stakeholder engagement during project preparation

While stakeholder engagement with Project participants commenced during Project and E&S risk management preparations, it was not possible to meet with all key actors due to travel restrictions. In addition, given the sensitivities around the NTA reform, it was decided that broad-based consultations should not take place until NTA staff have been briefed.

A.3.1.1. General Consultation

Stage 1: Late 2017- early 2019

GVIC report process: GVIC along with Govt representatives (DIDA staff at that time):

- Met with Govt Ministries (Education, Health, Finance, MTC&I etc.) and service providers (e.g. teachers and medical professionals);
- Private sector business (open forum meeting/s and one on one meetings);
- NTA-both management (regularly) and Board

These meetings combined both a focus on current problems customers were experiencing with telecommunications, the benefits of reforms, and people's views on reform. Meeting mostly took place in Majuro as well as virtual meeting with stakeholders located elsewhere.

The press attended the open forum meeting/s and also covered the review and the reform options Cabinet was presented with in early 2019.

Stage 2: 2020 - to date

The engagement has been targeted:

- An interagency project steering committee established in May by Cabinet has met three times (approximately 6-8 weekly). This consists of the senior relevant agency representatives (the Chief Secretary, the Secretary of Finance, the Secretary of Transport and Communication, The Secretary of Internal Affairs, the CEO/President of NTA) and is chaired by the Minister of Education;
- Briefings to Cabinet (two in 2020-early March and August)
- Meetings with NTA management –these are largely focused on gathering information;
- Meetings with agencies that are core beneficiaries of the e digital services – representatives of the Community College, the Ministry of Education, the PSS Commissioner, representatives from the Ministry of Health and the Health services.

In addition to these consultations, preparation of the Project Gender Analysis involved consultations with the following stakeholders.

Stakeholders Consulted During Preparation of Project Gender Analysis		
Location Majuro, Marshall Islands		
Consultations with team (including remote engagements)		
Mr. James Neumann	TTL WB, DC-based	
Ms. Caroline Adams	Operations, WB Pohnpei-based.	
Ms. Lynette Alemar	Operations, World Bank, DC-based.	
Mr. Frank McLaughlin	Consultant, Technical Support	
Ms. Sharada Srinivasan	Digital Development Specialist	
Ms. Pene Ferguson	Safeguards Consultant	
Consultations in-country		
Ms. Kino Kabua	Chief Secretary, Office of the Chief Secretary	
Ms. Maybelline Bing	Secretary of Finance, MoF	
Ms. Malie Tarbwillin	Ass Secretary at DIDA, MoF (CIU housed at DIDA)	
Mr. Garry Venus	Safeguard @ CIU, RMI	
Mr. Phil Philippo	Secretary, Ministry of Transport and Communication	
Ms. Neilan N. Kaminaga	Director of Communications, MoT&C	
Mr. Damian Jetnil	MoT&C	
Mr Thomas Kijiner Jr	General Manager, National Telecommunications Authority	
Mr. Wallace Peters	Secretary, Ministry of Culture & Internal Affairs	
Mr. Jamie Nashion	Minister, Ministry of Culture & Internal Affairs	
Ms. Karina de Brum	Chief of Community Development and Human Rights, Human Rights Office, Community Development Division, MOCIA	

Ms. Teri Elbon	Gender in Development Manager, Community Development Division, MOCIA	
Ms. Genna Hansen	Gender in Development Coordinator, Community Development Division, MOCIA	
Ms. Angela Sanders	IOM Representative & UN Resident Coordinator	
Ms. Laura Freeman **(follow up remotely)**	IOM – WEE program	
Ms. Yoshiko Capelle	Program Officer UNDP, Youth Advisor to Pacific Women Shaping Pacific Development Programme	
Ms. Sheri L. Guavis	Manager, Elefa Handicrafts (Majuro)	
Ms. Lucia Guavis	Owner & Manager, Elefa Handicrafts (Majuro)	
Miram de Drum	WUTMI	
Mr. Bryan Edejer **(follow up remotely)**	Deputy Administrator & Chief Tax Officer, MISSA.	
Hemline Ysawa **(follow up remotely)**	OCIT	
Ms. Katheryne Relang **(follow up remotely)**	SPC country focal point for RRRT, formerly WUTMI	
Ms. Moriana Phillip	Bokwarijiot Beauty Products, online presence	
Ms. Pamela M. Rubon	Small Business Owner & Officer at Domestic Violence Unit, Police Force	

Future consultations:

Once Cabinet has approved the following targeted engagement and negotiation will be required:

- Engagement with NTA Board on the steps Govt are proposing to take –some of this will be directional engagement and some will be consultation; (early December)
- Engagement through the NTA Board with NTA staff on the implications for staff of the reforms, some of this will be informational and some of this will be consultation; (depends on NTA Board but late January/Early February)
- Negotiation with NTA shareholders; (December-though to February)

- Information being provided publicly on the reform option, the benefits and the implications (Feb –April and after the NTA staff have had targeted information-see above)
- Public and targeted engagement on the reforms (Once the project is approved) -this will be a mix of informational and consultation. (May/June)
- Ongoing engagement with key Ministries and the private sector relating to the e digital reforms

A.3.1.2. NTA Consultations to Date

A summary of NTA consultations that have taken place so far, including the current state of affairs in this regard is set out as follows:

Late 2017- early 2019 GVIC report process:

- NTA was a contracting party for the GVIC report. GVIC reported both to GOVT and NTA ;
- Alongside regular meetings with NTA management –including receiving feedback on drafts of the GVIC report, GVIC also met with the NTA Board and received feedback from the Board.
- On presentation to Cabinet of the final report, NTA identified further work that was required to be done –which has been included into the TORS for the stage 2 work currently being undertaken (this included a review of the GVIC projected benefits)

Stage 2: 2020- to date

- NTA CEO/President is a member of the Project Steering Group;
- NTA CEO/President was consulted on TORS for the technical advisers;
- Project team representatives and the lead technical adviser (Castalia) have meet with NTA management twice to date on inputs into the TA assessment work;
- NTA will be provided with draft reports through the Project Steering Group for comment and feedback

Once the Project design has been finalized, stakeholder engagement will commence in line with the approved SEP.

A.3.2. Summary of needs and methods, tools and techniques for stakeholder engagement

A.3.2.1. Timing of Information Sharing and Stakeholder Consultations

Given that the Project has 3 components and 13 sub-components, activities will be undertaken in different locations at various times. As such, stakeholder engagement will need to be aligned with Annual Work Plans to ensure communications are proactive and customized to particular groups.

However, in the case of stakeholder who will be directly impacted by the Project - namely NTA staff - it is important that they are made aware of Project intentions and upcoming activities as soon as possible to ensure they have ample opportunity to ask questions, raise concerns and plan for their future. As such, it is recommended that development of an NTA Communication and Engagement Strategy be fast-tracked to consolidate thinking on principles, approaches, timing and sequencing of information sharing (see Section 1.7.2.). Preparation of this Strategy requires additional information from the NTA Board regarding the roles and responsibilities of current staff, their terms and conditions, and demographic characteristics (i.e., age, gender) to determine vulnerability status.

A.3.2.2. Stakeholder Feedback

Draft documents will be disclosed prior to Appraisal by the World Bank, as outlined in Table 3.3. Feedback from stakeholders will be sought via meetings and comments on social media (particularly via Facebook) and a minimum period of two weeks will be allowed for comments to be received. A consultation report will be prepared at the end of this period outlining the type of feedback received and how issues and concerns will be addressed. At that point, the Stakeholder Engagement Plan will be updated and -disclosed.

A.3.2.3. Language of Communication

Project consultations will predominantly be conducted in Kajin Majol, although in some circumstances, English will also be used. Information, education and communication (IEC) materials will be prepared in Kajin Majol or English as appropriate to circumstances.

A.3.2.4. Methods and Parties

Methods used to engage affected, interested and vulnerable stakeholders will vary depending on the purpose and timing of the interaction, the number of people involved, and local circumstances. In selecting the best ways to connect, share information and receive feedback, accessibility will be a primary determinant. This means considering communication options including: use of mainstream and social media; distribution of print materials through implementing agencies, civil society organizations and networks including NGOs, women's organizations, Chambers of Commerce, training institutions, and conducting consultations with relevant sector groups such as education, health, environment/climate change officials.

As indicated previously, NTA stakeholders (including board members, shareholders and staff) are treated as a separate group for the purposes of stakeholder engagement planning and implementation, given they will be directly impacted by Project supported reforms and multiplier effects. Agencies that can play a key role in addressing employment impacts, such as training institutions (including NTC, CMI and USP) through provision of up-skilling and re-training of retrenched workers, need to be actively engaged from the outset.

Planning and implementation of Subcomponent 2.6 (Support to the Gender Office), could involve focus group sessions with teachers, parents and students regarding regulation and monitoring online content of young internet users. Given that mothers play the primary role in supervising children's online time, it is important to ensure their perspectives are heard. In addition, given that women and girls have greater vulnerability to digital SEAH, it is critical that they are involved in identifying how best to address this concern, in collaboration with women's organizations. To optimize participation, meeting locations need to be accessible (including for people with disabilities) and held during times when parents/mothers and students are available.

The following stakeholders will need to be engaged in Project planning, using the most effective method(s) to meet particular communication objectives. The CIU, with assistance from the assistance from the CAA, will contact stakeholder groups via phone, email and/or letter, as appropriate, to arrange meetings. Where community/parent/student meetings are to be held notification of the meeting will be made on the radio.

- NTA Board members, shareholders and employees
- Landowners where Project infrastructure is located
- Education and health sector officials
- Gender Development Office staff and clients
- Women United Together Marshall Islands (WUTMI)
- Majuro and Ebeye Chambers of Commerce, and private sector business owners/managers
- Training Institutions including NTC, CMI and USP
- Office of Environment Planning and Policy Coordination

- Non-Government Organizations - including WAM, WUTMI, Youth to Youth in Health, IOM etc.
- Ministry of Finance and Ministry of Trade and Communications
- Marshall Islands Disabled Persons Organisation (MIDPO)
- Internet users at large, including parents and young people living in areas with and without digital access.

A.3.2.5. Addressing SEA/SH

Given the risks associated with sexual exploitation, abuse and sexual harassment, the project will engage specialist support services in RMI to ensure responsible communication and awareness raising on this issue. This will include development of a plan for construction works and a detailed strategy to redress the potential for online exploitation, abuse and harassment through awareness, monitoring and regulation. The Project will also engage service providers to support anyone who reports incidents involving SEA/SH through the GRM or any other means. Feedback from specialist service providers will be used to refine the GRM process as necessary to ensure confidentiality.

A.3.2.6. Documentation

Consultation and communication materials will be prepared in Kajin Majol and English including:

- Meeting Agendas and Notes (where appropriate)
- PowerPoint presentations
- Radio announcements and newspaper articles
- Social Media posts
- Project Information newsletters and leaflets

Following each consultation, meeting minutes will be prepared, with attendee lists attached, which will outline key feedback for consideration/incorporated in Project implementation. Attendee lists will be kept as project records, available for sharing as appropriate, noting that confidential information will not be included in distributed materials.

A.3.3. Strategy for information disclosure

Project stage	Target stakeholders	List of information to be disclosed	Methods and timing
Preparation prior to effectiveness	• Government entities • NTA board, shareholders and employees • Private sector employers (chambers of commerce) • Education, health & environment/climate change sectors • MOCIA and WUTMI	Draft ESRS and SEP with draft Grievance procedures; Regular updates on Project development. Information on construction activities Information on improved internet services including expected benefits,	Disclosed prior to Appraisal: PSS Facebook https://www.facebook.com/rmipss NTC Facebook https://www.facebook.com/www.ntcinfo.org MOFPBS/DIDA website http://rmi-MOFPBS.com/division-of-international-development-assistance/reports/" Radio, print and social media

	• Training Institutions • School principals, health care workers, teachers, parents and youth. • Interested end users and consumers of internet services • People living, working or schooling in construction areas	potential risks and costs. This includes digital Government platforms and regulatory framework under Component 2 and 3 respectively.	Information and communication materials will be customized in response to the interests of particular stakeholder groups such as cost related information for the private sector; education and health enhancement options for government workers; and focus group information and discussion materials for teacher, parents and student focus groups
Project Implementation	• Implementing entities • Training institutions • WUTMI • MOCIA, Gender Office • MIDPO • Interested end users and consumers	Final ESMP, Final SEP Final Labor Management Procedures Project progress reports and periodic updates Brochures and educational materials Press releases	Final ESMP, Final SEP and Final LMP to be disclosed within 30 days of effectiveness, incorporating feedback from disclosure: PSS Facebook *https://www.facebook.com/rmipss* *https://www.facebook.com/www.ntcinfo.org* MOFPBS/DIDA website *http://rmi-MOFPBS.com/division-of-international-development-assistance/reports/* Broader community outreach coordinated by Project Communications Specialist Radio and media communication

A.3.4. Stakeholder Engagement Plan

Project stage	Topic of consultation/ key messages	Method used	Target stakeholders	Responsibilities
Preparation prior to effectiveness	Project objectives and activities, expected impacts and benefits, potential E&S risks, and mitigation measures Introduce ESF instruments Present SEP and GRM	Virtual Consultations Design Team Meetings Information disclosure (see Table 3.3)	• Implementing entities • NTA • Private sector (chambers of commerce) • Education, health & environment/climate change representatives; • MOCIA/Gender Office • WUTMI & other NGOs • Training Institutions	CIU , with support from CAA Project Communications Specialist

Project stage	Topic of consultation/ key messages	Method used	Target stakeholders	Responsibilities
			• School principals, health care workers, teachers • Parents and youth. • Interested end users and consumers •	
Project Implementation *(General)*	Updated ESF instruments Feedback from consultations Information about project activities including NTA reform process.	Face to face meetings Virtual Consultations Team Meetings Stakeholder engagement	• Implementing entities • Contracted workers and consultants • Project Steering Committee • Government entities with vested interest • WUTMI • MOCIA/Gender Office • MIDPO • Chambers of Commerce • Parents, Youth • Interested end users and consumers	NTC through the Project management team (with support from CIU and CAA)
Project Implementation *(NTA Reform)*	Develop NTA-specific Communications and Engagement Strategy that details guiding principles, communications and engagement processes, including timelines and grievance mechanism.	Virtual Consultations with NTA Board Face to face Consultations with NTA staff Regular digital updates and newsletters NTA Specific Grievance Mechanism established	• NTA Board members and employees • Implementing entities • PIU/CIU • Training institutions	PIU to prepare NTA Communications and Engagement Strategy for approval by PSC which specifies responsible parties and timeframes for each activity; with support from CAA and CIU,
Project Implementation *(Construction and Maintenance)*	Construction works at identified locations	Face to face meetings Notices to landowners, tenants, local	• Landowners • Residential Tenants • Local Businesses • Nearby Schools • Police	PPP provider (with support from CIU)

Project stage	Topic of consultation/ key messages	Method used	Target stakeholders	Responsibilities
		businesses, nearby schools and police Health and safety briefings Alert SEA/SH providers Notice of GRM	• SEA/SH providers • MWIU	
Clients for future offerors of services.	Awareness of offerings; arrangements for individual voluntary uptake of offerings; agreement to land access for installation of physical equipment	Face to face meetings Notices to prospective clients and end users Notice of GRM process	Potential end users and clients.	Future client service providers

A.3.5. Future of the Project

Key stakeholders identified in Section 2.1 (Affected and Interested groups) will be kept informed of Project progress and upcoming activities via communication and engagement protocols set out in Section 3.3 throughout implementation, including reporting on any environmental and social performance issues, implementation of this SEP and the grievance mechanism. If a covid-19 outbreak occurs in RMI, stakeholders will also be informed of how this impacts the implementation of the Project, and any subsequent changes that are identified as necessary by the relevant authorities.

A.4 RESOURCES AND RESPONSIBILITY FOR STAKEHOLDER ENGAGEMENT ACTIVITIES

A.4.1. Resources

The human resources needed to implement this SEP will be provided by the CIU Social and Environmental Specialists and CIU Ebeye Representative, under the supervision of the PIU Project Manager, who will be responsible for day-to-day project management and implementation. Financial resources will be provided as outlined in Section 4.3

A.4.2. Management functions and responsibilities

The entities responsible for carrying out stakeholder engagement activities are the PIU, in collaboration with the CIU. The Project Steering Committee will provide guidance and oversight for project implementation, including advice on stakeholder communications.

The key responsibilities of the PSC are to:

- Ensure delivery of Project outputs and attainment of outcomes by providing guidance on issues and constraints that arise during implementation
- Review progress reports submitted by the Project Manager and make decisions as required, including stakeholder engagement activities and outcomes
- Provide oversight of the Grievance Mechanism, and
- Assess all policy-related issues and provide guidance as needed.

Stakeholder engagement activities will be documented in Project quarterly progress reports, and shared with CIU and the World Bank.

A.4.3. Indicative Budget

SEP preparation and implementation will largely be coordinated and undertaken by the CIU, in collaboration with the implementing agencies, and NTA in particular. Costs for stakeholder engagement specified in this plan relate to incidental costs associated with meetings (including venue hire, catering and participant transportation), media and preparation of materials for circulation. Travel from Majuro to Ebeye and some neighboring islands will also be required for communication and consultation purposes. A provisional budget allocation for Stakeholder Engagement is: $30,000.

A.5 GRIEVANCE MECHANISM

See Section A8 of this SEP.

A.6 PUBLIC NOTIFICATION AND CITIZEN ENGAGEMENT

The Project will seek to ensure that the wider community be made aware of and given ample opportunity to engage with Project personnel to provide input as they see fit. To this end, the PIU will coordinate and implement the following communication strategy:

Radio:	Public announcement on Project, purpose, scope, expected benefits, and where to get further information
Marshall Islands Journal	Editorial article on Project purpose, scope, expected benefits, and where to get further information
Internet:	Project description posted on the implementing agency websites and social media, including where to get further information
Notice Boards:	Notice boards will be installed in all areas where physical works will be carried out, describing the Project, and identifying where to get further information or raise concerns

A.7 MONITORING AND REPORTING

The SEP will be periodically reviewed and revised, as needed, throughout project implementation to ensure stakeholder engagement strategies remain relevant and effective, and that any lessons learned, or new and emerging communication opportunities are incorporated. Any major changes to Project related activities and schedules will be duly reflected in updated SEPs.

As indicated in Section 5, monthly summaries and internal reports on public grievances, enquiries and related incidents, together with the status of implementation of associated corrective/preventative actions will be collected and collated by CIU safeguards staff and referred to the Project Manager. These monthly summaries will provide a mechanism for assessing the number and the nature of complaints, requests for information, as well as the Project's ability to respond in a timely and effective manner.

Information on public engagement activities undertaken by the Project will be articulated in Project quarterly progress reports.

In addition, a number of Key Performance Indicators (KPIs) will be monitored by the Project on a regular basis, including:

- Frequency and type of public engagement activities and number of attendees (disaggregated by gender where possible);
- Numbers of Grievances received within a given reporting period (e.g. monthly, quarterly, or annually);
- Number of Grievances resolved within the prescribed timeline;
- Number and type of media materials published/broadcast/distributed on various communication outlets.

A.8 GRIEVANCE REDRESS MECHANISM

Republic of the Marshall Islands

Digital RMI Project

Grievance Mechanism
Digital RMI Project

November 2020

Prepared by
RMI Ministry of Finance
Division of International Development Assistance.

Draft 1

Quality Information

Document	Digital RMI Project Grievance Mechanism
Date	November 2020
Prepared by	CIU Safeguards Team
Reviewed	CIU/NTC

Revision History

Revision	Revision Date	Details	Revision By

1. PURPOSE OF THE GRIEVANCE MECHANISM

This document explains the purpose of the Digital RMI Project Grievance Mechanism (GM) and how it will be applied during implementation.

The GM is a process designed to ensure project beneficiaries and other stakeholders who are interested and/or affected by the project, including the general public, are aware of:

i. How to contact project staff to ask questions or obtain information about objectives, plans, activities and timelines;

ii. How to raise concerns about project activities and/or incidents involving project workers, community health and safety, environmental impacts, and/or social or cultural issues arising from the conduct of project workers or implementation of project activities;

iii. How grievances about the project will be addressed, and

iv. The fundamental right of all Marshallese to obtain timely and accurate information about the project, to express their views, and to have their concerns addressed in a professional, timely and transparent manner.

The Project involves a range of activities organized under four components and twelve sub-components as shown in Table 1.

Table 1: Summary of Project Components and Subcomponents

Component 1	**Market Structure Reform** This component will strengthen national digital connectivity and trigger substantial new private sector-led investment, expand coverage and support the introduction of better climate and disaster connectivity services and lower pricing. This support is organized around three subcomponents.
Subcomponent 1.1	Supporting provision of high-quality, low-cost digital services under PPP arrangements
Subcomponent 1.2	Strengthening national connectivity infrastructure
Subcomponent 1.3	Bridging the connectivity gap for neighboring islands
Component 2	**Digital Government Platforms and Digital Skills** This component will finance a range of interventions and investments focused on priority government services and initiatives commencing with the development and implementation of a Digital Government Strategy (DGS) under the supervision of the IGTF. The DGS will be linked to priority business process reviews, the development of government enterprise architecture and the rollout of a national government portal and priority digital services. This support is organized around six subcomponents.
Subcomponent 2.1	Supporting development of the Digital Government Strategy (DGS)

Subcomponent 2.2	Supporting digital skills development
Subcomponent 2.3	Establishing Digital ID system
Subcomponent 2.4	Securing Government Network and Data Center, Disaster Recovery/Business Continuity and Government Cloud (G-Cloud)
Subcomponent 2.5	Implementing pilot e-Service(s)
Subcomponent 2.6	Providing support to Gender Development Office
Component 3	**Enabling environment for Digital Government and Digital Economy** This component will provide TA to develop the legal and regulatory enabling environment needed to underpin investment in digital government and digital economy and will also provide support in regulatory priorities for the telecommunications sector, for the long-term interests of users of digital services. This support is organized around three subcomponents.
Subcomponent 3.1	Telecommunications transactional support
Subcomponent 3.2	Legal and regulatory framework for Digital Government
Subcomponent 3.3	Creation and rollout of Government's Cyber Security Program
Component 4	**Project Implementation Support** This component will finance Project personnel including short and long term staff/consultants/contractors; support the Project Implementation Unit (PIU), and provide technical and other assistance through the Central Implementation Unit (CIU) based in the Division of International Development Assistance (DIDA), Ministry of Finance.

Project Activities will be undertaken at the following locations:

- Majuro: NTA Office and across Majuro from Rita to Laura (communal network and individual connections)
- Ebeye: NTA Office and the across Ebeye (communal network and individual connections)
- 24 inhabited neighboring islands.

To ensure that beneficiaries and stakeholders are aware of the purpose and scope of the project, a range of communication methods will be used including radio announcements, newspaper articles, social media posts, information brochures, poster displays and community meetings. In addition to sharing information about upcoming activities, these materials will also provide project contact information and encourage interested or concerned parties to express their opinions and offer suggestions.

Requesting information, making suggestions or reporting grievances can be done in person, by phone or in writing, noting that confidentiality will be respected, and those anonymous complaints will be addressed using the same procedures. It should be noted the no feedback can be provided for grievances

lodged anonymously.

2. GM PROCESSES, TIMELINES AND RESPONSIBILITIES

This GM covers the entire project, including all activities from start-up to completion, recognizing that issues and grievances can arise at any time. In the event of concerns about the NTA reform and/or employee grievances, these issues will be addressed through special grievance redress procedures. Project grievance mechanisms do not apply to complaints about internet services, which need to be taken up directly with the provider.

The RMI Digital Project Manager will be the Designated Contact Person ("DCP") who will be involved throughout the GM process to ensure proper coordination and to help facilitate resolution where possible.

However, at least one alternate DCP will be nominated in the event that a complainant is unable or unwilling to disclose concerns to the Project Manager due to cultural or gender sensitivities, fear of reprisal, communication barriers, potential conflict of interest etc. This matter will be further discussed and agreed with the implementing agencies; the CIU and the Project Steering Committee.

Table 2 outlines the proposed roles and responsibilities of all parties involved with implementation of the Project GM, which this will be reviewed and revised, as needed, during project inception. The key objective of this mechanism is to provide clearly defined and accessible pathways for people to raise concerns about the project, and to ensure that all complaints are properly investigated and resolved as quickly as possible using agreed processes.

Table 2: Draft Grievance Redress Process

Stage	Process	Timeline
One	**A concern of complaint is received by one of the designated contact points** Within **12 hours** of receiving the concern or complaint: 1. The DCP documents the concern or complaint (see Section 7) 2. The DCP determines whether the concern or complaint is related to the project. ❖ If the issue is *not* project-related, the DCP advises the complainant and forwards the matter to the appropriate authority 3. The DCP determines whether the concern or complaint is of a "sensitive" or "serious" nature, which includes matters related to violence, sexual exploitation, abuse or harassment (SEAH), criminal activity, corruption, land claims, and political/ commercial issues. ❖ If the issue is thought to be sensitive or serious, the DCP immediately refers the matter to the Chair of the PSC for urgent attention and the WB is notified.	Anytime during project implementation
Two	**DCP endeavors to resolve concern or complaint** Within **24 hours** of receiving and documenting the compliant, the DCP makes all reasonable efforts to resolve the matter with the concerned party, through mediation and conflict resolution. Feedback and proposed mitigation will be provided to the person who lodged the grievance either in writing or by phone depending on their preference. If	Within 24 hours of logging of grievance

	acceptable, the grievance is closed; if not acceptable it proceeds to the following stages.	
Three	**DCP unable to resolve concern or complaint** The DCP will continue to attempt to resolve the complaint for a further 14 days, with the assistance of other parties as needed and agreed by the parties involved. Note: the 2 week timeframe for this step may be extended with the mutual agreement of all parties.	Within 2 weeks of logging grievance
Four	**DCP refers the matter to higher authority for resolution** Should the DCP be unable to resolve the concern to the satisfaction of the complainant, the matter will be referred to the Secretary of the Implementing Agency or other designated authority.	Within 2 weeks after logging grievance
Five	**The higher authority endeavors to resolve concern or compliant** The Secretary of the Implementing Agency, or other designated authority, identifies a solution or negotiates a resolution with the complainant, inform the person in writing and documents the matter. If resolution cannot be reached, the complainant is referred to the PSC	Within 2 weeks after receiving complaint
Six	**Final Resolution by the Project Steering Committee** The PSC makes final attempt to reach resolution. If the decision of the PSC is not acceptable to the complainant, he/she is free to refer the matter to the appropriate legal or judicial authority. A decision of the Court will be final. ❖ Any complaints relating to GBV and SEAH will be dealt with pursuant to Section 6	1 month after PSC receives complaint

3. ACCESSING THE GM

Contact details are outlined below and will be updated once details are available and individuals are appointed:

By Phone:

DIDA Office, Majuro	(692) 625 5968
Project Manager, xx	(692) xxx
Project Officer, xx	(692) xxx
CIU Safeguards Officer, Jessica Zebedee	(679) 625 5968

By email:

Project Manager, xxx	xxx
Project Officer, xxx]	xxx
DIDA Safeguards Officer, Jessica Zebedee	(679) 625 5968

Copy to TBC [CIU Program Manager]

4. PUBLIC NOTIFICATION AND CITIZEN ENGAGEMENT

The project will ensure that beneficiaries, stakeholders and the wider community are made aware of planned activities, and are encouraged to provide input, ask questions and express concerns as needed. To this end, the PIU will develop a range of accessible communication materials including but not limited to the following information outlets.

Radio	Advertisements informing the stakeholder community (including Majuro, Ebeye, and neighboring islands) of the scope of the Project, Project benefits, and where to get further information.
Marshall Islands Journal	Editorial article on the scope of the Project, and where to get further information
Internet	A brief summary of the Project and the process for interacting with Project personnel will be published on the MTC and NTA Facebook pages and in the MOF/DIDA website. Updates to Facebook and website will be done as required. rmi-MOFPBS.com/division-of-international-development-assistance/news-and-updates/
Notice Boards	For areas proposed for physical works, a notice board will be installed outside each operational area, describing the Project, and identifying where to get further information.
Community Announcements	In communities where physical works will be undertaken, notices will be provided to local residents, businesses, schools and the wider community will be informed about planned works, timelines, restrictions to the area, and grievance mechanisms, including any concerns related to GBV or SEAH.

5. GENDER BASED VIOLENCE AND SEXUAL EXPLOITATION AND ABUSE

Any complaints received by the DCP concerning allegations of gender based violence (GBV), Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH) and/or Violence against Children (VAC) will be immediately referred to the WUTMI Weto in Mour: Violence against Women and Girls Support Service (WIM) , who have specially trained staff able to deal with these kinds of situations in a professional, confidential and compassionate manner.

Conversely, any information provided by WUTMI WIM to Project or CIU staff regarding potential project related GBV, SEA/SH or VAC, will be documented and investigated, while simultaneously ensuring that the victim is receiving support. Refer to Section 7 for confidentiality provisions.

6. INFORMATION HANDLING AND STORAGE

Each concern or complaint received by the DCP shall be allocated a unique File identifier – DRP GRM – 2020 #1, DRP GRM – 2020 #2 etc.

A hard copy of the Grievance Report Form will be filed by the DCP in a locked filing cabinet.

Details of each concern or complaint will be inputted into a master file excel spreadsheet which will

be stored by the Project Manager in a Project sub-folder: \\Safeguards\Complaints, which is not accessible to other parties.

Information related to GBV, SEA, HT, VAC will be treated as personal and confidential [retained within Project management and governance group] at all times, and shall only be made available to WUTMI and approved authorities (such as police) with approval of the victim or as legally required.

7. COMMUNICATION THE GRM TO STAKEHOLDERS

During all stakeholder engagement activities, there will be a statement announcing that there is a Project Grievance Process and how Stakeholders can raise complaints. Communication about the GM will also be incorporated in broader communications as set out in Section 4.

8. REPORTING

The Project Manager will provide quarterly reports summarizing all grievances received to the DIDA and the World Bank.

GRM Annex 1: Draft Grievance Report Form

INITIAL GRIEVANCE REPORT FORM

<table>
<tr><td colspan="3">Grievance Reference #:

Electronic file reference:</td></tr>
<tr><td colspan="3">Background Information: Summarize Details (attach further pages if necessary):</td></tr>
<tr><td>Name of concerned party (or anonymous), and gender</td><td>Employee ID (If Employee)</td><td>Telephone

Email</td></tr>
<tr><td>Date Concern Received</td><td>Date of 2 week deadline for initial resolution or escalation:</td><td>Actual date of close out:</td></tr>
<tr><td colspan="3">Date, time, and location of Event leading to Concern:</td></tr>
<tr><td colspan="3">Detailed account of Concern (Include names of persons involved) if known (attach further pages if necessary):</td></tr>
<tr><td colspan="3">Are there any policies, procedures, guidelines that may have been violated (attach further pages if necessary):</td></tr>
</table>

Proposed solution or sought remedy (attach further pages if necessary):
Outcome of Concern (attach further pages if necessary):
Date and Signature of Entry into Record: **Date and Signature of Close-out:**

Annex 5: Summary of Existing Infrastructure

B1. EXISTING INFRASTRUCTURE

This Annex of the ESMP describes existing infrastructure and relevant baseline conditions.

B1.1. Civil Works Infrastructure and cables

B1.1.1. Majuro

B1.1.1.1. Copper network

NTA's copper network is buried approximately 3 feet[23] underground, with pedestals installed along the streets to connect the copper wires to the customers' access drop wires, which are also buried.

The network is buried in a typically urban environment under predominantly hard surfaces.

There is corrosion in many areas where the copper is exposed. This is particularly the case inside many pedestals, which are very often damaged, as their external structure is fragile and exposed to shocks (see Figure 10**Error! Reference source not found.**).

Figure 10 - Examples of Copper network condition in Majuro

There also appear to be waterproofing issues with respect to some copper cables as service disruptions occur during heavy rain;

B1.1.1.2. Fiber cables

The Fiber Cable Network extends from Rita to Laura over 31 miles, with 8 nodes in between.

The original fiber cable was directly buried in the ground and was installed in 1990-1991. Limited information is available regarding the quality of the cable or number of splices due to cable cuts, which result in signal attenuation, but the quality of the cable is apparently still considered good, as NTA

[23] Confirmed by NTA CEO

envisaged upgrading it with WDM equipment. However, the number of fiber pairs on the main link between Delap and Laura is a limiting factor, given that there are only four pairs which are mostly used.

All main NTA sites are connected by fiber, and there is optical fiber connectivity to almost all Government buildings and to the major enterprise customers.

B1.1.1.3. Ebeye

In Ebeye only a copper network has been deployed, with no fiber. A 5-6 mile undersea fiber cable has been deployed between Kwajalein and Ebeye.

B1.2. Other islands

There are no ducts or cables on the other RMI islands.

B1.3. Buildings

NTA has three types of buildings:

- Central office, a concrete building with offices and all types of equipment;
- Old, prefabricated buildings provided by Nortel under a turnkey contract;
- Various sites built using traditional concrete;

All sites have towers for microwave or mobile equipment.

B1.3.1. NTA Central Office (Delap)

NTA's central office in Majuro hosts all NTA offices, technical rooms, storage and a garage for equipment repairs.

The technical rooms host all network equipment types:

- Main Distribution Frame;
- Voice switch;
- DSL equipment;
- Mobile Core (2G and 4G/LTE);
- Core transmission Network;
- Also deployed in NTA's Delap site are:
- Cable Station of the Submarine system;
- Two Satellite antennas;

The main technical rooms in the building are the main transmission room, one room for mobile network equipment, one IT Room and the submarine cable station. The transmission room is very crowded with a lot of equipment which will be decommissioned soon, after which NTA intends to completely reorganize the room:

The Nortel DMS switch is a traditional voice switch, which dates from the 1990s. This equipment takes a lot of space and uses a lot of power.

B1.3.2. HANTRU-1 Cable Station (Delap)

The Submarine Cable Station, located on the ground floor of an adjacent building, comprises two rooms:

- The main room which hosts the submarine system equipment (PFE and SLTE) provided by Tyco, together with the transmission equipment (Ciena) to connect to domestic networks;
- The second room which hosts the power equipment, and has been directly equipped by NTA;

Both rooms are equipped with air conditioning and anti-fire systems and are well maintained.:

The transmission room door shows signs of corrosion: if nothing is done and the corrosion increases, this door will have to be replaced.

B1.3.3. Nortel prefabricated shelters

These buildings are almost 30 years old and have not aged well; internal insulation is damaged, roof leakages, etc. They were provided to install the remote equipment for the original telephone network (See Figure 11).

Laura·shelter¤

External· wall· (Airport· node)¤

¤

¤

Damaged·internal·insulation¤

Damaged·roof¤

Leakage·issues¤

Figure 11 - Examples of condition of Nortel Prefabricated Shelters

B1.3.4. Others (Majuro)

The other sites are built in a traditional way and will therefore last long with proper maintenance (see Figure 12).

Figure 12 - Examples of traditional NTA buildings on Majuro. Rita building on the left and Ajeltake node on the right.

B1.3.5. Towers

All towers are damaged by corrosion due to ocean salt and will need corrective maintenance (replacement of iron pieces like bolts for example) or possibly complete replacement (See Figure 13). An inspection in 2017/18 has shown a high level of damage. It is understood that several towers have received either preventive maintenance or replacement over the last two years.[24]

Figure 13 - Condition of Majuro Towers 2017/8

B1.3.6. Buildings on Other Islands

There are few buildings on the other islands and limited information on these buildings is available at this stage.

[24] Baseline Assessment of NTA Existing Fixed and Mobile Networks / Infrastructure, Business and Future Needs - draft technical assessment report by Jan van Rees dated December 1, 2017.

B1.4. Copper Broadband Network

Most of the homes in Majuro are passed by copper. However, the copper network has been damaged and parts have been exposed to the elements. The corrosion creates many faults and requires extensive human resources for maintenance, with associated OPEX expenses.

The copper broadband technology (DSLAMs) are equipped with modern ADSL2+ and VDSL2 cards, and are connected by fiber. The technology is capable of high speeds but speed performance is affected by distance from the serving telephone exchange and the condition of the copper network. The NTA network is in poor condition and the copper distances are optimized for voice delivery rather than broadband. NTA management have decided to limit the speed of all customers[25] so that every customer gets the same service outcome.

B1.5. Voice Network

The traditional telephone equipment that provides the traditional telephone service (PSTN) is a Nortel DMS Switch, deployed with the copper network circa 1990 (see Figure 14). The equipment is robust, but old, requires a lot of space and uses a large amount of power (both in NTA's Central Office and remote sites).

Figure 14 - Existing Nortel telephone exchange and equipment. The left is the copper termination in the main NTA building, the right is an example of the equipment in the remote sites of Airport and Laura.

As of 2018, less than 700 residential customers and 1,300 business customers still use the NTA PSTN network.

Decommissioning this equipment would save a substantial amount of power and liberate significant space to reorganize the technical rooms.

B1.6. Mobile Network

[25] As per comments from NTA CEO 22 October 2020 with consultants.

B1.6.1. 2G Network

The 2G network is based is in the 900 MHz band. This is a traditional mobile phone deployment, with large antennas on high towers. The combination of height and low frequency provides the longest range with 8 Base Stations in Majuro and 2 in Ebeye.

There are 4 sites in Jaluit, Kili, Rongelap and Wotje;

B1.6.2. 4G/LTE Network

The 4G/LTE network was deployed in 2017. Additional sites will be needed to provide more coverage and additional LTE cell sites have been planned.

The original deployment is in the 700MHz band. Like the 2G network, this low band gives good long range coverage but has large antennas. These antennas are placed on the same towers as the 2G network.

B1.7. TV Network

The TV network is a DVB-T wireless broadcast TV system, with equipment located in Rita, and permits the distribution/resale of satellite television services from various channels (Figure 15). This service is only available on Majuro island, with almost all channels being international channels, except local broadcasting of mainly sessions of RMI Parliament.

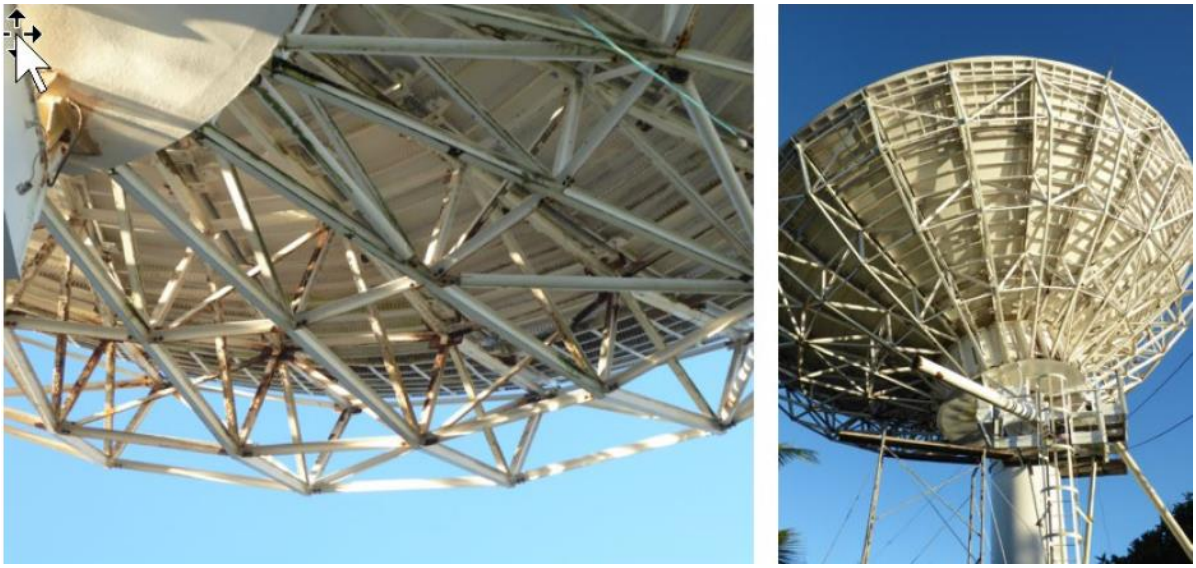


Figure 15 - Satellite receiving dishes used for TV Network. These large dishes are shown in 2018 showing signs of corrosion.

B1.8. Wi-Fi Network

NTA has deployed a network of Wi-Fi Access Points in Majuro and Ebeye. These provide good service with coverage only around the immediate location. The access points are each small, low power and have limited range (Figure 16 and Figure 17).

Figure 16 - Locations of NTA WiFi network in Majuro

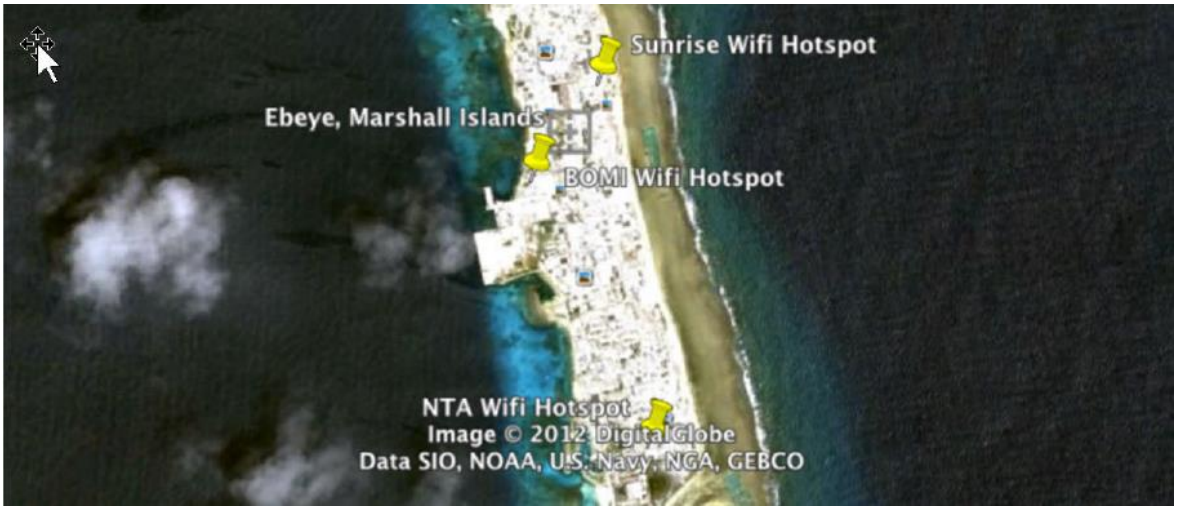


Figure 17 - Locations of NTA WiFi network in Ebeye

B1.9. High Frequency Radio Service

NTA operates an HF (High Frequency) radio service from Majuro to most of the remote islands. The HF Radio provides a last stage backup to ensure communication to the other islands of RMI. There are dedicated HF towers and antennas in Majuro and in each of the neighboring islands (Figure 18).

Figure 18 - HF Radio antenna on Majuro

B1.10. Satellite Services

B1.10.1. Existing Satellite Service

NTA utilizes Intelsat services to connect to Majuro to 4 neighboring islands: Jalut, Kili, Rongelap and Wotje for mobile services.

There are another 40 remote tele-centers (some islands have more than one tele-center) that are also connected to Majuro. Each site has access to:

- 2 telephone lines
- fax line
- 128 kbps / 32 kbps internet service

The satellite service is reliable, but the operation and maintenance of the remote sites has some issues, as there are no local human resources which are trained to fix technical issues (such as repointing of the antenna for example) and traveling times to and between islands are very long.

Figure 19 - Example of existing DAMA Satellite infrastructure in Ailinglaplap.

B1.10.2. Intelsat Contracted Services – Starting 2020

To address the lifecycle issues with the existing Satellite services and provide a significantly enhanced level of service, NTA has entered into a contract with Intelsat.

B1.11. International Infrastructure

B1.11.1. System description

RMI is connected to HANTRU-1 cable through two landing points: Majuro and Kwajalein (Ebeye) (Figure 20

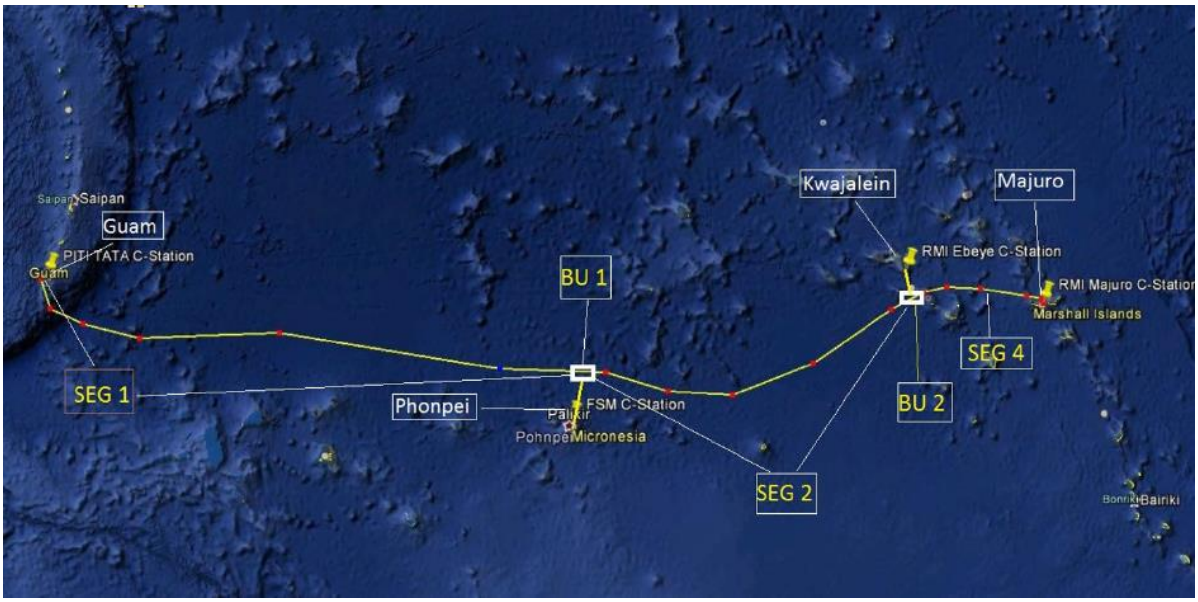


Figure 20 - Hantru Cable System

The cable system is owned by the US Army and the terminating points are Guam and Kwajalein. The system is composed of:

- One dedicated fiber pair between Kwajalein and Guam for the US Army only use;
- One fiber pair with wavelength dropping in the BUs accessed by FSM (Pohnpei) and RMI;
- Ebeye is connected to Kwajalein through an old short un-repeatered subsea fiber cable;
- RMI has 8 wavelengths for its use, connecting Guam to Majuro and Guam to Ebeye (2 wavelengths), with a current installed capacity of:
  - One 10G wavelength between Guam and Majuro
  - One 10G wavelength between Guam and Ebeye

NTA is considering the possibility of upgrading to 100G wavelengths between Guam and Majuro. This would provide sufficient capacity for the expected life of the cable system.

As of 2018 The articulated pipes on the landing itself show a high level of erosion, probably due to the friction of boulders which are at the waterfront. In addition, there are some cable suspensions as the cable is laid on top of large rocks (Figure 21).

Figure 21 - Articulated Pipes at the landing, showing high erosion and cable in suspension

Annex 6: Fiber in Majuro and Ebeye

Underground vs Overhead Considerations

The preferred approach from a technical and resilience perspective will be to bury the fiber networks underground like the existing copper networks. This will increase the cost but will provide enhanced reliability, better survivability in terms of storms and provide less visual pollution.

However, building a new network in an existing, heavily urbanized environment found in both Majuro and Ebeye has many challenges (Figure 22 and Figure 23). The existing copper network is direct buried. This means that there are no ducts that could be reused to support fiber cables. New holes in the ground need to be created to put the new cable in and new pathways to the existing homes and businesses need to be created. This will be a significant undertaking.

Figure 22 - Much of Majuro is an urban environment with hard surfaces that will require digging and reinstatement to both install the communal network and the individual connection to each home or business.

Figure 23 - The more limited space available in Ebeye will make construction more challenging. Hard surfaces will all require reinstatement. Picture shows an example of existing underground infrastructure installation or repair.

The best solution will be to use Microducts and Microtrenching technology (Figure 24). This involves using specialist machinery to cut a narrow slot in the existing hard surface and then placing a flexible duct for the fiber cables inside it.

Microducts require a narrow trench (approx. 65mm for a ~40mm duct) that can carry ducts for both access and core transport. Microducts are semi flexible, this means that they can follow curves which when combined with the micro trenching means a far quicker process compared to traditional 100mm HDPE ducting and either drilling or backhoe.

The full process, including ground penetrating radar, back office analysis of the radar images and marking out has become well developed and very efficient compared to traditional approaches.

Hard surfaces are reinstated with a one pass mortar which is both quick and strong.

A factor in deciding the approach will be around what reinstatement standards are required. Much of the observed infrastructure in the urban areas (e.g. footpaths) were in distressed condition, reinstating them to as new condition would broaden the scope of the project significantly. Equally there were areas with near new infrastructure and what is deemed acceptable to reinstate these surfaces may be different.

Reinstatement issues and standards for underground work in both public and private spaces is a key influencer on costs. Disputes between the network builder and road or footpath owners is the biggest risk to underground project delivery and can stop a build in mid progress at considerable expense.

Figure 24- Marais Sidecut SC3C is an example of a microtenching technology. It can achieve 500m per day in a wide range of terrain. 200km of fiber optics has been deployed in New Zealand by Marais to date. This equipment would be suitable for both Majuro and Ebeye environments.

A small crew using two machines and appropriate spares in country could easily complete RMI build requirements.

13.1.1.1. Flexible ducts for fiber allow future flexibility

Best practice would be to use flexible microducts (Figure 25). These are both quick to deploy (like direct buried cable) but flexible like ducts in that they allow fibers to be removed at a later date an upgraded to higher fiber count cables.

Figure 25 - Hexatronic Tight Protected Microduct products as examples. .On the left are the Ribbonet products with the larger duct having 26 5/3.5mm ducts for individual premises and a single 12/10mm duct for feeder or core fiber. The overall duct is 38mm in diameter resulting in a low impact installation compared to traditional ducting. The drum on the right is a 500m drum of

single ruggedized Microduct. This product can be shallow buried, attached to walls, fences or other structure and used for connecting individual homes or villages to the main duct. The smallest tubes support airblown fiber units between 2 to 24 fibers, the 12/10mm up to 192 fibers.

13.1.1.2. Aerial fiber may be the most practical

Both Majuro and Ebeye are challenging environments to build underground infrastructure. This comes from both placing the main network along the streets and in connecting to each premises. An aerial solution where the cables are placed on the existing power lines may be more achievable (Figure 26).

Modern fiber can be placed close to power lines as the cables contain no metallic strength members and can be more visually acceptable than previous generation Cable TV or early fiber deployments.

Figure 26 - Example of aerial deployment in New Zealand. Fiber cable highlighted in yellow. It is much closer to the power infrastructure than traditional deployments and the cable size and form is almost identical to the low voltage mains distribution network.. This allows a common path through any foliage and reduces the visual impact.