

VietinBank Lao Limited

**MSME Access to Finance
COVID-19 Emergency Support and Recovery Project**

Environmental and Social Audit Report

(Re-Financing Project)

Prepared by

Department of Small and Medium Enterprise Promotion
Ministry of Industry and Commerce, Lao PDR.

June 27, 2022

Executive Summary

VietinBank Lao Limited (“VIETIN BANK”), a commercial bank that has provided banking and financial services in Lao PDR since 2019. The services include deposits, loans and other banking and financial services. Loans are for (i) consumer and non-consumer goods including auto, housing and furniture, personal, and (ii) Small, and Medium Enterprise (MSME), especially financing on working capital, cash flow financing, property financing/refinancing and performance guarantee or combination. The target sectors are trading, service, manufacture and agriculture sector including agribusiness.

VietinBank Lao Limited was established in 2019, and now has head office and branch offices in Vientiane Capital and 2 provinces namely Champasack, and Vientiane province. The organisation structure is in Figure 1. In 2021, VietinBank Lao Limited had a total staff of 121, of which approximately 51% were women (Table 1). The bank core services include loan, payments, money transfers and other banking services. There were over 1,248 clients/borrowers in 2021. Approximately 15% of the client or loan were in the industry sector, 5% in the construction sector, 1% in equipment, 11% in agriculture-forestry, 31% in trade, 2% in transport and post, 10% in services and 25% in other sectors. The maximum loan amount was US\$ 530,000, while the average loan amount was 4,537,020,187 LAK (US\$ 477,581) in 2020 and 1,805,295,391 LAK (US\$ 190,031) in 2021.

VietinBank Lao Limited and its clients, especially MSMEs have been impacted by economic and social disruptions resulting from the ongoing COVID-19 crisis and participated in the Lao PDR MSME Access to Finance Emergency Support and Recovery Project (MSME A2F – ESRP) since July 2021. VietinBank Lao Limited has also adopted the project’s Environmental and Social Management System (ESMS) in May 2022, which will be implemented along with its labour regulations and human resource policies. As a starting point, the sub-loans proposed for refinance are totally 33 sub-loans or MSMEs (Annex 3). The trading sector covered 91%, the service sector 6% and the other sectors 1%. All sub-loans are working capital. The maximum loan amount was approximately US\$ 200,000, while the average loan amount was approximately US\$ 93,722, the total refinancing sub loans is US\$ 3,186,556 (equivalent LAK 41,910,000,000).

This E&S audit includes assessment of E&S risks of the sub-loan projects proposed for refinancing and its relevance, compliance with and the organisational capacity of VietinBank Lao Limited to implement the ESMS and the World Bank Environmental and Social Standards (ESSs). The E&S audit is necessary given that the 33 sub-loans proposed for refinancing precede the adoption of VietinBank Lao Limited’s ESMS. In addition, the audit includes recommended corrective actions to address minor gaps in relation to E&S national standards. The audit was conducted through 1) desk review of the project and sub-loan projects related documents including legal and institutional framework, ESMS, Environmental and Social Commitment Plan (ESCP), Stakeholder Engagement Plan (SEP) and sub-loan project screening and appraisal; 2) Interview of VietinBank Lao Limited (Mr. Anouxay Phengsouvanh), MSMEs and relevant sectors such as ministry of natural resources and environment, social welfare, union and chamber of commerce and industry; 3) Conducting

additional E&S risk assessment, performance compliance and capacity of VietinBank Lao Limited to implement ESMS.

All sub-loans available for refinancing have been screened for E&S risks and those with high and substantial risk (or listed in Group One under the National EIA Decree, 2019) requiring full Environmental Impact Assessment (EIA) or Initial Environmental Examination (IEE) requirements in Lao were excluded. The sub-loans eligible for refinancing are those with low risk only. The key environmental aspects associated with the proposed low-risk sub-loans include air emissions from energy including electricity use; dust generated from some activities such as transportation and loading/unloading construction materials; wastewater especially from water use to operate business; traffic congestion of some shops that are close to road. Solid waste is common issue and generated from all the sub-loan projects. However, as the majority of the sub loans are small scale in trading sector and for the purpose of increasing working capital for existing businesses, the potential risks are considered low. In addition, they comply with national policies and standards. For example, solid waste management and implement environmental management practices are consistent with environmental protection law (2012), national environmental standards decree (2017) and pollution control guidelines (2015). Solid waste is usually packed and covered by plastic bags, stored at an appropriate place, and then collected by a municipal cleaning company and dispose it at the municipal landfill. Wastewater is stored in a septic tank with cover, and when it is nearly full, it is collected and disposed at wastewater treatment at the municipal landfill by a municipal cleaning company. Use of electricity efficient and saving bulbs and turning off lights when not using it were practiced by many sub loans/MSMEs. In addition, the adoption and implement of the project ESMS would help addressing any minor risks and enhancing compliance with Lao legislation. All MSMEs comply with provision of PPE to protect against Covid-19, in line with health regulations in Lao.

However, some sub loans or MSMEs may not consistently provide or enforce the wearing of Personal Protective Equipment (PPE) for workers, to protect them against workplace accidents, such as hard hats, etc., while E&S due diligence found there have been no adverse environment or social impacts or any grievances caused by running of the sub loan projects.

This E&S audit report includes corrective actions proposed to address the minor gaps found. MSMEs are responsible for the implementation of these corrective actions and VietinBank Lao Limited will be responsible for monitoring of compliance and risks, and report to the Department of Small and Medium Enterprise Promotion (DOSMEP) including Project Management Unit (PMU) periodically or as required. DOSMEP/PMU will provide capacity support and conduct monitoring of the implementation, reporting of VietinBank Lao Limited and sub-loan projects as needed. In addition, DOSMEP/PMU will report the WB about the implementation of the corrective actions and compliance.

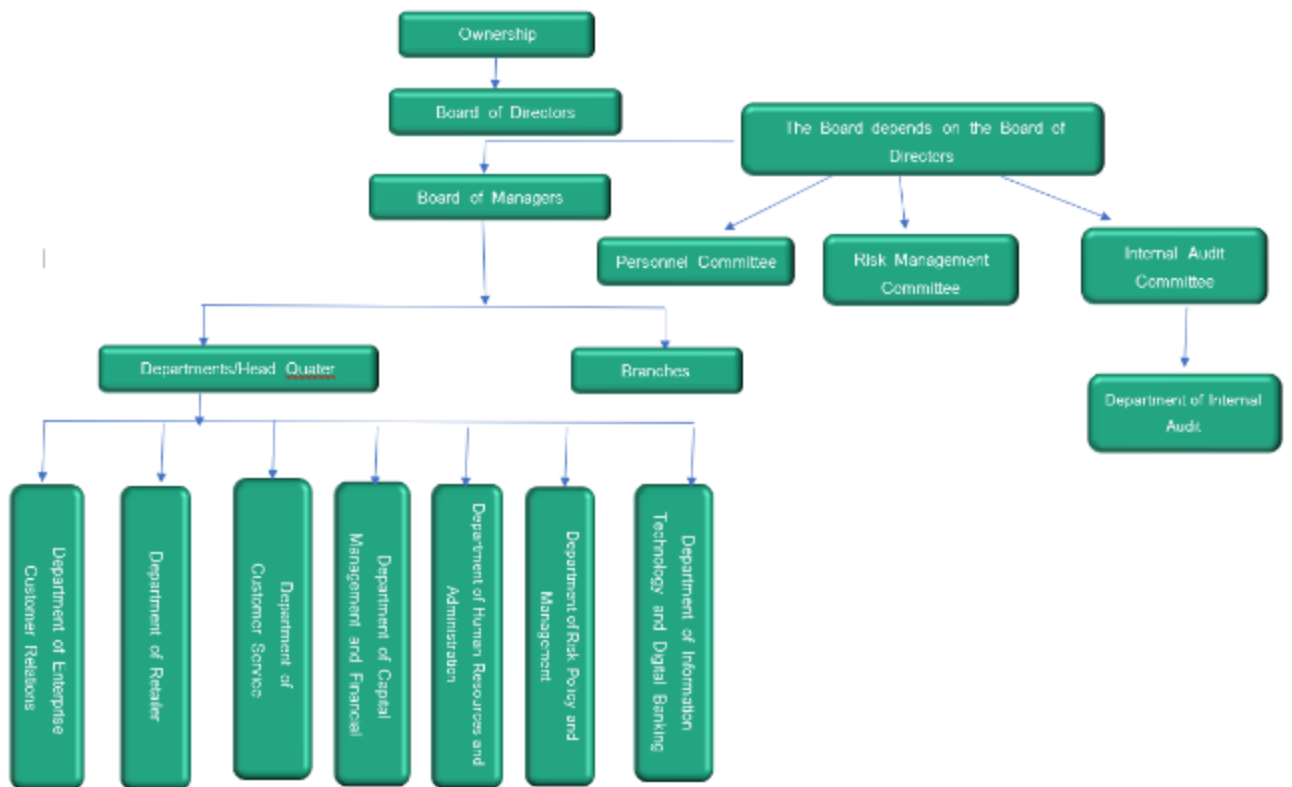


Figure 1: VietinBank Lao Limited Organisation Chart

Abbreviation and Acronyms

A2F	Access to Finance
COVID-19	Coronavirus Disease 2019
CPF	Country Partnership Framework
DOSMEP	Department of Small and Medium Enterprise Promotion
ESIA	Environmental and Social Impact Assessment
EID	Emerging infectious diseases
E&S	Environmental and Social
EMP	Environmental Management Plan
ESMMP	Environmental and Social Management and Monitoring Plan
EPL	Environmental Protection Law
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMS	Environmental and Social Management System
ESR	Emergency Support and Recovery
ESS	Environmental and Social Standard
FI	Financial Intermediary
GBV	Gender-based Violence
GRS	Grievance Redress Service
IDA	International Development Association
IA	Implementing Agency
IEE	Initial Environmental Examination
IPF	Investment Project Financing
IMF	International Monetary Fund
LTU	Lao Trade Union
LMP	Labour Management Procedure
LoC	Line of Credit
LNCCI	Lao National Chamber of Commerce and Industry
MOF	Ministry of Finance

MOIC	Ministry of Industry and Commerce
MOLSW	Ministry of Labour and Social Welfare
MoNRE	Ministry of Natural Resources and Environment
MSMEs	Micro, Small and Medium Enterprises
MTR	Mid-Term Review
M&E	Monitoring and Evaluation
OHS	Occupational Health and Safety
PAD	Project Appraisal Document
PEC	Project Executive Committee
PFI	Participated Financial Institute
PMU	Project Management Unit
POM	Project Operations Manual
PPA	Performance and Policy Actions
PPSD	Project Procurement Strategy for Development
PLR	Performance and Learning Review
PF	Promotion Fund
PFI	Participating Financial Institution
PRC	Project Review Committee
SEP	Stakeholder Engagement Plan
STEP	Sustainability Training and E-Learning Program
SEA	Sexual Exploitation and Abuse
SFA	Subsidiary Financing Agreement
SMEs	Small and Medium Enterprises
VAC	Violence Against Children
VIETIN BANK	VietinBank Lao Limited
WB	The World Bank

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1. Introduction

1.1 Overview of the A2F-ESR project

The Lao PDR Micro, Small, and Medium Enterprise (MSME) Access to Finance-Emergency Support and Recovery Project (P174169) (A2F-ESR) project is financed by the World Bank (WB) and implemented by the Ministry of Industry and Commerce (MOIC), particularly the Department of Small and Medium Enterprise Promotion (DOSMEP) and five commercial banks namely VIETIN BANK, Sacombank Lao, Maruhan Japan, Lao-China and VIETIN BANK. The project is a continuation of the existing World Bank's funded project– Small and Medium Enterprise Access to Finance Project (SME A2F) (P131201), which had been implemented by MOIC, DOSMEP and four commercial banks: VIETIN BANK, Sacombank Lao, ST and Lao-China Bank.

The A2F-ERSP project aims to increase and enhance access to finance for MSMEs in the context of the COVID-19 emergency and recovery. It will achieve this through a combination of Lines Of Credit (LOC) to for emergency and recovery phases of the crisis, intermediated through select financial institutions, to MSMEs. The Project will also invest in strengthening the capacity of financial institutions to implement crisis management strategies and develop MSME finance business strategies, technical assistance to support MSMEs obtain access to finance, and capacity building to DOSMEP to strengthen its ability to formulate and implement policies to promote MSME development. Whilst the Project is focusing on emergency response to the crisis, it will also have a longer-term impact on the economic recovery by providing a flexible approach to addressing financial needs of the MSMEs during the crisis and in the recovery phase. The target beneficiary MSMEs under the Project are registered micro (1-5 employees, small (6-50 employees) and medium private enterprises (51 to 99 employees) operating in Lao PDR that have been in business for at least two years and wish to sustain their business activities in the targeted sectors such as (i) Farming and livestock; (ii) Agriculture processing (iii) Handicrafts; and (iv) Tourism; which includes restaurants, grocery shops, mobile shops, handicraft shops, travel agencies and private tour operators, distribution of construction materials stores, clothing store, shoes shops, gold/jewellery shops, car service shop, mini marts and kindergarten, etc.

The Project consists of four components, which will be implemented from 2020 to 2025. Component 1, Emergency and Recovery Line of Credit to MSMEs, International Development Association (IDA) will provide US\$34 million via Ministry of Finance (MOF) to SME fund (SEMF), DOSMEP, MOIC, who will provide long-term resources to PFIs for on lending long-term credit to MSMEs. The project will support MSMEs that are privately owned, registered, have been in business for at least two years, and wish to expand their business activities. Component 2, Strengthening Bank of Lao Capacity to Supervise a PCG Fund, includes provision of Technical Assistance (TA) to the Bank of Lao PDR (BOL) to strengthen its capacity to draw on Principles for Public Credit Guarantee (PCG) Schemes for SMEs, tailored to the Lao context, supervise and monitor the PCG. Component 3, Technical Assistance for DOSMEP, SMEs and PFIs, is capacity building support of DOSMEP, PFIs, MSMEs, as well as project implementation, safeguards, and monitoring related activities. Component 4,

Contingent Emergency Response Component (CERC), the project will contribute to providing immediate and effective response in the event of an eligible crisis or emergency.

The project is implemented under the World Bank's new Environmental and Social Framework (ESF), which was officially endorsed and launched in October 2018.

The project has an Environmental & Social Management system (ESMS), Environmental & Social Commitment Plan (ESCP) and Stakeholder Engagement Plan (SEP) in place before the project launching. VIETIN BANK has adapted and adopted the project ESMS, which was reviewed and cleared by the World Bank. The approved ESMS has been disclosed on the bank's website¹.

1.2 Objectives of Environmental and Social Audit

The objective of the environmental and social (E&S) audit is to assess E&S risks and compliance of the sub-loan projects proposed for refinancing, organisational capacity and recommendation for corrective actions. This is done in accordance with the VIETIN BANK's ESMS approved and disclosed in July 2022. The E&S audit is necessary given that the 33 sub-loans proposed for refinancing precede the adoption of VIETIN BANK's ESMS. All sub-loans available for refinancing have been screened for E&S risks. Those with high risk, or which require Environmental Impact Assessment as per Lao Law have been excluded as per Annex 1 and 2 of this report. The sub-loans eligible for refinancing are those with low risk only.

1.3 Scope and Methodologies

This E&S audit focused on the component 1, Emergency and Recovery Line of Credit to MSMEs, particularly the sub-loan projects proposed for refinancing. The audit included reviewing E&S risks and mitigation measures as well as screening and capacity of VIETIN BANK to monitor and manage the sub-loan projects, and recommended actions to address E&S gaps and issues. The steps and methods for E&S audit included:

1. Reviewing the project and sub-loan projects related documents including legal and institutional framework, ESMS, ESCP and SEP.
2. Meeting and interviewing with VIETIN BANK and the MSMEs to collect and validate information about the sub-loan projects.
3. Screen all subprojects against exclusion list in the ESMS's Annex A (Annex 1) and project legal agreement, and then screen, review and categorize subprojects according to their potential E&S risk and impacts based on guidance in the ESMS's Annex B (Annex 2). Those subprojects requiring an EIA or IEE since the effectiveness of the Ministerial Agreement No. 8056/MONRE as per Annex 1 and 2 of this report have been ruled out for refinancing under the project.
4. Assess sub-loans considered low or medium risks against national laws, whilst taking into consideration ESS requirements as best practice (subprojects considered to have adverse E&S risks or impacts are excluded from support).
5. Assessment of organisational capacity based on the existing organisational arrangement and staff experiences on E&S management.

¹ VIETIN BANK's ESMS, was approved by the World Bank, and made available at: <http://www.vietinbank.com.la/>

6. Providing recommendations, an action plan for corrective measures to bridge the gaps that includes specific activities and implementation timelines.

2. Legal and Institutional Framework

Lao PDR has not had a specific regulation on E&S management for MSMEs. However, all sub-loans provided need to be compliant with the provisions of the available legal framework of Lao PDR. Key relevant legislation includes:

- 1) The Environmental Protection Law (EPL) was issued in 2000 and revised in 2012. The EPL (2012) covers the general provision and requirements for effective 1) environmental impact assessment; 2) protection of natural and social environment including environmental quality; 3) management of control of pollutions, waste, and toxic substance from various sources, environmental certification and permission, and public participation; 4) conservation and utilization of natural resources; 5) environmental rehabilitation; 6) environmental emergencies and natural disasters; 7) environmental protection fund; 8) prohibitions of officers or civil servants and operators; 9) dispute settlement; and 10) management and inspection, etc.
- 2) Decree on Environmental Impact Assessment, 2019, defines principles, regulations, and procedures on management, monitoring, and inspection of an Environmental Impact Assessment (EIA) so that the process will be implemented in order to prevent, reduce, and mitigate negative environmental impacts; to ensure that the affected peoples are reasonably compensated, resettled, and assisted in improving their living conditions better than existing situation. The Decree provides a provision that affected people and other stakeholders may express their opinions on implementation of the investment project and activities via hotline telephone, electronic, [or] send opinions, complaints in writing to the project owners or the concerned governmental organizations or in other means.
- 3) National Environmental Standards Decree, 2017, defines quality of air, soil, water, noise and vibration, pollutions, and measures for management and control.
- 4) Pollution Control Guidelines, 2015, defines types of pollution, management and control, certification, monitoring, inspection and reporting of pollutions and management.
- 5) Polluted and Hazardous Waste Management Guidelines, 2015, defined principles and management methods, monitoring and inspection, obligations, and responsibility for management of polluted and hazardous waste.
- 6) Law on Chemicals Management, 2015, defined type of chemicals including hazardous chemicals, safety measures and prevention and solutions for accidents, businesses and management including licencing, monitoring, inspection, and responsibilities for chemicals management.
- 7) Law on Hygiene, Disaster Prevention and Health Promotion, issued in 2011 and updated 2019, defines the principles, rules, measures and requirements for hygiene, disease prevention and health promotion. Particularly, it provides a regulation and guideline for hygiene practices for all group of people including labour and occupation, places and facilities, production, consumption and environmental health. Disease prevention includes immunization and prevention of communicable and infectious disease. Health promotion includes rules, measures and requirements for promoting

health and quality of life of all group of people, nutrition, healthy environment and recreation.

- 8) Labour Law, adopted in 2006 and updated in 2013, defines the principles, regulations and measures on administration, monitoring, labour skills development, recruitment, and labour protection. This labour law applies to all employers, registered and unregistered employees, Lao employees working for foreign organizations, and foreign employees working within the Lao PDR. Importantly, it defines a mandatory obligation for employers and other relevant parties on Labour Occupational Health and Safety (OHS) to protect labour health and safety, and labour accident and occupational diseases.
- 9) Law on Preventing and Combating Violence Against Women and Children (2014) Law on gender (2019) and Women Development and Protection (2004). These legislations provide regulations and measures to manage, prevent and address potential misconduct among civil servants including health workers and outsourced volunteers, community health and safety issues and risks associated with Sexual Exploitation and Abuse (SEA), Gender-based Violence (GBV) and Violence Against Children (VAC).
- 10) Law on Handling Petitions (2015) provides provisions of objectives, principles and process of applying and handling different types of grievance, petition and complaints that may be raised by citizens.

3. Sub-loan project Description

VietinBank Lao Limited was established in 2019, and now has head office and branch offices in Vientiane Capital and 2 provinces namely Champasack, and Vientiane province. The sub-loans proposed for refinancing are a total of 33 sub-loans or MSMEs (Annex 3). The trading sector covered 91%, the service sector 6% and the other sectors 1%. All sub-loans are working capital. The maximum loan amount was approximately US\$ 200,000, while the average loan amount was approximately US\$ 93,722, the total sub loans is US\$ 3,186,556.

There are 33 sub loans are in Vientiane Capital, Champasack. Many of them are in urban or at the centre and community area. The sub-loan projects are largely in the urban or community area (Annex 4). None of the sub-loan projects are located in the following areas:

- Proximity to river/stream, wetland/pond/lake and estuary
- Proximity to protected area (e.g., forest/endangered species)/ecologically sensitive area (e.g., river/protected areas)
- Proximity to culturally sensitive/indigenous area where ethnic groups are present
- Area at risk of floods, hazardous materials and waste, etc.
- Conflict area (e.g., land use conflict)
- Crowded communities and traffic.

4. Environmental and Social Issues

4.1 Environmental and Social Screening and Categorization

The proposed sub loans were screened and categorized based on the project and E&S screening and categorization guidance (Annex A and B of the ESMS or Annex 1 and 2 of this report). None of the sub loans exceed 200,000 USD and in the exclusive list (Annex 1). In general, all sub loans, in accordance with the Annex 2, are (i) construction materials shops including cements; (ii) purchase of auto parts; (iii) sale and installation of air condition; (iv) service such as restaurant; (v) jewellery including gold, and (v) agricultural project retail shops (without dealing in hazardous or toxic chemicals, flammable materials). All sub loans were considered as low risk (Annex 3).

4.2 Environmental and Social Risks

In general, as described in the A2F-ESR project's ESCP and ESMS, the sub-loan projects are likely to cause minimal or negligible environmental and social risks and impacts due to small size of MSMEs and credit to be provided to them is not exceed 200,000 USD. In addition, most of the MSMEs are in trade and service sector, especially redistribution of construction materials. Importantly, they are using loans for increasing or ensuring working capital without land acquisition, new construction activities or involving with hazardous and chemical materials and waste. None of the sub-loans' activities trigger IEE or Environmental Impact Assessment (EIA) requirements in Lao PDR.

Based on E&S screening and appraisal (Annex 3), however, there are some minor E&S aspects and risks associated with the proposed sub-loans for refinancing. These minor risks are found in number of the sub-loans as noted in the Annex section and summarized here. The key environmental aspects and risks include dust generated from transportation of construction materials including cement, wastewater, and solid waste from all MSMEs. Socially, occupational health and safety (OHS) is on the key concerns for some MSMEs.

Overall, most MSMEs demonstrate E&S compliance with national regulations. Solid waste management and implement environmental management practices are consistent with Lao law. Solid waste is usually packed and covered by plastic bags, stored at an appropriate place, and then collected by a municipal cleaning company and dispose it at the municipal landfill. Wastewater is stored in a septic tank with cover, and it is collected and disposed by the staff/cleaners and a municipal cleaning company when it is nearly full. Use of electricity efficient and saving bulbs and turning off lights when not using it were practiced by many sub loans/MSMEs. Nevertheless, some aspects could be enhanced, and this could be an added value of VIETIN BANK's involvement, by developing capacity building materials to build awareness of E&S best practice.

However, some MSMEs, due to their small size and low capacity, may not always provide Personal Protective Equipment (PPE) to workers to avoid workplace accidents – though no accidents or injuries have been reported (Table 3). But it is important to note that MSMEs staff do have PPE for Covid-19 prevention, in particular provision and use of masks and sanitized gels.

Based on a risk assessment matrix and categorization Table 2 and 3, as mentioned, the E&S risk is considerably low, or risk score ranged from 1 to 4 (Annex 3).

Table 1 Key Environmental and Social Issues and Management Practice Associated with the Proposed Sub-loan Projects for Refinancing

No	Environmental Aspects/ Risk	Descriptions
1	Energy consumption and air emissions	<p>Energy consumption and air emissions are relevant to all sub loans. It is common that all sub loans use energy and release emissions. The majority of air emissions is generated from vehicles' fuel oils combustion and electricity use of the existing business activities. However, although actual amount of energy use and emissions are unknown or unmeasurable due to inadequate data, as many businesses and activities are relatively small scale, emissions caused by the sub-loan projects, especially working capital would be small or unlikely to cause any significant increase of emissions in the atmosphere.</p> <p>It is noted that energy saving, and low carbon emissions are encouraged by the government, but there is no specific requirement imposed to any MSMEs or organisation. However, many sub loans have implemented some energy (electricity) saving practices such as the use of electricity efficient and saving bulbs and turning off lights when not using it. This should minimize or avoid emissions to some extent.</p> <p>Emission standards from vehicle are defined in Article 7, the national environmental standard 2017, but its requirements are neither clear nor enforceable. So far, exhaust emissions from vehicle have not been widely or publicly monitored and enforced in Lao PDR.</p> <p>Environmental Protection Law (2012)'s Article 23: Environmental Management of Household Businesses requires '<i>households with business operations, production, cultivation, livestock and any services that may impose negative impacts on social and natural environment, particularly waste disposal, wastewater discharge, making noise, light, odour, smoke emission, vibration and hazardous chemicals, shall have plans to solve all of these issues</i>', but specific regulations and guidelines or standards have not been developed and enforced.</p> <p><i>Article 25: Limitation of Impacts Derived from Construction Activities and Others requires 'Persons, legal entities and organizations providing services on construction, renovation and others for roads, bridges, water supply, electrification, irrigation, airports, buildings, or factories, which emit pollutants, shall take measures</i></p>

No	Environmental Aspects/ Risk	Descriptions
		<p><i>or actions to prevent against or correct environmental impacts caused by toxic chemicals, smoke, dust, vibration, noise, light, odour, wastes and disturbance as being stipulated by the National Environmental Quality Stand''</i>, but there is no specific regulations and guidelines or standards for MSMEs.</p>
2	Water consumption and wastewater	<p>It is common that all sub loans use water and release wastewater. The main sources of wastewater are from water consumption for operating the existing business activities, including cleaning. As many businesses and activities are small scale, wastewater caused by the sub-loan project, especially working capital would be small or unlikely to cause any significant increase of wastewater and impact environment and adjacent communities.</p> <p>In general, in Vientiane, MSMEs's wastewater, especially blackwater is stored in a septic tank with cover, and it is collected and disposed by the staff/cleaners and a municipal cleaning company when it is nearly full.</p> <p>Apart from Environmental Protection Law (2012)'s Article 23 mentioned above, the quality of discharged wastewater is defined in Article 14, the national environmental standard 2017, and hotel triggers to control its wastewater discharge. However, hotel's wastewater discharge has not been widely monitored and enforced in Lao PDR.</p>
3	Solid waste	<p>It is common that all sub loans use materials and generate solid waste. However, as many businesses and activities are small scale and temporary, solid waste generated from by the sub-loan projects, especially working capital would be small or unlikely to cause any significant increase of solid waste and impact environment and adjacent communities. On one hand, solid waste from MSMEs or sub loans is usually packed and covered by plastic bags, stored at an appropriate place and then collected by a municipal cleaning company and dispose it at the municipal landfill. In addition, based on field visit to some MSMEs and media check (e.g., Google, Facebook, etc) of all MSMEs there was no compliant on solid waste disposal by the sub-loans (Annex 6). These demonstrates a compliance.</p> <p>A general requirement for solid waste management is defined in the Environmental Protection Law (2012), particularly Article 38: Waste Disposal requires "<i>separation for different purposes such as recycle, reuse, reprocess as new products and elimination with methods and techniques within identified areas based on regulations</i>".</p>

No	Environmental Aspects/ Risk	Descriptions
		<p>In addition, open burning and inappropriate disposal of solid waste has been prohibited in Vientiane capital since 2019² and the Vientiane Capital Department of Natural Resource and Environment established a hotline (1523) since September 2020³.</p> <p>Solid waste will be handled and compliance according to the Annex 9 (Property Toxic Chemical and Hazardous Wastes Management Guideline, Department of Environment and Natural Resources Inspection, Ministry Of Environment and Natural Resources, issued in 2022).</p>
4	Nuisance (dust and traffic congestion)	<p>Dust is relevant to especially the construction materials shops, where workers might possibly be exposed dust from construction materials such as cement. However, it is unlikely to be a major issue since dust as it is temporary, limited to people who expose to it. Importantly, the risk could be addressed by implementation of ECOP including provision of Personal Protective Equipment (PPE).</p> <p>General ambient air and industry emission standards, especially particular matter 10 and 2.5 micron (PM 10 and PM2.5) are defined in Article 5 and 6 of the national environmental standard 2017, but there is no specific requirement for MSMEs or the proposed sub-loans.</p> <p>Traffic congestion is possibly occurred as some MSMEs (e.g., constructional materials shops) situated by roads and have limited parking space. With visible traffic regulation and warning signs are installed. A flagman will be in place to help regulate trucks and clients' vehicles moving in and out the shops.</p>
5	Occupational health and safety, e.g., inadequate Personal Protective Equipment provided (e.g., safety goggles/masks, hard hat/protective glove)	<p>Occupational health and safety (OHS), including procedures and PPE of some MSMEs such as construction material retail shops may be inconsistent and at times not sufficient to prevent workplace accidents. However, there have not been reports on accident or injuries. Some MSMEs do not have formal OSH policies or guidelines but they normally deploy PPEs when and where that they perceive it is needed and affordable, while Lao PDR has not had specific PPE requirements and guidelines for specific MSME to follow.</p> <p>Additional due diligence including site visit of maize drying factory was conducted to check OHS risks and compliance. The findings confirmed that there is no OHS risk or grievance.</p>

² Source of information: <https://laotiantimes.com/2019/12/27/vientiane-officially-bans-burning-of-garbage/>. Accessed on 18 March 2020.

³ Source of information: <https://laotiantimes.com/2021/02/09/garbage-burning-remains-a-hot-issue-for-vientiane-capital/>. Accessed on 18 March 2020.

Table 2 Environmental and Social Risk and Impact Matrix

Likelihood	Almost certain	5	10	15	20	25
	Probable	4	8	12	16	20
	Possible	3	6	9	12	15
	Unlikely	2	4	6	8	10
	Rare	1	2	3	4	5
		Insignificant	Minor	Moderate	Major	Catastrophic

Consequence

- 1-4: Insignificant to minor risks or impacts. Ensure ongoing compliance with relevant national laws.
- 5-8: Moderate risks or impacts. A simplified Environmental and Social Code of Practice (ESCOP) or a control measure is needed.
- 9-12: High/Substantial risks or impacts. The sub-loan should not proceed
- >12 or 15-25: Very high/Extreme risks or impacts. The sub-loan should not proceed.

Table 3 E&S Risk Categorization

Category	Definition	Notes
High Risk	High Risk means any business activity which is likely to have significant adverse environmental impacts that are sensitive, diverse or unprecedented, and which includes, for the avoidance of doubt, activities involving (a) involuntary resettlement, (b) risk of adverse impacts on ethnic minorities, (c) significant risks to or impacts on the environment, community health and safety, biodiversity, cultural heritage, or (d) significant occupational health and safety risks (risk of serious injury or fatality to workers).	Not allowed to proceed under the project.
Substantial Risk	Substantial Risk means any business activity that is not as complex as High-Risk activities, however, has some significant risks and impacts with the possibility of avoiding or reversing but with substantial investment and time and may give rise to limited degree of social conflict, harm, human security risk.	Not allowed to proceed under the project.
Moderate Risk	Moderate Risk means any business activity that has potentially limited adverse environmental or social risks and/or impacts that are few in number, generally site-	Allowed, but requires review

Category	Definition	Notes
	specific, largely reversible, and readily addressed through mitigation measures. Impacts are often site-specific without likelihood of impacts beyond the activity's footprint and routine safety precautions are expected to be sufficient to prevent accidents.	(see Annex C in ESMS).
Low Risk	Low Risk means any business activity minimal or negligible risks to and impacts on human populations and/or the environment with few or no adverse risks and impacts and issues.	Allowed but should be straightforward to review (see Annex C in ESMS).

Source: VIETIN BANK's ESMS

Due to the low nature of risks of the sub-loans, as per requirement in WB Environmental and Social Standard (ESS) 9 on Intermediary Facilities, all sub-loans will need to comply with relevant Lao legislation. Nevertheless, while the sub-loans have been assessed based on Lao legislation, as part of due diligence, the relevance of WB standards to the sub-loans has also been analysed.

Table 4 Relevance of WB ESS to Sub-Loans

ESS	Type and aspects of sub-loans relevant to ESS
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts)	All sub-loans proposed for refinancing were screened and categorized on E&S risk in accordance with VIETIN BANK's ESMS. None of the sub loans are in the Exclusion List or required IEE or EIA.
ESS 2: Labour and Working Conditions	<p>Relevant for all sub-loans. MSMEs comply with the Lao labour law and these checks are conducted by VIETIN BANK before approving loans. VIETIN BANK's labour management policy is in Annex 5. While the Lao law does not require industry-specific grievance mechanisms to be in place, MSMEs commonly handle complaints or disputes internally through informal mechanisms or based on guidance in the Labour Law (for workers). In addition, concerns can be handled by the existing national system in place with Village Mediation Committee (VMC) and the fiduciary structure, which functions from local to national level, in accordance with the law on the Handling of Petition (2015).</p> <p>Additional due diligence was conducted to ensure MSME eligible for loans did not have any outstanding labour disputes. A search of mainstream and social media was conducted to determine whether there were reports of major worker grievances for the MSME's sub-loan activities or not. In addition, the team conducted interviews of relevant sectors such as Ministry of Labour and Social Welfare (MOLSW), but no grievance, disputes or labour violations were found (Annex 6).</p>

ESS	Type and aspects of sub-loans relevant to ESS
	Occupational health and safety, including procedures and personal Protective Equipment (PPE) of some MSMEs may be inconsistent and not sufficient to prevent workplace accidents, though there are no report on accident and injuries. There is, however, compliance with PPE to protect against COVID-19.
ESS 3: Resources Efficiency and Pollution Prevention and Management	Relevant due to water and energy efficiency though to a low or minimum extent due to the size and type of MSMEs.
ESS 4: Community Health and Safety	<p>The extent of the impact/risk is site specific and unlikely to cause adverse impact or nuisance to a community since the MSMEs are existing. However, some of the sub-loans, such as maize drying factory and construction material distribution shops, etc might cause some nuisance (e.g., traffic congestion and noise) to neighbours, especially if appropriate measures or environmental code of conduct are not implemented.</p> <p>As noted, while the Lao law does not require industry-specific grievance mechanisms to be in place for projects not requiring EIA/IEE, MSMEs commonly handle complaints or disputes directly or through the VMC or Village Chiefs.</p>
ESS 5: Land acquisition, restrictions on land use and involuntary resettlement	Not relevant, there is no land acquisition in any of the sub-loans. Sub-loans or sub-projects that will likely involve land acquisition and resettlement will not be financed under the project. This is specified in the PFI's ESMS, Annex C: E&S Risk Screening Form.
ESS 6: Biodiversity conservation and sustainable management of living natural resources	Not relevant, the sub-loans are located and operating in Vientiane and are small scale and do not cause impact on natural resources.
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not relevant, the sub-loans are located and operating in Vientiane capital and not effect indigenous peoples or ethnic groups in their territories.
ESS 8: Cultural heritage	Not relevant, the sub-loans will not finance works that could disrupt either tangible or intangible cultural heritage, or the commercialization of intangible cultural heritage.
ESS 9: Financial Intermediaries	Relevant for all sub-loans
ESS 10: Stakeholder Engagement and Information Disclosure	Relevant for all sub-loans. While the MSMEs, due to their small nature, do not have specific plan or strategy on stakeholder engagement and information disclosure (nor is this required by legislation), they are existing businesses with practices established that includes letting customers know about changes, sales, vacancies, etc. as part of their business operation.

4.3 Organizational capacity and competency

In general, VIETIN BANK has assigned E&S staff to specifically oversee the E&S issues as mentioned in ESMS. As mentioned in section 1.1, VIETIN BANK adopted the project's ESMS and appointment of three staff including a senior, loan credit officer as the focal point to be responsible for E&S issues as well as implementation of their ESMS. VIETIN BANK including staff's responsibilities are as described in its ESMS.

VIETIN BANK is responsible for screening sub-loans in accordance with its ESMS, including that any corrective E&S actions, if needed, are properly implemented according to national standards and/or WB ESS as applicable. VIETIN BANK is also responsible for monitoring sub-loan's activities to ensure they remain compliant with relevant legislation/standards, and this will be done by the loan credit officer and the E&S focal point, as detailed in the ESMS. As per the ESMS, low-risk sub-loans do not require monitoring.

VIETIN BANK will participate in E&S trainings to be provided by the project and online courses on the World Bank (WB) website. In addition, the project will be developing best practice booklets to enhance knowledge of E&S aspects in MSMEs and enhance compliance with Lao laws.

DOSMEP will provide oversight and assist VIETIN BANK to implement its ESMS. This will include:

- Sample review of complete loan applications and loan documents;
- Ensuring reporting is provided;
- Providing support where required on screening of loans (e.g., where there is uncertainty on the E&S risk profile of a Sub-borrower).

Based on low risks outlined, the existing practices of VIETIN BANK and the additional support provided by DOSMEP, it is found that the organizational capacity to manage low risks posed by the sub-loans is adequate.

5. Proposed Environmental and Social Measures

The majority of sub-loans have a common E&S minor issues or risks. Measures and actions to address the risks and enhance compliance with Lao laws are summarized in the Table 5. Sub loan that is in the exclusion list or triggers IEE should be excluded. In order to assist MSMEs with these measures, DOSMEP, working with VIETIN BANK, will also develop a best-practice booklet with E&S information including labour requirements, Occupational Health and Safety, PPE and environmental measures that will enhance compliance with Lao laws.

Sub loan projects as well as MSMEs are responsible for the implementation of the measures and actions, including monitoring and reporting. VIETIN BANK is to ensure the implementation of the measures and actions by sub-loans and responsible for monitoring of compliance and risks, and report to DOSMEP including PMU periodically or as required. DOSMEP/PMU provides capacity support and conduct monitoring of the implementation, reporting of VIETIN BANK and sub-loan projects as needed. In addition, DOSMEP/PMU will report the WB about the implementation of the measures and actions and compliance.

Table 5 E&S Measures and Actions for Sub-loan Projects

No	E&S risks	Action	Timeframe	Responsible Body
1	Energy consumption and air emissions	<ul style="list-style-type: none"> • Maintain vehicles and appliance regularly • Raise staff/ employee awareness on energy saving • Monitor energy use and implement energy saving measures including turn off the lights when not using them and, use energy saving appliance such as appliance with green labels and inverter air conditioners, as appropriate 	Q2-3 2022	All sub loans/ MSMEs in Annex 3
2	Water consumption and wastewater	<ul style="list-style-type: none"> • Raise staff/ employee awareness on water saving including installation of water saving signage • Monitor and maintain water supply system, leakage, water use and ensure to turn off the water taps when not using them • Improve/develop and maintain wastewater storage/septic tank with cover and ensure it is collected and disposed properly by the staff/cleaners and a municipal cleaning company 	As above	All sub loans/ MSMEs in Annex 3
3	Solid waste	<ul style="list-style-type: none"> • Ensure proper solid waste collection and disposal by the staff/cleaners and municipal waste collection company, as well as avoidance of spills, open-burning and improper dumping • Increase awareness of staff and promote minimize, separation and recycle of solid waste, ban of burning, as appropriate • Solid waste will be handled and compliance according to the Annex 9 (Property Toxic Chemical and Hazardous 	As above	All sub loans/ MSMEs in Annex 3

No	E&S risks	Action	Timeframe	Responsible Body
		Wastes Management Guideline, Department of Environment and Natural Resources Inspection, Ministry Of Environment and Natural Resources, issued in 2022).		
4	Dust	<ul style="list-style-type: none"> • Provide PPE such as masks, gloves, glasses, etc as needed, in order to protect against workplace accidents in compliance with Lao laws. • Implement activities with care, use a cover and water to control and prevent blowing dust as appropriate. • Keep and cover construction materials safety to avoid blowing dust 	As above	Sub loan No. 2,3, 4,11,12,14,16,19,23 and 27 Annex 3
5	Traffic congestion	<ul style="list-style-type: none"> • Monitoring and guide, and avoid incorrect parking • Provide parking information to users • Increase parking space if needed • Avoid loading and unloading the construction materials during rush hour and park the construction material transportation truck at the edge of road/lane • Take short time and ensure safety when loading and unloading construction materials • Visible traffic regulation and warning signs are installed. A flagman will be in place to help regulate trucks and clients' vehicles moving in and out the shops as necessary. 	As above	Sub loan No. 2,3, 4,11,12,14,16,19,23 and 27 Annex 3
6	Inadequate personal Protective	<ul style="list-style-type: none"> • Provide necessary PPE (e.g., hardhat, safety goggles/masks/gloves and belt) to staff/workers as needed to protect against workplace accidents in line with Lao 	As above	Sub loan No. 2,3, 4,11,12,14,16,19,23, 27 and 30 Annex 3

No	E&S risks	Action	Timeframe	Responsible Body
	Equipment (PPE) provided.	Labour Law and COVID-19 prevention and control measures.		
7	Inadequate employee health and safety measures (e.g., manual handling weight limits/ maximum load lifting capacity) for male and female)	<ul style="list-style-type: none"> Provide information and awareness including manual and signage or poster on handling weight limits for male and female as well as recommendations on how to carry weight, and falling from height 	As above	Sub loan No. 2,3, 4,11,12,14,16,19,23, 27 and 30 Annex 3

Annex 1 ESMS's Annex A-Exclusion List

These are a list of activities that form part of the ESMS where any involvement would trigger a “no go” on providing a loan to a Sub-borrower. For the avoidance of doubt, any activities that require an Initial Environmental Examination (IEE) or an Environmental & Social impact Assessment (ESIA) under regulations in Lao PDR are excluded.

The following exclusions to ALL sub-loans processed under the Project:

- Production or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements, or subject to international bans, such as pharmaceuticals, pesticides/herbicides, ozone depleting substances, PCBs, wildlife or products regulated under CITES.
- Production or trade in weapons and munitions.
- Production or trade in alcoholic beverages (excluding beer and wine)².
- Production or trade in tobacco².
- Gambling, casinos and equivalent enterprises.
- Production or trade in radioactive materials. This does not apply to the purchase of medical equipment, quality control (measurement) equipment and any equipment which is considered to be the radioactive source to be trivial and/or adequately shielded.
- Production or trade in unbonded asbestos fibres or use of asbestos-containing materials. This does not apply to purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%.
- Drift net fishing in the waterway using nets in excess of 2.5 km in length.
- Production or activities involving harmful or exploitative forms of forced labour⁴/harmful child labour⁵.
- Sub-loans involving logging/harvesting of timber or wood products.
- Production and distribution of construction materials is one of the eligible activities provided that wood/lumber production are sourced legally and further due diligence of the sources will be pursued as part of processing and approval of the transaction.
- Commercial logging operations for use in primary tropical moist forest production or trade in wood or other forestry products other than from sustainably managed forests.
- Sub-loans involving any transaction that will require acquisition of land regardless of tenure or ownership, physical relocation of households or displacement of livelihoods.
- Activities involving major construction and civil works that would cause significant adverse impact and require an impact assessment (IEE or ESIA) according to the

⁴Forced labour means all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

⁵Harmful child labour means the employment of children that is economically exploitive, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health, or physical, mental, spiritual, moral, or social development.

national regulations and in line with WB ESF policies (e.g., higher risk activities), which would be beyond the capacity of the MSMEs to manage.

- Activities based on or directly linked to land/natural resource-based productions such as food production and processing, and other transactions that cause impacts that are required high investment and or unlikely to be addressed within project timeframe and the capacity of project stakeholders.
- Industrial-scale or EIA required activities involving significant conversion or degradation of natural and/or critical habitats and/or any activities in legally protected or internationally recognized areas.
- Industrial-scale or EIA required activities involving production, harvesting, or trade in wood or other forestry products from plantation and natural forests other than from legal and sustainable origin.
- Industrial-scale or EIA required activities involving harvesting of wild fish populations or other aquatic species other than from legal and sustainable origin.
- Activities, including relocation, that have adverse impacts on the lands, natural resources, or critical cultural heritage subject to traditional ownership or under customary use by the Indigenous Peoples (ethnic minorities).
- Activities involving significant alteration, damage, or removal of any critical cultural heritage.
- High and Substantial risk sub-loans (following the definitions of World Bank's Environmental and Social Framework (also see Annex B). In this case it means any activities that would require an impact assessment under Lao PDR requirements.

Annex 2 ESMS's Annex B-Environmental and Social Risk Categorisation Guidance

Categorisation

Category	Definition	Example Activities
High Risk	High Risk means any business activity which is likely to have significant adverse environmental and social impacts that are socially sensitive, irreversible, large-scale or unprecedented, and which includes, for the avoidance of doubt, activities involving (a) involuntary resettlement, (b) risk of adverse impacts on indigenous peoples, (c) significant risks to or impacts on the environment, community health and safety, biodiversity, cultural heritage, or (d) significant occupational health and safety risks (risk of serious injury or fatality to workers).	<ul style="list-style-type: none"> ▪ Oil and Gas: <ul style="list-style-type: none"> – Greenfield exploration and production operations. – Refinery construction and operation. ▪ Mining and Coal Processing Sector: <ul style="list-style-type: none"> – Operations that involve large scale extraction of minerals, coal or building materials, via underground or open-pit mining. – Development of large mineral processing facilities/integrated mills. ▪ Power Sector: <ul style="list-style-type: none"> – New thermal power station development. – Hydropower developments with large dams and other impoundments designed for the holding back or permanent storage of water (and run of the river with significant environmental & social impacts). – Large scale electric power transmission and distribution. ▪ Transportation and Logistics: <ul style="list-style-type: none"> – Large infrastructure projects, including development of [new] ports and harbours, airports, road, rail, and mass transit systems. ▪ Realignment and/or widening of an existing road, where such new road, or realigned and/or widened section of road. ▪ Activities that require an ESIA in Lao PDR (See Table below).

<p>Substantial Risk</p>	<p>Substantial Risk means any business activity that is not as complex as High-Risk activities, however, has some significant risks and impacts with the possibility of avoiding or reversing but with substantial investment and time and may give rise to limited degree of social conflict, harm, human security risk.</p>	<ul style="list-style-type: none"> ▪ Power Sector: <ul style="list-style-type: none"> – Expansion of existing thermal power operations within an existing footprint and/or will not result in significant environmental/social impact – Renewable power developments that will not result in significant environmental/social impacts. ▪ Manufacturing: <ul style="list-style-type: none"> – Development of a manufacturing facility where there are no significant environmental & social impacts, however it is not part of an existing industrial park ▪ Infrastructure: <ul style="list-style-type: none"> – Development of a large water supply network using existing water supply (i.e., development and construction of infrastructure) – Development of datacentres, where there are no significant environmental & social impacts, however recognising that these can be significant users of energy. <p>Activities that require an IEE and or ESIA in Lao PDR (See Table B2 below).</p>
<p>Moderate Risk</p>	<p>Moderate Risk means any business activity that has potentially limited adverse environmental or social risks and/or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures. Impacts are often site-specific without likelihood of impacts beyond the activity’s footprint and routine safety precautions are expected to be sufficient to prevent accidents.</p>	<ul style="list-style-type: none"> ▪ Acquisition of new transportation equipment (automobiles, trucks, other specialised equipment, and replacement parts); ▪ Small-scale processing of agricultural produce e.g., rice. ▪ Building of small warehouses or renovation of existing physical premises on the land fully owned by the MSMEs; ▪ Acquisition of assets such as industrial machines, medium sized tools and equipment.

<p>Low Risk</p>	<p>Low Risk means any business activity minimal or negligible risks to and impacts on human populations and/or the environment with few or no adverse risks and impacts and issues.</p>	<ul style="list-style-type: none"> ▪ Office based activities such as marketing, consultancy, etc. ▪ Working capital needs (loans for payment of salaries, marketing costs, audit and accounting costs); ▪ Acquisition of communications equipment (phone and fax equipment, computers, printers, servers, software, other hardware, etc.); ▪ Purchase of construction materials for shops selling construction material, ▪ Purchase of feed stock, and feed mixer machine; ▪ Acquisition of fixed small assets (refrigerators, replacement parts, etc.), small tools and equipment etc.). ▪ All types of retail outlets (except those dealing in hazardous or toxic chemicals, flammable materials); and ▪ Restaurants and other food premises.
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Under Ministerial Agreement No. 8056/MONRE, a list of activities is provided and are divided into two categories. Activities in category 1 are required to conduct an Initial Environmental Examination (IEE) and those in Category 2 are required to complete an Environmental and Social Impact Assessment (ESIA). The investment projects and activities have been divided into 5 sectors as follows: (1) energy; (2) agriculture and forestry; (3) industry processing; (4) infrastructure and service and (5) mining

Type and size details of investment projects and activities classified into categories 1 and 2 are in the table Activities Requiring IEE and ESIA in Lao PDR below:

TYPES OF INVESTMENT PROJECTS AND ACTIVITIES		CATEGORY 1 - REQUIRED TO CONDUCT IEE	CATEGORY 2 - REQUIRED TO CONDUCT EIA
I. Investment projects and activities in energy sector			
Electric power development			
1.1	Electricity generation by Hydropower (Hydropower plants construction)	(a) 1-15 megawatt or (b) catchment basin < 200 million m ³ or (c) catchment area < 1,500 hectares	(a) ≥ 15 megawatt or (b) catchment basin ≥ 200 million m ³ or (c) catchment area ≥ 1,500 hectares
1.2	Nuclear power, control and disposal of nuclear waste		All size
1.3	Natural gas or biogas power	5-50 megawatts	> 50 megawatts
1.4	Wind power by using turbines	2-10 turbines	> 10 turbines
1.5	Coal, oil or biomass power plant project	≤ 10 megawatts	> 10 megawatts
Gas and petroleum			
1.6	Petroleum and pipelines		All sizes
1.7	Extraction of oil or natural gas		All sizes
1.8	Oil refinery		All sizes
1.9	Petroleum storage facilities	5,000-50,000 m ³	> 50,000 m ³
High voltage transmission development			
1.10	High voltage transmission construction:		
1.10.1	High voltage ≥ 230 Kilovolt	≤ 15 Kilometers	> 15 Kilometers
1.10.2	High voltage < 230 Kilovolt	All sizes	
1.11	High voltage power distribution station	< 10 hectares	≥ 10 hectares
II. Investment projects and activities in agriculture and forestry			
Tree plantation and crops			

2.1	Planting and cutting industrial tree plantation	20-200 hectares	> 200 hectares
2.2	Plantation of industrial crops	20-400 hectares	> 400 hectares
Animal raising and fisheries			
2.3	Large animal rearing (cattle, buffaloes, horses, etc.)	≥ 500 head	
2.4	Poultry raising	≥ 5.000 head	
2.5	Pig raising	≥ 500 head	
2.6	Fishpond and aquatic culture in industrial ponds	≥ 10 hectares	
2.7	Fish cage and aquatic culture in cages along rivers	≥ 300 m ²	
2.8	Crocodile raising	≥ 100 heads	
III. Investment projects and activities in processing industrials			
Food processing industry			
3.1	Production, processing and storage of foods (meat, fish, fruit, cooking oil, animals and animal feed)	≤ 1 ton/day	> 1 ton/day
3.2	Milk processing factory	≤ 40 ton/day	> 40 ton/day
3.3	Tapioca and tapioca products processing	40-80 ton/day	> 80 ton/day
3.4	Sugar factory	≤ 30 ton/day	> 30 ton/day
3.5	Liquor manufacture	$\leq 500,000$ liters/year	> 500,000 liters/year
3.6	Drinking water processing	All sizes	
3.7	Tobacco factory	All sizes	
Textile, pulp, paper and wood products			
3.8	Textile, cotton, garment manufacture and dye factories	All sizes	

3.9	Leather tanning factory	All sizes	
3.10	Leather processing factory	≤ 1 million pieces/year	> 1 million pieces/year
3.11	Wicker, bamboo and rattan production factory	All sizes	
3.12	Plywood factory	≤ 100,000 m ² /year	> 100,000 m ² /year
3.13	Paper factory	≤ 30 tons/year	> 30 tons/year
3.14	Printing house	All sizes	
Chemical products and clinical equipment			
3.15	Petroleum and hydrocarbon factory		All sizes
3.16	Chemical production factory		All sizes
3.17	Medical equipment and pharmaceutical factory using chemical reactions and biochemicals		All sizes
3.18	Cleaning products	≤ 10 tons/day	> 10 tons/day
3.19	Rubber manufacture	50-200 tons/year	> 200 tons/year
3.20	Plastic manufacture	≤ 400 tons/year	> 400 tons/year
Non-metallic product manufacture			
3.21	Glass product factory	All sizes	
3.22	Mineral product production and no other metals processing	All sizes	
3.23	Cement, lime and plaster factory	≤ 20 tons/hour	> 20 tons/hour
Mining extraction industry			
3.24	Steel and iron smelting factory	≤ 5,000 tons/year	> 5,000 tons/year
3.25	Precious metal processing factory		All sizes
3.26	Steel processing factory	≤ 50 tons/day	> 50 tons/day

3.27	Non-ferrous metal processing factory	All sizes	
3.28	Metal fabrication (tanks, sinks, etc.)	All sizes	
3.29	Battery production factory	All sizes	
Other industries			
3.30	Home appliances, office equipment, and electrical tools production	All sizes	
3.31	Automotive and alkaline battery production factory	≤ 70 tons/year	> 70 tons/year
3.32	Spare parts factory for automobiles and related machines	≤ 1,000 tons/year	> 1,000 tons/year
3.33	Bicycles and wheelchairs for disabled people	≤ 10,000 sets/year	> 10,000 sets/year
3.34	Home appliances factory	≤ 10,000 pieces/year	> 10,000 pieces/year
3.35	Water supply and treatment	All sizes	
Waste treatment			
3.36	Disposal of non-hazardous waste	≤ 5,000 tons/year	> 5,000 tons/year
3.37	Hazardous waste disposal		All sizes
3.38	Hazardous waste treatment		All sizes
3.39	Other waste management and treatment		All sizes
3.40	Construction of a factory for recycling		All sizes
3.41	Construction of a waste incinerator		All sizes
3.42	City wastewater treatment	≤ 50,000 persons	>50,000 persons
3.43	Industrial wastewater treatment		All sizes
3.44	Waste drainage construction	All sizes	

IV. Investment projects and activities in infrastructure and services			
4.1	Backfill for marsh, river, canals damaging public benefits		All sizes
4.2	Dormitory and condominium construction	>50 rooms	
4.3	Golf course construction		All sizes
4.4	Sport complex construction		All sizes
4.5	Hotel or resort construction	≤ 80 rooms	> 80 rooms
4.6	Hotel complex construction	≤ 50 hectares	> 50 hectares
4.7	Tourism and recreation in areas of environment and social significance		All sizes
4.8	Special economic zone development		All sizes
4.9	Hospital construction	≤ 80 beds	> 80 beds
4.10	Railway construction		All sizes
4.11	Road construction (national, province, district, special zone levels)		All sizes
4.12	Road rehabilitation (national, province, district and special zone levels)	All sizes	
4.13	Airport construction		All sizes
4.14	Telecom network construction	All sizes	
4.15	Navigation (improvement of channels along rivers)	≤ 200 tons	> 200 tons
4.16	Port construction		
4.16.1	Port for public transport	≤ 500 tons (excluding ship weight)	> 500 tons (excluding ship weight)

4.16.2	General goods port	≤ 500 tons (excluding ship weight)	> 500 tons (excluding ship weight)
4.16.3	Dangerous goods port		All sizes
4.17	Erosion protection and embankment construction	≤ 1 Kilometre	>1 Kilometre
V. Investment projects and activities in mining sectors			
Mining processing and exploitation			
5.1	Gravel and sand extraction	1,000-50,000 m ³ /day	> 50,000 m ³ /day
5.2	Rock drilling and transport	≤ 50 tons/day	> 50 tons/day
5.3	Extraction of construction materials (earth, gravel, sand, etc.)	≤ 100,000 m ³ /year or areas ≤ 20 hectares	> 100,000 m ³ /year or areas > 20 hectares
5.4	Extraction of solid minerals (without using chemicals)		All sizes
5.5	Extraction of solid minerals (using hazardous chemicals)		All sizes
5.6	Solid minerals processing	≤ 50,000 tons/year	> 50,000 tons/year
Water control and management			
5.7	Abstraction and use of groundwater for use in industry, agriculture and urban consumption	500- 5,000 m ³ /day	> 5,000 m ³ /day
5.8	Construction of reservoir and dams	1-200 million m ³ or height of dam ≤ 10 m ³	> 200 million m ³ or height of dam > 10 m ³

Areas that are important for environmental and social aspects cover the following zones:

- All areas or most areas of proposed zone have been announced as protection area, conservation areas in accordance with the law on forest No. 64/NA dated 13/06/2019;
- All areas or most areas of proposed zone have been announced as wildlife and aquatic animal conservation area in accordance with law on wildlife and aquatic animals, No. 07/NA dated 24/12/2008;

- All areas or most areas of proposed zone have been announced as national cultural heritage and history areas in accordance with law on national heritage No. 44/NA dated 24/12/;
- All areas or most areas of proposed zone have been announced as water resource conservation areas in accordance with law on water and water resource, No. 23/NA dated 11/05/2017; and
- Other areas have been announced as environmental and social important areas in different periods.

Annex 3: Proposed Sub-loans for refinancing under VIETIN BANK and its E&S Issue

A. Proposed sub-loans for refinancing

No	Business Name / MSMEs-SME	Business Activities	E&S Risk Category (H=High, M=Medium, L=Low)	Sector (Trading, Services and Manufacture)	Date of contract From	Date of contract To	Loan Purpose (Working Capital or Investment)	Refinance-able (Lak)	Refinance-able (USD)
1	MITTAPHAP AIR	Decoration, distribution, repair and installation of air conditioners	L	Trading	07/01/2021	22/06/2021	Working capital	2,600,000,000	194,310.00
2	STG TRADING LAO CO LTD	Cement bag store	L	Trading	17/12/2020	17/12/2021	Working capital	3,500,000,000	145,316.69
3	CUA HANG BAN VAT LIEU KETSALIN	Construction materials store	L	Trading	23/10/2020	23/10/2021	Working capital	700,000,000	73,233.73
4	KANTASILO EXPORT-IMPORT SOLE CO., LTD	Construction and agricultural materials store	L	Trading	29/05/2020	29/05/2021	Working capital	2,000,000,000	72,105.26
5	CAR ACCESSORIES SHOP BOUNTHAI	Spare parts for cars store	L	Trading	25/08/2020	23/08/2021	Working capital	1,200,000,000	113,684.21
6	JEWELRY SHOP OF SOMDAVAN	Gold, silver and valuables store	L	Trading	01/11/2021	01/11/2022	Working capital	2,000,000,000	200,000.00
7	CHTN MB VANG BAC VA DO CO GIA ONG SOMVANG-BA BOUN	Gold, silver and valuables store	L	Trading	14/12/2020	14/12/2021	Working capital	600,000,000	21,031.58
8	CUA HANG TU NHAN BAN DO	Trade in consumer goods	L	Trading	11/12/2020	11/12/2025	Working capital	180,000,000	15,789.47

No	Business Name / MSMEs-SME	Business Activities	E&S Risk Category (H=High, M=Medium, L=Low)	Sector (Trading, Services and Manufacture)	Date of contract From	Date of contract To	Loan Purpose (Working Capital or Investment)	Refinance-able (Lak)	Refinance-able (USD)
	TAP HOA BA TADAM								
9	MALAYKHAM VILAYHAN GROCERY STORE	Consumer goods store	L	Trading	14/07/2020	14/07/2021	Working capital	600,000,000	63,157.89
10	POINT OF PURCHASING COFFEE OF MS MALAYTHONG LAK 48	Agricultural products store	L	Trading	08/04/2020	08/04/2021	Working capital	300,000,000	31,578.95
11	CONSTRUCTION MATERIALS SHOP OF MS PHOULASY	Construction materials store	L	Trading	23/12/2020	23/12/2021	Working capital	1,000,000,000	100,526.32
12	CHTN BAN VAT LIEU XAY DUNG BA HOANG THI THIEN	Construction materials store	L	Trading	07/12/2020	07/12/2021	Working capital	2,000,000,000	200,000.00
13	CUA HANG TU NHAN BAN DO TAP HOA BA SIPHACHANH	Consumer goods store	L	Trading	26/11/2020	26/11/2021	Working capital	100,000,000	8,288.00
14	CONSTRUCTION MATERIALS SHOP	Construction materials store	L	Trading	05/11/2021	05/11/2022	Working capital	600,000,000	31,578.95
15	EXIM SOLE CO., LTD	Service of Shipping	L	Service	03/12/2021	03/12/2022	Working Capital	800,000,000	84,210.53
16	CMI STEEL CO., LTD	Building materials store	L	Trading	07/12/2021	07/12/2022	Working Capital	1,600,000,000	168,421.05
17	STAR IMPORT - EXPORT SOLE CO., LTD	Beverage, Wine, whiskey store	L	Trading	24/08/2020	24/08/2021	Working Capital	1,100,000,000	115,789.47

No	Business Name / MSMEs-SME	Business Activities	E&S Risk Category (H=High, M=Medium, L=Low)	Sector (Trading, Services and Manufacture)	Date of contract From	Date of contract To	Loan Purpose (Working Capital or Investment)	Refinance-able (Lak)	Refinance-able (USD)
18	SEM CAR SERVICE INDIVIDUAL ENTERPRISE	Car repair services	L	Service	16/11/2020	16/11/2021	Working Capital	1,000,000,000	42,105.26
19	DNTN CUA HANG VAT LIEU XAY DUNG PHU GIA	Building materials store	L	Trading	18/02/2020	18/02/2021	Working Capital	3,600,000,000	200,000.00
20	CUA HANG TU NHAN BAN THONGDAM	Phone cards, telecommunications equipment and components store	L	Trading	07/05/2021	07/05/2022	Working capital	500,000,000	51,716.84
21	VIENTIAN AUTOMATION AND SOLUTION ENGINEERING CO., LTD	Repairing of Hydro Power	L	Other	22/02/2021	22/02/2022	Working capital	2,200,000,000	184,614.17
22	POUN SAP PHARMA SOLE CO LTD	Medical equipment store	L	Trading	19/03/2021	19/03/2022	Working Capital	2,500,000,000	142,293.32
23	LADA CONSTRUCTION MATERIALS SHOP	Building materials store	L	Trading	19/10/2020	19/10/2025	Working Capital	300,000,000	26,315.79
24	SUPCHALEUN AGRICULTURE IMPORT-EXPORT SOLE CO., LTD	Agriculture products store	L	Trading	27/11/2020	27/11/2025	Working Capital	500,000,000	44,721.05
	SUPCHALEUN AGRICULTURE IMPORT-EXPORT SOLE CO., LTD	Agriculture products store	L	Trading	15/06/2021	15/06/2022	Working Capital	700,000,000	73,684.21

No	Business Name / MSMEs-SME	Business Activities	E&S Risk Category (H=High, M=Medium, L=Low)	Sector (Trading, Services and Manufacture)	Date of contract From	Date of contract To	Loan Purpose (Working Capital or Investment)	Refinance-able (Lak)	Refinance-able (USD)
25	LAVI PRODUCTION AND TRADE SOLE CO., LTD	Medical (vitamin supplements) store	L	Trading	16/03/2021	16/03/2026	Working Capital	300,000,000	28,947.37
26	DNTN THUONG MAI DMAX	Building materials store	L	Trading	23/02/2021	23/02/2022	Working Capital	600,000,000	24,210.53
27	PHOUNSUP SHIPPING AND LOGISTICS IMPORT EXPORT SOLE CO LTD	Electrical equipment store	L	Trading	28/01/2021	28/01/2022	Working Capital	500,000,000	26,315.79
28	ANOUPAKHAM INDIVIDUAL TRADING SHOP	Electronic commerce, consumer goods store	L	Trading	21/03/2021	21/03/2022	Working capital	3,000,000,000	200,000.00
29	MALA HOTPOT	Buffet Restaurant	L	Service	25/12/2020	25/12/2025	Working Capital	800,000,000	72,947.37
30	PHONESAVANH SONGTHAVONE	Drinking product (water, beer) store	L	Trading	03/04/2021	03/04/2022	Working capital	800,000,000	54,024.74
31	SAIGON VIENTIANE MANUFACTURING AND TRADING	Consumer goods store	L	Trading	28/07/2020	28/07/2021	Working Capital	1,500,000,000	157,894.74
32	KEOMANY COMMERCE	Rice store	L	Trading	27/10/2020	27/10/2021	Working Capital	2,000,000,000	200,000.00
33	PHETNOY MOBILE	Mobile store	L	Trading	07/05/2020	07/05/2025	Working Capital	230,000,000	17,743.16
	Total							41,910,000,000	3,186,556.45

B. Degree and significance of E&S Risks as per the E&S Risk and Impact Matrix (Table 4)

No	Business Name / MSMEs-SME	Business Activities	E&S Risk Category (H=High, M=Medium, L=Low)	Total Staff (as at contract signed)	Air emissions	Waste-water	Solid waste (MSW)	Nuisance (dust, noise, traffic congestion)	Resource (water, electricity use, raw materials)	Community health and safety	Labour and working condition/ health
1	MITTAPHAP AIR	Decoration, distribution, repair and installation of air conditioners	L	14	4	3	4	2	4	2	4
2	STG TRADING LAO CO LTD	Cement bag store	L	12	4	3	4	2	4	2	4
3	CUA HANG BAN VAT LIEU KETSALIN	Construction materials store	L	10	4	3	4	2	4	2	4
4	KANTASILO EXPORT-IMPORT SOLE CO., LTD	Construction and agricultural materials store	L	7	4	3	4	2	4	2	4
5	CAR ACCESSORIES SHOP BOUNTHAI	Spare parts for cars store	L	28	4	3	4	2	4	2	4
6	JEWELRY SHOP OF SOMDAVAN	Gold, silver and valuables store	L	4	4	3	4	2	4	2	4
7	CHTN MB VANG BAC VA DO CO GIA ONG SOMVANG-BA BOUN	Gold, silver and valuables store	L	2	4	4	4	4	4	2	4
8	CUA HANG TU NHAN BAN DO TAP HOA BA TADAM	Trade in consumer goods	L	2	4	3	4	2	4	2	6

No	Business Name / MSMEs-SME	Business Activities	E&S Risk Category (H=High, M=Medium, L=Low)	Total Staff (as at contract signed)	Air emissions	Waste-water	Solid waste (MSW)	Nuisance (dust, noise, traffic congestion)	Resource (water, electricity use, raw materials)	Community health and safety	Labour and working condition/ health
9	MALAYKHAM VILAYHAN GROCERY STORE	Consumer goods store	L	2	3	3	4	2	4	2	4
10	POINT OF PURCHASING COFFEE OF MS MALAYTHONG LAK 48	Agricultural products store	L	2	3	3	4	2	4	2	4
11	CONSTRUCTION MATERIALS SHOP OF MS PHOULASY	Construction materials store	L	5	4	3	4	2	4	2	4
12	CHTN BAN VAT LIEU XAY DUNG BA HOANG THI THIEN	Construction materials store	L	2	4	3	4	2	4	2	4
13	CUA HANG TU NHAN BAN DO TAP HOA BA SIPHACHANH	Consumer goods store	L		3	4	4	2	4	2	4
14	CONSTRUCTION MATERIALS SHOP	Construction materials store	L	3	4	3	4	2	4	2	4
15	EXIM SOLE CO., LTD	Service of Shipping	L	80	4	4	4	2	4	2	4
16	CMI STEEL CO., LTD	Building materials store	L	20	4	3	4	2	4	2	4
17	STAR IMPORT - EXPORT SOLE CO., LTD	Beverage, Wine, whiskey store	L	20	4	3	4	2	4	2	4
18	SEM CAR SERVICE INDIVIDUAL ENTERPRISE	Car repair services	L	6	4	4	4	4	4	2	4

No	Business Name / MSMEs-SME	Business Activities	E&S Risk Category (H=High, M=Medium, L=Low)	Total Staff (as at contract signed)	Air emissions	Waste-water	Solid waste (MSW)	Nuisance (dust, noise, traffic congestion)	Resource (water, electricity use, raw materials)	Community health and safety	Labour and working condition/ health
19	DNTN CUA HANG VAT LIEU XAY DUNG PHU GIA	Building materials store	L	10	4	3	4	2	4	2	4
20	CUA HANG TU NHAN BAN THONGDAM	Phone cards, telecommunication s equipment and components store	L	10	4	3	4	2	4	2	4
21	VIENTIAN AUTOMATION AND SOLUTION ENGINEERING CO., LTD	Repairing of Hydro Power	L	65	4	3	4	2	4	2	4
22	POUN SAP PHARMA SOLE CO LTD	Medical equipment store	L	14	4	3	4	2	4	2	4
23	LADA CONSTRUCTION MATERIALS SHOP	Building materials store		4	4	3	4	2	4	2	4
24	SUPCHALEUN AGRICULTURE IMPORT-EXPORT SOLE CO., LTD	Agriculture products store	L	10	4	3	4	2	4	2	4
25	LAVI PRODUCTION AND TRADE SOLE CO., LTD	Agriculture products store	L	35	4	3	4	2	4	2	4
26	DNTN THUONG MAI DMAX	Medical (vitamin supplements) store	L	5	3	3	4	2	4	2	4
27	PHOUNSUP SHIPPING AND LOGISTICS	Building materials store	L	11	3	3	4	2	4	2	4

No	Business Name / MSMEs-SME	Business Activities	E&S Risk Category (H=High, M=Medium, L=Low)	Total Staff (as at contract signed)	Air emissions	Waste-water	Solid waste (MSW)	Nuisance (dust, noise, traffic congestion)	Resource (water, electricity use, raw materials)	Community health and safety	Labour and working condition/ health
	IMPORT EXPORT SOLE CO LTD										
28	ANOUPAKHAM INDIVIDUAL TRADING SHOP	Electrical equipment store	L	35	4	3	4	2	4	2	4
29	MALA HOTPOT	Electronic commerce, consumer goods store	L	35	4	3	4	2	4	2	4
30	PHONESAVANH SONGTHAVONE	Buffet Restaurant	L	1	3	4	4	2	4	2	4
31	SAIGON VIENTIANE MANUFACTURING AND TRADING	Drinking product (water, beer) store	L	50	4	3	4	2	4	2	4
32	KEOMANY COMMERCE	Consumer goods store	L	9	4	4	4	2	4	2	4
33	PHETNOY MOBILE	Rice store	L	3	4	3	4	2	4	2	4

Annex 4: Location of MSMEs from VIETIN BANK

No	Name of MSME/Company	Province	District	Village	Telephone	Location (Link Google Map)
1	MITTAPHAP AIR	Vientiane Capital	Sikhottabong District	BAN NAKHAM	02055518499	17.895264, 102.645096
2	STG TRADING LAO CO LTD	Vientiane Capital	Xaysetha District	BAN PHONTHAN	02055542393	XJ8V+W37 Asean Mall, Vientiane
3	CUA HANG BAN VAT LIEU KETSALIN	Champasak Province	Sanasomboun District	BAN XONPHAK	02056661620	https://www.google.com/maps/place/15%C2%B017'57.5%22N+105%C2%B044'20.1%22E/@15.299645,105.7391669,177m/data=!3m1!1e3!4m5!3m4!1s0x0:0xa03e0c6e21db7d21!8m2!3d15.299312!4d105.738917
4	KANTASILO EXPORT-IMPORT SOLE CO., LTD	Champasak Province	Pakse District	BAN PHATTHANA HOUY POON	020 5535 2777	15°07'38.7"N 105°48'21.5"E
5	CAR ACCESSORIES SHOP BOUNTHAI	Champasak Province	Pakse District	PHONSAVAN H	02055356777	15°06'56.4"N 105°48'57.9"E
6	JEWELRY SHOP OF SOMDAVAN	Champasak Province	Pakse District	BAN PHONKUNG	020 55344333	https://www.google.com/maps/place/15%C2%B006'47.4%22N+105%C2%B048'55.3%22E/@15.1131743,105.8148118,223m/data=!3m2!1e3!4b1!4m14!1m7!3m6!1s0x3114f8b6fd85344b:0xb9105f9f5ad94310!2z4Lqb4Lqy4LqB4LuA4LqK!3b1!8m2!3d15.1171823!4d105.8159045!3m5!1s0x0:0xad a359d255a4408a!7e2!8m2!3d15.1131728!4d105.8153588
7	CHTN MB VANG BAC VA DO CO GIA ONG SOMVANG-BA BOUN	Champasak Province	Pakse District	BAN PHONEKUNG	020 55430195	https://www.google.com/maps/place/Pakse+Market/@15.1137351,105.8157744,540m/data=!3m1!1e3!4m13!1m7!3m6!1s0x3114f8b6fd85344b:0xb9105f9f5ad94310!2z4Lqb4Lqy4LqB4LuA4LqK!3b1!8m2!3d15.1171823!4d105.8159045!3m4!1s0x3114f8ce

No	Name of MSME/Company	Province	District	Village	Telephone	Location (Link Google Map)
						5fc5f351:0x772f06dc4b993e7e!8m2!3d15.1144523!4d105.814216
8	CUA HANG TU NHAN BAN DO TAP HOA BA TADAM	Champasak Province	Paksong District	BAN NONCHAN	020 99997176	https://www.google.com/maps/place/15%C2%B010'42.2%22N+106%C2%B019'19.8%22E/@15.1783806,106.3210597,454m/data=!3m2!1e3!4b1!4m14!1m7!3m6!1s0x3114df5a657c1885:0x66fb1dc01977f155!2z4Lqb4Lqy4LqB4LqK4LuI4Lqt4LqH!3b1!8m2!3d15.1766973!4d106.2345633!3m5!1s0x0:0x8bd7e56e8955cc63!7e2!8m2!3d15.1783779!4d106.3221535
9	MALAYKHAM VILAYHAN GROCERY STORE	Champasak Province	Paksong District	BAN PAKSONG	020 95167979	https://www.google.com/maps/place/15%C2%B010'40.2%22N+106%C2%B013'50.1%22E/@15.177725,106.229825,114m/data=!3m1!1e3!4m6!3m5!1s0x0:0xe382a8d9035c49ab!7e2!8m2!3d15.1778397!4d106.230574!10m2!1e1!2e1
10	POINT OF PURCHASING COFFEE OF MS MALAYTHONG LAK 48	Champasak Province	Paksong District	BAN LAK 48	020 57955999	https://www.google.com/maps/place/15%C2%B011'28.5%22N+106%C2%B012'05.6%22E/@15.1912536,106.2004717,454m/data=!3m2!1e3!4b1!4m14!1m7!3m6!1s0x3114df5a657c1885:0x66fb1dc01977f155!2z4Lqb4Lqy4LqB4LqK4LuI4Lqt4LqH!3b1!8m2!3d15.1766973!4d106.2345633!3m5!1s0x0:0x395806f62695e8a0!7e2!8m2!3d15.1912512!4d106.2015656
11	CONSTRUCTION MATERIALS SHOP OF MS PHOULASY	Champasak Province	Pakse District	BAN PHONSAVAN H	020 22716999	https://www.google.com/maps/place/15%C2%B006'51.6%22N+105%C2%B048'58.1%22E/@15.1143243,105.8155928,227m/d

No	Name of MSME/Company	Province	District	Village	Telephone	Location (Link Google Map)
						ata=!3m2!1e3!4b1!4m14!1m7!3m6!1s0x3114f8b6fd85344b:0xb9105f9f5ad94310!2z4Lqb4Lqy4LqB4LuA4LqK!3b1!8m2!3d15.1171823!4d105.8159045!3m5!1s0x0:0x1036d51b4f187a60!7e2!8m2!3d15.1143227!4d105.8161405
12	CHTN BAN VAT LIEU XAY DUNG BA HOANG THI THIEN	Champasak Province	Pakse District	PHONSAVAN H	020 55336454	https://maps.app.goo.gl/cpgR82zMLSBddchM7
13	CUA HANG TU NHAN BAN DO TAP HOA BA SIPHACHANH	Champasak Province	Bachiangchaleun souk District	SAYSAVANG VILLAGE	020 22664443	https://maps.app.goo.gl/6EN2rFyGkMF2nbJw5
14	CONSTRUCTION MATERIALS SHOP	Champasak Province	Phonthong District	PHONTHONG	020 58467555	https://www.google.com/maps/place/15%C2%B003'36.4%22N+105%C2%B048'47.2%22E/@15.0601122,105.8109253,720m/data=!3m2!1e3!4b1!4m14!1m7!3m6!1s0x3114f471b6bf1d17:0xacfb24744c2ae433!2sMuang+Champassak!3b1!8m2!3d14.9030362!4d105.8642593!3m5!1s0x0:0x3901d350dc5679fb!7e2!8m2!3d15.0601068!4d105.8131139!5m1!1e4
15	EXIM SOLE CO., LTD	Vientiane Capital	Xaysetha District	BAN HONGKAE	020 55599682	https://goo.gl/maps/pR1a8L4tm2iUJ8h69
16	CMI STEEL CO., LTD	Vientiane Capital	Xaythany District	PAYLOM	020 99268888	https://goo.gl/maps/AzCdasdRZuuHPukC6
17	STAR IMPORT - EXPORT SOLE CO., LTD	Vientiane Capital	Xaysetha District	BAN Nongbone	020 55516328	https://maps.app.goo.gl/dNJtu1VpscRaNgeU9
18	SEM CAR SERVICE INDIVIDUAL ENTERPRISE	Vientiane Capital	Xaythany District	NONGPHAYA	020 55917712	https://goo.gl/maps/snhE3ocMTn29uxop7

No	Name of MSME/Company	Province	District	Village	Telephone	Location (Link Google Map)
19	DNTN CUA HANG VAT LIEU XAY DUNG PHU GIA	Vientiane Capital	Xaythany District	SAYSAVANG	020 91919696	https://goo.gl/maps/6YTniPGBBQphgKcu5
20	CUA HANG TU NHAN BAN THONGDAM	Champasak Province	Pakse District	PHONEKUNG	020 95692666	https://maps.app.goo.gl/GG8p3W85cQ6i6k36A
21	VIENTIAN AUTOMATION AND SOLUTION ENGINEERING CO., LTD	Vientiane Capital	Xaysetha District	PHONEXAY VILLAGE	020 55515737	17.968945,102.625548
22	POUN SAP PHARMA SOLE CO LTD	Vientiane Capital	Hadxayfong District	SOMSANOUK	020 57898888	https://goo.gl/maps/pFU54LAYRrGUodn6
23	LADA CONSTRUCTION MATERIALS SHOP	Vientiane Capital	Xaysetha District	SOKNOY	020 5580 9885	https://maps.app.goo.gl/As9MLt9HzNxgDzqm7
24	SUPCHALEUN AGRICULTURE IMPORT-EXPORT SOLE CO., LTD	Vientiane Capital	Xaythany District	KHOKSIVILAY	020 9289 1665	https://goo.gl/maps/pDKD2jmVzafHTs4f9
25	LAVI PRODUCTION AND TRADE SOLE CO., LTD	Vientiane Capital	Xaythany District	KHOKSIVILAY	020 9289 1665	https://goo.gl/maps/pDKD2jmVzafHTs4f9
26	DNTN THUONG MAI DMAX	Vientiane Capital	Xaysetha District	BAN NONSAWANG	020 9986 5722	https://maps.app.goo.gl/m31mdPT1Njag89gJ9
27	PHOUNSUP SHIPPING AND LOGISTICS IMPORT EXPORT SOLE CO LTD	Vientiane Capital	Sikhottabong District	NONKHYLEX	020 7741 1159	https://maps.app.goo.gl/TXFFQzThtqToadSaA
28	ANOUPAKHAM INDIVIDUAL TRADING SHOP	Vientiane Capital	Xaysetha District	NONKHORNE UA	020 5252 9292	https://goo.gl/maps/s4JuMGaBobHUphZS9
29	MALA HOTPOT	Vientiane Capital	Xaysetha District	KHAMSAVATH VILLAGE	030 9865566	Anoupakham, XM86+M9H, Viêng Chăn

No	Name of MSME/Company	Province	District	Village	Telephone	Location (Link Google Map)
30	PHONESAVANH SONGTHAVONE	Vientiane Capital	Chanthabuly District	BAN HONGKAIKE O	020 55616959	https://goo.gl/maps/ZgPmRY8LeNdb1Dof8
31	SAIGON VIENTIANE MANUFACTURING AND TRADING	Vientiane Capital	Xaysetha District	BAN VIENGCHALE RN	020 22221200	https://goo.gl/maps/vabYR9CnkEbcuY5w9
32	KEOMANY COMMERCE	Vientiane Capital	Xaysetha District	Naxay	020 98899342	https://goo.gl/maps/ck3JaYPnNurjtrYk6
33	PHETNOY MOBILE	Vientiane Capital	Sikhottabong District	VIENGGHAM	020 55295492	https://goo.gl/maps/9x4QQVg3PRLTSTg86

Annex 5: VIETIN BANK's Human Resource Policies Evaluation

This appendix aims to document the comparative analysis of the labour management policies of VIETINBANK LAO LIMITED against the requirements of ESS2, and to identify whether or not there are significant gaps exist.

Summary

The VIETINBANK LAO LIMITED has a sound labour management system with clear written guidelines and procedures in the form of a comprehensive set of labour management policies that comply the requirements of the 2013 Labour Law of Lao PDR and latest approved by Department of Labour and Social Welfare. Overall, VIETINBANK LAO LIMITED's practices and performance in labour and human resource management comply with the requirements of ESS2.

1. Labour Management Policies and Procedures

The VIETINBANK LAO LIMITED has a workforce of 121, including 62 women in 2021. The VIETINBANK LAO LIMITED's HR department is responsible for HR policy making and revision, daily operations (recruitment, training, remuneration, social insurance, etc.), and performance evaluation. In Lieu of Labour Management Procedures, the VIETINBANK LAO LIMITED has a comprehensive set of labour management policies in place, and strictly comply with the labour code of Lao PDR, which are mainstreamed into the policies and procedures of VIETINBANK LAO LIMITED. The labour management policies that have been assessed include:

- General terms and conditions of employment
- Recruitment policies including minimum age and fairness
- Human resources and skills development
- Labour management including leave, social welfare, minimum wage and salary, contract, termination and compensation and prohibition of violation of Lao regulations and laws
- Occupational Health and Safety Policy covering workplace and staff safety, hygiene and control of workplace hazards
- Labour/staff relation and organisation, grievances and dispute settlements.

Evaluation and conclusion: Following the Lao PDR's labour law and regulations, the VIETINBANK LAO LIMITED has defined its labour management regulation as well as Human Resource Management system through a series of policies and procedures, that address the main requirements of ESS2.

2. Terms and conditions

The VIETINBANK LAO LIMITED's labour management regulation (2021) was provided for review. In addition, VIETINBANK LAO LIMITED replied to a checklist question about labour and working condition. It was found that when signing a labour contract, the basic terms and conditions, including the term of specific job positions, work content and place of work, work time and rest time, labour remuneration, bonus and social insurances, labour protection, labour conditions and protection against occupational hazards, and entitlement to reimbursement for travel expenses are specified. Working hours are in alignment with the Lao

PDR's regulations (of not more than 48 hours a week) and overtime work is compensated in accordance with Lao PDR's regulation on overtime.

The VIETINBANK LAO LIMITED Branches and HQ are operating 5 days a week, from Monday to Friday and working hour is less than 48 hours per week. Employees are entitled to paid leave (exclusive of the 7 national holidays, Lao women and Lao national bank establishment day) as well as maternity as well as sick, maternity and family/leave as required by 2013 Labour Law of Lao PDR.

In accordance with the 2013 Labour Law of Lao PDR, VIETINBANK LAO LIMITED employees will receive written notice of termination and details of severance payments required by law, in a timely manner. As mandated by the Labour law, wages earned, social insurance benefits, pension contributions and other entitlements are paid prior to termination.

Evaluation and conclusion: Lao PDR's 2013 labour law includes provisions on employment, labour contract management and leave, contract termination, remuneration, and the VIETINBANK LAO LIMITED relevant practices comply such provisions, and are communicated to all employees through induction training, on-the-job training and routine operations. In terms of contract terms and working conditions for direct workers, there is no gap between the VIETINBANK LAO LIMITED practices and ESS2.

3. Non-discrimination and Equal Opportunity

The VIETINBANK LAO LIMITED's labour and human resources policies did not specifically define regulations on non-discrimination, equal opportunity, and anti-sexual harassment, etc. Under the policies on prohibition of illegal activities, and promotion of human resources development, VIETINBANK LAO LIMITED is committed to prohibit those inappropriate behaviour and maintaining a working environment free from all forms of discrimination. In addition, all applicants are given an equal opportunity to gain employment and to progress professionally. Equal opportunity applies without regard to race, colour, sex, religion, age, marital status, disability, veteran status or national origin. Complaints regarding the application of this policy can be lodged with the HR department, and disciplinary action (including termination) may result from those who engage in any form of discrimination. The policy also includes a clause specifying that there will be no retaliation against those who file complaints.

Evaluation and conclusion: The policies and requirements on non-discrimination, equal opportunity, and anti-sexual harassment are partly covered by VIETINBANK LAO LIMITED, and considered to meet the key requirements of ESS2.

4. Workers Organizations

While VIETINBANK LAO LIMITED currently does not have a worker organization, especially branch offices. The 2013 Labour Law allows for trade unions to be "established within labour units that have been operating for at least six months or within other branches of work where employees see fit to establish such, at the central, provincial, municipal or district level."

Evaluation and conclusion: Although a worker organization is not yet in place, it is legally possible for such an organization to be established within VIETINBANK LAO LIMITED.

5. Age of employment

The VIETINBANK LAO LIMITED complies strictly with Lao PDR's policy and international commitments on the prohibition of child labour, and, given the nature of the industry (financial services) does not employ anyone under the age of 18.

Evaluation and conclusion: In consideration of the nature of job positions, there is no risk of children under the age of 18 being employed in VIETINBANK LAO LIMITED.

6. Forced Labour

The VIETINBANK LAO LIMITED complies strictly with Lao PDR's policy and international commitments on the prohibition of forced labour and given the nature of the industry (financial services), there have been no instances of forced labour that have or are likely to occur.

Evaluation and conclusion: Given of the nature of job positions and industry, there is no risk of forced labour being employed in VIETINBANK LAO LIMITED.

7. Employee Grievance Redress Mechanism

The VIETINBANK LAO LIMITED has included a grievance procedure in HR policies that encourages employees to bring any workplace grievance to the attention of their immediate supervisor or upper-level management. In cases where the immediate supervisor does not address the concern within a specified amount of time (5 days), or if the supervisor is the problem, then the next level of supervision should be engaged. The procedure is designed to avoid legal exposure but does not preclude the possibility of making claims using the labour dispute resolution committee specified in the 2013 Labour Law, or recourse to the courts.

Evaluation and conclusion: A grievance mechanisms proportionate to the type of workplace has been provided to all VIETINBANK LAO LIMITED workers, who are informed of its existence at the time of recruitment, along with the measures to protect them from retaliation. The grievance mechanism does not impede access to other judicial or administrative remedies. The grievance procedure is aligned with the requirements of ESS2 on grievance mechanism.

8. Occupational Health and Safety

Under its OHS and General Safety policies VIETINBANK LAO LIMITED commits to providing a safe and healthy workplace. The administration and HR departments are responsible for assessing safety reports from staff, monitoring health and safety conditions in the workplace, developing and putting in place OHS systems, and preparing and conducting training programs on OHS. The policy includes guidelines on specific risks relevant to the VIETINBANK LAO LIMITED workplace specifying staff responsibilities with regard to the safe use of office furnishings and equipment, the risk of fire, and lifting heavy loads. This policy is complemented by a road safety policy and a policy on the prevention of violence in the workplace.

Evaluation and Conclusion: The comprehensive OHS policy (inclusive of practical guidelines), complemented by the general safety and violence prevention policies of VIETINBANK LAO LIMITED are aligned with the requirements of ESS2.

Annex 6: Public Grievance Check of VIETIN BANK's Sub loans for Refinancing

No	Name of business	Type of business /Business Activities	Loan purpose in detail and sector	Media check on Google (30 March 2022)	Media check on Facebook (30 March 2022)	Check with Ministry of Labour and Social Welfare on 10 March 2022)
1	MITTAPHAP AIR	Decoration, distribution, repair and installation of air conditioners	Building shop	Grievance was not found	Grievance was not found	Grievance was not found
2	STG TRADING LAO CO LTD	Cement bag store	Expand the business	Grievance was not found	Grievance was not found	Grievance was not found
3	CUA HANG BAN VAT LIEU KETSALIN	Construction materials store	Expand the business	Grievance was not found	Grievance was not found	Grievance was not found
4	KANTASILO EXPORT-IMPORT SOLE CO., LTD	Construction and agricultural materials store	Expand the business	Grievance was not found	Grievance was not found	Grievance was not found
5	CAR ACCESSORIES SHOP BOUNTHAI	Spare parts for cars store	Expand the business	Grievance was not found	Grievance was not found	Grievance was not found
6	JEWELRY SHOP OF SOMDAVAN	Gold, silver and valuables store	Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
7	CHTN MB VANG BAC VA DO CO GIA ONG SOMVANG-BA BOUN	Gold, silver and valuables store	Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
8	CUA HANG TU NHAN BAN DO TAP HOA BA TADAM	Trade in consumer goods	Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
9	MALAYKHAM VILAYHAN GROCERY STORE	Consumer goods store	Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
10	POINT OF PURCHASING COFFEE OF MS	Agricultural products store	Increase Invest in machinery	Grievance was not found	Grievance was not found	Grievance was not found

No	Name of business	Type of business /Business Activities	Loan purpose in detail and sector	Media check on Google (30 March 2022)	Media check on Facebook (30 March 2022)	Check with Ministry of Labour and Social Welfare on 10 March 2022)
	MALAYTHONG LAK 48				not found	
11	CONSTRUCTION MATERIALS SHOP OF MS PHOULASY	Construction materials store	Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
12	CHTN BAN VAT LIEU XAY DUNG BA HOANG THI THIEN	Construction materials store	building-repair	Grievance was not found	Grievance was not found	Grievance was not found
13	CUA HANG TU NHAN BAN DO TAP HOA BA SIPHACHANH	Consumer goods store	Building accommodation	Grievance was not found	Grievance was not found	Grievance was not found
14	CONSTRUCTION MATERIALS SHOP	Construction materials store	Invest in machinery	Grievance was not found	Grievance was not found	Grievance was not found
15	EXIM SOLE CO., LTD	Service of Shipping	Working Capital	Grievance was not found	Grievance was not found	Grievance was not found
16	CMI STEEL CO., LTD	Building materials store	Investment Capital	Grievance was not found	Grievance was not found	Grievance was not found
17	STAR IMPORT - EXPORT SOLE CO., LTD	Beverage, Wine, whiskey store	Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
18	SEM CAR SERVICE INDIVIDUAL ENTERPRISE	Car repair services	Investment Capital	Grievance was not found	Grievance was not found	Grievance was not found
19	DNTN CUA HANG VAT LIEU XAY DUNG PHU GIA	Building materials store	Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
20	CUA HANG TU NHAN BAN THONGDAM	Phone cards, telecommunications equipment and components store	Building shop	Grievance was not found	Grievance was not found	Grievance was not found

No	Name of business	Type of business /Business Activities	Loan purpose in detail and sector	Media check on Google (30 March 2022)	Media check on Facebook (30 March 2022)	Check with Ministry of Labour and Social Welfare on 10 March 2022)
21	VIENTIAN AUTOMATION AND SOLUTION ENGINEERING CO., LTD	Repairing of Hydro Power	Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
22	POUN SAP PHARMA SOLE CO LTD	Medical equipment store	Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
23	LADA CONSTRUCTION MATERIALS SHOP	Building materials store	Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
24	SUPCHALEUN AGRICULTURE IMPORT-EXPORT SOLE CO., LTD	Agriculture products store	Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
25	LAVI PRODUCTION AND TRADE SOLE CO., LTD	Agriculture products store	Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
26	DNTN THUONG MAI DMAX	Medical (vitamin supplements) store	Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
27	PHOUNSUP SHIPPING AND LOGISTICS IMPORT EXPORT SOLE CO LTD	Building materials store	Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
28	ANOUPAKHAM INDIVIDUAL TRADING SHOP	Electrical equipment store	Building restaurant	Grievance was not found	Grievance was not found	Grievance was not found
29	MALA HOTPOT	Electronic commerce, consumer goods store	Building shop, and Increase working capital	Grievance was not found	Grievance was not found	Grievance was not found
30	PHONESAVANH SONGTHAVONE	Buffet Restaurant	Increase working capital: purchase cattle, vaccine and supplement	Grievance was not found	Grievance was not found	Grievance was not found

No	Name of business	Type of business /Business Activities	Loan purpose in detail and sector	Media check on Google (30 March 2022)	Media check on Facebook (30 March 2022)	Check with Ministry of Labour and Social Welfare on 10 March 2022)
31	SAIGON VIENTIANE MANUFACTURING AND TRADING	Drinking product (water, beer) store	Building cattle house	Grievance was not found	Grievance was not found	Grievance was not found
32	KEOMANY COMMERCE	Consumer goods store	Increase working capital: purchase cattle and supplement	Grievance was not found	Grievance was not found	Grievance was not found
33	PHETNOY MOBILE	Rice store	Increase working capital to purchase chicken feed and farm equipment	Grievance was not found	Grievance was not found	Grievance was not found

Annex 7: Result of due diligence for MSMEs at Village Authority level

No	Name of business	Type of business	Due diligence date completed	Name Head of Village	Telephone	E&S complaint check	Village contribution by MSMEs
Vientiane capital							
30	Mala Hotpot	Buffet Restaurant	27 Apr 2022	"Miss Noi Deputy of Head Village"	020 58455751	Doesn't have any issue on the E&S complaint.	Good cooperation and supporting the village authorities.
Champasack Province							
6	JEWELRY SHOP OF SOMDAVAN	Trade in gold, silver and valuable	11 May 2022	Mr. Souksavanh Sysawai Head Village	020 97779000	Doesn't have any issue on the E&S complaint.	Good cooperation and supporting the village authorities.
7	CHTN MB VANG BAC VA DO CO GIA ONG SOMVANG-BA BOUN	Trade in gold, silver and valuable	11 May 2022	Mr. Souksavanh Sysawai Head Village	020 97779000	Doesn't have any issue on the E&S complaint.	Good cooperation and supporting the village authorities.

Annex 8: Pictures of MSMEs

No.001 MITTAPHAP AIR



No.002 STG TRADING LAO CO.,LTD



No.003 CUA HANG BAN VAT LIEU KETSALIN



No.004 KANTASILO EXPORT-IMPORT SOLE CO.,LTD



No.005 CAR ACCESSORIES SHOP BOUNTHAI



No.006 JEWELRY SHOP OF SOMDAVAN



No.007 CHIN MB VANG BAC VA DO CO GIA ONG SOMVANG-BA BOUN



No.008 CUA HANG TU NHAN BAN DO TAP HOA BA TADAM



No.009 MALAYKHAM VILAYHAN GROCERY STORE



No.010 POINT OF PURCHASING COFFEE OF MS MALAYTHONG LAK 48



No.011 CONSTRUCTION MATERIALS SHOP OF MS PHOULASY



No.012 CHTN BAN VAT LIU XAY DUNG BA HOANG THI THIEN



No.013 CUA HANG TU NHAN BAN DO TAP HOA BA SIPHACHANH



No.014 CONSTRUCTION MATERIALS SHOP



No.015 EXIM SOLE CO.,LTD



No.016 CMI STEEL CO., LTD



No.017 STAR IMPORT - EXPORT SOLE CO., LTD



No.018 SEM CAR SERVICE INDIVIDUAL ENTERPRISE



No.019 DNTN CUA HANG VAT LIEU XAY DUNG PHU GIA



No.020 CUA HANG TU NHAN BAN THONGDAM



No.021 VIENTIAN AUTOMATION AND SOLUTION ENGINEERING SOLE CO.,LTD



No.022 POUN SAP PHARMA SOLE CO LTD



33

No.023 LADA CONSTRUCTION MATERIALS SHOP



No.024 SUPCHALEUN AGRICULTURE IMPORT-EXPORT SOLE CO.,LTD



No.024 SUPCHALEUN AGRICULTURE IMPORT-EXPORT SOLE CO.,LTD



No.025 LAVI PRODUCTION AND TRADE SOLE CO.,LTD



No.026 DNTN THUONG MAI DMAX



No.027 PHOUNSUP SHIPPING AND LOGISTICS IMPORT EXPORT SOLE CO LTD



No.028 ANOUPAKHAM INDIVIDUAL TRADING SHOP



No.029 MALA HOTPOT



No.030 PHONESAVANH SONGTHAVONE



No.031 SAIGON VIENTIANE MANUFACTURING AND TRADING



No.032 KEOMANY COMMERCE



No.033 PHETNOY MOBILE



Annex 9: Property Toxic Chemical and Hazardous Wastes Management Guideline, Department of Environment and Natural Resources Inspection, Ministry Of Environment and Natural Resources, issued in 2022.



**ພາກທີ I
ພາກລະເໜີ**

1.1 ສະພາບລວມ

ການພັດທະນາເສດຖະກິດ-ສັງຄົມ ແລະ ການປົກປັກຮັກສາສິ່ງແວດລ້ອມ ແມ່ນ ເປົ້າໝາຍທີ່ສຳຄັນຂອງການພັດທະນາແບບຍືນຍົງ ຂອງ ສປປ ລາວ ເພື່ອປັບປຸງຄຸນ ນະພາບຊີວິດທີ່ດີຂຶ້ນຂອງປະຊາຊົນ ແລະ ການຫຼຸດຜົນອອກຈາກຄວາມທຸກຍາກ. ໄປ ດຽງຄູ່ກັບການພັດທະນາ ເສດຖະກິດ-ສັງຄົມ ໄດ້ມີການເພີ່ມຂຶ້ນ ຂອງປັນດາ ກິດຈະການໃນຂົງເຂດອຸດສາຫະກຳ, ພະລັງງານ, ບໍ່ແຮ່, ກະສິກຳ ແລະ ປ່າໄມ້ ທີ່ມີ ການນຳໃຊ້ເຄມີເຂົ້າໃນຂະບວນການຜະລິດ ແລະ ມີທ່າອ່ຽງທີ່ຈະເພີ່ມຂຶ້ນໄປເລື້ອຍໆ ສິ່ງກ່າວເປັນສາເຫດເກີນຄ່າ ທີ່ພາໃຫ້ເກີດສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ທີ່ ສົ່ງຜົນກະທົບຕໍ່ ສຸຂະພາບ, ຊີວິດຊີວາຊີວະພາບ, ສັດ ແລະ ສິ່ງແວດລ້ອມ.

ເນື່ອງຈາກ ສປປ ລາວ ໄດ້ມີນະໂຍບາຍ ແລະ ວິໄສທັດ ເພື່ອຫັນເປັນປະເທດ ອຸດສາຫະກຳທີ່ບໍ່ທັນສະໄໝ ແລະ ກະສິກຳສະອາດ, ຄຸນນະພາບສິ່ງແວດລ້ອມທີ່ດີ ແລະ ເປັນປະເທດທີ່ໜ້າທ່ອງທ່ຽວ ແລະ ເຫັນໄດ້ຜົນອ້າຍຂອງປັນຫາດັ່ງກ່າວ ລັດຖະບານໄດ້ ມີນະໂຍບາຍໃນການປົກປັກຮັກສາສິ່ງແວດລ້ອມ ດ້ວຍການສ້າງລະບຽບການ ກ່ຽວກັບ ການປົກປັກຮັກສາສິ່ງແວດລ້ອມ, ການຄຸ້ມຄອງເຄມີ ເວົ້າລວມ, ເວົ້າສະເພາະໄດ້ສ້າງຂໍ້ ດຶກລົງ ວ່າດ້ວຍການຄຸ້ມຄອງ ແລະ ຕິດຕາມ ກວດກາ ການບໍາບັດ, ກຳຈັດ ສິ່ງເສດເຫຼືອ ເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ, ຄອມວັນເກັບ ສປປ ລາວ ໄດ້ເຂົ້າເປັນສາມາດສັນຕິສັນຍາ ສາກົນ ກ່ຽວກັບການຄຸ້ມຄອງເຄມີ ແລະ ສິ່ງເສດເຫຼືອອັນຕະລາຍ ເພື່ອຄຸ້ມຄອງສິ່ງເສດ ເຫຼືອດັ່ງກ່າວ. ການສ້າງຄຸ້ມແນະນຳສະບັບນີ້ ຈະເປັນເຕືອນໄຫວ ໃນການຈັດຕັ້ງປະຕິບັດ ແລະ ຜັນຂະຫຍາຍນະໂຍບາຍ, ກົດໝາຍ ແລະ ນິຕິກຳດັ່ງກ່າວ ໃຫ້ມີປະສິດທິພາບ ແລະ ປະສິດທິຜົນ.

1.2 ຈຸດປະສົງ

- ເພື່ອເຮັດໃຫ້ຜູ້ປະກອບການ ແລະ ບຸກຄົນທີ່ກ່ຽວຂ້ອງກັບກິດຈະການໃນຂົງເຂດ ອຸດສາຫະກຳ, ພະລັງງານ, ບໍ່ແຮ່, ກະສິກຳ ແລະ ປ່າໄມ້ ມີຄວາມຮູ້, ຄວາມເຂົ້າໃຈ ແລະ ເປັນທີ່ມຸບໃນການຄຸ້ມຄອງສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ;
- ເພື່ອປ້ອງກັນ ແລະ ຫຼຸດຜ່ອນ ຜົນກະທົບຈາກ ສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ.

1.3 ຫຼັກການຄຸ້ມຄອງສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ

ການຄຸ້ມຄອງສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ໃຫ້ປະຕິບັດຕາມຫຼັກ ການ ດັ່ງນີ້:

- ອັບປະກັນຄວາມສອດຄ່ອງກັບກົດໝາຍ, ແຜນພັດທະນາ ເສດຖະກິດ-ສັງຄົມ ແຫ່ງຊາດ, ສັນຍາສາກົນ ແລະ ສິນທິຊັບຍາກົນ ທີ່ ສປປ ລາວ ເປັນພາກຜິ ໂດຍ ຂັບປະກັນບໍ່ໃຫ້ມີຜົນກະທົບຕໍ່ ສຸຂະພາບ, ຊີວິດ, ຊັບສິນ, ສິ່ງແວດລ້ອມ ແລະ ສັງຄົມ ໃນການດຳເຈົ້າເນື່ອງເກີດ ແລະ ການນຳໃຊ້ເຄມີ;
- ບຳໃຊ້ບົດແຮງ ແລະ ປະສົບປະການຈາກພາຍໃນ, ພາຍພາຍນອກ ແລະ ສາກົນ ເພື່ອ ມາຈຸບນໃຊ້ໃນການຄຸ້ມຄອງສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ;
- ຕ້ອງພັດທະນາຊັບພະຍາກອນມະນຸດ, ບຳໃຊ້ບຸກຄະລາກອນ ແລະ ພະນັກງານ ທີ່ມີຄວາມຮູ້ຄວາມສາມາດ ແລະ ມີຜົນຖານຄວາມຮູ້ທາງດ້ານ ຊີວະ, ເຕມິ, ວິສະ ວະກຳເຕມິ ແລະ ວິສະວະກຳສິ່ງແວດລ້ອມ ເຂົ້າໃນການຈັດຕັ້ງປະຕິບັດວຽກງານ ການຄຸ້ມຄອງສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ;
- ດັບກຳຂໍ້ມູນ, ຕິດຕາມກວດກາ ແລະ ຫຼາດສິ່ງສິ້ນເທກດ້ານວິຊາຊານໃນການ ຫຼຸດຜ່ອນ ແລະ ຄຸ້ມຄອງສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ຢ່າງກຳເນີອງ ແລະ ປະສານສົມທົບກັບຂະແໜງການທີ່ກ່ຽວຂ້ອງທັງສູນກາງ ແລະ ທ້ອງຖິ່ນ ເພື່ອເຮັດໃຫ້ການຈັດຕັ້ງປະຕິບັດການຄຸ້ມຄອງດຳເນີນໄປດ້ວຍດີ.

**ພາກທີ II
ການບັນທຶກຂໍ້ມູນ ແລະ ສັນຍາລັກ ສິ່ງເສດເຫຼືອເຄມີເປັນພິດ
ແລະ ອັນຕະລາຍ**

2.1 ການບັນທຶກຂໍ້ມູນສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ

ໃນການຄຸ້ມຄອງສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ທີ່ເກີດຈາກກິດຈະການ ໃນອົງກອນອຸດສາຫະກຳ, ພະລັງງານ, ບໍ່ແຮ່, ກະສິກຳ ແລະ ປ່າໄມ້ ຕ້ອງມີການບັນທຶກຂໍ້ມູນພື້ນຖານ ດັ່ງນີ້:

- ຊື່ສາມັນ/ຊື່ການຄ້າ, ແຫຼ່ງກຳເນີດ/ສະຖານທີ່ຜະລິດ/ຜູ້ຜະລິດ;
- ສ່ວນປະສົມ, ສູດ ແລະ ໝວດເລກເຄມີ;
- ຄຸນລັກສະນະທາງວັດຖຸ ແລະ ທາງຄວາມ, ລະດັບຄວາມເປັນພິດ;
- ວັນຜະລິດ, ວັນໝົດອາຍຸ;
- ຂໍ້ມູນອື່ນທີ່ຈຳເປັນ.

2.2 ສັນຍາລັກສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ

ການເປັນອັກສາສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ຕ້ອງມີການຕິດສະຫຼາກ ຫຼື ບ້າບທີ່ມີສັນຍາລັກ ທີ່ສະແດງໃຫ້ຮູ້ວ່າແມ່ນວັດຖຸ ຫຼື ເຄມີ ທີ່ເປັນອັນຕະລາຍ ແລະ ເປັນພິດ ສັນຍາລັກເດືອນແມ່ນນຳໃຊ້ 4 ລະບົບ ຄື:

1. ສັນຍາລັກ ຕາມລະບົບຂອງສະຫະພາບເອີຣົບ (European Economic Community "EEC");
2. ສັນຍາລັກ ຕາມລະບົບຂອງຄະນະສະຫະປະຊາຊາດເພື່ອການສົ່ງອອກ ດ້ານການຂົນສົ່ງວັດຖຸອັນຕະລາຍ (United Nation Committee of Export on the Transport of Dangerous Goods "UN");
3. ສັນຍາລັກ ເກືອນຄວາມເປັນອັນຕະລາຍ ສະມາຄົມປ້ອງກັນອັກຄີໄນແຫ່ງຊາດ (Nation Fire Protection Association "NFPA");

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	ຫາດທີ່ເປັນພິດ ໝາຍເຖິງ ເຄມີໃດໜຶ່ງຊຶ່ງປະຕິກິລິຍາທາງເຄມີຂອງມັນກໍ່ໃຫ້ເກີດຜົນກະທົບຕໍ່ສະບວນການມີຊີວິດເປັນເຫດໃຫ້ເສຍຊີວິດ, ບາດເຈັບ, ອຳນາຍພາດຊິວຕາວ ຫຼື ຖາວອນ.
	ສານອັນຕະລາຍ ແມ່ນສານທີ່ຫາກດົມ, ກິນ ຫຼື ສຳຜິດອາດຈະເກີດອັນຕະລາຍຕໍ່ສະພາບປາງອ້າຍແຮງ ພາໃຫ້ເຈັບປ່ວຍກະທັນຫັນ ຫຼື ຊໍ້າເຮືອ.
	ສານທີ່ເປັນອັນຕະລາຍຕໍ່ສິ່ງແວດລ້ອມ ແມ່ນສານທີ່ປ່ອຍອອກສູ່ສິ່ງແວດລ້ອມໃດໜຶ່ງ ຈະເຮັດໃຫ້ເກີດຄວາມເສຍຫາຍ ຕໍ່ອົງປະກອບຂອງສິ່ງແວດລ້ອມນັ້ນ.

2. ສັນຍາລັກ ຕາມລະບົບຂອງຄະນະສະຫະປະຊາຊາດເພື່ອ ການສົ່ງອອກ ດ້ານການຂົນສົ່ງວັດຖຸອັນຕະລາຍ United Nation Committee of Export on the Transport of Dangerous Goods (UN)	
ສັນຍາລັກ	ຄວາມໝາຍຂອງສັນຍາລັກ
	ສານລະເບີດ ແມ່ນສານທີ່ຢູ່ໃນພາວະແຮງ, ແຫຼວ ຫຼື ສານທີ່ສາມາດເກີດປະຕິກິລິຍາທາງເຄມີດ້ວຍໄຕມັນເອງ ຊຶ່ງເຮັດໃຫ້ເກີດແກ້ສທີ່ມີຄວາມດັນ ແລະ ຄວາມຮ້ອນຢ່າງໄວ ພາໃຫ້ເກີດການລະເບີດໄດ້.

5





4. ສັນຍາລັກ ເກືອນຄວາມເປັນອັນຕະລາຍ ຕາມລະບົບເອກະພາບສາກົນທົ່ວໂລກ (Global Harmonize System of Classification and Labelling of Chemicals "GHS").

ລາຍລະອຽດຂອງສັນຍາລັກໃນແຕ່ລະ ລະບົບ ມີດັ່ງນີ້:

			
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1. ສັນຍາລັກ ຕາມລະບົບຂອງສະຫະພາບເອີຣົບ European Economic Community (EEC)	
ສັນຍາລັກ	ຄວາມໝາຍຂອງສັນຍາລັກ
	ເຄມີທີ່ລະເບີດໄດ້ ໝາຍເຖິງ ເຄມີເມື່ອເກີດປະຕິກິລິຍາ ຫຼື ຈະປ່ອຍພະລັງງານປາງຫຼວງຫຼາຍ ຊຶ່ງກໍ່ໃຫ້ເກີດລະເບີດ.
	ຫາດໄວໄຟ ໝາຍເຖິງ ຫາດທີ່ສາມາດຕິດໄຟໄດ້ງ່າຍເມື່ອໄດ້ຮັບຄວາມຮ້ອນ ຫຼື ປະກາຍໄຟ ແລະ ສາມາດລຸກໄໝ້ໄດ້ເອງ ຊຶ່ງມີທັງ ຫາດອາຍ, ຫາດແຫຼວ ແລະ ຫາດແຮງ.
	ເຄມີກັດເວ້ອາຍ ໝາຍເຖິງ ເຄມີທີ່ສາມາດກັດເວ້ອາຍຢ່າງລູນແຮງຕໍ່ຜິວໜັງ ແລະ ໂລຫະ ທີ່ມີຄວາມເປັນກົດ ບໍ່ເກີນ 2 ຫຼື ມີຄວາມເປັນຕ່າງ ແຕ່ 11,5-14.

4

	ແກ້ສໄວໄຟ ແມ່ນຫາດທີ່ເປັນອາຍເສີມບູນມີຄວາມດັນ 101.3 kPa ທີ່ອຸນຫະພູມ 20°C ແລະ ສາມາດຕິດໄຟເມື່ອປະສົມກັບອາກາດ 13% ຫຼື ຕໍ່າກວ່າ 13% ຫຼື ມີລະດັບຄວາມກວ້າງທີ່ສາມາດຕິດໄຟໄດ້ 12% ຫຼື ຫຼາຍກວ່ານັ້ນ.
	ແກ້ສບໍ່ໄວໄຟ ແລະ ບໍ່ເປັນພິດ ໝາຍເຖິງ ແກ້ສ ມີຄວາມດັນບໍ່ສູງ 280 kPa ທີ່ອຸນຫະພູມ 20°C ຫຼື ໃນພາວະເປັນຫາດແຫຼວໃນອຸນຫະພູມຕໍ່າ.
	ຫາດແຫຼວໄວໄຟ ແມ່ນຫາດແຫຼວ ທີ່ມີແຜ່ປ່ວໄຟ (Flash Point) ຕໍ່າກວ່າ 60,5°C ຈາກການທົດສອບແຜ່ປ່ວໄຟ ດ້ວຍວິທີແບບປິດ (Closed-cup Test) ແລະ ບໍ່ເກີນ 65,6°C ຈາກການທົດສອບ, ແຜ່ປ່ວໄຟ ດ້ວຍວິທີແບບເປີດ (Opened-cup Test).
	ຫາດແຮງໄວໄຟ ເປັນຫາດທີ່ຕິດໄຟໄດ້ເອງໃນສະພາບປົກກະຕິ ຫຼື ເກີດຄວາມຮ້ອນສູງ, ຈາກການປະຕິກິລິຍາກັບອາກາດ, ນໍ້າ ຫຼື ມີການສຽດສີ ທີ່ພາໃຫ້ເກີດຄວາມຮ້ອນ.

6

	<p>ສານອໍຊີດາໄດແມ່ນທາດແຂງ, ທາດແຫຼວ ທີ່ບໍ່ສາມາດເກີດໄຟ ດ້ວຍຕົວມັນເອງ ຫຼື ທາດແຂງ, ທາດແຫຼວທີ່ບໍ່ສາມາດມີອິດທິພົນສອງອາຕອມ ທີ່ຊ່ວຍໃຫ້ຈັດຕັ້ງອື່ນເກີດການລຸກໄໝ້ ຫຼື ເກີດການລະເບີດຢ່າງຊຸນແຮງ.</p>
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3. ສັນຍາລັກ ເດືອນຄວາມເປັນອັນຕະລາຍ ຂອງສະມາຄົມປ້ອງກັນອັກຄີໄຟແຫ່ງຊາດ Nation Fire Protection Association (NFPA)

ຕາຕະລາງ ອະທິບາຍຄວາມໝາຍຂອງສັນຍາລັກ ລະບົບ Nation Fire Protection Association (NFPA)

ສີແດງ ສະແດງເຖິງ ລະດັບຄວາມໄວໄຟ (Flammability)	ສີຟ້າ ສະແດງເຖິງ ຄວາມເປັນອັນຕະລາຍຕໍ່ສຸຂະພາບ (Health)	ສີເຫຼືອງ ສະແດງເຖິງ ການເກີດປະຕິກິລິຍາ (Reactivity)	ສີຂາວ ສະແດງເຖິງ ຄຸນລັກສະນະຂອງເຕມີ (Special notice)
ມີ 5 ລະດັບຄື: - ລະດັບ 0 ບໍ່ເກີດໄຟ; - ລະດັບ 1 ເກີດໄຟໄປໃນອຸນຫະ ຄູມຕໍ່ກວ່າ 93,3°C ຫຼື 200°; - ລະດັບ 2 ເກີດໄຟໄປໃນອຸນຫະ ຄູມຕໍ່ກວ່າ 93,3°C ຫຼື 200°;	ມີ 5 ລະດັບຄື: - ລະດັບ 0 ບໍ່ເປັນອັນຕະລາຍຕໍ່ສຸຂະພາບ; - ລະດັບ 1 ອັນຕະລາຍຕໍ່າ; - ລະດັບ 2 ອັນຕະລາຍປານກາງ;	ມີ 5 ລະດັບຄື: - ລະດັບ 0 ມີຄວາມສະຫງ່າ; - ລະດັບ 1 ບໍ່ສະຫງ່າເມື່ອໄດ້ສືບຄວາມອື່ອນ; - ລະດັບ 2 ການປ່ຽນແປງທາງເຄມີຢ່າງຊຸນແຮງ;	ສະແດງເຖິງຄຸນລັກສະນະຂອງເຕມີ ເປັນຕົ້ນອາຊິດ, ດັງ, ກົດເບື້ອຍ, ສານອໍຊີດາໄດ, ກໍາມັນຕະພາບລັງສີ ຫຼື ບໍ່ໃຫ້ຖືກນໍ້າ.

7

 <p>Corrosion</p>	ກັດເນື້ອເນື່ອງໜັງ ແລະ ໄລຫະ
 <p>Environmental Hazard</p>	ອັນຕະລາຍຕໍ່ສິ່ງແວດລ້ອມທາງນໍ້າ
 <p>Health Hazard</p>	ອັນຕະລາຍຕໍ່ສຸຂະພາບ
 <p>Gas Cylinder</p>	ທາດອາຍພາຍໃຕ້ຄວາມດັນ
 <p>Exclamation Mark</p>	ລະບົງ

2.3. ສະຫຼາກຕິດພາຊະນະບັນຈຸ ສິ່ງເສດເຫຼືອເຕມີເປັນພິດ ແລະ ອັນຕະລາຍ

ພາຊະນະບັນຈຸ ສິ່ງເສດເຫຼືອເຕມີເປັນພິດ ແລະ ອັນຕະລາຍ ຕ້ອງຕິດສະຫຼາກໃສ່ເພື່ອສະແດງເຖິງລັກສະນະຄວາມອັນຕະລາຍໃນພາຊະນະບັນຈຸສິ່ງປະກອບດ້ວຍສັນຍາລັກຕ່າງໆ ເຊັ່ນ: ສັນຍາລັກເດືອນ, ຂໍ້ຄວາມເດືອນອັນຕະລາຍ, ຂໍ້ຄວາມເດືອນໃຫ້ລະບົງ, ໂຕຊີບອກຜະລິດຕະພັນ, ຂໍ້ມູນໂອ້ງງານຜະລິດ ແລະ ຂໍ້ມູນອື່ນທີ່ຈໍາເປັນ.

9

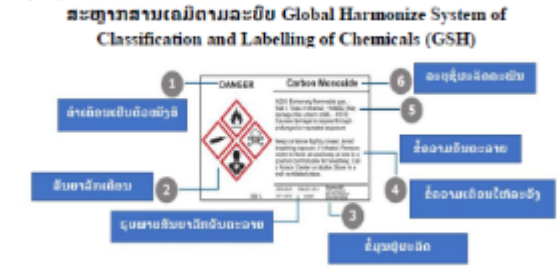
- ລະດັບ 3 ເກີດໄຟໄປໃນອຸນຫະ ຄູມຕໍ່ກວ່າ 37,3°C ຫຼື 100°; - ລະດັບ 4 ເກີດໄຟໄປໃນອຸນຫະ ຄູມຕໍ່ກວ່າ 22,7°C ຫຼື 73°.	- ລະດັບ 3 ອັນຕະລາຍສູງ; - ລະດັບ 4 ອັນຕະລາຍເຖິງອັນຕະລາຍຊີວິດ.	- ລະດັບ 3 ອາດເກີດການລະເບີດເມື່ອໄດ້ສືບຄວາມອື່ອນ ຫຼື ການກະຕຸ້ນ; - ລະດັບ 4 ອາດເກີດການລະເບີດ.
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4. ສັນຍາລັກ ເດືອນຄວາມເປັນອັນຕະລາຍ ຕາມລະບົບເອກະພາບສາກົນທົ່ວໂລກ Global Harmonize System of Classification and Labelling of Chemicals (GSH)

ສັນຍາລັກ	ຄວາມໝາຍຂອງສັນຍາລັກ
 <p>Flammable</p>	ໄວໄຟ
 <p>Explosion hazard</p>	ລະເບີດ
 <p>Flame over circle</p>	ອໍຊີດາໄດ

8

ລະບົບຂອງສະຫຼາກກ່ຽວກັບສິ່ງເສດເຫຼືອເຕມີເປັນພິດ ແລະ ອັນຕະລາຍທີ່ຄວນຮູ້ມີດັ່ງນີ້:



10

**ພາກທີ III
ສະຖານທີ່ເກັບຮັກສາ ແລະ ຂໍ້ຄວນລະວັງ**

3.1 ສະຖານທີ່ເກັບຮັກສາ

ສະຖານທີ່ເກັບຮັກສາສິ່ງເສດເຫຼືອເກມີເປັນພິດ ແລະ ອັນຕະລາຍ ຕ້ອງມີເງື່ອນໄຂ ດັ່ງນີ້:

- ບຸູ່ຫ່າງຈາກບໍລິເວນອຸມຊົນ ທີ່ມີປະຊາຊົນອາໄສຢູ່ໜ່ວຍໜ່ວຍ, ຫ່າງໄກຈາກບໍລິເວນແມ່ນໍ້າ, ແຫຼ່ງນໍ້າ, ຫ່າງຈາກບໍລິເວນທີ່ມີໄຟຖ້ວມ, ເຂດພູມສັນຖານ, ແລະ ແຫຼ່ງອັນຕະລາຍອື່ນໆ ທີ່ເກີດຈາກພາບນອກສະຖານທີ່;
- ມີເສັ້ນທາງທີ່ສະດວກໃນການຂົນສົ່ງ ແລະ ສາມາດແກ້ໄຂເຫດການສູກເສີນ;
- ມີສິ່ງອໍານວຍຄວາມສະດວກຢ່າງພຽງພໍ;
- ບໍ່ຄວນສ້າງສໍານັກງານ, ຫ້ອງການ, ອໍານອາຫານ ແລະ ອື່ນໆ ຢູ່ໃນສະຖານທີ່ເກັບມ້ຽງສິ່ງເສດເຫຼືອເກມີເປັນພິດ ແລະ ອັນຕະລາຍ.

3.2 ອາຄານເກັບຮັກສາສິ່ງເສດເຫຼືອເກມີເປັນພິດ ແລະ ອັນຕະລາຍ

ອາຄານເກັບຮັກສາສິ່ງເສດເຫຼືອເກມີເປັນພິດ ແລະ ອັນຕະລາຍ ຕ້ອງມີເງື່ອນໄຂ ດັ່ງນີ້:

- ພື້ນທີ່ຂອງອາຄານ ຕ້ອງມີການເຮັດຄວາມສະອາດເປັນປະຈໍາ, ພື້ນທີ່ດັ່ງກ່າວ ຕ້ອງມີຮິ່ວອັອມຣອບສະຖານທີ່ຢ່າງແໜ້ນໜາ, ມີຄວາມໜຶ່ນຄັງ ແລະ ຕ້ອງບິດລະບົດຮັກສາໃຫ້ຢູ່ໃນສະພາບດີ;
- ມີການແຍກ ແລະ ເກັບມ້ຽງເພື່ອອັບປະກັນບໍ່ໃຫ້ມີການຮົ່ວໄຫຼອອກສູ່ທ່າມະຊາດ;
- ມີການເວນຍາມ ເພື່ອຕິດຕາມກວດກາຢ່າງເປັນປົກກະຕິ ພ້ອມທັງຕິດຕັ້ງອຸປະກອນປ້ອງກັນອັກຄີໄໝ ໃຫ້ພຽງພໍ;
- ອາຄານເກັບຮັກສາແຕ່ລະຫຼັງຕ້ອງຕັ້ງຢູ່ຫ່າງກັນ ເພື່ອຄວາມສະດວກໃນການເຄື່ອນຍ້າຍ, ປ້ອງກັນ ແລະ ສະກັດກັ້ນອັກຄີໄໝ ແລະ ການແກ້ໄຂເຫດສູກເສີນ.

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- ວັດສະດຸທີ່ນໍາໃຊ້ໃນການສ້າງຝາເກັບມ້ຽງ ຄວນບໍ່ຕິດໄຟໄດ້ງ່າຍ ເຊັ່ນ: ໄຍໄລຫະ ຫຼື ໄຍແກ້ວ.



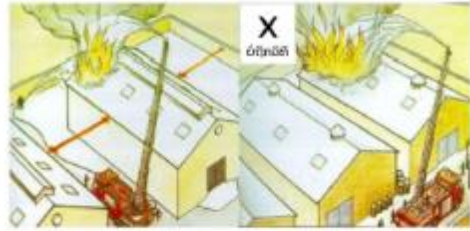
ຮູບພາບ 2 ຝາສາງເກັບມ້ຽງ

3.3.2 ພື້ນສາງເກັບມ້ຽງ

ພື້ນສາງເກັບມ້ຽງຄວນອອກແບບ ແລະ ສ້າງ ດັ່ງນີ້:

- ຕ້ອງບໍ່ດູດຊຶມອາກາດແຫຼວຕ່າງໆ;
- ຕ້ອງອາບພຽງ, ບໍ່ມີນ, ບໍ່ມີອອບແຕກແຕງ, ອະນາໄມງ່າຍ;
- ສາມາດປ້ອງກັນການຮົ່ວໄຫຼ ຂອງສິ່ງເສດເຫຼືອເກມີເປັນພິດ ແລະ ອັນຕະລາຍ.

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ຮູບພາບ 1 ສະຖານທີ່ເກັບມ້ຽງ ເກມີເປັນພິດ ແລະ ອັນຕະລາຍ

3.3 ສາງເກັບມ້ຽງສິ່ງເສດເຫຼືອເກມີເປັນພິດ ແລະ ອັນຕະລາຍ

ສາງເກັບມ້ຽງສິ່ງເສດເຫຼືອເກມີເປັນພິດ ແລະ ອັນຕະລາຍ ຄວນອອກແບບ ແລະ ສ້າງໃຫ້ໝາະສົມສໍາລັບເກັບມ້ຽງສິ່ງເສດເຫຼືອດັ່ງກ່າວ ແລະ ຖືກຕ້ອງຕາມເຕັກນິກການກໍ່ສ້າງທີ່ກໍານົດໄວ້ໃນລະບຽບການສະເພາະ ໂດຍຈັດໃຫ້ມີທາງອອກສູກເສີນພຽງພໍ, ພື້ນທີ່ເກັບຄວນມີການຈໍາກັດ ໂດຍແບ່ງອອກເປັນຫ້ອງ ຫຼື ເປັນສິດສ່ວນ ເພື່ອເກັບມ້ຽງ ສິ່ງເສດເຫຼືອເກມີເປັນພິດ ແລະ ອັນຕະລາຍ ແຕ່ລະປະເພດ ແລະ ເກມີທີ່ບໍ່ສາມາດເກັບຄວມກັນໄດ້, ວັດສະດຸກໍ່ສ້າງອາຄານຄວນເປັນສະນິດທີ່ບໍ່ໄວໄຟ, ໂຄງສ້າງອາຄານຄວນເຮັດດ້ວຍເບຕົງເສີມເຫຼັກ, ຖ້າເປັນໂຄງເຫຼັກຕ້ອງຫຸ້ມຫໍ່ດ້ວຍວັດສະດຸກັນຄວາມອ້ອມ.

3.3.1 ຝາສາງເກັບມ້ຽງ

ການສ້າງຝາສາງເກັບມ້ຽງຄວນເອົາໃຈໃສ່ ດັ່ງນີ້:

- ຝາສາງດ້ານນອກ ຕ້ອງສ້າງໃຫ້ແຂງແຮງ ດ້ວຍເບຕົງເສີມເຫຼັກ ຫຼື ແຜ່ນໄລຫະທີ່ອັນຫນາຕໍ່ການລຸກໄໝ້;
- ຝາສາງດ້ານໃນ ຕ້ອງມີຄວາມຫນ້າຫານຕໍ່ການລຸກໄໝ້ຢ່າງໜ້ອຍ 60 ນາທີ ຫຼື ວິທີການອື່ນທີ່ສາມາດປ້ອງກັນການລຸກໄໝ້ໄດ້;

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ຮູບພາບ 3 ພື້ນສາງເກັບມ້ຽງ

3.3.3 ຫຼັງຄາສາງເກັບມ້ຽງ

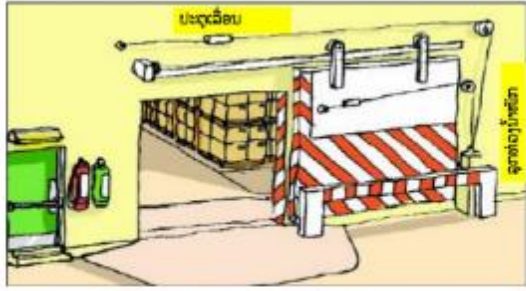
ຫຼັງຄາສາງເກັບມ້ຽງຄວນອອກແບບ ແລະ ສ້າງ ດັ່ງນີ້:

- ສາມາດກັນມົນໄດ້, ມີລະບົບລະບາຍອາກາດ ແລະ ຄວາມອ້ອມໄດ້ດີ;
- ໂຄງສ້າງຂອງຫຼັງຄາຄວນນໍາໃຊ້ວັດສະດຸທີ່ບໍ່ຕິດໄຟ ເປັນຕົ້ນ ໄມ້ເນື້ອແຂງ ຫຼື ວັດສະດຸຊະນິດພິເສດ;
- ວັດສະດຸທີ່ໃຊ້ມຸງ ຄວນມີນໍ້າໜັກເບົາ, ສາມາດຍຸບໂຕໄດ້ເມື່ອເກີດໄຟໄໝ້ ເພື່ອຊ່ວຍໃນການລະບາຍຄວາມອ້ອມ ແລະ ຄວັນອອກໄຟໄດ້. ຖ້າເປັນຫຼັງຄາແຂງ ຄວນມີລະບົບລະບາຍອາກາດຢ່າງໜ້ອຍ 2 ສ່ວນອ້ອມ ຂອງພື້ນທີ່ຫຼັງຄາ;
- ລະບົບລະບາຍອາກາດ ຕ້ອງເປີດໄວ້ຖ້າວອນ ແລະ ເປີດໄດ້ດ້ວຍມື ຫຼື ເປີດອັດຕະໂນມັດ ໃນເວລາໄຟໄໝ້ ເພື່ອຊ່ວຍໃນການລະບາຍຄວັນ ແລະ ຄວາມອ້ອມ.

3.3.4 ປະຕູກັນໄຟ

ປະຕູກັນໄຟ ຕ້ອງທົນໄຟໄດ້, ທົນຄວາມອ້ອມ ແລະ ສາມາດເປີດໄດ້ອັດຕະໂນມັດເມື່ອເກີດໄຟໄໝ້ ແລະ ບໍ່ມີສິ່ງກົດຂວາງ.

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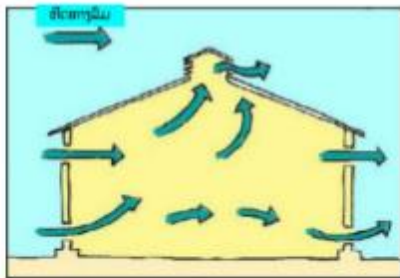


ຮູບພາບ 4 ປະຕູກັ້ນໄຟ

3.3.5 ທາງອອກສຸກເສີນ

ສະຖານທີ່, ອາຄານ ແລະ ສາງເກັບມ້ຽນ ສິ່ງເສດເຫຼືອເຕມິເປັນພິດ ແລະ ອັນຕະລາຍ ຕ້ອງມີການສ້າງທາງອອກສຸກເສີນ ເພື່ອຮັບມືກັບເຫດການສຸກເສີນອື່ນໆໂດຍ ທີ່ອາດຈະເກີດຂຶ້ນ ຮັບປະກັນບໍ່ໃຫ້ມີຄົນຕິກຕ້າງຢູ່ໃນອາຄານ. ທາງອອກສຸກເສີນ ຕ້ອງອອກແບບ ແລະ ສ້າງຕາມເງື່ອນໄຂ ດັ່ງນີ້:

- ມີເຄື່ອງໝາຍທາງອອກສຸກເສີນທີ່ເຫັນໄດ້ຊັດເຈນ;
- ສາມາດເປີດງ່າຍ ແລະ ເຫັນໄດ້ໃນຄວາມມືດ ຫຼື ມືດລືນໜາແໜ້ນ;
- ສາມາດເປີດໄດ້ສອງທາງ.



ຮູບພາບ 6 ການລະບາຍອາກາດ

3.3.7 ການລະບາຍນໍ້າ

ສະຖານທີ່, ອາຄານ ແລະ ສາງເກັບມ້ຽນ ຕ້ອງຮັບປະກັນໃຫ້ມີລະບົບການລະບາຍນໍ້າທີ່ດີ ໂດຍມີທໍ່ລະບາຍ ນໍ້າແບບປິດ ເພື່ອປ້ອງກັນບໍ່ໃຫ້ນໍ້າທີ່ບັນເປື້ອນຈາກເຕມິ ແລະ ນໍ້າທີ່ໃຊ້ມອດໄຟ ໄຫຼລົງສູ່ແຫຼ່ງນໍ້າ ພ້ອມກັນນັ້ນ ຕ້ອງແຍກລະບົບລະບາຍນໍ້າໃນອາຄານ ອອກຈາກລະບົບລະບາຍນໍ້າບົນ.

3.3.8 ແສງສະຫວ່າງ ແລະ ອຸປະກອນໄຟຟ້າ

ສະຖານທີ່, ອາຄານ ແລະ ສາງເກັບມ້ຽນ ຕ້ອງມີແສງສະຫວ່າງ ແລະ ອຸປະກອນໄຟຟ້າໃຫ້ພຽງພໍ ເພື່ອຮັບປະກັນຄວາມປອດໄພ ໃນການເກັບຮັກສາສິ່ງເສດເຫຼືອເຕມິເປັນພິດ ແລະ ອັນຕະລາຍ. ການຕິດຕັ້ງອຸປະກອນໄຟຟ້າ ຕ້ອງປະຕິບັດ ດັ່ງນີ້:

- ຫຼີກເວັ້ນການຕິດຕັ້ງໄຟຟ້າແບບຊິ່ວຄາວ ແຕ່ຖ້າມີຄວາມຈໍາເປັນຄວນຕິດຕັ້ງໃຫ້ໄດ້ມາດຕະຖານ;
- ອຸປະກອນໄຟຟ້າຕ້ອງຕິດຕັ້ງໃນຈຸດທີ່ປອດໄພ ຫຼີກເວັ້ນການວາງອຸປະກອນໄຟຟ້າໃນບໍລິເວນທີ່ມີນໍ້າ ຫຼື ປຽກ;



ຮູບພາບ 5 ທາງອອກສຸກເສີນ

3.3.6 ການລະບາຍອາກາດ

ສະຖານທີ່, ອາຄານ ແລະ ສາງເກັບມ້ຽນ ຕ້ອງຮັບປະກັນໃຫ້ມີການລະບາຍອາກາດ ໂດຍປະຕິບັດຕາມເງື່ອນໄຂ ດັ່ງນີ້:

- ຕ້ອງມີລະບົບລະບາຍອາກາດທີ່ດີ ສາມາດລະບາຍອອກໄດ້ຫຼາຍຫົກທາງ;
- ການລະບາຍອາກາດ ຕ້ອງໃຫ້ພຽງພໍ, ມີຊ່ອງລະບາຍອາກາດຢູ່ເທິງຫຼັງຄາ, ຝາອາຄານທີ່ຕໍ່ລົງມາຈາກຫຼັງຄາ ແລະ ບໍລິເວນໃກ້ຂຶ້ນຕົ້ນ.

- ຄວນຕໍ່ສາຍດິນ ເພື່ອປ້ອງກັນໄພຟ້າລົດຈັງຈອນ.

3.3.9 ຄວາມຮ້ອນ

ໂດຍທົ່ວໄປສາງເກັບມ້ຽນສິ່ງເສດເຫຼືອເຕມິເປັນພິດ ແລະ ອັນຕະລາຍ ຕ້ອງມີອາກາດທີ່ບໍ່ຮ້ອນ, ແຕ່ເມື່ອມີຄວາມຈໍາເປັນ ຕ້ອງຮັກສາສະພາບ ໃຫ້ບ່ອນເກັບຮັກສາມີຄວາມຮ້ອນ ເພື່ອປ້ອງກັນສານແຂງຕົວ ຕ້ອງປະຕິບັດ ດັ່ງນີ້:

- ການໃຊ້ລະບົບຄວາມຮ້ອນຕ້ອງເປັນແບບບໍ່ສໍາພັດກັບຄວາມຮ້ອນໂດຍກົງ ແລະ ເປັນວິທີທີ່ປອດໄພ ເຊັ່ນ: ອາຍນໍ້າ, ນໍ້າຮ້ອນ ແລະ ລົມຮ້ອນ;
- ແຫຼ່ງໃຫ້ຄວາມຮ້ອນ ຕ້ອງຢູ່ພາຍນອກອາຄານທີ່ເກັບສິ່ງເສດເຫຼືອເຕມິເປັນພິດ ແລະ ອັນຕະລາຍ;
- ເຄື່ອງເຮັດຄວາມຮ້ອນ ຫຼື ທ່ອຍນໍ້າ ຕ້ອງຕິດຕັ້ງໃນບໍລິເວນທີ່ບໍ່ເຮັດໃຫ້ຄວາມຮ້ອນສໍາພັດໂດຍກົງກັບສານເຕມິ.

3.3.10 ອຸປະກອນມອດໄຟ

ສະຖານທີ່, ອາຄານ ແລະ ສາງເກັບມ້ຽນ ຕ້ອງຮັບປະກັນໃຫ້ມີອຸປະກອນມອດໄຟ ໂດຍປະຕິບັດ ດັ່ງນີ້:

- ດັ່ງຕົວໄຟມີອະໜາດ ແລະ ຈໍານວນທີ່ເໝາະສົມກັບປະລິມານສິ່ງເສດເຫຼືອເຕມິເປັນພິດ ແລະ ອັນຕະລາຍ ທີ່ເກັບມ້ຽນ ແລະ ຕ້ອງໄດ້ຮັບການກວດກາ ຫຼາກ 6 ເດືອນ; ຕ້ອງຕິດຕັ້ງໃນສະຖານທີ່ ທີ່ເໝາະສົມພ້ອມທັງມີແຜນຜັງ ທີ່ສະແດງດ້າແຫ່ງຂອງຖັງດັບໄຟອື່ນໆ;
- ຕ້ອງເຄື່ອນຍ້າຍງ່າຍ ແລະ ສະດວກຕໍ່ການນໍາໃຊ້;
- ຕ້ອງມີປ້າຍສີແດງ ເພື່ອບອກທາງໄປຫາບ່ອນເກັບອຸປະກອນ.

3.3.11 ລະບົບນໍ້າມອດໄຟ

ສະຖານທີ່, ອາຄານ ແລະ ສາງເກັບມ້ຽນ ຕ້ອງຮັບປະກັນໃຫ້ມີລະບົບນໍ້າມອດໄຟ ໂດຍປະຕິບັດ ດັ່ງນີ້:

- ລະບົບທີ່ຈະຈາຍນ້ຳມອດໄຟ ຕ້ອງຕິດຕັ້ງໃນຕໍາແໜ່ງທີ່ສາມາດສືບຕໍ່ນໍ້າໄດ້ຢ່າງກະຈາຍ, ຄວບຄຸມພື້ນທີ່ ແລະ ມີໄລຍະຫ່າງລະຫວ່າງທີ່ວິໄນນໍ້າແຕ່ລະຈຸດປະມານ 50 ແມັດ ໂດຍເອີ້ນກັບຄວາມຍາວຂອງສາຍ ແລະ ຄວາມຕື່ມຂອງນໍ້າ;
- ສາຍສົ່ງນໍ້າຕ້ອງມີຄວາມຍາວພຽງພໍທີ່ຄວບຄຸມໄຟໄດ້ ແລະ ສາມາດໃຊ້ໄດ້ທັນທີເມື່ອມີເຫດການອຸກເຊີນ;
- ສາຍສົ່ງນໍ້າ ແລະ ບິ່ງສິດນໍ້າ ຄວນເປັນແບບດຽວກັນບຸລະກອນທີ່ໃຊ້ ໃນໜ່ວຍປ້ອງກັນໄຟຂອງຕ້ອງຖິ້ມນິ້ມ;
- ປະລິມານນໍ້າທີ່ໃຊ້ມອດໄຟ ຕ້ອງມີພຽງພໍໃນການມອດໄຟຢ່າງໜ້ອຍ 2 ຊົ່ວໂມງ, ການອອກແບບ ແລະ ຕິດຕັ້ງລະບົບມອດໄຟ ຕ້ອງໄດ້ຮັບການອັບຮອງຈາກວິສະວະກອນ ຫຼື ໜ່ວຍງານທີ່ກ່ຽວຂ້ອງ.

3.4 ຂໍ້ຄວນລະວັງໃນການເກັບມ້ຽນສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ

ໃນການເກັບຮັກສາ ສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ຄວນລະວັງດັ່ງນີ້:

- ບໍ່ຄວນເກັບໄວ້ໃນພາຣະນະທີ່ມີຄວາມສ່ຽງຕໍ່ການເກີດອຸບັດຕິເຫດໄດ້ງ່າຍ;
- ບໍ່ຄວນເກັບມ້ຽນສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ຮ່ວມກັບສິ່ງເສດເຫຼືອອື່ນໄປ;
- ບໍ່ຄວນຖິ້ມປະປຶບກັນ ອາດຈະເຮັດໃຫ້ເກີດມີປະຕິກິລິຍາ ແລະ ເກີດການຈຸກໄໝ້ໄດ້;
- ບໍ່ຄວນນໍາໃຊ້ພາຣະນະບັນຈຸທີ່ໃຊ້ແລ້ວ ກັບມາໃຊ້ຄືນໃໝ່.

- ຕ້ອງມີອຸປະກອນສຸກເສີນ ເພື່ອປ້ອງກັນອັກຄີໄຟ ແລະ ມີເສັ້ນທາງໜີໄຟ;
- ສະຖານທີ່ເກັບຮັກສາຕ້ອງມີຝາສາງທີ່ໜາແໜ້ນ ເພື່ອປ້ອງກັນໃນກໍລະນີໄຟໄໝ້ ແລະ ປ້ອງກັນການຮົ່ວຊິມ;
- ການຈັດວາງພາຣະນະບັນຈຸສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ບໍ່ຄວນສູງກວ່າ 3 ແມັດ.

4.3 ຫຼັກການເກັບຮັກສາອອກອາຄານ

ການເກັບຮັກສາສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍອອກອາຄານ ຕ້ອງປະຕິບັດຕາມຫຼັກການ ດັ່ງນີ້:

- ບໍ່ຄວນເກັບສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ຖິ້ມເຂດທີ່ມີອາກາດຮ້ອນ ເພື່ອຫຼີກລ້ຽງບໍ່ໃຫ້ສໍາຜັດກັບອຸນຫະພູມສູງ;
- ບໍ່ໃຫ້ມີການປົນເຍື່ອນສົ່ງອຸ່ນ ແລະ ນໍ້າ;
- ເຂດພື້ນທີ່ເກັບຮັກສາ ຕ້ອງມີການປົກຫຸ້ມດ້ວຍວັດສະດຸທີ່ທົນທານຕໍ່ນໍ້າ ແລະ ຄວາມຮ້ອນ, ບໍ່ຄວນໃຊ້ຢ່າງປົກຫຸ້ມເພາະຈະເນື້ອຍຸ່ນ ເມື່ອອາກາດຮ້ອນ;
- ຕ້ອງມີລະບົບຄວບຄຸມລະບາຍນໍ້າ;
- ຕ້ອງໄດ້ຮັບການກວດກາເປັນປົກກະຕິກ່ຽວກັບບັນຫາການຮົ່ວໄຫຼ;
- ເພື່ອຫຼີກລ້ຽງການເກີດຄວາມຮ້ອນ ຄວນເກັບຮັກສາໄວ້ໃນທີ່ໄລ່ງ ແລະ ອາກາດປອດໄປງ ແຕ່ຕ້ອງມີລະບົບປ້ອງກັນການຮົ່ວໄຫຼ ທີ່ເກັບຮັກສາໄວ້ໃນອາຄານຕ່າງໆ ແລະ ມີແຜນປ້ອງກັນການມອດໄຟ ຕໍ່ທາດເຄມີທີ່ເປັນທາດແຫຼວທີ່ໄວໄຟສູງ, ສ່ຽງຕໍ່ການລະເບີດ.

ພາກທີ IV

ວິທີ ແລະ ຫຼັກການ ເກັບຮັກສາສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ

4.1 ວິທີເກັບຮັກສາ

ການເກັບຮັກສາສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ຕ້ອງປະຕິບັດຕາມວິທີດັ່ງນີ້:

- ຕັດແຍກໂດຍບໍ່ໃຫ້ປະປຶບກັນ ແລະ ມີໄລຍະຫ່າງກັນ;
- ໃນກໍລະນີເກັບມ້ຽນໃນອາຄານ ຕ້ອງຕ້ອງມີຝາຝາຢ່າງແໜ້ນໜາ ແລະ ສາມາດທົນຕໍ່ຄວາມຮ້ອນຢ່າງໜ້ອຍ 90 ນາທີ;
- ໃນກໍລະນີເກັບມ້ຽນອອກອາຄານ ຕ້ອງມີການແຍກເກັບຮັກສາໄວ້ໃນພາຣະນະບັນຈຸ ທີ່ສາມາດທົນຕໍ່ໄຟໄໝ້ໄດ້ 90 ນາທີ ໂດຍໃຫ້ມີໄລຍະຫ່າງຂອງແຕ່ລະພາຣະນະບັນຈຸຢ່າງໜ້ອຍ 5 ແມັດ ເພື່ອປ້ອງກັນການເີດໄຟ.

4.2 ຫຼັກການເກັບຮັກສາໃນອາຄານ

ການເກັບຮັກສາສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍໃນອາຄານ ຕ້ອງປະຕິບັດຕາມຫຼັກການ ດັ່ງນີ້:

- ແຍກເກັບຮັກສາ ຕາມປະເພດຄວາມເປັນອັນຕະລາຍ ໂດຍສົ່ງຈາຍເກາະຂໍ້ມູນພື້ນຖານ ແລະ ວາງລຽງຕາມລຳດັບຕົວອັກສອນ;
- ບໍ່ຄວນວາງສາຍເຄມີຊ້ອນກັນເປັນແນວດັ້ງ;
- ສິ່ງລະບຽບສະເພາະໃນການຍົກສົ່ງ, ເຄື່ອນຍ້າຍ ສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ, ກ່ອນເຂົ້າ-ອອກ ຕ້ອງຮັບອະນຸຍາດເພື່ອປ້ອງກັນຄວາມສ່ຽງ;
- ກວດຫາຄຸນລັກສະນະ, ປະລິມານ ແລະ ຄຸນນະພາບ ຂອງພາຣະນະບັນຈຸຫຼືມຸ່ມ ທີ່ເພື່ອຮັບປະກັນໃຫ້ຢູ່ໃນສະພາບດີ;
- ຕ້ອງມີແຜນຜັງທີ່ສະແດງໃຫ້ເຫັນການກຳນົດສະຖານທີ່, ປະເພດຂອງກຸ່ມສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ;



ຮູບພາບ 7 ການເກັບຮັກສາສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍຢູ່ພາຍນອກອາຄານ

ພາກທີ V
ມາດຕະການປ້ອງກັນສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ

ການເກັບສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ຕ້ອງຮັບປະກັນມາດຕະການ ດັ່ງນີ້:

1. ການປະຕິບັດໃນສາງເກັບຮັກສາ;
2. ການຄັດແຍກເກັບຮັກສາ;
3. ການປ້ອງກັນການຮົ່ວໄຫຼ;
4. ການກຳຈັດສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ;
5. ອຸປະກອນເບື້ອງຕົ້ນທີ່ຈຳເປັນໃນການປ້ອງກັນ.

5.1 ການປະຕິບັດໃນສາງເກັບຮັກສາ

ການປະຕິບັດໃນສາງເກັບຮັກສາສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ຕ້ອງໄດ້ຮັບການຄວບຄຸມຢ່າງໃກ້ຊິດ ຈາກຜູ້ທີ່ໄດ້ຮັບການຝຶກອົບຮົມ ແລະ ມີປະສົບການໃນການເກັບຮັກສາ ໂດຍມີການກຳນົດຂອບເຂດ ແລະ ແນວທາງການຮັບຜິດຊອບຢ່າງຊັດເຈນ.

ເພື່ອຫຼຸດຜ່ອນຄວາມສ່ຽງ ຈາກພາຊະນະບັນຈຸສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ຕ້ອງເກັບມ້ຽນຕາມຄຳແນະນຳຕ່າງໆ. ພະນັກງານທີ່ຮັບຜິດຊອບກ່ຽວກັບການເກັບຮັກສາ ຕ້ອງປະຕິບັດ ດັ່ງນີ້:

- ໃຫ້ຄຳແນະນຳໃນການເຮັດວຽກເພື່ອຄວາມປອດໄພ ແລະ ຄວາມຖືກຕ້ອງກ່ຽວກັບອຸປະກອນ ແລະ ວິທີການເກັບຮັກສາ;
- ຂໍ້ມູນກ່ຽວກັບຄວາມປອດໄພ ສຳລັບປະເພດສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍທຸກຊະນິດທີ່ເກັບໄວ້;
- ໃຫ້ຄຳແນະນຳ ແລະ ຂຶ້ນຕອນຕ່າງໆ ເພື່ອສຸຂະພາບທີ່ດີ ແລະ ຄວາມປອດໄພ;
- ໃຫ້ຄຳແນະນຳ ແລະ ວິທີການຮັບມື, ຜກໂຂ ໃນເວລາເກີດເຫດສູກເສີນ.

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- ນຳໃຊ້ຖັງປ່າຍາະໜາດໃຫຍ່, ມີຄວາມທົນທານ ແລະ ຕິດກາໝາຍ ເພື່ອໃຊ້ເຮັດເຄື່ອງໝາຍ ຫຼື ສັນຍາລັກໃສ່ຖັງ;
- ນຳໃຊ້ ພາຫະນະ, ຊວັຍນ, ພອຍກວາດ ແລະ ນຳຢາອະນາໄມ ດາຍຮິວໄຫຼຂອງສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ;
- ນຳໃຊ້ ດິນຊາຍ, ດິນ, ອີເລືອຍ ເພື່ອດູດຊຶມຕາຍຮິວໄຫຼຂອງສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ.

ອຸປະກອນທີ່ກ່າວມາຂ້າງເທິງ ຕ້ອງໄດ້ມີການກວດກາ ແລະ ຮັກສາຢ່າງລະອຽດ ແລະ ເປັນປົກກະຕິ ເພື່ອຮັບປະກັນໃຫ້ໃຊ້ງານໄດ້ດີ, ບໍ່ມີສິ່ງປົນເປື້ອນ ແລະ ໄດ້ຮັບການອະນາໄມໃນເວລາທີ່ໃຊ້ແຕ່ລະຄັ້ງ. ຕ້ອງມີການລາຍງານຜົນຂອງການກວດກາທຸກຄັ້ງ. ໃນກໍລະນີ ສິ່ງເສດເຫຼືອເປັນຫາດແຫຼວໄວໄຟ ແລະ ຂອງແຫຼວ Oxidize ມີການຮົ່ວໄຫຼ ບໍ່ຄວນໃຊ້ ດິນຊາຍ, ອີເລືອຍ ດູດຊຶມ ແຕ່ໃຫ້ປະຕິບັດຕາມຄຳແນະນຳຂອງຜູ້ຜະລິດ.



ຮູບພາບ 9 ເຄື່ອງມືທີ່ຈຳເປັນໃນການປ້ອງກັນການຮົ່ວໄຫຼ ສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ

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5.2 ການຄັດແຍກເກັບຮັກສາ

ການຄັດແຍກເກັບຮັກສາ ຕ້ອງປະຕິບັດດ້ວຍການເກັບກຳຂໍ້ມູນກຸ່ມສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ທີ່ແຕກຕ່າງກັນແຍກອອກເປັນສິດສິວນໃນອາຄານດຽວກັນ ຫຼື ຄັດແຍກ ແລະ ເກັບຮັກສາ ຕາມຄຸນລັກສະນະທາງກາຍະພາບ ແລະ ກຸ່ມເຄມີ ແຕກຕ່າງກັນຖືກເກັບຮັກສາໄວ້ຕ່າງຫາກໃນອາຄານດຽວ ໂດຍຕ້ອງມີຝ່າກັນເພື່ອປ້ອງກັນອັກຄີໄພ ແລະ ການປົນເປື້ອນ.



ຮູບພາບ 8 ການຄັດແຍກເກັບຮັກສາສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ

5.3 ການປ້ອງກັນການຮົ່ວໄຫຼ

ໃນເວລາເຄື່ອນຍ້າຍສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ຕ້ອງລະມັດລະວັງບໍ່ໃຫ້ພາຊະນະບັນຈຸ ເສຍຫາຍຈາກການເຄື່ອນຍ້າຍແບບບໍ່ຖືກວິທີ, ອາດຄວາມລະມັດລະວັງ ຊຶ່ງຈະເປັນສາເຫດເຮັດໃຫ້ມີການຮົ່ວໄຫຼ ເພື່ອປ້ອງກັນການຮົ່ວໄຫຼຂອງສິ່ງເສດເຫຼືອດັ່ງກ່າວ ຕ້ອງປະຕິບັດ ດັ່ງນີ້:

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ຮູບພາບ 10 ການປ້ອງກັນການຮົ່ວໄຫຼ ສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ແຍບຖືກວິທີ ແລະ ແຍບບໍ່ຖືກ

5.4 ການກຳຈັດສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ

ສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ລວມທັງພາຊະນະບັນຈຸຜຸ່ມທີ່, ແຜ່ນຂອງສິນຄ້າທີ່ຫຼືຍຫຼ່ຽມ ຕ້ອງຖືກກຳຈັດດ້ວຍວິທີທີ່ປອດໄພ ແລະ ບໍ່ສົ່ງຜົນກະທົບຕໍ່ສິ່ງແວດລ້ອມ. ເຖິງແມ່ນວ່າປະລິມານທີ່ຮົ່ວໄຫຼໜ້ອຍໜຶ່ງ ບໍ່ຄວນປ່ອຍລົງສູ່ໜ້າດິນ ຫຼື ປ່ອຍອອກທາງຕໍ່ລະບາຍນ້ຳ, ຕ້ອງໄດ້ຮັບການບຳບັດກ່ອນທີ່ ຈະປ່ອຍອອກ. ພາຊະນະບັນຈຸທີ່ປົນເປື້ອນ ຕ້ອງມີເຕັກນິກ ແລະ ວິທີການໃນການຈັດເກັບ ແລະ ກຳຈັດ ຢ່າງປອດໄພ ແລະ ບໍ່ສົ່ງຜົນກະທົບຕໍ່ສິ່ງແວດລ້ອມ ໂດຍໃຫ້ສອດຄ່ອງກັບກົດໝາຍ ແລະ ລະບຽບການ.

5.5 ອຸປະກອນເບື້ອງຕົ້ນທີ່ຈຳເປັນໃນການປ້ອງກັນ

ອຸປະກອນທີ່ຈຳເປັນ ເພື່ອປ້ອງກັນອັນຕະລາຍຈາກສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍເບື້ອງຕົ້ນ ຕ້ອງໄດ້ຮັບການກວດກາຢ່າງປະຈຳ ແລະ ຕ້ອງໄດ້ຮັບການຮັກສາໃຫ້ຢູ່ໃນສະພາບທີ່ໃຊ້ໄດ້ຕະຫຼອດເວລາ ພ້ອມທັງບຳລຸງຮັກສາທຸກໆຄັ້ງ ແລະ ເກັບຮັກສາໄວ້ເປັນຢ່າງດີ. ອຸປະກອນເບື້ອງຕົ້ນທີ່ຈຳເປັນ ໃນການປ້ອງກັນປະກອບມີດັ່ງນີ້:

- ສະຖານທີ່ລ້າງໂຕໃນເມື່ອເກີດເຫດສູກເສີນ;
- ອຸປະກອນລ້າງຕາ;
- ກະເປົາປະຖິ້ມພະຍາບານ;

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- ຝຸນກາຍຄົນເຈັບ;
- ຜ້າທີ່ມີໃຊ້ຄຸນຄ່າເພີ່ງ;
- ແສງສະຫວ່າງສູງກະເລີນ ແລະ ສະຫຼາກສະຫ້ອນແສງໃນເວລາເຫດການສູງກະເລີນ.



ຮູບພາບ 11 ອ່າງລ້າງຕາ ແລະ ລ້າງຕີນໃນເວລາໄດ້ຮັບບາດເຈັບ

5.6 ຊຸມກອນປ້ອງກັນໂຕ

ໃນການເກັບຮັກສາສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ຜູ້ທີ່ຮັບຜິດຊອບ ວຽກງານດັ່ງກ່າວ ຕ້ອງນຳໃຊ້ຊຸມກອນປ້ອງກັນໂຕ ດັ່ງນີ້:

1. ຊຸມກອນປ້ອງກັນໂຕ;
2. ເຄື່ອງມືປ້ອງກັນຫົວ;
3. ແວ່ນຕາ ແລະ ໜ້າກາກ;
4. ເຄື່ອງປ້ອງກັນຫູ;
5. ຖົງມືປ້ອງກັນ;
6. ເກີບປ້ອງກັນ;

5.6.1 ຊຸດປ້ອງກັນການປະຕິບັດວຽກ

ໃນເວລາປະຕິບັດວຽກງານການເກັບຮັກສາສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ຕ້ອງສວມໃສ່ຊຸດການປະຕິບັດວຽກທຸກຄັ້ງ ເພື່ອປ້ອງກັນ:

1. ການສຳຜັດສານເຄມີ;
2. ການຕິດເສື້ອ ເຄມີ, ຄວາມເຢັນ ແລະ ຂອງມືຕົມ;

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5.6.3 ແວ່ນຕາ ແລະ ໜ້າກາກປ້ອງກັນຕາ

ເພື່ອປ້ອງກັນຕວງກາ ໃນເວລາປະຕິບັດວຽກງານຕ້ອງສວມໃສ່ແວ່ນຕາ ຫຼື ໜ້າກາກທີ່ເຮັດດ້ວຍປາລາສະຕິກໃສ່, ເບິ່ງເຫັນໄດ້ຊັດເຈນ, ສາມາດປ້ອງກັນແຮງກະແຊກ, ຂອບແວ່ນຕານີ້ນຳໜ້າກະເບີກ. ສຳລັບໜ້າກາກເຮັດດ້ວຍແກ້ວສີ ສາມາດປັບຄວາມແຈ້ງ ຂອງແສງໃຫ້ຜູ້ໃນລະດັບບໍ່ເປັນອັນຕະລາຍຕໍ່ສາຍຕາ ກອບມີນຳໜ້າກະເບີກ ແລະ ບໍ່ຕິດໄຟ ງ່າຍ.



ຮູບພາບ 14 ເຄື່ອງປ້ອງກັນຕາ ແລະ ໃບໜ້າ

5.6.4 ເຄື່ອງປ້ອງກັນຫູ

ເຄື່ອງປ້ອງກັນຫູ ແບ່ງອອກເປັນ 2 ແບບ ດັ່ງນີ້:

- ແບບສູບໃສ່ຫູ ຫຼຸດຜ່ອນສຽງ (Ear plugs) ແມ່ນເຄື່ອງມືທີ່ນຳໃຊ້ຈັດສະດູ ເປັນຕົ້ນ ປາລາສະຕິກຜ່ອນ, ຢາງ, ສຳລັບ ນິ້ວມືໃຊ້ຢາງປາລາສະຕິກຫຼາຍທີ່ສຸດ ສາມາດຫຼຸດຜ່ອນສຽງໄດ້ບໍ່ເກີນ 15 ດີເຊີເບລ (ປະເພດ A).



ຮູບພາບ 15 ປັກໃສ່ຫູຫຼຸດຜ່ອນສຽງ (Ear plug)

- ຄອບຫູຫຼຸດຜ່ອນສຽງ (Ear muffs) ຊຸມກອນປ້ອງກັນຫູຫຼຸດຜ່ອນສຽງຊະນິດ ຄອບໃບຫູທັງ 2 ຂ້າງ ບາງຊະນິດມີລຳໂມງໄວ້ຕິດຕໍ່ປະສານງານໃນສະຖານທີ່

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3. ການປົນເປື້ອນຈາກຜູ້ທີ່ດວງໄປຍັງຂະບວນການວິເຄາະ.



ຮູບພາບ 12 ຊຸດປ້ອງກັນ

5.6.2 ເຄື່ອງມືປ້ອງກັນຫົວ

ໃນເວລາປະຕິບັດວຽກ ຕ້ອງມີເຄື່ອງມືປ້ອງກັນຫົວທຸກຄັ້ງ ໂດຍຕ້ອງສວມໃສ່ ໝວກກັນກະທັບທີ່ມີລັກສະນະແຂງ, ມີນ້ຳໜັກບໍ່ເກີນ 424 ກຼາມ, ເຮັດດ້ວຍວັດສະດຸ ທີ່ບໍ່ແມ່ນໄວຫະ ແລະ ຕ້ອງມີຄວາມທົນທານ ຕໍ່ການກະທັບຢ່າງແຮງ, ພາຍໃນພື້ນຜິດ ໝວກຕ້ອງເຮັດດ້ວຍ ໜຶ່ງ ຫຼື ປລາສະຕິກ ເພື່ອປ້ອງກັນແຮງກະທັບໃສ່ຫົວ.



ຮູບພາບ 13 ໝວກກັນລະໂພ ປ້ອງກັນການກະທັບ

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ທີ່ມີສຽງດັງ ເຮັດດ້ວຍປາລາສະຕິກ ຫຼື ຢາງ ແລະ ວັດຖຸອື່ນ ສາມາດຫຼຸດຜ່ອນ ສຽງໄດ້ບໍ່ເກີນ 25 ດີເຊີເບລ (ປະເພດ A).



ຮູບພາບ 16 ຄອບຫູຫຼຸດຜ່ອນສຽງ (Ear muffs)

5.6.5 ຖົງມືປ້ອງກັນ

ໃນເວລາເຮັດວຽກຕົວຈິງ ຕ້ອງສວມໃສ່ຖົງມືປ້ອງກັນ ທີ່ມີລັກສະນະທົນທານຕໍ່ ເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ບໍ່ໃຫ້ເຄມີດັ່ງກ່າວສາມາດຊຶມຜ່ານເຂົ້າສູ່ມືໄດ້.



ຮູບພາບ 17 ຖົງມື

5.6.6 ເກີບປ້ອງກັນ

ເກີບທີ່ໃຊ້ສວມໃສ່ໃນການປ້ອງກັນ ຄວນເປັນເກີບຫົວເຫຼັກ ທີ່ມີຄວາມທົນທານ ຕໍ່ສິ່ງເສດເຫຼືອເຄມີເປັນພິດ ແລະ ອັນຕະລາຍ ພື້ນບໍ່ມື້ນ ແລະ ສາມາດປ້ອງກັນຫາດ ແຫຼວດີໄວໄຟ ມີຄຸນສົມບັດປ້ອງກັນໄຟຟ້າສະເພາະ.

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ຮູບພາບ 18 ເກີບປ້ອງກັນ