



## LUSAKA WATER SUPPLY & SANITATION COMPANY LTD

### LUSAKA SANITATION PROGRAM

## Results-based Financing Scheme for FSM

## Monitoring & Verification Plan

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## Acronyms

EXCO	Executive Committee
FSM	Faecal Sludge Management
FSTP	Faecal Sludge Treatment Plant
GCC	General Conditions of Contract
KPI	Key Performance Indicator
LWSC	Lusaka Water Supply & Sanitation Company Ltd
M&V	Monitoring and Verification
NWASCO	National Water Supply and Sanitation Council
OSS	Onsite Sanitation
PPE	Personal Protective Equipment
PUD	Peri-urban Department
PUA	Peri-urban Areas
SOP	Standard Operating Procedures
SP	Service Provider
ZEMA	Zambia Environmental Management Agency

## EXECUTIVE SUMMARY

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Lusaka Water Supply and Sanitation Company Ltd (LWSC) is mandated to provide potable water supply and sanitation services to the city of Lusaka and other districts within Lusaka province, namely Chirundu, Kafue, Chilanga, Chongwe and Rufunsa. Whilst there has been an improvement in the provision of water supply to Lusaka and the other towns, provision of adequate sanitation has for a long time lagged behind. According to the 2019 Urban and Peri-urban Water Supply and Sanitation Sector Report published by NWASCO, only about 23% of the population in Lusaka city is connected to the sewerage system. Hence the majority of the population rely on onsite sanitation. Most households in peri-urban areas (PUAs) use onsite sanitation facilities in the form of pit latrines.

In order to improve sanitation services in the PUAs LWSC developed a Faecal Sludge Management (FSM) Business Model that encompasses the entire sanitation value chain up to treatment. In this vein, LWSC has contracted private service providers (SPs) of Faecal Sludge Management (FSM) to undertake the safe emptying, transportation and disposal of faecal sludge from pit latrines in Lusaka to designated Faecal Sludge Treatment Plants (FSTP). The contracts with SPs are performance (results)-based, LWSC paying a top-up subsidy to the former according to the level of achievement of agreed Key Performance Indicators in a scorecard. The households pay a fixed amount per m<sup>3</sup> of sludge emptied and collected and the top-up subsidy covers the other costs incurred by the SPs as well as a profit margin.

In order to manage this results-based financing scheme, LWSC has developed a Monitoring and Verification (M&V) Plan. The M&V Plan is meant to facilitate verification of reported achievement of the KPIs by the SPs and to ensure they comply with service level requirements set out by NWASCO. The first phase of the contracts under this scheme will run from 2019 to the end of 2021 and with a target beneficiary of 230,000 and about 47,500m<sup>3</sup> of sludge emptied and collected from PUAs and disposed of at designated FSTPs.

A scorecard system shall be used to monitoring and measure performance against the KPIs. This is covered under sections 2 and 3. Three categories of KPIs have been developed namely, i) Occupational health & safety indicators, ii) Customer service management indicators, and iii) Public safety during collection and transport indicators. The scorecard has a total of fourteen indicators. Each indicator has a base target for the period 2019 to 2020, as well as a target for 2021 and beyond. In order to be awarded a full subsidy a SP would need to have had an overall score of at least 70%, otherwise the subsidy would need to be reduced accordingly. Consistent under-performance would attract further sanctions in the form of termination of the contract.

In section 4, the M&V Plan shows the roles within LWSC that are involved in the scheme as well as the respective responsibilities. It separates the roles during the LSP phase as well as the roles and responsibilities post-LSP. The responsibilities range from data collection and analysis to approval of payments by the LWSC executive Committee.

Section 5 shows the M&V timeframe through which the various activities will be undertaken by SPs and LWSC, the outputs and responsible entity. Data acquisition and flow is described

under section 6. The various tools for data collection such as reports and forms are shown in a schematic flow-chart. Section 7 deals with management of the data collected.

Lastly, section 8 describes dispute resolution mechanisms for this results-based financing scheme, and indicators to measure success of the project in section 9.

## 1 Introduction

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Lusaka Water Supply and Sanitation Company Ltd (LWSC) provides water supply and sanitation services to the city of Lusaka and other towns within Lusaka province. As part of improvement of sanitation services LWSC through support under the Lusaka Sanitation Program (LSP) has contracted private service providers (SPs) of Faecal Sludge Management (FSM) to undertake the safe emptying, transportation and disposal of faecal sludge from pit latrines in Lusaka to designated Faecal Sludge Treatment Plants (FSTP).

The services contracts between LWSC and the SPs outlines the rights and responsibilities of the parties to the agreement. A scorecard system incorporating a set of Key Performance Indicators (KPIs) shall be used to measure performance of individual service providers. The SPs will operate in specific zones as designated by LWSC in the services contract.

The services contract shall operate on an Output-based Approach or results-based rewarding system. Under this scheme LWSC has put funds aside for payment of a top-up rate (subsidy) per m<sup>3</sup> of sludge emptied and transported and disposed of at FSTPs. This is on top of the fixed per m<sup>3</sup> fee to be paid by households. Whilst the household contribution is fixed at K125/m<sup>3</sup> for the year 2019 - 2020, and K150/m<sup>3</sup> of volume of sludge for 2021 onwards, the top-up rate or subsidy is factored to include degree of achievement of KPIs in the scorecard by SPs. Each SP has its own top-up rate based on its submitted rate in the tender. The subsidy will initially be financed through funds from the LSP and later on through a sanitation charge subject to approval by NWASCO.

### 1.1 Purpose of this Monitoring and Verification Plan

The purpose of this Monitoring and Verification (M&V) Plan is to facilitate verification of reported achievement of KPIs by Service Providers (SP). The plan is meant to ensure there is accountability and transparency in the allocation of performance-based financial rewards. This plan will guide the FSM Unit at LWSC to carry out verifications and audits of SPs and provide feedback on results to the SPs.

Furthermore, the monitoring and verification will enable LWSC to ensure that SPs adhere to service guidelines and standards issued to all water utilities by the National Water Supply and Sanitation Council (NWASCO), the water supply and sanitation regulator. This is for the purpose of reporting on the Service Level Agreements and Service Level Guarantees.

### 1.2 Project Summary

Pertinent aspects of the project are summarised in Table 1.1 below.

**Table 1. 1 Project Summary**

<b>Title</b>	Management of Performance-Based Contracts for Improved Faecal Sludge Management Services in Lusaka
<b>Goal</b>	Improvement of FSM services
<b>Starting Date</b>	November 2019
<b>Duration</b>	31 <sup>st</sup> October 2019 to 31 <sup>st</sup> December 2021
<b>Partners</b>	FSM Service Providers, Cooperating Partners
<b>Target Area</b>	Peri-urban Areas (PUA), Lusaka
<b>Number of Beneficiaries</b>	230,000 beneficiaries over the 2 years
<b>Volume of Sludge to be Collected</b>	47,500m <sup>3</sup> over 2 years to 31 <sup>st</sup> December 2021
<b>Cost</b>	USD800,000
<b>Funding Source</b>	World Bank

### **1.3 Alignment of the Performance-Based Contracts for FSM to LSP Goals**

The Lusaka Sanitation Program (LSP) aims to improve sanitation services in Lusaka and strengthen LWSC's capacity to manage sanitation services. The program's measures include both infrastructure development as well as developing the utility's capacity to manage all aspects of sanitation, from conventional sewerage to Onsite sanitation systems (OSS) including FSM services.

Among the interventions under LSP to improve both sewerage and OSS services in Lusaka include:

- Construction of 7,000 household on-site sanitation facilities,
- construction of 2 Faecal Sludge Treatment Plants (FSTPs) for the peri-urban and low-income communities of Lusaka,
- construction of 100 public toilet facilities,
- and expansion and rehabilitation of existing sewerage network up to an estimated 520 km to cover both urban and peri-urban communities of Lusaka,
- Rehabilitation/expansion of two Wastewater Treatment Plants (WWTP)



The performance-based contracts under the Results-based Financing Scheme (RBFS) is thus supportive of the overall goal of the LSP to improve all aspects of sanitation including OSS and to contribute to protection of groundwater. The RBFS project aims to improve provision of FSM services through the entire sanitation value chain by providing incentives to residents of peri-urban areas (PUA) through a subsidy. FSM services in PUA have largely been non-existent or conducted in unregulated and unhealthy manner thereby posing a public health hazard to the communities. Implementation of this project will ensure FSM services are available to the PUAs and result in improved living conditions in the areas. Sludge collected from pit latrines will be disposed at designated FSTPs constructed under the LSP and therefore protect the environment from illegal sludge disposal.

## **2 The Scorecard and Assessment for Results**

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### The Scorecard

The scorecard is a system for measuring performance of the service provider based on pre-agreed key performance indicators (KPIs). The KPI is measured through a measurable verifiable indicator. The KPIs under this scheme have been categorised into three (3) areas:

- 1. Occupational health & safety indicators**
- 2. Customer service management indicators**
- 3. Public safety during collection and transport indicators**

Achievement of each KPI will be measured against a set target as shown in the table 2.1 below. This assessment shall be done on a monthly basis once service providers submit their invoices for payment. Some KPIs will be reported by the operator/service provider whilst others will be reported and scored by the FSM Unit based on desk appraisal and field assessment. The FSM Unit will conduct verifications of the reported scores by the service provider. The scorecard framework is shown in table 2.1 below.

### Assessment and Results Framework

Each KPI in the scorecard is assessed using a verifiable indicator which defines how the indicator shall be measured. Once the performance of a service provider has been assessed based on the individual KPIs in the scorecard an **aggregated total score** is generated by the system by adding the individual scores on each KPI. This total score determines the level of financial reward to be awarded to the service provider. A minimum threshold of achievement shall be determined by LWSC below which a service provider would not be rewarded a full payment. In this event the payment would be proportional to the score achieved. At the moment the minimum score for full payment is 70%.

**Table 2. 1 Scorecard**

#	KPI	Verifiable indicator	Unit	Target 2019-2020	Target 2021	Score in period	Degree of compliance in period	Weight	Weighted score	Reporter
<b>1.</b>	<b>Occupational health &amp; safety indicators</b>									
1.1	Valid licenses	Percentage of emptying and transport fleet trips with a ZEMA Waste Transport Licence and a permit from LWSC to allow dumping at the FSTPs	%	90%	100%		0%	10	-	Operator
1.2	Employee health - OH&S training	Percentage of service providers staff successfully having completed Occupational Health & Safety refresher training and medical tests	%	75%	80%		0%	10	-	Operator
1.3	Safety incidents	Safety incidents reported to LWSC: Fatalities, reported incidents, 1-3-day injury accidents, first aid injuries, road traffic incidents, dangerous occurrences and near misses	Pass/fail	No fatalities	No fatalities, no 1-3 day injury	Pass/Fail	100% or 0%	10	-	LWSC/Verification Agent
<b>2</b>	<b>Customer service management indicators</b>									

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2.1	Households served	Number of households served in period	No. of households served per month	-	-		(Score in Period)/(Target 2019)	10	-	Operator
2.2	Volume emptied	Volume of faecal sludge emptied in period	m3 collected per month	-	-		(Score in Period)/(Target 2019)	10	-	Operator
2.3	Customer satisfaction	Number of households who report complaints to LWSC regarding response time to call for service, experienced quality of service delivery, courtesy of operator staff. <sup>[1]</sup>	% of households served who complain	max. 15%	max. 10%		0%	10	-	LWSC/Verification Agent
2.4	OSS customers in database	Percentage of OSS customers in period for which information has been provided for toilet database in accordance with simple template provided by LWSC	% of households served with data provided	80%	90%		0%	5	-	Operator
<b>3</b>	<b>Public safety during collection and transport indicators</b>									
3.1	Volume delivered at designated facility	Volume of faecal sludge delivered at designated FSTP	m3 disposed per month	-	-		(Score in Period)/(Target 2019)	5	-	Operator + cross checked by Verification agent with LWSC FSTP entrance records
3.2	Share emptied at FSTP	Percentage of volume emptied at designated FSTP relative to the volume emptied at the customer	Pass / fail	At least 95%	At least 95%	Pass/Fail	100% or 0%	10	-	Operator

3.3	Safe collection and transport	Five sub-indicators based on visual inspection by Verification Agent under spot check of a small sample								
3.3.1	Worksite preparation	Work site is cleared of all household items and plastic sheeting placed on the ground in the workspace on key risk areas	Pass / fail	No significant violations observed	No significant violations observed	Pass/Fail	100% or 0%	4	-	Verification Agent
3.3.2	Safe worksite	Only authorised personnel in the workspace (within 5 m of emptying operations) and contaminated objects kept in worksite unless being transported to the vehicle	Pass / fail	No significant violations observed	No significant violations observed	Pass/Fail	100% or 0%	4	-	Verification Agent
3.3.3	Equipment	Personnel are wearing personal protective equipment: protective gloves, protective clothing, safety boots, mask (if working directly with the emptying), face shield (in case of using high pressure washers)	Pass / fail	No significant violations observed	No significant violations observed	Pass/Fail	100% or 0%	4	-	Verification Agent
3.3.4	Transport	Collected FS is transported in a safe manner: methods of transporting faecal sludge incorporate reasonable measures for preventing spillage in route to disposal sites (sealed lid on barrel/closed tank lid)	Pass / fail	No significant violations observed	No significant violations observed	Pass/Fail	100% or 0%	4	-	Verification Agent

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3.3.5	Disposal	Collected FS is disposed only at designated FSTP (no informal dumping)	Pass / fail	No significant violations observed	No significant violations observed	Pass/Fail	100% or 0%	4	-	Verification Agent
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<b>Total Score:</b>	-
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<b>Cut-off Score for full payment:</b>	<b>70%</b>
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### 3 Measurement of Key Performance Indicators

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This section describes **how** the KPIs in the scorecard will be measured, **who** will measure, the **frequency** of measurement, as well as the data to be collected and tools for verification. An overview of the measurement framework is shown in table 3.1 below, whilst the detailed framework is shown in Annex 1.1

**Table 3. 1 Indicator Monitoring Matrix**

ASPECT	KEY PERFORMANCE INDICATOR													
	Valid licenses	Employee health - OH&S training	Safety incidents	Households served	Volume emptied	Customer satisfaction	OSS customers in database	Volume delivered at designated facility	Share emptied at FSTP	Worksite preparation	Safe worksite	Equipment	Transport	Disposal
<b>Baseline</b>	90%	75%	No fatalities	N/A, contract specific	N/A, contract specific	Max. 15% HH complain	80%	N/A, contract specific	At least 95%	No significant Violations	No significant Violations	No significant Violations	No significant Violations	No significant Violations
<b>Target</b>	100%	80%	No fatalities, no 1-3 day injury	N/A, contract specific	N/A, contract specific	Max. 10% HH complain	90%	N/A, contract specific	At least 95%	No significant Violations	No significant Violations	No significant Violations	No significant Violations	No significant Violations
<b>Data Source</b>	Service Provider/ LWSC	SP list of employees & Certificates	SPs incident reports	Customer Receipts & FSTP forms	Customer Receipts & FSTP forms	LWSC-Call Centre, Customer Surveys	OSS Template, Job Cards, Assessment Form	FSTP Entry Forms & Monthly Report	Customer receipts, FSTP Forms	Physical inspections & customer interviews	Physical inspections & customer interviews	Physical inspections & customer interviews	Physical inspections & customer interviews	Physical inspections & customer interviews

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<b>Frequency of Measurement</b>	Every Trip to FSTP	Every 6 months	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
<b>Responsible</b>	FSTP Operator	FSM Inspector	FSM Inspector	Head, BD FSM	Head, BD FSM	Head, BD FSM	Head, BD FSM	Assistant Inspector	Inspector	Assistant Inspector	Assistant Inspector	Assistant Inspector	Assistant Inspector	Assistant Inspector
<b>Information User</b>	Inspector	FSM Inspector	FSM Inspector	Head, BD FSM, MPUD	Head, BD FSM, MPUD	Head, BD FSM, MPUD	Head, BD FSM, MPUD	Inspector	Inspector	Inspector	Inspector	Inspector	Inspector	Inspector



## 4 Roles & Responsibilities

Table 4.1 shows the roles and responsibilities of the various functions during the RBFS for FSM under the LSP whilst Table 4.2 shows the positions in LWSC that are crucial to the successful operation of the FSM services, monitoring and verification after LSP.

**Table 4. 1 Roles and Responsibilities for RBFS during LSP**

Role	Responsibilities
<b>Managing Director</b>	<ul style="list-style-type: none"> <li>• Approvals and providing strategic guidance</li> <li>• Decision making</li> <li>• Payment approvals</li> </ul>
<b>Director Infrastructure Planning and Development</b>	<ul style="list-style-type: none"> <li>• Infrastructure planning and development</li> <li>• Decision making</li> </ul>
<b>Director Finance</b>	<ul style="list-style-type: none"> <li>• Payment authorisations</li> </ul>
<b>Director Commercial Services</b>	<ul style="list-style-type: none"> <li>• Spearheads marketing and customer service, and reviewing reports</li> </ul>
<b>Manager Peri-Urban Department</b>	<ul style="list-style-type: none"> <li>• Preparation of recommendations report for payment of claims from service providers</li> <li>• Responsible for overall commercial functioning of the OSS and administration and enforcement of service providers contracts</li> <li>• Direct, coordinate, control and manage FSM business to ensure cost recovery sustainability of the overall FSM operations. checking data, conducting analysis, reviewing report, decision making</li> </ul>
<b>Project Manager LSP</b>	<ul style="list-style-type: none"> <li>• Approval of Verification reports from VA</li> <li>• Approval of payments to service providers and VA</li> </ul>
<b>Contracts Manager LSP</b>	<ul style="list-style-type: none"> <li>• Contracts management of service providers and Verification Agent</li> <li>• Approval of Verification reports from VA</li> </ul>
<b>Financial Specialist LSP</b>	<ul style="list-style-type: none"> <li>• Checking correctness of invoice claims</li> <li>• Initiating payments of invoices</li> </ul>
<b>Sewerage Services Manager</b>	<ul style="list-style-type: none"> <li>• Checking data, conducting analysis, reviewing reports and decision making especially regarding operations of the FSTP</li> </ul>

<b>Head Business Development - FSM</b>	<ul style="list-style-type: none"> <li>• Implementation of the FSM Business model</li> <li>• Receives and verifies the correctness of the documentation of the FSTP Forms and initiates payments.</li> <li>• Schedule random inspections to customers provided with the service by the Pit Latrine Emptiers based on the Job cards and FSTP Forms presented.</li> <li>• Checking data, conducting analysis, report review and approval</li> </ul>
<b>FSM Inspector</b>	<ul style="list-style-type: none"> <li>• Ensuring compliance, checking data, conducting analysis, recommendation of payments</li> <li>• Verification of payment claims from service providers</li> <li>• Preparing recommendation report to PUD Manager for payments</li> </ul>
<b>Assistant FSM Inspector</b>	<ul style="list-style-type: none"> <li>• Inspections of service providers, data collection, report reviews, checking data</li> <li>• Field verification of scorecard data provided by service providers</li> <li>• Conducting on-the-spot inspections of operations of service providers</li> </ul>
<b>FSTP Operator</b>	<ul style="list-style-type: none"> <li>• Collecting data from service providers, checking and monitoring of operations at FSTP</li> <li>• Checking and confirmation of FSTP Entry forms, keeping record of sludge discharge activities at the FSTP</li> </ul>

Table 4. 2 Roles and Responsibilities Post LSP

<b>Role</b>	<b>Responsibilities</b>
<b>Managing Director</b>	<ul style="list-style-type: none"> <li>• Approvals and providing strategic guidance</li> <li>• Decision making</li> <li>• Payment approvals</li> </ul>
<b>Director of Operations</b>	Approvals and decision making especially on the operations of the FSTPs
<b>Director Finance</b>	<ul style="list-style-type: none"> <li>• Payment authorisations</li> </ul>
<b>Director Commercial Services</b>	<ul style="list-style-type: none"> <li>• Decision making especially on revenue and FSM business growth</li> <li>• Spearheads marketing and customer service, conducting analysis and reviewing reports</li> <li>• Approval of payments to service providers</li> </ul>
<b>Manager Peri-Urban Department</b>	<ul style="list-style-type: none"> <li>• Preparation of recommendations report for payment of claims from service providers</li> <li>• Responsible for overall commercial functioning of the OSS and administration and enforcement of service providers contracts</li> <li>• Direct, coordinate, control and manage FSM business to ensure cost recovery sustainability of the overall FSM operations. checking data, conducting analysis, reviewing report, decision making</li> </ul>

<b>Sewerage Services Manager</b>	Checking data, conducting analysis, reviewing reports and decision making especially regarding operations of the FSTP
<b>Manager Corporate Planning</b>	<ul style="list-style-type: none"> <li>Conducting analysis and report review and spearhead all M &amp; E activities in LWSC including FSM</li> </ul>
<b>Head Business Development - FSM</b>	<ul style="list-style-type: none"> <li>Management of service contracts with independent FSM service providers</li> <li>Implementation of the FSM Business model</li> </ul> Receives and verifies the correctness of the documentation of the Job cards and FSTP Forms and initiates payments. <ul style="list-style-type: none"> <li>Schedule random inspections to customers provided with the service by the PLE based on the FSTP Forms presented.</li> <li>Checking data, conducting analysis, report review and approval</li> </ul>
<b>FSM Inspector</b>	<ul style="list-style-type: none"> <li>Ensuring compliance, checking data, conducting analysis, recommendation of payments</li> <li>Verification of payment claims from service providers</li> <li>Preparing recommendation report to PUD Manager for payments</li> </ul>
<b>Assistant FSM Inspector</b>	<ul style="list-style-type: none"> <li>Inspections of service providers, data collection, report reviews, checking data</li> <li>Field verification of scorecard data provided by service providers</li> <li>Conducting on-the-spot inspections of operations of service providers</li> </ul>
<b>FSTP Operator</b>	<ul style="list-style-type: none"> <li>Collecting data from service providers, checking and monitoring of operations at FSTP</li> <li>Checking and confirmation of FSTP Entry forms, keeping record of sludge discharge activities at the FSTP</li> </ul>

## 5 Monitoring and Verification Timeframe

Service Providers shall carry out their pit emptying services on a daily basis as demand shall dictate. The FSM Unit shall be conducting regularly planned inspections as well as random and spontaneous inspections to check compliance by the Service Providers.

The verification shall be planned over a 30-day cycle. LWSC shall determine the start and end day of the cycle. The service providers shall invoice for services provided within this window period. Desk verifications for submitted invoices from Service Providers shall be done after the close of the window, though physical verifications and monitoring shall be done throughout the cycle. Verifications and submission of the report by the FSM Unit shall be completed within 10 days from close of cycle window (see figures 5.1 and 5.2). Payment to Service Providers will be done within the services contract provisions.

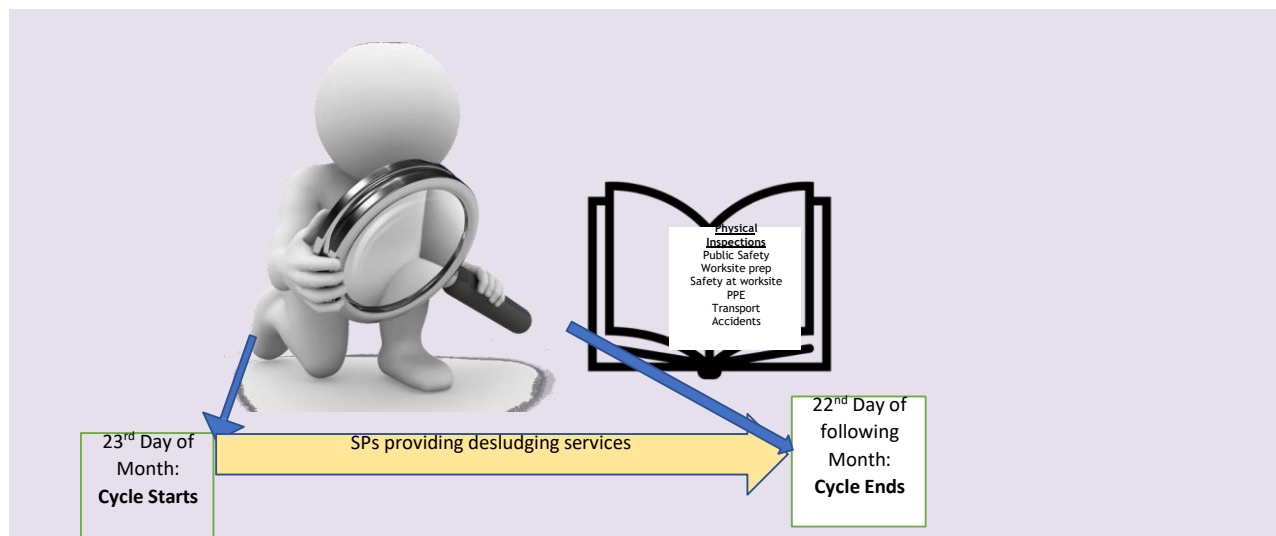


Figure 5. 1 Monitoring Timeframe

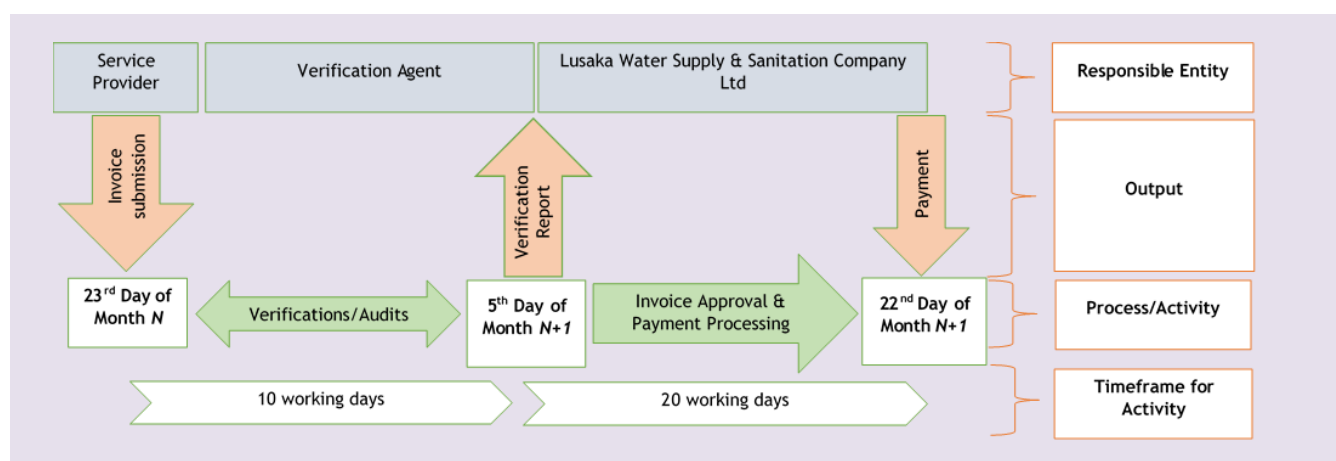


Figure 5. 2 Verification Timeframe

## 6 Data Flow

The flow chart below shows the interaction among the various stakeholders in the FSM services value chain at LWSC. Through these interactions various kinds of information and data is generated starting from the relationship between the Service Providers and Customers, Service Providers and LWSC, to the vertical and horizontal relationships within LWSC.

Daily generation of data will mostly come from the Service Providers' work in the emptying process as well as during disposal of the sludge at the FSTPs. Ultimately the data will flow to LWSC EXCO to facilitate decision making.

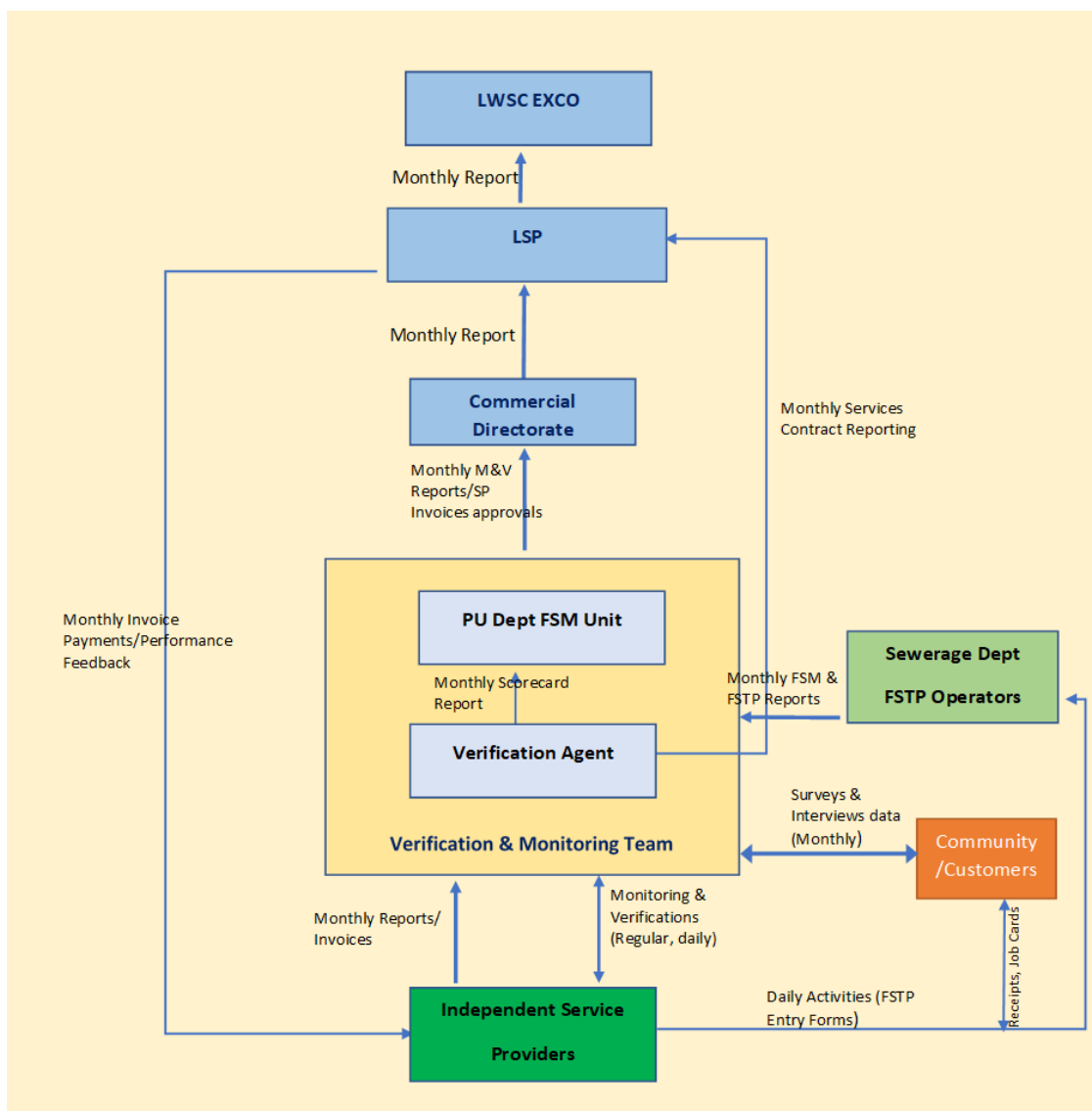


Figure 6. 1 Data Flow Chart

## **7 Data Management**

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### **7.1 Storage**

Raw data as obtained from service providers as well as from inspections by FSM Unit will mostly come in hard form, recorded on documents. The raw data shall be transferred to electronic forms either in spreadsheets or other forms of databases/storage. Results of data analysis will equally be in hard copy form as well as in electronic format. LWSC will develop the electronic format of storage and analysis. The hard copy forms shall be kept for a period as required by LWSC policy on data and documentation storage.

Most of the data collected will also be stored electronically once the M&E system is finalised.

### **7.2 Analysis**

Data analysis will mostly be conducted using excel, as well as other tools that may be available. The M&E electronic Dashboard may also be used to generate reports for analysis.

### **7.3 Privacy**

Some of the data that will be collected may be of a personal nature and hence should not be availed to unauthorised persons or without seeking permission from the owner. LWSC will determine what data to leave in the public domain taking into consideration widely acceptable privacy laws and policies.

## **8 Resolution of Disputes**

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By and large resolutions of disputes are covered under Clause 8.2.5 of the General Conditions of Contract (GCC) entered between the service providers and LWSC. Nonetheless disputes arising from issues on the scorecard and performance of the service provider will have to be resolved amicably based on facts before considering any external arbitration. Service providers who may be aggrieved by the decision of the VA or the FSM Unit on the scorecard can appeal the decision to the Manager LSP within 14 days. If the service provider is still not satisfied with the decision of the Manager LSP, the former has the right to appeal to the Managing Director of LWSC.

If all these provisions fail to resolve the matter, the dispute shall be referred to a court of competent jurisdiction as provided for in clause 8.2.5 of the GCC.

## 9 Project Success Indicators

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The objective of the results-based contracts for FSM services is improvement of delivery of services to peri-urban areas throughout the sanitation value chain. Two (2) indicators shall be used to measure progress and success of the project at completion. The indicators are shown in Table 9.1 below.

**Table 9. 1 - Project Indicators**

Indicator 1	Definition	Target	Timeframe
People with access to improved fecal sludge management services	Improved fecal sludge management (FSM) services means fecal sludge collection and transportation services that meet an average annual score of 70 percent on the FSM performance scorecard	230,000	31 <sup>st</sup> December 2021
Number of jobs created under the results-based contracts for FSM	Number of people employed by LWSC, independent Service Providers and other stakeholders under the results-based FSM Project	<b>To be set by LWSC</b>	31 <sup>st</sup> December 2021

## ANNEXES



## Annex 1. 1 - Monitoring and Measurement Framework

<b>Indicator No. 1.1</b>	<b>Valid licenses for LWSC and ZEMA</b>
<b>Definition</b>	<p>Percentage of emptying and transport fleet trips with a ZEMA Waste Transport Licence and a permit from LWSC to allow dumping at the FSTPs.</p> <p>Calculated by: Number of transport fleet trips complying with requirement in the period divided by total number of transport fleets recorded in the period</p>
<b>Purpose</b>	To assess compliance with statutory and regulatory requirements in order to safeguard public health and the environment
<b>Baseline (2019 - 2020)</b>	Average score: 90%
<b>Target (2021 onwards)</b>	Average score: 100%
<b>Data Collection</b>	<p>Check laminated copies of each ZEMA licence of the operator for each vehicle entering the FSTP or during random checks at emptying sites</p> <p>Check LWSC permit on the vehicle entering FSTP or during random checks at emptying sites and in LWSC register</p>
<b>Tool/Means of Verification</b>	LWSC Register at FSTP and physical copy of ZEMA licence
<b>Frequency</b>	Every trip to FSTP and random checks
<b>Responsible</b>	FSTP Operators
<b>Reporting</b>	The FTSP operator shall confirm compliance or not in the FSTP entry Form. The FSTP Operator shall submit a non-compliance report to the Assistant FSM Inspector for further action
<b>Quality Control</b>	All FSTP Operators will be oriented on how to complete the form. To verify the accuracy of the FSTP entry forms the FSM Unit will randomly select one FSTP every six months to audit. This audit will involve re-testing all the operators at the FSTP. Random inspections will also be conducted at emptying sites for compliance with this requirement

<b>Indicator No. 1.2</b>	Employee health - OH&S Training
<b>Definition</b>	<p>Percentage of service provider's staff successfully having completed Occupational Health &amp; Safety refresher training and medical tests</p> <p>Calculated by: weighted total score divided by possible total score. See matrix in <i>Standard Processes and Procedures Manual</i></p>
<b>Purpose</b>	<p>To ensure SPs employ staff that are fit for work. In that sense, SPs are mandated to present their employees to the Occupational Health and Safety Institute for medical assessments for:</p> <ul style="list-style-type: none"> <li>- Pre-employment (Baseline examination)</li> <li>- Annual examination (monitoring)</li> <li>- Exit examination (conducted when employee stops or departs their role)</li> </ul> <p>Employees must have undertaken training on H&amp;S and SOPs before undertaking work</p> <p>Those directly employed in emptying of pit latrines or septic tanks must have <b>vaccinations</b> for (i) hepatitis B, (ii) cholera and (ii) typhoid.</p> <p>The employer is not liable to provide the vaccines but must make sure that employees meet these requirements.</p>
<b>Baseline</b> (2019-2020)	Average score: 75%
<b>Target</b> (2021 onwards)	Average score: 80%
<b>Data Collection</b>	The SPs will submit names, copies of IDs, Passport photos of its employees together with certificates of medical fitness, OH&S and vaccinations for hepatitis B, cholera and typhoid to FSM Unit. The FSM Unit will further conduct random inspections on SPs to assess compliance with this requirement
<b>Tool/Mean Verification</b> of	Employee Register
<b>Frequency</b>	Every 3 months
<b>Responsible</b>	FSM Inspector

<b>Reporting</b>	SP will submit this information in the monthly report at invoicing. The average score for each SP will be reported in the monthly scorecard reports.
<b>Quality Control</b>	The FSM Unit will conduct random inspections to check availability and validity of the certificates for employees.

<b>Indicator No. 1.3</b>	<b>Safety Incidents</b>
<b>Definition</b>	<p>Safety incidents reported to LWSC: Fatalities, reported incidents, 1-3-day injury accidents, first aid injuries, road traffic incidents, dangerous occurrences and near misses</p> <p>Calculated by: weighted total score divided by possible total score. See matrix in <i>Standard Processes and Procedures Manual</i></p>
<b>Purpose</b>	To assess how well working environment is for the SPs and compliance to the SOP
<b>Baseline (2019-2021)</b>	Average score: No fatalities
<b>Target (2021 onwards)</b>	Average score: No fatalities, no 1-3-day injury
<b>Data Collection</b>	The SPs shall be required to report safety incidents to LWSC FSM Unit and Safety Officer. Interviews with customers on safety incidents observed
<b>Tool/Means of Verification</b>	SP's Monthly Report
<b>Frequency</b>	Every month
<b>Responsible</b>	FSM Inspector
<b>Reporting</b>	This will be reported by FSM Unit. The safety incidents will be included in the monthly reports prepared by the FSM Inspectors. The reports will include details of the safety incident and employees involved
<b>Quality Control</b>	Random interview of SPs employees and households

<b>Indicator No. 2.1</b>	<b>Households Served</b>
<b>Definition</b>	This is the number of households served in a given period. Score calculated by: Households served in the period divided by Target households in the period
<b>Purpose</b>	To assess progress in meeting program objectives in terms of FSM services coverage
<b>Baseline (2019-2021)</b>	Average score: Contract specific
<b>Target (2021 onwards)</b>	Average score: Contract specific
<b>Data Collection</b>	The SPs shall be required to submit documentation on households serviced such as receipts and FSTP entry forms
<b>Tool/Mean Verification of</b>	Receipts, FSTP entry forms
<b>Frequency</b>	Every month
<b>Responsible</b>	Head, Business Development - FSM
<b>Reporting</b>	SP will report this information in the monthly report at invoicing. Inspectors will periodically record and report the number of households covered by each operator and the combined total under the project. This information will be submitted to the Head Business Development - FSM
<b>Quality Control</b>	The inspectors will verify the reported figures with the receipts and FSTP Forms as well as randomly confirm with customers served if service was provided

<b>Indicator No. 2.2</b>	<b>Volume of Sludge Emptied</b>
<b>Definition</b>	<p>This is the volume of sludge emptied in a month by the service operator</p> <p>Score calculated by: volume of sludge emptied in a month divided by the Target volume for the month</p>
<b>Purpose</b>	To assess progress in meeting program objectives in terms of FSM services coverage
<b>Baseline (2019-2021)</b>	Average score: specific to contract
<b>Target (2021 onwards)</b>	Average score: specific to contract
<b>Data Collection</b>	The SPs shall be required to submit documentation on households serviced such as receipts and FSTP entry forms
<b>Tool/Mean Verification of</b>	Customer receipts, FSTP entry forms
<b>Frequency</b>	Every month
<b>Responsible</b>	Head, Business Development - FSM
<b>Reporting</b>	SP will report this information in the monthly report at invoicing. Inspectors will periodically record and report the volumes of sludge emptied and disposed at the FSTP. This information will be submitted to the Head FSM Business Development
<b>Quality Control</b>	The inspectors will verify the reported figures with the receipts and FSTP Forms. Further a 10% sample survey of households shall be conducted monthly

<b>Indicator No. 2.3</b>	<b>Customer Satisfaction</b> <i>(to be replaced by Customer Satisfaction Index in November 2020)</i>
<b>Definition</b>	<p>Measured by the number of households who report complaints to LWSC regarding response time to call for service, quality of service delivery experienced as well as courtesy of staff of the service provider.</p> <p>Count customer complaints received by LWSC for the service provider</p>
<b>Purpose</b>	As a marketing strategy, customer satisfaction is key to repeat-business opportunity; customers are likely to come back if they were satisfied with the quality of service
<b>Baseline</b> (2019-2021)	Average score: max. 15% households complain
<b>Target</b> (2021 onwards)	Average score: max. 10% customers complain
<b>Data Collection</b>	Customer complaints captured by LWSC on Toll-free Call Centre*
<b>Tool/Means of Verification</b>	Call Centre
<b>Frequency</b>	Every month
<b>Responsible</b>	Head, Business Development - FSM
<b>Reporting</b>	Call centre supervisor/Inspector to submit monthly reports on complaints to Head, Business Development - FSM
<b>Quality Control</b>	Call centre operators to be trained on how to handle customer complaints

\*in the absence of a toll-free line, customer satisfaction will be determined by customer comments in the Job Cards as well as from customer interviews

<b>Indicator No. 2.4</b>	<b>OSS customers in database</b>
<b>Definition</b>	Percentage of OSS customers served in period for which data has been provided to the LWSC toilet database in accordance with simple template provided by LWSC
<b>Purpose</b>	To ensure toilets in peri-urban areas are mapped and included in database to facilitate ease of follow-up business and monitoring
<b>Baseline (2019-2021)</b>	80%
<b>Target (2021 onwards)</b>	90%
<b>Data Collection</b>	The SPs will collect toilet data as they carry out their operations or during emptying of the toilets. This data will be submitted on a monthly basis to the FSM Unit. The FSM Unit will ensure this data is captured on the M&E system
<b>Tool/Mean Verification of</b>	OSS Template
<b>Frequency</b>	Monthly
<b>Responsible</b>	Head Business Development - FSM
<b>Reporting</b>	The SP will submit OSS data form to FSM Unit. The score for each SP will be reported in the scorecard and reported on a monthly basis. FSM Unit will notify SP if OSS data is not being submitted
<b>Quality Control</b>	SPs will be oriented on how to collect this data as well as how to fill in the form



<b>Indicator No. 3.1</b>	<b>Volume delivered at designated facility</b>
<b>Definition</b>	Volume of faecal sludge delivered at designated FSTP
<b>Purpose</b>	To prevent disposal of sludge at undesignated places that would present a public health and environmental hazard
<b>Baseline (2019-2021)</b>	Contract specific
<b>Target (2021 onwards)</b>	Contract specific
<b>Data Collection</b>	The SPs will submit customer receipts of emptying, FSTP entry forms and the Waste Manifest form - all these documents contain information of volume of sludge emptied and offloaded at FSTP
<b>Tool/Mean Verification</b>	Monthly Report (Customer Receipts, FSTP entry form)
<b>Frequency</b>	Monthly
<b>Responsible</b>	Assistant FSM Inspector assisted by FSTP Operator
<b>Reporting</b>	This will be reported by the SP and cross-checked by the Assistant FSM Inspector
<b>Quality Control</b>	FSTP operator will check and confirm volume discharged at the plant with documentation filled by the SP.

<b>Indicator No. 3.2</b>	<b>Share emptied at FSTP</b>
<b>Definition</b>	Proportion of volume of faecal sludge delivered at designated FSTP against sludge collected from households
<b>Purpose</b>	To prevent disposal of sludge at undesigned places that would present a public health and environmental hazard
<b>Baseline (2019-2021)</b>	At least 95%
<b>Target (2021 onwards)</b>	At least 95%
<b>Data Collection</b>	The SPs will submit customer receipts of emptying, FSTP entry forms and the Waste Manifest form - all these documents contain information of volume of sludge emptied and offloaded at FSTP
<b>Tool/Mean Verification</b>	Monthly Report (Customer Receipts, FSTP entry form)
<b>Frequency</b>	Monthly
<b>Responsible</b>	Assistant FSM Inspector assisted by FSTP Operator
<b>Reporting</b>	This will be reported by the SP and cross-checked by the Assistant FSM Inspector
<b>Quality Control</b>	FSTP operator will check and confirm volume collected from households in the reporting period against volume discharged at the plant with documentation filled by the SP.

<b>Indicator No. 3.3.1</b>	<b>Safe Collection and Transport - Worksite preparation</b>
<b>Definition</b>	<p>Safe and secure working environment around the pit latrine area. Work site is cleared of all household items and plastic sheeting placed on the ground in the workspace on key risk areas</p> <p>Calculated by: weighted total score divided by possible total score. See matrix in <i>Standard Processes and Procedures Manual</i></p>
<b>Purpose</b>	To prevent contamination of the area and household items. Workspace should be cleared of all household items before beginning work to decrease the risk of contamination of goods that will remain onsite after emptying.
<b>Baseline (2019-2021)</b>	No significant violations
<b>Target (2021 onwards)</b>	No significant violations
<b>Data Collection</b>	Inspectors will collect data through onsite physical inspections and interviews with households where pit emptying was done
<b>Tool/Means of Verification</b>	Worksite safety checklist and interviews
<b>Frequency</b>	Monthly
<b>Responsible</b>	Assistant FSM Inspector
<b>Reporting</b>	This will be reported by the FSM Inspector with input from Assistant Inspector. The Inspector will prepare an assessment sheet to be submitted at invoice evaluation
<b>Quality Control</b>	Regular assessment of SP's worksite preparations and training will be conducted by the inspectors to ensure understanding and appreciation of this requirement

Indicator No. 3.3.2	Safe Collection and Transport - Safe Worksite
<b>Definition</b>	No unauthorised personnel may come within 5m of the emptying operations. Children, in particular, will be curious, and it is the site supervisor's responsibility to ensure none of them approach the emptying team or space or any faecal sludge contaminated objects.  Calculated by: weighted total score divided by possible total score. See matrix in <i>Standard Processes and Procedures Manual</i>
<b>Purpose</b>	To prevent accidents and injury of by-standers or exposure to faecal sludge
<b>Baseline</b> (2019-2021)	No significant violations
<b>Target</b> (2021 onwards)	No significant violations
<b>Data Collection</b>	Inspectors will collect data through onsite physical inspections and interviews with households where pit emptying was done
<b>Tool/Means</b> of <b>Verification</b>	Worksite safety checklist and interviews
<b>Frequency</b>	Monthly
<b>Responsible</b>	FSM Inspector
<b>Reporting</b>	This will be reported by the FSM Inspector. The Inspector will prepare an assessment sheet to be submitted at invoice evaluation
<b>Quality Control</b>	Regular assessment of SP's worksite preparations and training will be conducted by the inspectors to ensure understanding and appreciation of this requirement

<b>Indicator No. 3.3.3</b>	<b>Safe Collection and Transport - Equipment</b>
<b>Definition</b>	<p>Personnel are wearing personal protective equipment: protective gloves, protective clothing, safety boots, mask (if working directly with the emptying), face shield (in case of using high pressure washers)</p> <p>Calculated by: weighted total score divided by possible total score. See matrix in <i>Standard Processes and Procedures Manual</i></p>
<b>Purpose</b>	To protect workers from exposure to hazardous substances
<b>Baseline (2019-2021)</b>	No significant violations
<b>Target (2021 onwards)</b>	No significant violations
<b>Data Collection</b>	Inspectors will collect data through onsite physical inspections to check on PPE compliance and interviews with households where pit emptying was done
<b>Tool/Means of Verification</b>	Checklist and interviews
<b>Frequency</b>	Monthly
<b>Responsible</b>	Inspector
<b>Reporting</b>	This will be reported by the FSM Inspector. The Inspector will prepare an assessment sheet to be submitted at invoice evaluation
<b>Quality Control</b>	Regular assessment of SP's PPE and training will be conducted by the inspectors to ensure understanding and appreciation of this requirement

<b>Indicator No. 3.3.4</b>	<b>Safe Collection and Transport - Transport</b>
<b>Definition</b>	<p>Collected faecal sludge is transported in a safe manner: methods of transporting faecal sludge incorporate reasonable measures for preventing spillage enroute to disposal sites (sealed lid on barrel/closed tank lid)</p> <p>Calculated by: weighted total score divided by possible total score. See matrix in <i>Standard Processes and Procedures Manual</i></p>
<b>Purpose</b>	To avoid accidents, spillages and possible environmental contamination or pollution
<b>Baseline (2019-2021)</b>	No significant violations
<b>Target (2021 onwards)</b>	No significant violations
<b>Data Collection</b>	Inspectors will collect data through transport vehicle checks, onsite physical inspections and interviews with households where pit emptying was done as well as route checks for evidence of spillage
<b>Tool/Means of Verification</b>	Checklist and interviews
<b>Frequency</b>	Monthly
<b>Responsible</b>	Inspector
<b>Reporting</b>	This will be reported by the FSM Inspector. The Inspector will prepare an assessment sheet to be submitted at invoice evaluation
<b>Quality Control</b>	Regular assessment of SP's transport fleet and training will be conducted by the inspectors to ensure understanding and appreciation of this requirement

<b>Indicator No. 3.3.5</b>	<b>Safe Collection and Transport - Disposal</b>
<b>Definition</b>	Collected sludge is disposed only at designated FSTP (no informal dumping)
<b>Purpose</b>	To curb indiscriminate disposal of faecal sludge and prevent contamination of the environment
<b>Baseline (2019-2021)</b>	No significant violations
<b>Target (2021 onwards)</b>	No significant violations
<b>Data Collection</b>	Inspectors will collect data through pty emptying documentation from SPs
<b>Tool/Means of Verification</b>	Customer receipts, FSTP entry forms and Waste Manifest forms
<b>Frequency</b>	Monthly
<b>Responsible</b>	Assistant Inspector
<b>Reporting</b>	The FSTP operator will monitor volumes disposed at FSTP and submit report to Assistant Inspector. The assistant Inspector will compare volumes emptied against volumes disposed at FSTP.
<b>Quality Control</b>	Regular assessment of SP's transport fleet and training will be conducted by the inspectors to ensure understanding and appreciation of this requirement

## **ANNEX 2. 1 - Risk Register**



LUSAKA SANITATION PROGRAM																
ANNEX 2:																
RISK REGISTER		Risk Register for Monitoring and Verification Plan														
Contract Name/No.		ZM-LWSC-122133-CS-CQS				Contract Manager										
PERFORMANCE-BASED CONTRACTS FOR FAECAL SLUDGE MANAGEMENT SERVICES IN LUSAKA																
ID	Description	Risk Type	Risk Owner	Status	Consequences of risk occurring	Impact (1 - 4)	Likelihood (1 - 4)	Total Risk Score	Description of Mitigation Measures/Controls in Place	Target Impact	Target Likelihood	Target Risk Score	Additional Mitigation/Controls to Manage Risk	Control Owner	Target Completion Date for Controls	Change in Status since last review
1	Lack or low ownership of the project by LWSC could compromise integrity of verifications	Verification Risk	PU Department	Proposed	Severe	4	2	8	Establishment of FSM Unit	2	1	2	VA to work with and within LWSC structures	VA/PUD	ongoing	
2	Late payment of invoices by LWSC from service providers could affect their performance	Service Delivery Risk	PU Department	Open	Marginal	2	2	4	Shorten process for payment within LWSC	1	1	1	LSP/FSM Unit to have dashboard to track invoicing and payments	LSP	ongoing	
3	High Turnover of FSM Unit staff	Verification Risk	PU Department	Proposed	Severe	4	1	4	provide motivation for staff retention	1	1	1	Develop monitoring and verification manuals and institutionalise them; induct all PU staff on processes and procedures	LSP	ongoing	
4	Inadequate presence of inspectors in the field due to lack of transport thereby compromising monitoring of service providers	Verification Risk	PU Department	Proposed	Severe	4	1	4	Provide adequate transport for monitoring activities; as a minimum 2 vehicles	1	1	1	Prepare monthly monitoring plans	PUD	ongoing	
5	Inadequate capacities in the FSM Unit could negatively affect monitoring and verification activities	Verification Risk	PU Department	Proposed	Marginal	2	2	4	Continuous capacity development of staff	1	1	1	Review performance of FSM Unit staff	PUD/LSP	Ongoing	

# Management of Performance-Based Contracts for Improved Faecal Sludge Management Services in Lusaka

24 March 2020

## The purpose of this risk assessment is:

- to identify all significant sources of uncertainty and risk associated with the project;
- to understand the causes of each risk and the relationships between these risks;
- to classify and group risks in a manner convenient for further evaluation and continuous monitoring during the project.

Each risk identified as part of this assessment shall be given a unique *ID* reference and *Description* so that each risk is clearly distinguished and understood. The identified risks are then assigned and grouped by *Risk Type* e.g. Site Access or Ground Conditions, to assist in understanding the causes of and the relationships between individual risks. A *Risk Owner* for each risk shall be assigned

A *Status* for each risk shall be assigned based on the categories in Table 1.1 below. The status of each risk will then be reviewed and updated with each revision of the risk assessment.

**Table 1.1:** Categorisation of Risk Status

Status	Description
Proposed	Risk may occur on the project, needs further assessment
Open	Risk exists on the project and needs to be kept under review
Active	Risk has occurred and requires attention
Resolved	Risk no longer exists on the project and does not need further consideration

The **consequences**, both positive and negative, of each risk occurring shall be summarised,

Based on the qualitative assessment of each risk, an **impact** rating, based on the severity of the consequences of the risk occurring and a **likelihood** rating, based on the probability of the risk occurring shall be assigned. The impact and likelihood ratings used in the qualitative assessment are set out in Table 1.2 and Table 1.3 respectively. The **Total Risk Score** then assigned to each risk is the product of the **impact** and likelihood ratings; this score highlights the significance of each risk and allows for the risks to be prioritised.

**Table 1.2:** Categorisation of Impact of Risk Occurring

Category	Description	Impact	Rating
Severe	Severe effect on project	>5% of Price or >10% Schedule Slip	4
Substantial	Very significant effect on project	2.5%-5% of Price or 5%-10% schedule slip	3
Marginal	Significant, but containable effect on project	1%-2.5% of Price or 2.5%-5% Schedule Slip	2
Negligible	Minor effect on project	<1% of Price or <2.5% schedule slip	1

**Table 1.3:** Categorisation of Likelihood of Risk Occurring

Category	Description	Likelihood	Rating
Very likely	Very likely to occur in most circumstances	>75%	4
Likely	Likely to occur	50%-75%	3
May Occur	May occur at some point	10%-50%	2
Rare	May occur in exceptional circumstances	<10%	1

To prioritise the risks and the control / mitigation measures needed to manage them, the scores for the risks are grouped into three classifications based on order of severity. Those risks with the highest scores i.e. risks that are very likely to occur and which will have a severe or substantial impact on the project are classified as **Unacceptable**. Risks which are likely to occur and will have a substantial or marginal impact on the project are classified as **Undesirable**, while risks which are unlikely to occur and will not have a significant impact on the project are classified as **Tolerable**. A summary of the qualitative risk assessment is given in Table 1.4 below, while the classification of risk scores and action levels required are given in Table 1.5

**Table 1.4:** Risk Assessment Scores

Likelihood	Consequence			
	Negligible (1)	Marginal (2)	Substantial (3)	Severe (4)
Very likely (4)	4	8	12	16
Likely (3)	3	6	9	12
May Occur (2)	2	4	6	8
Rare (1)	1	2	3	4

**Table 1.5:** Key to Classifying and Managing Risks

Score	Classification	Action Required
12-16	Unacceptable	Must eliminate or reduce the risk
6-9	Undesirable	Attempt to avoid or reduce the likelihood/impact of the risk
1-4	Tolerable	Tolerate the risk / manage as needed

The final elements of the risk assessment include a description of the existing control/Mitigation measures in place to manage the identified risk, a target risk rating to be achieved for each risk and proposed control measures to be completed to achieve the target risk rating. A control owner is assigned for the proposed additional control measures and a target date is set by which the control measures should be in place.