



**UGANDA
COMMUNICATIONS
COMMISSION**

**HEALTH, SAFETY AND
ENVIRONMENT
(HSE) REPORTING AND COMPLIANCE
FRAMEWORK
For the Communications Sector**

*A sector framework for integrating health, safety, environmental protection,
climate responsibility and sustainability into communications regulation.*

Table of Contents

PART I: PRELIMINARY PROVISIONS	6
1. Purpose and Rationale	6
2. Objectives of the Framework	6
3. Guiding Principles.....	7
4. Definitions and Interpretation	8
PART II: LEGAL, REGULATORY AND STANDARDS BASIS.....	10
5. Legal and Regulatory Basis.....	10
6. Relationship with Other Applicable Laws	10
7. Regulatory Application of the Framework by UCC.....	11
8. UCC Regulatory Instruments	11
9. International and Regional Standards, Guidelines and Good Practice	12
10. Application of Standards.....	12
11. Regulatory Complementarity and Non-Duplication.....	12
12. Compliance Status of the Framework	13
PART III: SCOPE AND APPLICABILITY	13
13. General Scope of Application.....	13
14. Operators Covered by the Framework.....	13
15. Infrastructure, Facilities and Activities Covered	14
16. Lifecycle Coverage	14
17. HSE Matters Covered	15
18. Environmental and Emissions Scope	15
19. Geographic Scope	16
20. Risk-Based and Proportionate Application	16
21. Applicability by Operator Type	17
22. Contractors, Suppliers and Third Parties	17
23. Interface with Other Regulatory or Statutory Requirements	18
PART IV: HSE COMPLIANCE DOMAINS AND OPERATOR OBLIGATIONS	18
24. General Duty of Operators.....	18
25. Accountability in Contractor, Outsourced and Shared Infrastructure Arrangements.....	18
26. Classification of HSE Obligations	19
27. Applicability of Obligation Categories to HSE Domains	20

28. HSE Domains	21
28.1 HSE Management System, Leadership and Competence.....	21
28.2 Occupational Health and Safety in Construction, Operation and	22
28.3 Emergency Preparedness and Incident Response	22
28.4 Community Health, Safety and Public Protection	23
28.5 RF-EMF Safety and Public Protection.....	23
28.6 Pollution Prevention and Environmental Protection	24
28.7 Hazardous Materials and Waste Management	24
28.8 Noise, Dust and Local Nuisance Management	25
28.9 Land Use, Biodiversity and Site Restoration.....	25
28.10 Decommissioning and End-of-Life Management.....	26
28.11 Energy Management and Efficiency.....	26
28.12 Greenhouse Gas Emissions Accounting and Reduction	27
28.13 Circular Economy and E-Waste Lifecycle Management	28
28.14 Value Chain, Supply Chain and Contractor HSE Controls	29
28.15 Data Centres, Switching Facilities and High-Density ICT Sites	30
28.16 Emerging Technologies and Future HSE Risk.....	30
29. Stakeholder Engagement, Awareness and Grievance Management	31
PART V: REPORTING, RECORDS AND EVIDENCE REQUIREMENTS	32
30. General Reporting Obligation	32
31. Annual HSE Compliance and Performance Report.....	33
32. Periodic and Thematic Reporting	33
33. Incident Reporting	34
34. Corrective Action Reporting.....	34
35. Minimum Compliance Evidence.....	35
36. Record-Keeping Requirements	35
37. Data Quality and Internal Assurance.....	36
38. Reporting by Operator Category.....	36
39. Reporting Templates and Compliance Schedules	37
PART VI: VERIFICATION, COMPLIANCE ASSESSMENT AND REGULATORY ACTION.	37
40. Purpose of Verification and Compliance Assessment.....	37
41. Verification and Assurance Tools.....	38
42. Risk-Based Verification	38

43. Field Inspections and Site Assessments	39
44. Technical Measurements and Specialist Assessments.....	39
45. Independent Assurance.....	40
46. Compliance Assessment.....	40
47. Compliance Classification.....	41
48. Corrective Action Requirements.....	41
49. Regulatory Responses and Enforcement Measures.....	42
50. Escalation of Regulatory Action	42
51. Recognition of Good Performance	43
52. Coordination with Other Competent Authorities	43
53. Due Process and Operator Response	43
PART VII: GOVERNANCE, ROLES AND INSTITUTIONAL COORDINATION.....	44
54. Purpose of Governance and Coordination Arrangements	44
55. Role of UCC.....	44
56. Role of Licensed Operators	45
57. Role of Relevant Government Agencies	45
58. Role of Local Authorities	46
59. Role of Contractors, Suppliers and Managed Service Providers.....	46
60. Role of Infrastructure Owners and Shared Infrastructure Providers	47
61. Role of Communities and the Public	47
62. Internal Coordination within UCC	47
63. Sector Coordination and Consultation.....	48
64. Information Sharing and Confidentiality	48
65. Governance Review and Improvement	49
PART VIII: PHASED IMPLEMENTATION, REVIEW AND CONTINUOUS IMPROVEMENT	49
66. Purpose of Phased Implementation	49
67. Immediate Implementation Requirements.....	49
68. Phased and Progressive Obligations	50
69. Implementation Guidance, Templates and Schedules	50
70. Transitional Arrangements	51
71. Baseline Assessment and Sector Risk Profiling	51
72. Continuous Improvement by Operators.....	52

73. Review of the Framework52

74. Sector Learning and Capacity Building.....52

75. Innovation and Good Practice53

76. Commencement and Review Cycle53

PART I: PRELIMINARY PROVISIONS

1. Purpose and Rationale

Uganda's communications sector is a critical foundation for national development. Telecommunications, broadcasting, data services and related digital infrastructure now support economic activity, public service delivery, education, healthcare, security, innovation and regional integration.

As the sector continues to grow, its health, safety and environmental footprint is also expanding. Communications infrastructure affects land use, energy consumption, public safety, community wellbeing, waste generation, electromagnetic field exposure, resource use and environmental quality. These impacts arise throughout the lifecycle of infrastructure and services, including planning, deployment, operation, maintenance, upgrade, decommissioning and end-of-life management.

The Uganda Communications Commission (UCC) therefore establishes this Health, Safety and Environment (HSE) Framework to provide a structured regulatory basis for integrating health, safety, environmental protection and sustainability considerations into the governance of the communications sector.

The framework gives practical effect to existing statutory, regulatory and license obligations relating to health, safety and environmental compliance. It also supports a more consistent, measurable and evidence-based approach to operator reporting, regulatory verification, compliance assessment and enforcement.

The framework recognizes that responsible sector growth is not limited to service expansion. It also requires the safe deployment of infrastructure, responsible energy use, effective pollution prevention, sound management of electronic waste, protection of workers and communities, transparent handling of Radio Frequency Electromagnetic Fields (RF-EMF) human exposure concerns, climate-conscious operations, and progressive improvement in environmental performance.

Through this framework, UCC seeks to ensure that the development of Uganda's communications sector remains safe, resilient, sustainable and aligned with the public interest.

2. Objectives of the Framework

The objectives of this framework are to:

- i. Establish clear health, safety and environmental obligations for licensed communications sector operators;
- ii. Integrate HSE considerations into licensing, type approval, infrastructure deployment, infrastructure sharing, compliance monitoring and other relevant regulatory processes;
- iii. Promote safe planning, deployment, operation, maintenance, upgrade and decommissioning of communications infrastructure;

- iv. Protect workers, contractors, communities and the public from health and safety risks associated with communications infrastructure and services;
- v. Support responsible environmental management, including pollution prevention, hazardous materials control, site restoration, energy efficiency, greenhouse gas (GHG) emissions reporting and electronic waste(e-waste) management;
- vi. Strengthen operator accountability through structured reporting, auditable records and evidence-based compliance assessment;
- vii. Support coordination between UCC, licensed operators and relevant government agencies on HSE matters within the communications sector;
- viii. Promote responsible consumption, circular economy practices and sustainable management of ICT equipment and devices;
- ix. Strengthen public confidence in communications infrastructure through transparent, science-based and consistent regulatory oversight; and
- x. Support continuous improvement in the sector's health, safety, environmental and sustainability performance.

3. Guiding Principles

Implementation of this framework shall be guided by the following principles:

3.1 Public interest and safety - Communications infrastructure and services shall be planned, deployed, operated and decommissioned in a manner that safeguards workers, contractors, consumers, communities the general public and future generations.

3.2 Environmental responsibility - Licensed operators shall prevent, minimize and manage adverse environmental impacts arising from their infrastructure, operations, equipment, services and associated value chains.

3.3 Lifecycle accountability - HSE obligations shall apply across the lifecycle of communications infrastructure and equipment, including planning, procurement, deployment, operation, maintenance, upgrade, decommissioning, disposal and site restoration.

3.4 Evidence-based regulation - Regulatory decisions under this framework shall be informed by credible data, auditable records, technical assessments, inspections, measurements and other verifiable evidence.

3.5 Risk-based implementation - UCC may apply different levels of reporting, verification and regulatory oversight based on the nature, scale, risk profile and operational footprint of the operator, facility, infrastructure or activity concerned.

3.6 Polluter pays and corrective responsibility - Operators shall be responsible for preventing, mitigating, remedying or supporting the remediation of HSE impacts arising from their operations, infrastructure, contractors or controlled activities, in accordance with applicable law.

3.7 Coordination and regulatory complementarity - This framework shall be implemented in a manner that respects the statutory mandates of other competent authorities, including those responsible for environmental protection, occupational

safety and health, land use, waste management, climate change and local government administration.

3.8 Progressive improvement - Operators shall demonstrate continuous improvement in HSE performance, including through better systems, improved data quality, safer operations, cleaner technologies, efficient energy use, circular economy practices and stronger public engagement.

4. Definitions and Interpretation

For the purposes of this framework, unless the context otherwise requires:

“Commission” or “UCC” means the Uganda Communications Commission.

“communications infrastructure” means any physical, electronic, electrical, civil, passive or active infrastructure used for the provision of communications services, including towers, masts, rooftops, base stations, broadcasting sites, transmission facilities, switching facilities, data centres, ducts, fibre infrastructure, power systems and associated facilities.

“communications sector operator” means a person licensed, authorized or regulated by UCC to provide communications services, communications infrastructure, broadcasting services, telecommunications services, postal services, data services or related regulated services.

“contractor” means any person engaged by an operator to perform works or provide services related to the planning, construction, installation, operation, maintenance, upgrade, decommissioning, transport, storage or disposal of communications infrastructure, equipment or materials.

“corrective action” means any measure required to remedy, mitigate, prevent recurrence of, or otherwise address an identified HSE non-compliance, deficiency, incident or risk.

“decommissioning” means the planned shutdown, removal, dismantling, transfer, disposal or restoration process associated with infrastructure, equipment, facilities or sites that are no longer required for operation.

“electronic waste” or “e-waste” means discarded, obsolete, non-functional or end-of-life electrical or electronic equipment, components, accessories or devices arising from communications sector activities or products.

“environmental management” means the planning, implementation, monitoring and improvement of measures to prevent, reduce, control or remedy adverse impacts on air, land, water, biodiversity, natural resources and communities.

“greenhouse gas emissions” or “GHG emissions” means emissions of gases that contribute to climate change, including carbon dioxide, methane, nitrous oxide and other relevant gases, expressed where applicable in tonnes of carbon dioxide equivalent.

“hazardous materials” means substances, materials, equipment, wastes or components that may pose risks to human health, safety or the environment, including fuels, oils, chemicals, batteries, refrigerants and contaminated materials.

“health, safety and environment” or “HSE” means the integrated management of occupational health and safety, community health and safety, public safety, environmental protection, pollution prevention, waste management, energy use, climate-related impacts and related sustainability matters within the communications sector.

“incident” means an unplanned event, occurrence or condition that has caused, or has the potential to cause, harm to people, infrastructure, services, communities or the environment.

“licensed operator” or “operator” means a person holding a license, authorization or approval issued by UCC under the applicable communications laws and regulations.

“major HSE incident” means an incident that results in death, serious injury, significant environmental harm, major service-impacting safety risk, fire, explosion, hazardous material release, major community impact or any other event that UCC may classify as significant.

“polluter pays responsibility” means that a licensed communications sector operator is responsible for preventing, reducing, correcting, or supporting the remediation of any health, safety or environmental harm arising from its infrastructure, operations, equipment, contractors, suppliers, or activities under its control. The cost of managing such impacts should be borne by the responsible operator and not transferred to communities, the public, government, or other regulators.

“RF-EMF” means radiofrequency electromagnetic fields generated by radio communications equipment, infrastructure or services.

“site restoration” means the process of returning a site affected by communications infrastructure or activities to a safe, stable and environmentally acceptable condition after construction, modification, closure or decommissioning.

“Scope 1 emissions” means direct greenhouse gas emissions from sources owned or controlled by an operator.

“Scope 2 emissions” means indirect greenhouse gas emissions associated with the purchase or consumption of electricity, heat, steam or cooling by an operator.

“Scope 3 emissions” means other indirect greenhouse gas emissions occurring in an operator’s value chain, including emissions related to purchased goods and services, capital goods, transport, waste, use of sold products and end-of-life treatment, where applicable.

“supplier” means a person or entity that provides goods, equipment, materials, devices, infrastructure components, software, energy systems or other inputs used in the communications sector.

“value chain” means the full range of activities, inputs, suppliers, contractors, users, equipment, infrastructure and end-of-life processes associated with the provision of communications services and infrastructure.

PART II: LEGAL, REGULATORY AND STANDARDS BASIS

5. Legal and Regulatory Basis

This framework is issued pursuant to the mandate of UCC to regulate the communications sector in Uganda and to ensure that licensed operators comply with applicable laws, regulations, license conditions, technical standards, consumer protection requirements and other regulatory obligations.

The framework gives operational effect to the health, safety, environmental and sustainability-related obligations applicable to licensed operators under the communications regulatory framework, including obligations arising from licenses, authorizations, approvals, directives, guidelines and other regulatory instruments issued by the Commission.

Compliance with this framework shall form part of the regulatory obligations of licensed operators and may be considered by the Commission in licensing, license renewal, license modification, type approval, infrastructure deployment approvals, infrastructure sharing, compliance monitoring, enforcement and other regulatory processes.

6. Relationship with Other Applicable Laws

This framework shall be implemented in accordance with applicable laws, regulations, policies and institutional mandates relating to environmental protection, occupational safety and health, waste management, climate change, land use, local government administration, public health and infrastructure development.

Without limiting the generality of the foregoing, this framework shall be read together with the following national legal and policy instruments, as may be amended from time to time:

- i. the Uganda Communications Act, Cap. 103, and regulations made thereunder;
- ii. the National Environment Act, Cap. 181, and regulations made thereunder;
- iii. the Environmental and Social Impact Assessment Regulations, 2020;
- iv. the National Environment (Waste Management) Regulations, 2020;
- v. the National Waste Management Policy, 2026;
- vi. the E-Waste Management Policy of Uganda, 2012;
- vii. the Occupational Safety and Health Act, Cap. 220;
- viii. the National Climate Change Act, 2021;
- ix. applicable land use, construction, physical planning and local government requirements; and
- x. any other relevant law, policy, regulation, license condition, approval, permit or directive applicable to the communications sector.

Where an operator is required to obtain approvals, permits, licenses, certificates or clearances from another competent authority, compliance with this framework shall not exempt the operator from obtaining or maintaining such approval, permit, license, certificate or clearance.

7. Regulatory Application of the Framework by UCC

The Commission shall apply this framework as part of its regulation of the communications sector, including in licensing, type approval, infrastructure approvals, infrastructure sharing, compliance monitoring, inspections, audits, RF-EMF compliance assessment, consumer protection, public awareness, license renewal and enforcement processes.

In applying this framework, the Commission shall not replace the statutory mandates of other competent authorities responsible for environmental management, occupational safety and health, waste management, land use, public health, climate change or local government administration. However, the Commission may require licensed operators to demonstrate compliance with applicable HSE-related requirements as part of their regulatory obligations under the communications sector framework.

Where an HSE matter falls within the mandate of another competent authority, the Commission may consult, coordinate, share information or refer the matter to that authority, as appropriate.

8. UCC Regulatory Instruments

- i. This framework shall be implemented together with applicable UCC regulatory instruments, including:
- ii. UCC licensing frameworks, license conditions and authorization requirements;
- iii. UCC type approval regulations, procedures and technical requirements;
- iv. UCC infrastructure sharing regulations and guidelines;
- v. UCC infrastructure deployment approval procedures, where applicable;
- vi. UCC guidelines for the assessment of RF-EMF exposure from communications infrastructure and services;
- vii. UCC quality of service, coverage, resilience and compliance monitoring frameworks, where applicable;
- viii. UCC consumer protection, complaints handling and public awareness mechanisms, where applicable; and
- ix. any other applicable directive, guideline, circular, determination, approval condition or regulatory requirement issued by the Commission.

Where there is a specific UCC technical guideline or procedure governing a particular HSE matter, the operator shall comply with that specific instrument in addition to this framework.

9. International and Regional Standards, Guidelines and Good Practice

This framework is informed by relevant international and regional standards, recommendations, guidelines and good industry practice applicable to communications infrastructure, services, equipment, environmental management, occupational safety, RF-EMF exposure, energy efficiency, greenhouse gas accounting and electronic waste management. These include, where applicable:

- i. ICNIRP Guidelines for limiting exposure to electromagnetic fields;
- ii. ITU-T Recommendations relating to RF-EMF exposure, human exposure assessment, green ICTs, energy efficiency, circular economy, e-waste management and data centre sustainability, including relevant K-Series and L-Series Recommendations;
- iii. ISO 14001 on environmental management systems;
- iv. ISO 14064 on greenhouse gas accounting and reporting;
- v. ISO 14067 on product carbon footprinting, where applicable;
- vi. ISO 50001 on energy management systems;
- vii. the Basel Convention and related guidance on hazardous waste and e-waste management;
- viii. relevant African regional frameworks, standards or guidelines on environmental protection, ICT sustainability, infrastructure safety and climate action; and
- ix. other relevant international standards or good industry practice recognized or adopted by the Commission.

10. Application of Standards

The standards, guidelines and recommendations referenced under this framework shall be applied in a manner that is proportionate, practical and relevant to the nature, scale and risk profile of the operator, facility, infrastructure, service, device or activity concerned.

Where UCC has prescribed a specific national requirement, methodology, threshold, reporting format or compliance procedure, that national requirement shall take precedence for purposes of regulatory compliance under this framework.

Where no specific national requirement has been prescribed, the Commission may rely on applicable international standards, recognized good industry practice, expert technical assessment, or guidance from competent national, regional or international bodies.

11. Regulatory Complementarity and Non-Duplication

This framework does not replace the statutory mandates of other competent authorities responsible for environmental management, occupational safety and health, waste management, climate change, land use, public health, construction permitting or local government administration.

The framework is intended to support regulatory complementarity by ensuring that HSE obligations relevant to the communications sector are systematically incorporated into UCC's licensing, approval, monitoring and compliance processes.

Where appropriate, UCC may require operators to submit evidence of compliance with obligations administered by other competent authorities, including environmental approvals, environmental audits, occupational safety records, waste disposal records, construction approvals, site restoration evidence or other relevant documentation.

12. Compliance Status of the Framework

Compliance with this framework, including any reporting, evidence, corrective action or implementation requirements issued under it, shall form part of an operator's regulatory obligations under the applicable communications sector framework.

Failure to comply with this framework may be considered by the Commission in compliance assessment, license renewal, license modification, infrastructure approvals, enforcement decisions and any other regulatory process within the Commission's mandate.

Any regulatory action arising from non-compliance shall be taken in accordance with applicable law, license conditions, due process, and the nature, severity, recurrence and risk profile of the non-compliance.

PART III: SCOPE AND APPLICABILITY

13. General Scope of Application

This framework applies to licensed communications sector operators, infrastructure, facilities, equipment, services and related activities that fall within the regulatory mandate of UCC.

The framework applies to health, safety and environmental matters arising from the planning, deployment, installation, operation, maintenance, upgrade, modification, sharing, transfer, decommissioning, removal, disposal and restoration of communications infrastructure, facilities, equipment and related services.

For the avoidance of doubt, the framework applies to both routine operations and event-triggered activities, including major infrastructure deployment, site modification, site closure, technology upgrade, decommissioning, equipment replacement, incident response and end-of-life management.

14. Operators Covered by the Framework

This framework applies, where relevant, to all persons licensed, authorized or regulated by the Commission, including:

- i. NTOs
- ii. Public service providers;
- iii. Public infrastructure providers;

- iv. Broadcasting service providers and Broadcasting infrastructure operators;
- v. Internet Service Providers;
- vi. Data centre operators and operators of major switching or high-density ICT facilities, where licensed or regulated by UCC;
- vii. Mobile Virtual Network operators, to the extent applicable to their operations, service arrangements and contractual responsibilities;
- viii. Providers or importers of communications equipment, devices, customer premises equipment and related regulated products, where applicable under type approval, market access or other UCC processes;
- ix. any other operator, licensee, authorization holder or regulated entity whose activities may give rise to health, safety or environmental obligations within the communications sector.

The obligations under this framework shall apply in a proportionate manner, having regard to the nature of the license, the scale of operations, the type of infrastructure, the level of operational control, and the HSE risk profile of the operator or activity concerned.

15. Infrastructure, Facilities and Activities Covered

This framework applies to communications infrastructure, facilities and associated installations, including:

- i. Towers, masts, poles, rooftop sites and antenna support structures;
- ii. Base stations, radio access network sites, transmission sites and repeater sites;
- iii. Broadcasting transmission sites, studios, transmission facilities and associated technical installations;
- iv. Data centres, switching centres, network operation centres, server rooms and other high-density ICT facilities;
- v. Fibre optic infrastructure, ducts, trenches, cabinets, landing or aggregation points, distribution points and related civil works;
- vi. Satellite communications facilities, earth stations, gateways and related installations, where applicable;
- vii. Power systems, generators, fuel storage facilities, battery systems, solar systems, hybrid energy systems and associated electrical installations;
- viii. Customer premises equipment, network equipment, terminals, devices, peripherals and related communications equipment placed on the Ugandan market, where applicable;
- ix. Decommissioned, obsolete, damaged, redundant or end-of-life communications infrastructure, equipment and materials; and
- x. Any other infrastructure, facility, equipment, installation or activity that UCC may determine to be relevant for purposes of HSE compliance within the communications sector.

16. Lifecycle Coverage

The obligations under this framework apply across the full lifecycle of communications infrastructure, equipment and facilities, including:

- i. Planning and site selection;
- ii. Procurement and acquisition of equipment, materials and services;
- iii. Importation, type approval and market entry of regulated equipment and devices;
- iv. Construction, installation and commissioning;
- v. Operation and maintenance;
- vi. Infrastructure sharing, co-location and site access arrangements;
- vii. Network upgrades, technology migration and equipment replacement;
- viii. Incident response, emergency management and corrective action;
- ix. Closure, decommissioning, dismantling and removal; and
- x. End-of-life management, disposal, recycling, recovery and site restoration.

This lifecycle approach is intended to ensure that HSE responsibilities are not limited to the point of deployment or operation but extend to the manner in which infrastructure and equipment are acquired, used, maintained, modified and retired.

17. HSE Matters Covered

This framework applies to Health, Safety and Environmental matters relevant to the communications sector, including:

- i. Occupational health and safety for employees, contractors and field teams;
- ii. Community health, public safety and site access safety;
- iii. Structural safety and safe operation of communications infrastructure;
- iv. RF-EMF exposure assessment, compliance and public protection;
- v. Fire safety, battery safety, electrical safety and emergency preparedness;
- vi. Pollution prevention and control, including prevention of soil, air, water and noise pollution;
- vii. Management of fuels, oils, chemicals, refrigerants, batteries and other hazardous materials;
- viii. Waste management, including hazardous waste, electronic waste and end-of-life communications equipment;
- ix. Land use, biodiversity, drainage, erosion control, site restoration and decommissioning impacts;
- x. Energy consumption, energy efficiency, renewable and hybrid energy use;
- xi. Greenhouse gas emissions accounting, reporting and reduction;
- xii. Circular economy, responsible consumption, reuse, repair, refurbishment, recovery and recycling;
- xiii. Supply chain and contractor HSE controls;
- xiv. Data centre, switching facility and high-density ICT site impacts; and
- xv. Stakeholder engagement, public awareness, grievance management and behaviour change.

18. Environmental and Emissions Scope

For environmental and climate-related reporting, this framework covers, where applicable:

- i. **Scope 1 emissions**, including direct emissions from fuel use, generators, vehicles, fugitive emissions and other sources owned or controlled by the operator;
- ii. **Scope 2 emissions**, including indirect emissions from purchased electricity or other purchased energy consumed by the operator; and
- iii. **Scope 3 emissions**, including relevant value-chain emissions, such as emissions associated with purchased goods and services, capital equipment, transport, waste, use of sold products, leased assets and end-of-life treatment of equipment and devices.

Scope 1 and Scope 2 reporting shall form part of the core reporting obligations, subject to the reporting templates and methodologies prescribed by UCC.

Scope 3 reporting shall be implemented progressively, taking into account data availability, supplier readiness, operator control, materiality, reporting maturity and any guidance issued by UCC.

19. Geographic Scope

This framework applies to communications sector activities throughout Uganda, including urban, peri-urban, rural, remote, border, island, lake, environmentally sensitive and hard-to-reach areas.

Operators shall take into account the specific HSE risks associated with the location and operating environment of their infrastructure and activities, including community proximity, terrain, climate exposure, environmental sensitivity, access constraints, security risks and emergency response limitations.

20. Risk-Based and Proportionate Application

The obligations under this framework shall be applied in a risk-based and proportionate manner.

In determining the applicable reporting, evidence, verification or compliance requirements, UCC may consider:

- i. The category of license or authorization held by the operator;
- ii. The scale and geographic footprint of the operator's network or facilities;
- iii. The type and number of infrastructure sites operated or controlled;
- iv. The nature and volume of hazardous materials, fuel, batteries, waste or e-waste handled;
- v. The level of direct operational control exercised by the operator;
- vi. The extent to which the operator uses contractors, suppliers or shared infrastructure;
- vii. The operator's history of HSE incidents, complaints, non-compliance or corrective action;
- viii. The proximity of infrastructure to communities, schools, health facilities, protected areas, water bodies or other sensitive receptors;
- ix. The energy intensity, emissions profile or environmental impact of the operator's facilities; and

- x. Any other risk factor that UCC considers relevant.

21. Applicability by Operator Type

Not all obligations under this framework shall apply in the same manner to all operators.

UCC may prescribe, through reporting templates, schedules, directives or implementation guidance, the specific obligations applicable to each operator category, including mobile network operators, infrastructure providers, broadcasters, internet service providers, datacentre operators, MVNOs, equipment providers and other regulated entities.

For example:

- i. Tower companies and infrastructure providers may carry more direct obligations relating to site safety, structural safety, land use, fuel storage, decommissioning, site restoration and contractor management;
- ii. Mobile network operators may carry obligations relating to RF-EMF compliance, energy use, GHG emissions, network equipment lifecycle, contractor safety, public awareness and e-waste partnerships;
- iii. Broadcasters may carry obligations relating to transmission site safety, RF-EMF compliance, tower safety, power systems, hazardous materials and site access control;
- iv. Data centre operators may carry obligations relating to energy efficiency, cooling systems, backup power, battery safety, fire suppression, water use, e-waste and operational resilience;
- v. Internet Service Providers may carry obligations relating to field works, customer premises equipment, fibre deployment, contractor safety, e-waste and service-related equipment lifecycle management;
- vi. MVNOs may carry obligations relating to contractual HSE controls, consumer equipment responsibilities, reporting of applicable value-chain impacts and evidence of HSE responsibilities under host network or service arrangements; and
- vii. Equipment suppliers, importers and distributors may carry obligations linked to type approval, device safety, hazardous materials restrictions, market access requirements, energy performance, consumer information and end-of-life responsibilities, where applicable.

22. Contractors, Suppliers and Third Parties

Operators shall ensure that contractors, suppliers and third parties engaged in activities covered by this framework comply with applicable HSE requirements.

The use of contractors, outsourced service providers, infrastructure sharing arrangements, managed services or third-party suppliers shall not relieve an operator of its regulatory responsibility to demonstrate compliance with applicable obligations under this framework, to the extent that the activity falls within the operator's license, approval, service arrangement, infrastructure control or operational responsibility.

Operators shall maintain appropriate contractual, supervisory, reporting and audit mechanisms to ensure that relevant HSE obligations are implemented by contractors, suppliers and third parties.

23. Interface with Other Regulatory or Statutory Requirements

Where an activity covered by this framework also requires approval, certification, permitting or oversight by another competent authority, the operator shall obtain and maintain the required approval, certification, permit or clearance.

UCC may require evidence of such approval, certification, permit or clearance as part of licensing, infrastructure approval, reporting, verification, inspection, compliance assessment or enforcement processes.

Compliance with this framework shall not exempt an operator from compliance with any other applicable law, regulation, permit, approval, standard or lawful requirement.

PART IV: HSE COMPLIANCE DOMAINS AND OPERATOR OBLIGATIONS

24. General Duty of Operators

- i. Licensed operators shall establish, implement and maintain appropriate HSE controls across their infrastructure, facilities, equipment, services, operations, contractors and related activities.
- ii. Operators shall identify, assess, manage, monitor and report HSE risks in accordance with this framework, applicable license obligations, UCC regulatory requirements and any other applicable law.
- iii. The obligations under this Part shall apply in a proportionate and risk-based manner, having regard to the operator's license category, infrastructure footprint, operating model, level of operational control, environmental impact and HSE risk profile.
- iv. Operators shall ensure that HSE considerations are integrated into the planning, procurement, deployment, operation, maintenance, upgrade, sharing, decommissioning and end-of-life management of communications infrastructure, facilities, equipment and services.

25. Accountability in Contractor, Outsourced and Shared Infrastructure Arrangements

Where an operator uses contractors, subcontractors, managed service providers, infrastructure sharing arrangements, co-location facilities, suppliers, agents or other third parties to undertake activities covered by this framework, the operator shall remain responsible for demonstrating compliance with applicable HSE obligations within its license obligations, operational control, contractual responsibilities or regulatory approvals.

The use of contractors, outsourced arrangements, shared infrastructure or third-party facilities shall not relieve an operator of its responsibility to ensure that relevant HSE risks are identified, managed, monitored, reported and addressed in accordance with this framework and applicable law.

Operators shall ensure that HSE responsibilities are clearly defined and documented in relevant contracts, service level agreements, infrastructure sharing arrangements, co-location agreements, managed service arrangements or other operational arrangements. Such arrangements shall, where applicable, specify responsibility for:

- i. Occupational health and safety;
- ii. Site access control and public safety;
- iii. Structural safety and maintenance of infrastructure;
- iv. RF-EMF compliance with information and supporting evidence;
- v. Fuel storage, generator operation and power systems;
- vi. Hazardous materials and waste management;
- vii. Electronic waste and end-of-life equipment management;
- viii. Energy consumption data and emissions-related information;
- ix. Environmental protection and pollution prevention;
- x. Emergency preparedness and incident reporting;
- xi. Community engagement and grievance handling;
- xii. Decommissioning, removal and site restoration; and
- xiii. Corrective action implementation and closure.

Operators shall maintain records showing the allocation of HSE responsibilities in outsourced, contractor-managed or shared infrastructure arrangements.

Where responsibility for an HSE matter is shared between two or more operators, infrastructure providers, facility owners, contractors or service providers, each party shall maintain evidence of the responsibilities under its control and shall cooperate in providing information required for regulatory reporting, inspection, verification or corrective action.

Where an HSE incident, non-compliance or public safety concern arises from an activity undertaken by a contractor, subcontractor, supplier, managed service provider or shared infrastructure partner, the operator shall take reasonable steps to ensure that the matter is investigated, reported, corrected and closed in accordance with this framework.

UCC may require an operator to provide copies or summaries of relevant contractual provisions, responsibility matrices, service level arrangements, audit records, inspection reports or corrective action records to demonstrate compliance with this section.

26. Classification of HSE Obligations

For purposes of implementation, the obligations under this framework shall be classified as core, risk-based, event-triggered or phased obligations.

26.1 Core obligations - Core obligations are minimum HSE requirements that apply to all relevant operators from the commencement of this framework, subject to the nature of the operator's activities, license category and risk profile.

26.2 Risk-based obligations - Risk-based obligations apply where the nature, scale, location, complexity or risk profile of an operator's infrastructure, facility, equipment, service, activity or operating environment requires additional controls, evidence, reporting or regulatory oversight.

26.3 Event-triggered obligations - Event-triggered obligations apply when a specific activity, incident or operational change occurs, including major infrastructure deployment, site modification, equipment replacement, technology migration, incident response, site closure, decommissioning, asset transfer or end-of-life management.

26.4 Phased obligations - Phased obligations shall be implemented progressively, based on sector readiness, data availability, operator capacity, market maturity, technical guidance issued by UCC and implementation timelines prescribed under this framework.

27. Applicability of Obligation Categories to HSE Domains

The HSE domains under this Part shall apply according to the classification below. A domain may fall under more than one category depending on the nature of the obligation, the operator's activities, the risk profile and the stage of implementation.

HSE compliance domain	Obligation classification
HSE Management System, Leadership and Competence	Core, Risk-Based
Occupational Health and Safety in Construction, Operation and Maintenance	Core, Risk-Based, Event-Triggered
Emergency Preparedness and Incident Response	Core, Risk-Based, Event-Triggered
Community Health, Safety and Public Protection	Core, Risk-Based, Event-Triggered
RF-EMF Safety and Public Protection	Core, Risk-Based, Event-Triggered
Pollution Prevention and Environmental Protection	Core, Risk-Based, Event-Triggered
Hazardous Materials and Waste Management	Core, Risk-Based, Event-Triggered
Noise, Dust and Local Nuisance Management	Core, Risk-Based, Event-Triggered
Land Use, Biodiversity and Site Restoration	Core, Risk-Based, Event-Triggered
Decommissioning and End-of-Life Management	Event-Triggered, Risk-Based
Energy Management and Efficiency	Core, Risk-Based, Phased
Greenhouse Gas Emissions Accounting and Reduction	Core, Risk-Based, Phased
Circular Economy and E-Waste Lifecycle Management	Core, Risk-Based, Event-Triggered, Phased
Supply Chain and Contractor Sustainability Controls	Risk-Based, Event-Triggered, Phased
Data Centres, Switching Facilities and High-Density ICT Sites	Risk-Based, Event-Triggered, Phased
Emerging Technologies and Sector Evolution	Risk-Based, Event-Triggered, Phased

Stakeholder Engagement, Awareness and Behaviour Change	Core, Risk-Based, Event-Triggered, Phased
Operator Accountability for Contractors and Shared Infrastructure	Core, Risk-Based, Event-Triggered
Minimum Compliance Evidence	Cross-cutting evidence requirement
HSE Management System, Leadership and Competence	Core, Risk-Based

28. HSE Domains

The following domains set out the substantive health, safety and environmental obligations applicable to licensed operators. The obligations shall be applied in accordance with the classification in section 26, the nature of the operator's activities, the operator's level of operational control, the applicable license category, and any reporting templates, compliance schedules or guidance issued by UCC.

A domain may apply as a core, risk-based, event-triggered or phased obligation depending on the operator's infrastructure footprint, activity type, risk profile, reporting maturity and stage of implementation.

28.1 HSE Management System, Leadership and Competence

Classification: Core, Risk-Based

- i. Operators shall establish and maintain an HSE management system appropriate to the nature, scale, complexity and risk profile of their operations. At a minimum, operators shall: Adopt a documented HSE policy statement approved by senior management, setting out the operator's commitment to HSE protection, legal compliance, risk management and continuous improvement
- ii. Designate responsible persons or units for HSE implementation, monitoring and reporting
- iii. Define internal accountability for HSE performance, including management oversight
- iv. Maintain an HSE risk register covering key operational, environmental, occupational safety, public safety and contractor-related risks
- v. Maintain a register of applicable HSE laws, regulations, license conditions, approvals, permits, standards and UCC requirements
- vi. Establish procedures for incident reporting, investigation, corrective action and closure
- vii. Maintain HSE training and competence programs for staff and contractors;
- viii. Conduct internal HSE audits and management reviews
- ix. Integrate contractor and supplier HSE requirements into procurement, project implementation and site operations and
- x. Maintain auditable records demonstrating implementation of the HSE management system.

Operators with larger infrastructure footprints, higher-risk facilities, extensive contractor dependence or repeated HSE incidents may be required to implement more detailed HSE controls, reporting systems, internal assurance processes or management review mechanisms.

28.2 Occupational Health and Safety in Construction, Operation and Maintenance

Classification: Core, Risk-Based, Event-Triggered

Operators shall protect the health and safety of employees, contractors and other persons involved in the construction, installation, operation, maintenance, upgrade, modification and decommissioning of communications infrastructure and facilities. Operators shall implement appropriate controls for high-risk telecommunications and broadcasting activities, including:

- i. Working at height, tower climbing and fall protection
- ii. Rigging, lifting, antenna installation and structural works
- iii. Electrical safety, lock-out and tag-out procedures, and work near live electrical systems
- iv. Generator operation, fuel handling and power system maintenance
- v. Battery handling, storage, installation, replacement and disposal
- vi. Fibre works, trenching, ducting, road works and related civil works
- vii. Rooftop access and work in restricted or confined areas
- viii. Road safety and field travel for staff and contractors
- ix. Use of personal protective equipment, safe work permits and supervision; and
- x. Competence certification for high-risk tasks.

Operators shall ensure that contractors undertaking high-risk works are properly trained, supervised and subject to appropriate HSE controls.

Where an accident, near miss, serious safety concern or high-risk activity occurs, the operator shall take immediate action to protect persons at risk, investigate the matter, implement corrective action and report to UCC where required under this framework.

28.3 Emergency Preparedness and Incident Response

Classification: Core, Risk-Based, Event-Triggered

Operators shall maintain emergency preparedness and response arrangements for HSE incidents associated with their infrastructure, facilities, equipment, operations and contractors. Emergency arrangements shall cover, where applicable:

- i. Fire incidents
- ii. Fuel spills, oil spills and chemical releases
- iii. Battery failures, battery fires and hazardous material incidents;
- iv. Electrical accidents
- v. Structural failure or collapse risks
- vi. Severe weather events, flooding, landslides and other climate-related hazards;
- vii. Accidents affecting workers, contractors, communities or the public

- viii. Environmental contamination events; and
- ix. Any other HSE incident that may affect public safety, service continuity or the environment.

Operators shall maintain emergency response plans, conduct drills, provide appropriate emergency equipment, establish escalation procedures and implement post-incident remediation and corrective action.

Major HSE incidents shall be reported to UCC in accordance with the reporting timelines and procedures prescribed under this framework.

28.4 Community Health, Safety and Public Protection

Classification: Core, Risk-Based, Event-Triggered

Operators shall manage risks to communities and the public arising from communications infrastructure, facilities, deployment works, maintenance activities and site operations. Operators shall implement appropriate measures for:

- i. Safe site access control and perimeter security
- ii. Protection of the public during construction, maintenance and decommissioning works
- iii. Structural safety of towers, masts, rooftop installations and other support structures
- iv. Traffic management and public safety during civil works
- v. Management of nuisance impacts, including noise, dust and local disturbance
- vi. Public warning signage, where appropriate;
- vii. Grievance handling and response to community concerns; and
- viii. Public awareness on safe interaction with communications infrastructure.

Operators shall pay particular attention to infrastructure located near homes, schools, health facilities, markets, public roads, protected areas, water bodies and other sensitive locations.

Where community complaints, public safety risks or recurring concerns arise, the operator shall investigate the matter, maintain records of action taken and provide evidence of corrective or preventive measures where required by UCC.

28.5 RF-EMF Safety and Public Protection

Classification: Core, Risk-Based, Event-Triggered

Operators shall comply with applicable national requirements on RF-EMF exposure and public protection. Operators shall:

- i. Conduct RF-EMF assessments, calculations, simulations or measurements in accordance with methodologies recognized or prescribed by UCC
- ii. Comply with applicable RF-EMF exposure limits adopted or prescribed by UCC
- iii. Maintain site-level RF-EMF compliance records
- iv. Implement corrective action where non-compliance or potential exposure risk is identified

- v. Provide RF-EMF information to UCC in the prescribed form
- vi. Support public awareness and transparent communication on RF-EMF safety; and
- vii. Cooperate with UCC during RF-EMF audits, inspections, measurements or public assurance activities.

Where UCC has issued specific RF-EMF guidelines, procedures, templates or measurement requirements, operators shall comply with those instruments in addition to this framework.

28.6 Pollution Prevention and Environmental Protection

Classification: Core, Risk-Based, Event-Triggered

Operators shall prevent, minimize and control pollution arising from communications infrastructure, facilities, operations, construction works, maintenance activities and decommissioning. Operators shall implement appropriate controls for:

- i. Fuel storage and handling
- ii. Oil, coolant and chemical storage
- iii. Generator emissions and operational pollution risks
- iv. Soil and water contamination
- v. Air emissions and dust from construction or civil works
- vi. Drainage, erosion and sediment control
- vii. Hazardous substance containment
- viii. Spill prevention and spill response
- ix. Site housekeeping; and
- x. Remediation of contaminated sites or affected areas.

Operators shall maintain records of pollution incidents, inspections, remedial actions and disposal or treatment of contaminated materials.

Where pollution, contamination or environmental harm occurs, the operator shall take immediate containment action, notify the relevant authorities where required, implement remediation measures and provide evidence of corrective action to UCC where requested.

28.7 Hazardous Materials and Waste Management

Classification: Core, Risk-Based, Event-Triggered

Operators shall safely manage hazardous materials and waste associated with communications infrastructure, facilities, equipment and operations. This includes, where applicable:

- i. Fuels, oils, lubricants and coolants
- ii. Chemicals and cleaning agents
- iii. Lead-acid batteries, lithium-ion batteries and other battery systems
- iv. Refrigerants and fire suppression substances
- v. Contaminated soil, absorbents and spill response materials
- vi. Obsolete or damaged electrical and electronic equipment

- vii. Damaged cables, cabinets, power systems and network components
- viii. Dust, ash, soot, particulate matter or other residues arising from construction, combustion, generator operation, maintenance or site activities and
- ix. Any other hazardous or potentially harmful materials arising from sector operations.

Operators shall ensure that hazardous materials are properly labelled, stored, contained, handled, transported, treated, recovered or disposed of in accordance with applicable legal and regulatory requirements.

Operators shall use authorized or licensed handlers, transporters, recyclers or disposal facilities where required, and shall maintain manifests, transfer records, disposal certificates and related evidence.

28.8 Noise, Dust and Local Nuisance Management

Classification: Core, Risk-Based, Event-Triggered

Operators shall manage noise, dust and local nuisance impacts arising from construction, maintenance, generator operations, site access, civil works and other activities. Operators shall implement reasonable controls, including:

- i. Generator noise mitigation
- ii. Control of dust during civil works
- iii. Management of traffic, access and local disruption
- iv. Limitation of avoidable disturbance during works near communities
- v. Monitoring of recurring nuisance issues; and
- vi. Timely response to community complaints.

Where nuisance impacts are persistent, material or recurring, UCC may require additional evidence, mitigation measures or corrective action.

28.9 Land Use, Biodiversity and Site Restoration

Classification: Core, Risk-Based, Event-Triggered

Operators shall minimize adverse impacts on land, drainage, vegetation, biodiversity and site conditions during planning, deployment, operation, modification and closure of communications infrastructure. Operators shall:

- i. Minimize unnecessary land disturbance;
- ii. Implement erosion control and drainage reinstatement measures;
- iii. Protect sensitive ecosystems, water bodies and protected areas, where applicable;
- iv. Avoid unnecessary vegetation clearance;
- v. Restore disturbed areas after construction or maintenance works;
- vi. Maintain records of site restoration activities; and
- vii. Plan for future decommissioning and site restoration from the infrastructure planning stage.

For sites located in environmentally sensitive areas, operators may be required to submit additional evidence of environmental controls, approvals, monitoring or restoration measures.

28.10 Decommissioning and End-of-Life Management

Classification: Event-Triggered, Risk-Based

Operators shall plan and manage the safe decommissioning, removal, transfer, disposal or restoration of communications infrastructure, equipment, materials and facilities that are no longer required for operation. This obligation applies where there is:

- i. Permanent site closure
- ii. Tower, mast, rooftop or infrastructure removal
- iii. Major technology shutdown or migration
- iv. Major equipment replacement
- v. Closure or relocation of a data centre, switching facility or transmission facility
- vi. Transfer or sale of infrastructure assets
- vii. License exit, suspension or termination affecting infrastructure; or
- viii. Any other event that creates end-of-life or site restoration obligations.

Operators shall ensure that decommissioning activities include:

- i. Safe shutdown and isolation of equipment
- ii. Dismantling and removal of infrastructure and associated materials
- iii. Safe handling of batteries, fuels, oils, chemicals, cables and other materials
- iv. Reuse, refurbishment, recovery or recycling where feasible
- v. Transfer of residual waste only to authorized handlers or approved facilities
- vi. Restoration of affected sites to a safe, stable and environmentally acceptable condition; and
- vii. Retention of records, including asset inventories, transfer notes, disposal certificates, photographs, restoration evidence and contractor completion reports.

Operators shall undertake decommissioning and end-of-life activities within reasonable and clearly defined timelines, taking into account the nature, scale, risk and location of the infrastructure or equipment concerned. Where decommissioning is planned, operators shall notify UCC within the period prescribed by UCC and submit a time-bound decommissioning plan, where required.

UCC may require prior notification, a decommissioning plan, inspection or post-decommissioning report for high-risk, large-scale or environmentally sensitive decommissioning activities.

28.11 Energy Management and Efficiency

Classification: Core, Risk-Based, Phased

Operators shall monitor, manage and improve energy performance across communications infrastructure, network facilities, data centres, switching facilities, offices and other major operational sites, as applicable. Operators shall, at a minimum:

- i. Track electricity consumption for major network assets and facilities
- ii. Track fuel consumption, including diesel or other fuel used for generators, vehicles and operational equipment
- iii. Maintain records of generator running hours, where applicable
- iv. Identify energy-intensive sites, facilities, systems or equipment
- v. Implement practical energy efficiency measures
- vi. Consider renewable, hybrid and smart energy management solutions where feasible
- vii. Define energy performance indicators appropriate to their operations; and
- viii. Track energy performance and improvement initiatives over time.

For operators with significant infrastructure footprints, UCC may require more detailed energy reporting, including energy consumption per site, energy consumption per facility, energy consumption by technology, percentage of sites powered by grid, generator, hybrid or renewable systems, and energy efficiency improvement plans.

For data centres, switching facilities and other high-density ICT facilities, UCC may require additional indicators, including power usage effectiveness, cooling efficiency, backup power performance, battery system performance and other relevant facility-level energy indicators.

Energy management obligations may be implemented progressively, based on the operator's size, data availability, reporting maturity, facility type and guidance issued by UCC.

28.12 Greenhouse Gas Emissions Accounting and Reduction

Classification: Core, Risk-Based, Phased

Operators shall account for and report greenhouse gas emissions associated with their operations in accordance with methodologies, templates, reporting boundaries and timelines prescribed by UCC. Operators with material infrastructure, energy use or operational emissions shall progressively establish systems for measuring and reporting:

- i. Scope 1 emissions, including direct emissions from fuel use, generators, vehicles, refrigerants and other sources owned or controlled by the operator;
- ii. Scope 2 emissions, including indirect emissions from purchased electricity or other purchased energy consumed by the operator; and
- iii. Scope 3 emissions, including relevant value-chain emissions, where applicable and progressively feasible.

Scope 1 and Scope 2 emissions reporting shall form part of the core reporting obligations for operators with material energy consumption or infrastructure operations.

Scope 3 reporting shall be phased, taking into account data availability, supplier readiness, operator control, materiality, reporting maturity and any guidance issued by UCC. Scope 3 emissions may include, where applicable:

- i. Purchased goods and services
- ii. Capital equipment
- iii. Transport and distribution
- iv. Waste generated in operations
- v. Business travel
- vi. Leased assets
- vii. Use of sold or supplied products and
- viii. End-of-life treatment of equipment and devices.

Operators shall identify practical emissions reduction measures and track progress over time. Such measures may include energy efficiency improvements, renewable or hybrid power solutions, network modernization, infrastructure sharing, efficient cooling, improved maintenance practices, reduced generator dependence and responsible equipment lifecycle management.

28.13 Circular Economy, Equipment and Device Management

Classification: Core, Risk-Based, Event-Triggered, Phased

Operators shall promote responsible consumption, circular economy practices and lifecycle-based management of communications infrastructure, network equipment, customer premises equipment, devices and associated products. This shall include consideration of environmental, resource, energy, reparability, durability, reuse, refurbishment, recovery and end-of-life impacts across the full equipment lifecycle.

For purposes of this framework, operators shall

- i. Network and operational equipment under their direct control; and
- ii. Consumer devices, peripherals and customer premises equipment over which they may have partial, shared or progressive influence.

For network and operational equipment, operators shall:

- i. Maintain inventories of major equipment, including obsolete, damaged, redundant or end-of-life equipment;
- ii. Consider lifecycle impacts when procuring, deploying, upgrading, replacing or retiring communications equipment;
- iii. Promote equipment durability, reparability, reuse, refurbishment, redeployment and recovery where technically and economically feasible;
- iv. Minimize premature replacement, avoidable disposal and inefficient use of materials;
- v. Ensure safe collection, sorting, storage, handling, transport, refurbishment, recovery, recycling or disposal of equipment that has reached end-of-life;
- vi. Use authorized e-waste handlers, recyclers or approved facilities where required;
- vii. Maintain transfer records, disposal certificates, recycling records and treatment evidence;

- viii. Ensure that hazardous components, including batteries, contaminated materials and other potentially harmful components, are managed safely; and
- ix. Prevent informal, unsafe or undocumented disposal of communications equipment and related waste.

For consumer-facing devices, customer premises equipment and peripherals, operators shall progressively support responsible lifecycle measures, including:

- i. Install standardized e – waste bins at ALL their Customer service and repair centers
- ii. Report Quarterly on the weight of deposited e-waste
- iii. Public awareness on responsible device use and disposal
- iv. Partnerships with authorized e-waste handlers, recyclers or collection schemes
- v. Take-back or collection initiatives, where feasible
- vi. Repair, refurbishment or reuse initiatives, where feasible
- vii. Consumer information on safe disposal channels; and
- viii. Reporting on quantities collected, refurbished, recycled or transferred through approved channels, where data is available.

E-waste obligations may be triggered by equipment replacement, network upgrade, technology migration, site closure, decommissioning, device take-back programs, damaged equipment disposal or other end-of-life events.

28.14 Value Chain, Supply Chain and Contractor HSE Controls

Classification: Risk-Based, Event-Triggered, Phased

Operators shall progressively integrate HSE and sustainability requirements into procurement, contractor management, supplier oversight and outsourced service arrangements. Operators shall, where applicable:

- i. Include HSE requirements in procurement documents, contracts and service level arrangements
- ii. Require contractors and suppliers to comply with applicable HSE laws, standards, operator procedures and UCC requirements;
- iii. Conduct risk-based screening of high-risk suppliers and contractors;
- iv. Review or audit contractor HSE performance for high-risk activities;
- v. Require evidence of competence, permits, licenses, approvals or certifications where applicable;
- vi. Ensure contractors report incidents, hazards, near misses and non-compliance;
- vii. Require corrective action where contractor or supplier non-compliance is identified; and
- viii. Maintain records of contractor and supplier HSE performance.

This obligation is particularly relevant to tower works, civil works, rooftop access, fuel supply, battery handling, transport, hazardous waste handling, e-waste management, decommissioning, site security, managed network services and data centre operations.

Where an operator outsources a regulated activity or relies on a contractor or supplier to perform an HSE-relevant function, the operator shall retain responsibility for demonstrating that appropriate HSE controls are in place, to the extent of its operational control, license obligations or contractual responsibilities.

28.15 Data Centres, Switching Facilities and High-Density ICT Sites

Classification: Risk-Based, Event-Triggered, Phased

Operators of data centres, switching facilities, network operation centres, major server rooms and other high-density ICT facilities shall manage the HSE risks associated with those facilities. Operators shall address, where applicable:

- i. Energy consumption and energy efficiency;
- ii. Cooling systems and thermal management;
- iii. Backup power systems, generators, batteries and fuel storage;
- iv. Fire detection, fire suppression and emergency response;
- v. Water use and discharge, where relevant;
- vi. Refrigerants and other controlled substances;
- vii. Electrical safety, access control and restricted areas;
- viii. Occupational health and safety for facility staff and contractors;
- ix. Hazardous materials and waste arising from facility operations;
- x. Equipment replacement and end-of-life management;
- xi. Operational resilience and incident response; and
- xii. Safe decommissioning of facility equipment, power systems and cooling systems.

Operators of high-density ICT facilities may be required to maintain and report facility-specific indicators, including energy consumption, cooling performance, backup power usage, battery incidents, fire incidents, water use, equipment replacement records and waste management evidence.

Where a data centre, switching facility or high-density ICT facility is newly established, significantly modified, expanded, closed or decommissioned, the operator shall assess the relevant HSE impacts and submit evidence or reports as may be required by UCC.

28.16 Emerging Technologies and Future HSE Risk

Classification: Risk-Based, Event-Triggered, Phased

Operators shall identify and progressively manage HSE impacts associated with emerging technologies and evolving communications services. This may include, where applicable:

- i. IoT and connected devices, including device proliferation, battery waste, durability, repairability and end-of-life pathways;
- ii. AI-enabled network operations, including energy optimization, predictive maintenance, automated incident detection and improved infrastructure efficiency;

- iii. New radio technologies, including 5G NR, future 6G ready networks, open RAN deployments, private networks, infrastructure densification and small-cell deployment;
- iv. Satellite communications facilities, earth stations, gateways and direct-to-device services, where applicable;
- v. Edge computing, distributed ICT facilities and high-density equipment locations;
- vi. New battery systems, energy storage solutions and renewable power systems;
- vii. Smart infrastructure monitoring systems; and
- viii. Any other emerging technology that may create material HSE impacts.

Operators shall assess emerging technologies for relevant health, safety, environmental, energy, waste, lifecycle, community impact and public protection implications within the communications sector.

The purpose of this obligation is not to regulate technology ethics generally. It is to ensure that new communications technologies and operating models are assessed for HSE impacts that fall within UCC's regulatory mandate.

29. Stakeholder Engagement, Awareness and Grievance Management

Operators shall engage relevant stakeholders and support public awareness on health, safety and environmental matters associated with communications infrastructure, services, equipment and devices.

Stakeholder engagement under this framework shall be proportionate to the nature, scale, location and risk profile of the operator's activities. It shall be factual, timely, accessible and appropriate to the affected stakeholder group or community. Operators shall, where applicable:

- i. Conduct stakeholder engagement for major infrastructure deployments, site modifications, decommissioning activities or other activities with material community impact;
- ii. Provide clear and accurate information on HSE matters associated with communications infrastructure and services;
- iii. Support public awareness on RF-EMF safety and compliance, particularly where there is public concern, misinformation or recurring community resistance;
- iv. Promote public awareness on responsible disposal of electronic waste, communications devices, customer premises equipment and related accessories;
- v. Provide information on safe interaction with communications infrastructure, including site access restrictions, public warning signs and reporting of safety concerns;
- vi. Maintain accessible grievance mechanisms for receiving, recording, assessing and responding to HSE-related complaints or concerns;

- vii. Define reasonable response timelines for HSE-related complaints, taking into account the nature and urgency of the complaint;
- viii. Maintain records of stakeholder engagements, complaints received, responses issued, corrective actions taken and matters escalated to UCC or other competent authorities;
- ix. Ensure that staff, contractors and relevant agents who interact with communities have appropriate information on HSE requirements and public communication procedures; and
- x. Cooperate with UCC in public awareness, community engagement or regulatory communication activities relating to HSE matters.

Where an operator receives recurring complaints, public concern or misinformation relating to HSE matters, the operator shall take reasonable steps to investigate the matter, provide accurate information, address valid concerns and escalate unresolved issues through the appropriate regulatory or institutional channels.

Where a complaint relates to a matter within the mandate of another competent authority, the operator shall take reasonable steps to refer or escalate the matter to the relevant authority, while maintaining records of the action taken.

UCC may require an operator to submit stakeholder engagement records, grievance registers, complaint resolution reports, public awareness materials or evidence of corrective action as part of compliance monitoring, verification or enforcement under this framework.

PART V: REPORTING, RECORDS AND EVIDENCE REQUIREMENTS

30. General Reporting Obligation

Operators shall submit HSE information to UCC in the form, frequency and manner prescribed under this framework, applicable license conditions, reporting templates, compliance schedules or any other requirement issued by UCC.

The purpose of HSE reporting is to enable UCC to assess operator compliance, identify sector risks, monitor improvement trends, verify implementation of HSE obligations and support evidence-based regulatory decision-making.

Operators shall ensure that all HSE reports submitted to UCC are accurate, complete, verifiable, internally reviewed and supported by auditable records.

Where an operator relies on contractors, suppliers, infrastructure sharing partners, managed service providers or other third parties for activities covered by this framework, the operator shall take reasonable steps to obtain the information necessary to meet its reporting obligations.

31. Annual HSE Compliance and Performance Report

Every operator to whom this framework applies shall submit an Annual HSE Compliance and Performance Report to UCC in the prescribed format. The Annual HSE Compliance and Performance Report shall cover, where applicable:

- i. The operator's compliance status against the HSE obligations applicable to its license category, infrastructure, facilities, services and operations;
- ii. The operator's HSE governance structure, responsible persons and internal accountability arrangements;
- iii. HSE risks identified during the reporting period and measures taken to address them;
- iv. Incidents, near misses, complaints, corrective actions and closure status;
- v. Occupational health and safety performance;
- vi. Emergency preparedness and response activities
- vii. RF-EMF compliance status and supporting records
- viii. Pollution prevention and environmental protection measures
- ix. Hazardous materials and waste management records
- x. E-waste and end-of-life equipment management
- xi. Decommissioning and site restoration activities
- xii. Energy consumption and energy efficiency measures
- xiii. Greenhouse gas emissions information, where applicable
- xiv. Data centre or high-density ICT facility information, where applicable
- xv. Stakeholder engagement, public awareness and grievance management activities
- xvi. Contractor, supplier and shared infrastructure HSE controls
- xvii. Improvement plans for the next reporting period; and
- xviii. Any other information prescribed by UCC.

The Annual HSE Compliance and Performance Report shall include both narrative information and supporting data, using the templates, indicators and evidence schedules prescribed by UCC.

32. Periodic and Thematic Reporting

In addition to the annual HSE Compliance and Performance Report, UCC may require operators to submit periodic, thematic or risk-based reports on specific HSE matters. Such reports may include:

- i. Quarterly reports on high-risk HSE domains;
- ii. RF-EMF compliance reports;
- iii. Energy consumption and efficiency reports;
- iv. Greenhouse gas emissions reports;
- v. e-waste and circular economy reports;
- vi. Hazardous materials and waste management reports;
- vii. Decommissioning and site restoration reports;
- viii. Data centre or high-density ICT facility reports;
- ix. Contractor and supplier HSE performance reports;

- x. Corrective action progress reports; and
- xi. Any other report required by UCC based on risk, sector priorities or compliance concerns.

UCC may prescribe the frequency of such reports based on the nature of the operator's activities, the risk profile of the operator, the materiality of the issue, the compliance history of the operator and the maturity of the reporting area.

33. Incident Reporting

Operators shall report major HSE incidents to UCC in accordance with the timelines, procedures and formats prescribed under this framework or any other applicable regulatory requirement. For purposes of this framework, reportable HSE incidents may include:

- i. Death or serious injury involving employees, contractors, communities or members of the public;
- ii. Tower, mast, rooftop structure or site-related collapse or serious structural failure;
- iii. Fire, explosion or major electrical incident at a communications site or facility;
- iv. Battery fire, battery failure or hazardous battery incident;
- v. Major fuel spill, oil spill, chemical release or hazardous material incident;
- vi. Environmental contamination or pollution incident;
- vii. Incident causing significant community safety concern or public disruption;
- viii. Incident affecting a data centre, switching facility or high-density ICT facility with material HSE implications;
- ix. Incident arising from decommissioning, dismantling or site restoration activities;
- x. RF-EMF non-compliance or suspected exposure incident, where applicable; and
- xi. Any other HSE incident that UCC may prescribe as reportable.

Operators shall submit an initial notification within the timeframe prescribed by UCC, followed by a detailed incident report containing the cause, impact, response measures, corrective action, preventive measures and closure status.

Where an incident also falls within the mandate of another competent authority, the operator shall comply with the applicable notification or reporting requirements of that authority and maintain evidence of such reporting.

34. Corrective Action Reporting

Where UCC identifies non-compliance, data gaps, reporting weaknesses, inspection findings, public safety concerns or other HSE deficiencies, the operator may be required to submit a corrective action plan. A corrective action plan shall include:

- i. The non-compliance, risk or deficiency identified;
- ii. The root cause, where known;
- iii. The corrective and preventive measures to be implemented;
- iv. The responsible person or unit;

- v. The implementation timeline;
- vi. The evidence required to demonstrate closure; and
- vii. Any interim measures required to manage risk before full closure.

Operators shall submit progress updates on corrective actions as required by UCC and shall retain evidence demonstrating completion and effectiveness of the corrective action.

35. Minimum Compliance Evidence

Operators shall maintain records and evidence demonstrating compliance with the obligations under this framework. Such evidence may include, where applicable:

- i. HSE policies, Protocols, Manuals, procedures and management system records;
- ii. HSE governance and accountability records;
- iii. Risk assessments and HSE risk registers;
- iv. Legal and regulatory compliance registers;
- v. Approvals, permits, licenses and certificates issued by competent authorities;
- vi. Training and competence records;
- vii. Contractor and supplier HSE records;
- viii. Safe work permits, method statements and inspection records;
- ix. Incident logs, investigation reports and corrective action records;
- x. Emergency response plans and drill reports;
- xi. RF-EMF assessment, simulation or measurement reports;
- xii. Environmental inspection records;
- xiii. Hazardous materials registers;
- xiv. Waste manifests, transfer records, disposal certificates and e-waste records;
- xv. Fuel, electricity and energy consumption records;
- xvi. Greenhouse gas emissions calculations and supporting data;
- xvii. Decommissioning plans, asset inventories and site restoration evidence;
- xviii. Data centre or facility-level energy, cooling, fire safety and waste records;
- xix. Stakeholder engagement, grievance and awareness records; and
- xx. Any other evidence prescribed by UCC.

The evidence maintained by operators shall be sufficient to allow UCC to verify the accuracy, completeness and reliability of HSE reports submitted under this framework.

36. Record-Keeping Requirements

Operators shall maintain HSE records in a complete, accurate, retrievable and auditable form.

Records shall be retained for the period prescribed by UCC, applicable law, license conditions, approval conditions or any other relevant regulatory requirement.

Where no specific retention period has been prescribed, operators shall retain HSE records for a reasonable period having regard to the nature of the record, the risk involved, the lifecycle of the infrastructure or equipment, and any continuing regulatory or legal obligation.

Records relating to decommissioning, hazardous waste, e-waste disposal, site restoration, RF-EMF compliance, serious incidents or long-term environmental risk shall be retained for a period sufficient to support regulatory verification, future audits and accountability.

37. Data Quality and Internal Assurance

Operators shall ensure that HSE data submitted to UCC is subject to appropriate internal review and quality control before submission. Operators shall have internal processes to ensure that reported data is:

- i. Accurate
- ii. Complete
- iii. Consistent
- iv. Traceable to source records
- v. Supported by documentary evidence
- vi. Reviewed by responsible officers; and
- vii. Corrected where errors or omissions are identified.

Where data is estimated, modelled or derived from assumptions, the operator shall disclose the method, assumptions and limitations.

UCC may require operators to resubmit, correct or clarify HSE data that is incomplete, inconsistent, unsupported or materially inaccurate.

38. Reporting by Operator Category

UCC may prescribe differentiated reporting requirements for different operator categories, having regard to the nature of the operator's license, infrastructure, facilities, services and HSE risk profile.

For example:

- i. Mobile Network Operators may be required to report on RF-EMF compliance, energy use, emissions, network equipment lifecycle management, contractor controls, e-waste partnerships and public awareness
- ii. Infrastructure providers may be required to report on site safety, structural safety, fuel systems, contractor controls, land use, decommissioning and site restoration
- iii. Broadcasters may be required to report on transmission site safety, RF-EMF compliance, tower safety, power systems, hazardous materials and site access control
- iv. Data centre operators may be required to report on energy efficiency, cooling systems, backup power, batteries, fire systems, water use, e-waste and operational resilience
- v. Internet service providers may be required to report on fibre works, customer premises equipment, contractor safety, e-waste and field operations;
- vi. MVNOs may be required to report on HSE obligations within their operational control, contractual arrangements, consumer equipment responsibilities and host network arrangements; and

- vii. Equipment suppliers, importers or distributors may be required to provide evidence relating to type approval, device safety, hazardous materials, energy performance, consumer information and end-of-life management requirements, where applicable.

39. Reporting Templates and Compliance Schedules

UCC may issue reporting templates, compliance schedules, technical forms, guidance notes or digital reporting tools to support implementation of this framework. Such templates or schedules may prescribe:

- i. Report format
- ii. Reporting frequency
- iii. Applicable operator categories
- iv. Data fields
- v. Definitions and calculation methods
- vi. Minimum evidence requirements;
- vii. Key performance indicators;
- viii. Incident reporting formats;
- ix. Corrective action reporting formats; and
- x. Submission procedures.

Operators shall submit HSE information using the prescribed templates or systems where such templates or systems have been issued by UCC.

PART VI: VERIFICATION, COMPLIANCE ASSESSMENT AND REGULATORY ACTION

40. Purpose of Verification and Compliance Assessment

UCC shall verify, assess and act on HSE information submitted under this framework to determine whether operators are meeting applicable health, safety and environmental obligations. Verification and compliance assessment under this Part shall support:

- i. Confirmation of the accuracy and completeness of operator submissions;
- ii. Assessment of compliance with applicable HSE obligations;
- iii. Identification of sector-wide and operator-specific HSE risks;
- iv. Monitoring of corrective action and continuous improvement;
- v. Protection of workers, contractors, communities, consumers and the public;
- vi. Protection of the environment and responsible management of sector impacts; and
- vii. Evidence-based regulatory decision-making.

Verification shall focus on establishing the facts. Compliance assessment shall determine the operator's compliance status based on those facts. Regulatory action shall address identified non-compliance, risk, reporting failure or poor performance.

41. Verification and Assurance Tools

UCC may use one or more verification and assurance tools to assess operator compliance under this framework. These may include:

- i. Desk review of submitted HSE reports, records and supporting evidence;
- ii. Review of licenses, approvals, permits, certificates and documentation issued by competent authorities;
- iii. Field inspections and site assessments;
- iv. RF-EMF measurements, audits or technical assessments;
- v. Review of environmental, safety, waste, energy, emissions or e-waste records;
- vi. Review of contractor, supplier and shared infrastructure records;
- vii. Inspection of decommissioning, site restoration or end-of-life management activities;
- viii. Review of incident reports, investigation findings and corrective action closure evidence;
- ix. Interviews with operator representatives, contractors, communities or relevant stakeholders;
- x. Independent third-party audits or professional assurance statements, where required;
- xi. Spot checks, sampling and targeted investigations; and
- xii. Any other verification method UCC considers appropriate within its regulatory mandate.

Verification may be routine, risk-based, thematic, incident-triggered or complaint-triggered.

42. Risk-Based Verification

UCC may prioritize verification based on risk. In determining the level and frequency of verification, UCC may consider:

- i. The operator's license category and infrastructure footprint;
- ii. The scale, complexity and geographic spread of the operator's operations;
- iii. The number and type of sites, facilities, towers, masts, data centres or high-density ICT facilities;
- iv. The presence of hazardous materials, batteries, fuel systems, generators or waste streams;
- v. RF-EMF exposure considerations, site configuration and public proximity;
- vi. The operator's incident history, complaint history and corrective action record;
- vii. The operator's reporting quality, completeness and consistency;
- viii. Prior inspection findings or unresolved non-compliance;
- ix. Activities in environmentally sensitive, densely populated, remote, border, island or hard-to-reach areas;
- x. Major deployments, network upgrades, decommissioning activities or technology migration;

- xi. Public concern, community resistance or misinformation affecting infrastructure deployment; and
- xii. Any other factor UCC considers relevant to HSE risk.

Operators with higher risk profiles, repeated non-compliance, poor reporting quality or unresolved corrective actions may be subject to enhanced verification, more frequent inspections or additional reporting requirements.

43. Field Inspections and Site Assessments

UCC may conduct field inspections and site assessments to verify compliance with this framework. Field inspections may assess, where applicable:

- i. Site access control, fencing, signage and public safety measures;
- ii. Tower, mast, rooftop and structural safety controls;
- iii. Occupational safety practices and contractor supervision;
- iv. Electrical safety, generator safety, fuel storage and battery management;
- v. Hazardous materials storage, labelling and containment;
- vi. Spill prevention, pollution controls, drainage and housekeeping;
- vii. RF-EMF compliance evidence and site-level records;
- viii. Noise, dust and nuisance controls;
- ix. Waste, e-waste and end-of-life equipment handling;
- x. Data centre or high-density ICT facility safety and environmental controls;
- xi. Decommissioning, removal and site restoration activities;
- xii. Emergency preparedness and incident response arrangements; and
- xiii. Any other HSE matter relevant to the site, facility or activity inspected.

UCC may conduct inspections on notice or, where justified by risk, complaint, incident, regulatory concern or suspected non-compliance, through spot checks.

Operators shall provide UCC with access to relevant sites, facilities, records, personnel and information necessary for inspection, subject to applicable law, safety procedures and security requirements.

44. Technical Measurements and Specialist Assessments

UCC may conduct or require technical measurements, tests or specialist assessments where necessary to verify compliance. These may include:

- i. RF-EMF measurements or exposure assessments;
- ii. Noise measurements;
- iii. Environmental sampling or contamination assessments, where relevant and within applicable procedures;
- iv. Structural safety assessments or review of structural integrity records;
- v. Electrical safety or power system assessments;
- vi. Data centre energy, cooling or facility performance assessments;
- vii. Hazardous materials or waste management assessments;
- viii. Decommissioning and site restoration assessments; and
- ix. Any other technical assessment required to establish compliance or risk.

Where a technical matter falls within the statutory mandate of another competent authority, UCC may coordinate with, refer to, or require evidence from that authority, as appropriate.

45. Independent Assurance

UCC may require independent assurance where the nature, scale, risk or complexity of an HSE matter requires specialist verification. Independent assurance may be required for:

- i. High-risk infrastructure projects;
- ii. Large-scale decommissioning or site restoration activities;
- iii. Serious incidents or repeated non-compliance;
- iv. Data centre or high-density ICT facility performance claims;
- v. Greenhouse gas emissions reporting, where material or complex;
- vi. Major e-waste, hazardous waste or battery disposal programs;
- vii. RF-EMF compliance evidence, where additional assurance is justified;
- viii. Environmental remediation or contamination matters; and
- ix. Any other matter where UCC determines that independent assurance is necessary.

Independent assurance shall be carried out by suitably qualified persons or entities with relevant competence, independence and technical capability.

UCC may prescribe the scope, format, minimum qualifications or acceptance criteria for independent assurance.

46. Compliance Assessment

Following verification, UCC shall assess operator compliance with the applicable obligations under this framework. Compliance assessment may consider:

- i. Whether the operator has met the applicable core, risk-based, event-triggered or phased obligations;
- ii. Whether reports and supporting evidence are complete, accurate and submitted on time;
- iii. Whether HSE risks have been identified, assessed and managed;
- iv. Whether incidents, complaints and corrective actions have been properly investigated and closed;
- v. Whether required approvals, permits, certificates or records from competent authorities are available;
- vi. Whether contractor, supplier or shared infrastructure responsibilities are clear and supported by evidence;
- vii. Whether the operator has demonstrated improvement over time;
- viii. Whether there are repeated, unresolved or systemic gaps;
- ix. Whether any non-compliance creates material risk to workers, contractors, communities, the public, infrastructure, services or the environment; and
- x. Any other factor UCC considers relevant to HSE compliance.

Compliance assessment may be conducted at operator level, site level, facility level, domain level or activity level, depending on the purpose of the assessment.

47. Compliance Classification

UCC may classify operator compliance under this framework using a structured classification system. The classification may include:

Classification	Description
Fully compliant	Applicable obligations have been met and supporting evidence is satisfactory.
Substantially compliant	Most applicable obligations have been met, with minor gaps that do not create material HSE risk.
Partially compliant	Some obligations have been met, but material gaps require corrective action.
Non-compliant	Significant obligations have not been met, evidence is inadequate, or there is material HSE risk.
Critical non-compliance	Serious, repeated or high-risk non-compliance requiring urgent regulatory action.

UCC may classify compliance by domain, site, facility, operator, reporting period or specific regulatory process.

Where necessary, UCC may also assign a risk rating to support prioritization of inspections, corrective action, reporting obligations or enforcement decisions.

48. Corrective Action Requirements

Where non-compliance, deficiencies, data gaps, risk exposure or poor performance are identified, UCC may require the operator to submit and implement a corrective action plan. A corrective action plan may include:

- i. The non-compliance, deficiency or risk identified;
- ii. Immediate risk-control measures;
- iii. Root cause analysis;
- iv. Corrective and preventive actions;
- v. Responsible persons or units;
- vi. Implementation timelines;
- vii. Evidence required for closure;
- viii. Interim reporting requirements; and
- ix. Measures to prevent recurrence.

UCC may review, approve, reject or require revision of a corrective action plan.

An operator shall implement corrective actions within the timelines approved or directed by UCC and shall provide evidence of completion.

49. Regulatory Responses and Enforcement Measures

Where UCC determines that an operator has failed to comply with this framework, applicable license obligations, reporting requirements, corrective action requirements or other HSE-related regulatory obligations, UCC may take regulatory action in accordance with applicable law and license conditions. Regulatory responses may include:

- i. Written observations or advisory notices;
- ii. Requests for clarification or additional information;
- iii. Compliance directives;
- iv. Corrective action plans with binding timelines;
- v. Enhanced monitoring or increased reporting frequency;
- vi. Targeted inspections or audits;
- vii. Requirement for independent assurance;
- viii. Conditions attached to approvals, licenses, license renewals or license modifications;
- ix. Suspension, restriction or deferral of relevant regulatory approvals, where lawful and justified;
- x. Administrative penalties or sanctions provided under applicable law;
- xi. Public disclosure of material non-compliance, where appropriate and lawful;
- xii. Referral to another competent authority; and
- xiii. Any other lawful regulatory measure available to UCC.

The regulatory response shall be proportionate to the nature, severity, recurrence, impact and risk profile of non-compliance.

50. Escalation of Regulatory Action

UCC may escalate regulatory action where:

- i. An operator fails to submit required HSE reports or evidence;
- ii. Submitted information is materially false, misleading, incomplete or unsupported;
- iii. An operator fails to implement corrective action within the required timeline;
- iv. Non-compliance is repeated or systemic;
- v. An incident creates serious risk to workers, communities, the public or the environment;
- vi. An operator obstructs inspection, verification or regulatory review;
- vii. An operator fails to cooperate with UCC or another competent authority on an HSE matter;
- viii. Unresolved HSE risks affect infrastructure safety, service continuity, public confidence or environmental protection; or
- ix. Any other circumstance justifies escalation under applicable law.

Escalation may proceed progressively, but UCC may take immediate regulatory action where the risk is serious, urgent or likely to cause harm.

51. Recognition of Good Performance

UCC may recognize operators that demonstrate strong, consistent and verifiable HSE performance. Recognition may include:

- i. Reduced reporting frequency for low-risk domains;
- ii. Reduced inspection frequency where justified by good performance and low risk;
- iii. Prioritized processing of certain regulatory applications, where lawful and appropriate;
- iv. Public recognition of good sector practice;
- v. Use of operator good practice as sector learning, with appropriate consent or anonymization where necessary; and
- vi. Any other incentive or recognition mechanism UCC may prescribe.

Recognition of good performance shall not exempt an operator from compliance with this framework, applicable laws, licence conditions or any other regulatory obligation.

52. Coordination with Other Competent Authorities

Where an HSE matter falls within or affects the mandate of another competent authority, UCC may coordinate with that authority as appropriate. This may include:

- i. Sharing relevant information;
- ii. Requesting confirmation of approvals, permits, certificates or compliance status;
- iii. Referring matters for action within that authority's mandate;
- iv. Undertaking joint inspections or consultations, where appropriate;
- v. Recognizing findings, approvals or reports issued by competent authorities; and
- vi. Requiring operators to provide evidence of compliance with obligations administered by other competent authorities.

Coordination under this section shall not relieve an operator of its obligation to comply with UCC requirements or with the requirements of any other competent authority.

53. Due Process and Operator Response

Before taking regulatory action, UCC shall, where appropriate and subject to applicable law, provide the operator with an opportunity to respond to identified findings, submit clarification, provide additional evidence or propose corrective action.

This shall not prevent UCC from taking urgent action where immediate intervention is required to protect workers, contractors, communities, the public, infrastructure, services or the environment.

Operators shall cooperate with UCC during verification, compliance assessment, inspections, audits, investigations and corrective action monitoring.

PART VII: GOVERNANCE, ROLES AND INSTITUTIONAL COORDINATION

54. Purpose of Governance and Coordination Arrangements

The purpose of this Part is to define the roles, responsibilities and coordination arrangements necessary to support effective implementation of this framework.

Health, safety and environmental matters in the communications sector involve multiple actors, including UCC, licensed operators, contractors, suppliers, infrastructure owners, local authorities, communities and other competent government agencies.

This Part is intended to promote clear accountability, avoid duplication of mandates, support information sharing and strengthen coordinated regulatory oversight of HSE matters affecting the communications sector.

55. Role of UCC

UCC shall be responsible for integrating HSE considerations into communications-sector regulation in accordance with its mandate. In implementing this framework, UCC may:

- i. Issue reporting templates, compliance schedules, guidelines, directives or other implementation instruments;
- ii. Review HSE reports, records and supporting evidence submitted by operators;
- iii. Verify operator compliance through desk reviews, inspections, audits, technical measurements, sampling or other lawful means;
- iv. Assess operator compliance with applicable HSE obligations;
- v. Require corrective action where non-compliance, risk, data gaps or reporting weaknesses are identified;
- vi. Consider HSE performance in licensing, license renewal, license modification, type approval, infrastructure approvals, infrastructure sharing and other relevant regulatory processes;
- vii. Conduct or require RF-EMF assessments, measurements or compliance reviews;
- viii. Support public awareness on HSE matters within the communications sector, including RF-EMF, infrastructure safety and e-waste;
- ix. Coordinate with other competent authorities where an HSE matter falls within or affects their statutory mandate;
- x. Maintain sector-level HSE information to support evidence-based regulation, risk profiling and policy advice; and
- xi. Take regulatory action in accordance with applicable law, license conditions and this framework.

UCC shall not replace the statutory mandates of other competent authorities responsible for environmental management, occupational safety and health, waste management, climate change, land use, construction permitting, local government administration or public health.

56. Role of Licensed Operators

Licensed operators shall have primary responsibility for implementing applicable HSE obligations within their operations, infrastructure, facilities, services, contractors and areas of operational control. Operators shall:

- i. Establish and maintain appropriate HSE management systems;
- ii. comply with applicable laws, regulations, license conditions, approvals, permits, UCC requirements and this framework;
- iii. Identify, assess, manage and monitor HSE risks arising from their infrastructure, facilities, equipment, services and activities;
- iv. Submit accurate, complete and verifiable HSE reports to UCC;
- v. Maintain auditable records and supporting evidence;
- vi. Ensure that contractors, suppliers, managed service providers and shared infrastructure partners comply with relevant HSE requirements;
- vii. Report major HSE incidents and implement corrective action;
- viii. Cooperate with UCC inspections, audits, verification activities and compliance reviews;
- ix. Obtain and maintain required approvals, permits or clearances from other competent authorities;
- x. Engage communities and stakeholders where activities create material HSE concerns; and
- xi. Support continuous improvement in HSE performance.

Operators shall not rely on outsourcing, infrastructure sharing, co-location or managed service arrangements to avoid responsibility for HSE obligations that fall within their license obligations, operational control, contractual responsibility or regulatory approvals.

57. Role of Relevant Government Agencies

Other competent government agencies shall retain their statutory mandates in relation to environmental protection, occupational safety and health, climate change, waste management, land use, physical planning, construction permitting, public health, local government administration and related matters. Where relevant to implementation of this framework, such agencies may support:

- i. Environmental assessment, approval, audit or compliance processes;
- ii. Energy related reporting
- iii. Occupational safety and health oversight;
- iv. Waste management and hazardous waste controls;
- v. Climate change reporting and policy alignment;
- vi. Land use, physical planning and construction approvals;
- vii. Local government permitting and site-level oversight;
- viii. Public health or community safety matters;
- ix. Enforcement action within their statutory mandate; and
- x. Technical guidance or information sharing on matters affecting the communications sector.

UCC may consult, coordinate or share information with competent authorities where necessary to support effective implementation of this framework.

58. Role of Local Authorities

Local authorities play an important role in land use, physical planning, construction approvals, community oversight and local-level implementation of applicable HSE requirements.

Where communications infrastructure or activities require local approval, operators shall obtain and maintain the relevant approvals, permits or clearances. Local authorities may support implementation of this framework through:

- i. Site permitting and construction approval processes;
- ii. Local land use and physical planning oversight;
- iii. Community engagement and local grievance handling;
- iv. Identification of local safety or environmental concerns;
- v. Participation in joint inspections or consultations, where appropriate; and
- vi. Coordination with UCC and other competent authorities on local HSE matters.

59. Role of Contractors, Suppliers and Managed Service Providers

Contractors, suppliers, subcontractors, managed service providers and other third parties engaged by operators shall comply with applicable HSE requirements relating to the activities they perform.

Such parties may be involved in tower construction, rooftop access, civil works, fibre deployment, fuel supply, generator maintenance, battery handling, waste management, e-waste handling, site security, decommissioning, transport, data centre services or other HSE-relevant activities.

Operators shall ensure that such parties are subject to appropriate HSE requirements through contracts, service level agreements, procurement conditions, supervision, reporting arrangements and audit mechanisms. Contractors, suppliers and managed service providers shall, where applicable:

- i. Comply with relevant HSE laws, standards, permits, operator procedures and UCC requirements;
- ii. Use competent personnel for high-risk activities;
- iii. Maintain safe systems of work;
- iv. Report incidents, hazards, near misses and non-compliance to the operator;
- v. Maintain required records and evidence;
- vi. Cooperate with inspections, audits and corrective action processes; and
- vii. Support lawful disposal, recovery, recycling or transfer of waste, hazardous materials and end-of-life equipment.

60. Role of Infrastructure Owners and Shared Infrastructure Providers

Infrastructure owners and shared infrastructure providers shall manage HSE obligations associated with infrastructure, facilities or sites under their ownership, control or contractual responsibility.

Where infrastructure is shared, co-located or jointly used, the relevant parties shall clearly document responsibility for:

- i. Site access control and public safety;
- ii. Structural safety and maintenance;
- iii. Power systems, fuel storage, generators and batteries;
- iv. RF-EMF compliance information and site-level records;
- v. Hazardous materials and waste management;
- vi. Emergency preparedness and incident reporting;
- vii. Decommissioning, removal and site restoration;
- viii. Stakeholder engagement and grievance handling; and
- ix. Corrective action implementation and closure.

Infrastructure sharing shall not weaken HSE accountability. Each party shall maintain evidence of the obligations under its control and shall cooperate in providing information required by UCC.

61. Role of Communities and the Public

Communities and the public have an important role in supporting safe, responsible and informed development of communications infrastructure and services. Communities and the public may:

- i. Participate in consultations or engagement processes where applicable;
- ii. Raise legitimate HSE concerns relating to communications infrastructure or services;
- iii. Report unsafe sites, damaged infrastructure, environmental concerns or public safety risks;
- iv. Use established grievance and complaint channels;
- v. Participate in public awareness initiatives relating to RF-EMF, infrastructure safety and e-waste; and
- vi. Support responsible disposal of communications devices, accessories and electronic waste.

Operators shall provide accessible channels for receiving and responding to HSE-related community concerns.

62. Internal Coordination within UCC

UCC shall promote internal coordination among relevant departments and functions involved in HSE-related matters. This may include coordination among functions responsible for:

- i. Engineering and Communications Infrastructure;
- ii. Type approval and market surveillance;
- iii. Licensing and compliance;
- iv. Legal and enforcement matters;
- v. Consumer protection and complaints handling;
- vi. Public and corporate communications;
- vii. Universal service and access initiatives;
- viii. Research, innovation and data analysis; and
- ix. Regional office operations.

Internal coordination shall support consistent decision-making, efficient information sharing, harmonized regulatory action and coherent public communication on HSE matters.

63. Sector Coordination and Consultation

UCC may establish mechanisms for sector coordination, consultation and learning on HSE matters.

Such mechanisms may include:

- i. Operator consultations;
- ii. Technical working sessions;
- iii. Reporting clinics or capacity-building engagements;
- iv. Stakeholder workshops;
- v. Joint awareness initiatives;
- vi. Engagement with academia, research institutions or professional bodies;
- vii. Coordination with relevant government agencies; and
- viii. Publication of sector-level guidance, trends or learning points.

Sector coordination shall support practical implementation of the framework, improve reporting quality, build technical capacity and promote continuous improvement in sector HSE performance.

64. Information Sharing and Confidentiality

Operators shall provide HSE information required by UCC for implementation of this framework.

UCC may use submitted information for compliance assessment, verification, sector risk analysis, policy development, public awareness, coordination with competent authorities and regulatory decision-making.

Where information submitted by an operator is confidential, commercially sensitive or security-sensitive, the operator shall clearly identify the information and provide reasons for the claim of confidentiality.

UCC shall handle confidential information in accordance with applicable law, regulatory requirements and internal procedures.

This shall not prevent UCC from disclosing information where disclosure is required by law, necessary for public safety, required for enforcement, or necessary for coordination with another competent authority.

65. Governance Review and Improvement

UCC may review the governance and coordination arrangements under this framework from time to time. Such review may consider:

- i. Effectiveness of institutional coordination;
- ii. Operator compliance and reporting performance;
- iii. Recurring HSE risks or implementation challenges;
- iv. Adequacy of stakeholder engagement mechanisms;
- v. Effectiveness of coordination with other competent authorities;
- vi. Internal UCC process improvements; and
- vii. Lessons learned from inspections, incidents, enforcement and sector reporting.

UCC may update governance arrangements, reporting channels, coordination mechanisms or implementation guidance as necessary to improve the effectiveness of this framework.

PART VIII: PHASED IMPLEMENTATION, REVIEW AND CONTINUOUS IMPROVEMENT

66. Purpose of Phased Implementation

This framework shall be implemented in a phased and proportionate manner to support practical compliance, sector readiness, data quality improvement and progressive strengthening of HSE performance.

Phased implementation shall allow UCC and operators to prioritize immediate HSE risks while progressively strengthening more complex areas such as greenhouse gas reporting, Scope 3 emissions, circular economy measures, consumer device take-back, supply chain sustainability controls, data centre performance indicators and emerging technology risks.

Phased implementation shall not suspend or weaken any obligation that already applies under law, license conditions, approvals, permits, UCC directives or any other applicable regulatory requirement.

67. Immediate Implementation Requirements

From the commencement of this framework, operators shall comply with the core obligations applicable to their license category, infrastructure, facilities, activities and HSE risk profile. Immediate implementation requirements may include:

- i. Designation of responsible persons or units for HSE implementation and reporting;

- ii. Establishment or update of HSE policies, procedures and accountability arrangements;
- iii. Identification of applicable HSE obligations, approvals, permits and records;
- iv. Basic HSE risk assessment and risk register development;
- v. Incident reporting and corrective action procedures;
- vi. RF-EMF compliance records, where applicable;
- vii. Occupational health and safety controls for high-risk activities;
- viii. Emergency preparedness arrangements;
- ix. Hazardous materials and waste management controls;
- x. Basic energy and fuel consumption records, where applicable;
- xi. e-waste and end-of-life equipment records for operator-controlled equipment;
- xii. Stakeholder grievance mechanisms for HSE-related concerns; and
- xiii. Submission of HSE reports in the form and timelines prescribed by UCC.

68. Phased and Progressive Obligations

UCC may prescribe phased implementation timelines for obligations that require additional systems, data maturity, sector coordination, supplier engagement, technical guidance or operational transition. Phased obligations may include:

- i. Detailed greenhouse gas emissions reporting;
- ii. Progressive Scope 3 emissions assessment and reporting;
- iii. Supplier and contractor sustainability screening;
- iv. Consumer device take-back and lifecycle programs;
- v. Circular economy reporting beyond operator-controlled e-waste;
- vi. Advanced energy efficiency indicators;
- vii. Data centre performance indicators, including cooling and power usage metrics;
- viii. Formal independent assurance for selected high-risk or complex reporting areas;
- ix. Emerging technology HSE assessments; and
- x. Any other obligation UCC determines should be implemented progressively.

In determining implementation timelines, UCC may consider operator category, infrastructure footprint, data availability, sector readiness, cost of compliance, technical feasibility, public interest, environmental risk and the need for regulatory consistency.

69. Implementation Guidance, Templates and Schedules

UCC may issue implementation guidance, reporting templates, compliance schedules, technical forms, sector circulars or other instruments to support the implementation of this framework. Such instruments may prescribe:

- i. Operator categories and applicable obligations;
- ii. Reporting timelines and submission procedures;
- iii. Minimum evidence requirements;
- iv. KPIs and performance indicators;
- v. Calculation methods and reporting boundaries;
- vi. Incident reporting formats;

- vii. Corrective action plan formats;
- viii. Verification procedures;
- ix. Phased implementation timelines; and
- x. Any other matter necessary for implementation.

Operators shall comply with templates, schedules, technical forms, guidance or implementation instruments issued by UCC under this framework.

70. Transitional Arrangements

UCC may provide transitional arrangements to allow operators to align existing systems, records, procedures and reporting mechanisms with this framework. Transitional arrangements may include:

- i. Baseline HSE reporting;
- ii. Gap assessment against the framework;
- iii. Operator self-assessment;
- iv. Phased submission of selected data fields;
- v. Pilot reporting cycles;
- vi. Capacity-building or reporting clinics;
- vii. Grace periods for selected new reporting requirements;
- viii. Timelines for corrective action; and
- ix. Any other arrangement necessary to support orderly implementation.

Transitional arrangements shall not apply to serious HSE risks, major incidents, statutory non-compliance, public safety risks, environmental harm or any matter requiring urgent regulatory action.

71. Baseline Assessment and Sector Risk Profiling

UCC may undertake a baseline assessment of sector HSE performance to support implementation of this framework. The baseline assessment may include:

- i. Operator self-assessment returns;
- ii. Review of existing operator HSE systems and reports;
- iii. Review of RF-EMF compliance information;
- iv. Review of energy and fuel consumption records;
- v. Review of hazardous materials, waste and e-waste records;
- vi. Review of data centre and high-density ICT facility information;
- vii. Review of incident and complaint data;
- viii. Field inspections or sample audits; and
- ix. Consultations with operators and relevant stakeholders.

The results of the baseline assessment may be used to establish sector priorities, refine reporting templates, determine risk-based verification plans, identify capacity gaps and inform phased implementation.

72. Continuous Improvement by Operators

Operators shall demonstrate continuous improvement in HSE performance over time. Continuous improvement may be demonstrated through:

- i. Reduction in recurring incidents and unresolved corrective actions;
- ii. Improved quality, completeness and reliability of HSE data;
- iii. Stronger HSE management systems and internal controls;
- iv. Improved occupational safety and contractor management;
- v. Better RF-EMF compliance documentation and public communication;
- vi. Improved energy efficiency and reduced generator dependence;
- vii. Improved hazardous waste and e-waste traceability;
- viii. Expanded use of reuse, repair, refurbishment, recovery and recycling;
- ix. Improved site restoration and decommissioning practices;
- x. Better stakeholder engagement and grievance resolution; and
- xi. Adoption of cleaner, safer or more efficient technologies where feasible.

UCC may consider continuous improvement when determining compliance risk, inspection frequency, reporting requirements or recognition of good performance.

73. Review of the Framework

UCC shall review this framework periodically to ensure that it remains relevant, practical, enforceable and aligned with national priorities, sector developments and international good practice. A review may be undertaken to reflect:

- i. Changes in law, policy, license conditions or regulatory priorities;
- ii. Lessons from implementation, reporting, inspections and enforcement;
- iii. Changes in communications technologies, infrastructure models or service delivery;
- iv. Emerging HSE risks;
- v. Climate change, energy, environmental or sustainability developments;
- vi. Changes in international standards, recommendations or good industry practice;
- vii. Operator feedback and stakeholder consultation; and
- viii. Any other matter UCC considers relevant.

UCC may revise this framework, issue supplementary guidance or amend reporting templates and compliance schedules following such review.

74. Sector Learning and Capacity Building

UCC may promote sector learning and capacity building to support effective implementation of this framework. This may include:

- i. Operator sensitization and framework dissemination sessions;
- ii. Technical workshops;
- iii. Reporting and data quality clinics;
- iv. Guidance on RF-EMF compliance reporting;
- v. Guidance on e-waste and circular economy reporting;

- vi. Guidance on energy and emissions reporting;
- vii. Sharing of anonymized sector trends and lessons;
- viii. Engagement with academia, professional bodies and research institutions; and
- ix. Collaboration with other competent authorities and development partners where appropriate.

Sector learning and capacity building shall support compliance, improve technical understanding and promote consistent interpretation of HSE obligations.

75. Innovation and Good Practice

Operators are encouraged to adopt innovative approaches and good industry practice that improve HSE performance within the communications sector. Such approaches may include:

- i. Renewable and hybrid power systems;
- ii. Smart energy management;
- iii. Predictive maintenance;
- iv. Digital HSE reporting tools;
- v. Remote monitoring of high-risk infrastructure;
- vi. Safer battery technologies and battery management systems;
- vii. Improved waste traceability systems;
- viii. Reuse, repair and refurbishment programs;
- ix. Infrastructure sharing models that reduce unnecessary site proliferation;
- x. Community awareness models that improve public confidence; and
- xi. Any other innovation that supports safer, cleaner and more resilient communications infrastructure.

Innovation shall not exempt an operator from complying with applicable HSE obligations, evidence requirements or regulatory approvals.

76. Commencement and Review Cycle

This framework shall commence on the date prescribed by UCC.

UCC may prescribe a phased implementation schedule indicating the commencement dates for specific reporting, evidence, verification or compliance requirements.

Unless otherwise determined by UCC, the first review of this framework shall be undertaken after one year of implementation to assess its effectiveness, implementation challenges, sector readiness, reporting quality, compliance trends and alignment with applicable law, policy, technology and good practice. Thereafter, the framework shall be reviewed periodically, taking into account sector performance, emerging HSE risks, compliance trends, technological developments, regulatory experience and any changes in the applicable legal or policy environment.

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