REPORT ON RISKS ASSESSMENT IN TECHNICAL SUPERVISION PROCESSES AND PROPOSALS FOR THEIR MINIMIZATION

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Independent technical supervision plays a key role in ensuring the quality, efficiency, and transparency of the reconstruction process in Ukraine, especially in the context of post-war recovery. The reconstruction process is not only a priority task for the state but also an important marker of public trust in the authorities and the involved contractors.

Technical supervision ensures compliance of construction works with technical requirements, legislative norms, and standards, as well as facilitates the timely identification and elimination of deficiencies. Its independence guarantees an impartial assessment of work performance, minimizes corruption risks, and contributes to the efficient use of financial resources, including international aid.

This report presents the results of an assessment of corruption risks in the functioning of technical supervision, along with recommendations for their mitigation. During the preparation of the report, consultations were held with market representatives to take their experience into account and identify key barriers. The proposed measures aim to enhance the effectiveness of the recovery process and improve the system of quality control over construction works.

The report was prepared by experts of the European Union Anti-Corruption Initiative (EUACI) in Ukraine. The opinions, conclusions, or recommendations expressed are those of the authors or compilers of the publication and do not necessarily reflect the positions of EUACI in Ukraine, the European Union, or the Ministry of Foreign Affairs of Denmark.

LIST OF ABBREVIATIONS

AMCU – Antimonopoly Committee of Ukraine

Agency for Restoration – State Agency for Restoration and Infrastructure Development of Ukraine

VRU – Verkhovna Rada of Ukraine (Parliament of Ukraine)

SASU – State Audit Service of Ukraine

CMU – Cabinet of Ministers of Ukraine

Parliamentary Committee on the Relevant Sector – Committee of the Verkhovna Rada on the Relevant Sector

MinEconomy – Ministry of Economy of Ukraine

MinDevelopment – Ministry for Communities and Territories Development of Ukraine

MinDigital – Ministry of Digital Transformation of Ukraine

RMA/RSA – Regional Military Administration / Regional State Administration

LGA – Local Government Authority

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This report provides an overview of the current regulatory framework governing technical supervision. A comprehensive analysis has revealed that the role of the technical supervision institution in Ukraine remains insufficiently regulated within the construction process.

The key findings indicate the need for:

Development of regulatory frameworks, including:

- Defining clear criteria for conducting public procurement and/or contract awarding, particularly in cases where procurement is conducted without the use of an electronic system for engaging technical supervision under contractual terms, with well-defined criteria and mechanisms for expanding the technical supervision market.
- Introducing internal monitoring procedures for the performance of technical supervision engineers' contracts, including oversight by construction customers.
- Establishing requirements for the scope, frequency of inspections, measurements, and tests conducted by technical supervision at construction sites.
- Clearly regulating the interaction between technical supervision and other participants in the construction process.
- Standardizing technical supervision reporting formats (from interim to final reports).

Digitalization of the technical supervision process, including:

- Automating the collection of photographic materials, descriptions of deficiencies, and deviations.
- Regulating the frequency of the technical supervision engineer's presence at the construction site.

Defining liability and penalties for non-compliance with established technical supervision requirements.

Enhancing the monitoring of technical supervision activities by the MinDevelopment, including the introduction of an effective mechanism for suspending or revoking qualification certificates in case of detected violations.

Developing a payment algorithm for technical supervision services that is not directly tied to the volume of work completed by the contractor, or partially moving away from this practice.

The proposed measures will contribute to improving the transparency, efficiency, and quality of technical supervision, which, in turn, will positively impact the implementation of construction projects.

Table 1 – General Measures for Minimizing Key Risks

Risk Number	Risk Title	Need for Development of Internal Regulations by Customers	Need for Development of Regulatory Legal Framework (Law of Ukraine, CMU Resolution, Order, etc.)	Need for Approval of Relevant Standards (DSTU, Codes of Established Practice)	Need for Development of IT Solutions
1.1	Potential favoritism in awarding contracts without using the electronic procurement system (direct contracts)	+	+		
1.2	Possibility of setting discriminatory requirements for potential bidders	+	+	+	
1.3	Replacement of technical supervision personnel after the procurement winner is selected		+	+	
2.1	Lack of clarity in defining the number of measurements and tests of materials, structural elements, and construction products in the contract terms		+	+	+
2.2	Lack of clarity in defining the functions of technical supervision	+	+		
2.3	Insufficient clarity in formulating the responsibilities of technical supervision in contract terms and defining penalties	+	+	+	+
2.4	Market Access Restrictions for Foreign Companies in the Field of Technical Supervision	+	+		
3.1	Lack of a standardized comprehensive reporting format and data on recording deficiencies identified by technical supervision		+		+
3.2	Absence of a requirement for continuous documentation of the technical supervision engineer's presence at the construction site	+	+		+
3.3	Linking technical supervision service payments to a percentage of the cost of accepted works performed by the contractor	+	+	+	+
3.4	Assigning technical supervision the function of monitoring price levels for key construction materials and structures		+		
3.5	Acceptance of hidden works and signing of hidden works acts by technical supervision engineers		+	+	+

RISKS AT THE PROCUREMENT STAGE OF CONSTRUCTION WORKS

1.1 Potential favoritism in awarding contracts without using the electronic procurement system (direct contracts)

According to the Law of Ukraine **«On Public Procurement»** and CMU Resolution No. 1178 dated October 12, 2022, the general procedure and regulations for public procurement are established. The current regulatory framework provides a mechanism for awarding direct contracts, including the ability to procure works with a value of 1.5 million UAH or more without conducting open tenders. At the same time, the Law of Ukraine **«On Regulation of City Planning Activity»** classifies both author supervision and technical supervision as works.

Awarding direct contracts without competitive procedures may lead to the following risks::

Restriction of competition – the formation of a narrow pool of technical supervision providers, making it difficult for new participants to enter the market.

Corruption risks – an increased likelihood of collusion between customers, contractors, and technical supervision representatives.

Decline in construction quality – manipulation during the acceptance of work and a lack of proper control over its execution.

CAUSES OF THE RISK:

- **Conflict of interest:** Selecting a technical supervision provider without transparent competitive procedures may be based on personal or financial ties between construction participants. Awarding contracts to the same engineers repeatedly strengthens these connections and reduces oversight of technical supervision performance.

- **Restriction of competition:** Awarding contracts without open procedures leads to a narrowing of the market for service providers. Favoring a limited group of individuals creates barriers for new market participants. In particular, those outside the «preferred circle» may struggle to confirm the required three years of experience due to a lack of contract opportunities.
- **Inflated service costs:** The lack of competition and non-transparent selection mechanisms may contribute to artificially inflated service prices, leading to inefficient use of budget funds.
- **Reputational risks:** Non-transparent agreements undermine public and stakeholder trust in customers and negatively affect the perception of government institutions.

RISK MITIGATION MEASURES

1 **Standardization of the direct contract awarding process:**

Develop and approve internal regulatory documents governing the selection of contractors for direct contracts. Ensure public and government agency access to these documents, including publication on official websites and other platforms.

These documents should include:

- An up-to-date list of potential contractors, including those from other regions;
- A procedure for conducting market consultations to attract a wider range of participants;
- A clear methodology for selecting contractors, which should include: possession of qualification certificates that meet current legal requirements; consideration of experience in executing similar contracts; the ability of specialists to be present on-site daily; the establishment of a mechanism for imposing sanctions in case of poor contract performance. Additionally, the methodology may incorporate other
- Requirements depending on the nature of the project and the customer's needs.

Potential Stakeholders Involved in Risk Mitigation:

RMA/RSA, LGA, the Agency for Restoration, and other project customers *– responsible for developing and approving internal regulatory documents governing the selection of contractors for direct contracts.*

The MinEconomy *– responsible for addressing the issue by developing and approving relevant recommendations.*

2 Expanding the market for contractors:

- Utilization of all available open sources for conducting market consultations regarding contractor selection.
- Market research to attract new contractors.
- Organization of public events, such as roundtable discussions involving market participants and representatives of professional associations. For example, holding an annual discussion on technical supervision needs before the start of the construction season, addressing challenges in ensuring technical supervision of reconstruction projects in different regions, etc.
- Additional publication of information about submitting commercial proposals on the websites of relevant professional associations.

Potential Stakeholders Involved in Risk Mitigation:

RMA/RSA, LGA, the Agency for Restoration, other project customers, and professional associations – *monitoring and systematic discussions to expand the pool of contractors.*

3 Contract performance monitoring:

- Implementation of internal monitoring procedures for contract execution by technical supervision engineers.
- Development of mechanisms for regular evaluation of technical supervision performance.

Potential Stakeholders Involved in Risk Mitigation:

RMA/RSA, LGA, the Agency for Restoration, and other project customers – *primarily responsible for developing internal regulatory documents at the level of construction project customers.*

The MinDevelopment and CMU – *responsible for developing or amending relevant regulatory acts (e.g., amendments to a CMU Resolution).*

1.2 Possibility of setting discriminatory requirements for potential bidders

a) Manipulation of qualification criteria in tender documentation

Setting discriminatory requirements that only a limited pool of bidders can meet is one of the most common barriers to fair competition.

Example: A requirement for prior experience exclusively in technical supervision for projects of a specific type, with overly detailed specifications.

The AMCU decision No. 11648 dated July 4, 2024 regarding the appeal of the requirement to confirm similar experience in technical supervision specifically for bridge construction projects states that such a requirement narrows the pool of participants. This is because the certification of technical supervision engineers covers two main areas: buildings and structures, as well as automobile roads. However, artificial structures (bridges) are part of automobile roads, making such requirements unjustified.

b) Excessive requirements for bidders

Setting overly high qualification criteria that are not stipulated by current legislation significantly restricts competition and creates barriers for potential contractors.

The AMCU decision No. 18803 dated November 25, 2024 deemed unjustified the contracting authority's requirement for bidders to prove their competence, knowledge, and experience in working with materials and technologies for finishing, facade works, and engineering communications, as such requirements are not provided for in current regulatory documents.

c) Establishing requirements tailored to a specific bidder

Introducing requirements that can only be met by specific participants creates a monopoly and limits competition.

The AMCU decision No. 12526 dated August 10, 2023 ecognized as discriminatory the requirement for a bidder to have a certified occupational safety engineer (construction) of at least category 1. This requirement was deemed excessive, as the technical specifications related exclusively to the functions of technical supervision.

CAUSES OF THE RISK:

- **Limited awareness among customers** when initiating the procurement procedure for technical supervision services.
- **Lobbying interests of specific companies** by tailoring requirements to ensure their success in procurement. Discriminatory requirements may also result from prior agreements between customers and technical supervision providers.

RISK MITIGATION MEASURES:

1. **Standardization of requirements in procurement announcements:**
   - Customers should develop internal regulatory documents and test standardized requirements when procuring technical supervision services.
   - MinDevelopment should establish appropriate regulatory frameworks, including policies and procedures that differentiate requirements for contractors based on the types of work and levels of technical supervision.
   - Develop **Methodological Guidelines** for procuring technical supervision services to ensure compliance with public procurement principles and international best practices.

Potential Stakeholders Involved in Risk Mitigation:

RMA/RSA, LGA, the Agency for Restoration, and other project customers **–** *– primarily responsible for developing internal regulatory documents at the level of construction project customers.*

The MinDevelopment and the MinEconomy **–** *based on an analysis of the implementation results of internal regulatory documents developed by construction customers, these ministries will collect and prepare proposals for drafting regulatory legal acts. Once adopted, the corresponding regulatory framework will be applied by construction customers in their future activities.*

2 Development of non-price criteria for tender proposal evaluation:

- When developing **Methodological Guidelines** for procuring technical supervision services, international best practices should be considered, particularly regarding the introduction of **non-price evaluation criteria** that assess the professional competence and experience of contractors.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment and the MinEconomy **–** *responsible for developing appropriate regulatory frameworks, including policies, procedures, and standards.*

3 Regulation of the issue of the «Abnormally Low Price» and prevention of price dumping in the procurement of technical supervision services:

- When developing the **Guidelines for the Procurement of Technical Supervision Services**, it is necessary to establish clear criteria for identifying the abnormally low price, and a detailed list of possible justifications (calculations) to be provided by bidders. This will provide contracting authorities with legal and transparent grounds to reject bids that show signs of dumping or offer unrealistically low service prices.

Potential Stakeholders Involved in Risk Mitigation:

MinDevelopment, MinEconomy **–** *development of the relevant regulatory framework (policies, procedures, standards, etc.).*

4 Enhancing the transparency of technical supervision engineers:

- Establish mandatory **reporting formats** for technical supervision engineers.
- Develop **regulatory legal acts** that define reporting standards and mechanisms for their publication in open sources.
- Introduce state standards regulating reporting requirements and their publication mechanisms.
- Ensure the **disclosure of reporting forms** in open sources, in accordance with CMU Resolution No. 681 dated June 23, 2021.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, the MinEconomy, and CMU **–** *responsible for developing and implementing relevant regulatory norms, with MinDevelopment leading the initiative.*

5 Conducting market consultations with customers:

- Construction customers should develop and approve mechanisms for **market research**, information dissemination, and discussion of qualification and technical requirements with a wide range of stakeholders.
- **Mandatory market consultations** should be conducted before announcing tenders for technical supervision services with **a significant expected value** (e.g., for projects exceeding 100 million UAH).
- Customers should consider the information obtained during market consultations when preparing and conducting procurement processes.

Potential Stakeholders Involved in Risk Mitigation:

RMA/RSA, LGA, the Agency for Restoration, and other project customers **–** *responsible for developing and approving internal regulatory documents governing market research and consultation procedures.*

The MinEconomy and CMU **–** *the MinEconomy should take the initiative in drafting a CMU Resolution.*

1.3 Replacement of technical supervision personnel after the procurement winner is selected

Replacing personnel during the conclusion or execution of a technical supervision contract may lead to a decline in quality control, non-compliance with qualification requirements, and risks of personnel manipulation by the contractor.

CAUSES OF THE RISK:

- **Manipulation of qualification compliance:** The personnel listed in the bidder's tender proposal meet the established criteria, but during contract signing and/or after its execution, they are replaced without proper verification of the new candidates' compliance with qualification requirements.
- **Unfair practices by contractors:** Submitting a bid with personnel who formally meet the qualification requirements, while the actual work is performed by different individuals, indicates deliberate misrepresentation and unfair competition.

RISK MITIGATION MEASURES:

1 **Regulating personnel replacement conditions::**

1.1 **At contract signing:** According to public procurement legislation, the terms of a procurement contract must not differ from the content of the winning bidder's tender proposal, including the results of the electronic auction, except in cases specified by law.

1.2 **During contract execution for technical supervision:** The contract must explicitly define the conditions for personnel replacement, allowing it only with the customer's approval. Moreover, the new personnel must meet or exceed the established qualification requirements.

1.3 **During procurement monitoring:** The SASU should pay particular attention during procurement monitoring to ensuring that the winning bidder's submitted tender proposal aligns with the actual contract terms and to identifying cases of unjustified personnel replacement.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment – *development of appropriate regulatory measures (in coordination with the MinEconomy).*

SASU – *incorporating these aspects into procurement monitoring practices.*

2 **Implement sanctions for guarantee violations:** Include contractual penalties or the option to terminate the contract if the actual personnel composition does not meet the requirements stated in the winning bidder's tender proposal.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment – *development of appropriate regulatory measures.*

3 **Require personnel lists in tender documentation:** Include a mandatory annex to the procurement contract listing the personnel, particularly key staff, specified in the winning bidder's tender proposal.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment and the MinEconomy – *development of appropriate regulatory measures (initiated by the MinDevelopment).*

RMA/RSA, LGA, the Agency for Restoration, and other project customers – *incorporating this requirement into public procurement practices.*

CONTRACTUAL TERMS BETWEEN THE CUSTOMER AND TECHNICAL SUPERVISION

2.1 Lack of clarity in defining the number of measurements and tests of materials, structural elements, and construction products in the contract terms

The absence of clearly defined requirements in technical supervision contracts regarding the scope, frequency, and methodology of measurements and testing creates legal uncertainty and opens the door to potential abuses.

CAUSES OF THE RISK:

- **Subjectivity in the engineer's evaluation of work results:** Current legislation and regulatory documents lack clear guidelines for conducting tests, granting technical supervision engineers discretionary power in choosing control methods. This can lead to manipulations and biased decisions by both technical supervision and the construction customer.

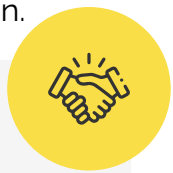
- **Unjustified cost increases due to additional laboratory services:** Ambiguities in the provisions of CMU Resolution No. 903 dated July 11, 2007 may justify an increase in work volume or service costs without valid necessity. Specifically, the costs of laboratory services may be unfairly shifted onto the technical supervision engineer.

- **Abuse during work execution:** The absence of a mandatory list of tests allows the technical supervision engineer to reduce the number of tests, which may negatively affect the quality of construction work.

- **Lack of responsibility for conducting tests and measurements:** There is no clearly defined responsibility for non-compliance with test requirements or failure to perform tests when violations are discovered.

RISK MITIGATION MEASURES:

1. **Clear formulation of terms, deadlines, and scope for measurements and testing in standard contracts:** Include a precise list of measurements and tests with specified periodicity. Mandate the completion of these tasks at the expense of technical supervision.



Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment **–** *development of appropriate regulatory measures.*

2. **Development of regulations for the scope, quantity, and frequency of measurements and tests at the site:** Establish clear internal regulations for the scope and frequency of measurements and tests. Define the interaction algorithm between the customer, technical supervision, and contractor. Set minimum work volumes, material selection procedures, and the process for providing supporting documentation.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment **–** *development of appropriate regulatory measures.*

3 **Designation of a responsible person:** Appoint a responsible specialist within the customer's staff to monitor (control) the execution of the technical supervision contract. Define their powers and obligations for controlling compliance with the contract's requirements.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment – *development of appropriate regulatory measures.*

RMA/RSA, LGA, the Agency for Restoration, and other project customers – *integration into practice.*

4 **Digitization of the control system:** Use digital tools to automate the recording of work and reporting by technical supervision engineers. Integrate operational control data into a digital system for comparison with contractor information.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment – *development of appropriate regulatory measures.*

5 **Enhancement of the Unified State Electronic System in the Field of Construction (USESFC)**: Expand the functionality of the system by integrating data on quality control from all construction participants. This will enable management decisions to be made and impose penalties for violations.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment – *development of appropriate regulatory measures.*

6 **Linking the scope of measurements and tests to regulatory requirements:** To establish mandatory minimum volumes of measurements and tests that the technical supervision engineer must perform during operational control of each type of material and technological process, directly within the applicable regulatory acts and/or technical documents. To ensure proper legal regulation of this issue, relevant amendments should be made to the CMU Resolution No. 903 dated July 11, 2007, or a separate national standard should be developed, setting out clear control requirements. At the same time, it is important to take into account the specific requirements depending on the type of object, including: for the construction and repair of roads and transport infrastructure; for the construction and reconstruction of objects with other functional purposes (including their complexes and structural parts).

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment **–** *development of appropriate regulatory measures.*

7 **Introduction of an electronic laboratory control log:** Implement a mandatory laboratory control log, preferably in electronic format, alongside operational control. The log may be integrated into the **Technical Supervision Log**, but it must have clearly defined regulations.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment **–** *development of appropriate regulatory measures.*

8 **Regulation of liability for testing:** Amend the Law of Ukraine «On Liability for Offenses in City Planning Activity» and CMU Resolution No. 903 of July 11, 2007. Establish the mandatory requirement for technical supervision to conduct laboratory tests or finance them. Introduce liability for failure to conduct tests and failure to enter corresponding data into the Laboratory Control Log.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, CMU, VRU – *development of regulatory provisions and/or amendments to the existing legal framework.*

2.2 Lack of clarity in defining the functions of technical supervision

The lack of clearly defined functions and responsibilities of technical supervision in regulatory acts or contract terms creates legal uncertainty and may lead to abuse, biased decisions, and complications in quality control of construction work.

CAUSES OF THE RISK:

- **Lack of clear regulations and procedures:** Regulatory acts and approved model contracts do not provide a specific list of obligations and powers for technical supervision engineers. Currently, CMU Resolution No. 903 of July 11, 2007 establishes general functions of technical supervision engineers, which could be further detailed to avoid conflicts and legal uncertainty in their work. There is also uncertainty in the distribution of responsibilities between technical supervision, the customer, and the contractor.

- **Subjectivity in interpreting functions:** The absence of clearly defined technical supervision functions in CMU Resolution No. 903 of July 11, 2007 allows customers to independently determine the procedure for confirming work volumes, control measures, and inspections at construction sites.

- **Lack of customer oversight:** The unclear definition of technical supervision functions makes it difficult to monitor its activities, which may result in biased evaluations of work quality, manipulations during project acceptance, and poor decision-making.

RISK MITIGATION MEASURES:

1. **Legislative or temporary local regulation:** Amend CMU Resolution No. 903 of July 11, 2007 to specify the functions of technical supervision. For temporary local regulation, develop **a model expanded list of functions** to be included in tender documentation and contract terms.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, CMU – *development of the relevant regulatory act (e.g., a new CMU resolution) at the initiative of the MinDevelopment.*

2. **Regulation of interaction:** Develop a regulatory legal act (resolution, state standard, or other normative document) that defines the interaction algorithm between technical supervision, the customer, and the contractor. Establish mandatory **internal regulations** for customers regarding control mechanisms, quality verification procedures, and project acceptance.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, CMU – *development of the relevant regulatory act (e.g., a new CMU resolution) at the initiative of the MinDevelopment.*

3 **Control of function compliance:** Develop a regulatory legal act (resolution, state standard, or other normative document) that defines the regulations and authority of a designated official within the customer's staff responsible for ensuring that technical supervision activities comply with the contractual functions.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, CMU – *development of the relevant regulatory act (e.g., a new CMU resolution) at the initiative of the MinDevelopment.*

4 **Enhancing transparency of technical supervision activities:** Establish a mandatory requirement for regular reporting by technical supervision engineers, with subsequent publication in public sources. Introduce mechanisms for electronic recording of inspections and control using digital tools.

Potential Stakeholders Involved in Risk Mitigation:

RMA/RSA, LGA, the Agency for Restoration, and other project customers – *implementation of reporting mechanisms..*

2.3 Insufficient clarity in formulating the responsibilities of technical supervision in contract terms and defining penalties

The absence of clearly defined accountability mechanisms of technical supervision engineers in contracts may lead to evasion of quality control, unjustified sanctions, or, conversely, avoidance of responsibility for violations.

CAUSES OF THE RISK:

- **Insufficient detailing of accountability of technical supervision engineers in the standard contract:** The Order of the Ministry of Restoration No. 787 dated August 6, 2024, does not include clearly defined obligations and criteria for evaluating the effectiveness of technical supervision engineers. The lack of unified standards allows contractors to evade responsibility for inadequate quality control.

- **Low level of legislatively defined accountability:** Contracts do not provide financial or other liability mechanisms, making it easier to disregard violations.

- **Lack of customer oversight:** Many customers lack the personnel or legal resources to properly monitor the work of technical supervision engineers.

- **Subjectivity in customer decision-making regarding fines:** There is no clear mechanism for holding technical supervision engineers accountable, which may lead to avoidance of responsibility for violations of regulations and standards. This also creates opportunities for manipulation by the customer: engineers may either evade responsibility or, conversely, be subjected to unjustified fines imposed by the customer.

- **Legislatively defined low level of accountability:** If contracts do not establish financial or other liability mechanisms for negligent technical supervision, engineers may ignore violations. The existing financial penalties are outdated and set at an insufficient level, reducing their effectiveness as a deterrent.

  The results of technical supervision inspections represent one of the final stages in the process of accepting completed construction works. The signature and official seal of the technical supervision engineer certify that the completed works comply with the applicable construction standards and project documentation. During the inspection, specialists analyze the quality of materials used, adherence to technological processes, compliance of structural elements with project decisions, and assess the overall condition of the facility.

  However, in some cases, visible deviations and defects can be detected at the construction site, despite their official approval by the technical supervision engineer.

At the same time, international financial institutions providing funding for construction projects lack legally established mechanisms to independently verify the compliance of the facility with technical and project requirements.

Although these organizations can engage independent technical experts to evaluate the construction, the functions, responsibilities, and the obligation to consider their findings are not clearly defined. This creates potential risks for transparency and the effective use of financial resources.

RISK MITIGATION MEASURES:

1 **Regulation of interaction:** Develop regulatory or internal administrative acts (internal regulations) that define the interaction algorithm between the customer, technical supervision, and the contractor. Establish internal regulations and procedures that outline the customer's response mechanisms to deficiencies and violations in the work of technical supervision. These should cover: delays in inspections, failure

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment – *development of appropriate regulatory measures.*

2 **Strengthening liability:** Amend the Law of Ukraine «On Liability for Offenses in City Planning Activity» to enhance the liability of technical supervision engineers.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, Parliamentary Committee on the Relevant Sector, VRU – *upon the initiative of the MinDevelopment, draft and propose the necessary regulatory act for further approval and enactment (e.g., amendments to the Law of Ukraine «On Liability for Offenses in City Planning Activities»).*

3 **Digitization of the control (monitoring) process:** Implement an electronic work log to record the activities of technical supervision engineers and enable real-time response to violations. Introduce mandatory digital entry of data on inspections, comments, and defect corrections.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment – *development of appropriate regulatory measures..*

4 **Responsibility allocation:** Clearly define the division of responsibility between technical supervision and the contracting organization in case of detected deficiencies. Amend the Law of Ukraine «On Liability for Offenses in City Planning Activities» to introduce mandatory payments amounting to 1.5% of the damages caused to the state due to inadequate technical supervision.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, Parliamentary Committee on the Relevant Sector, VRU – *upon the initiative of the MinDevelopment, draft and propose the necessary regulatory act for further approval and enactment (e.g., amendments to the Law of Ukraine «On Liability for Offenses in City Planning Activities»).*

5 **Introduction of a mechanism for suspension and revocation of the qualification certificate:** Establish the obligation for the customer to notify the MinDevelopment about unsatisfactory performance of technical supervision. Develop a procedure for the suspension or revocation of the qualification certificate for technical supervision. Define a clear process for: revocation, appeals, review, and liability imposition. Determine whether different accredited legal entities authorized to issue qualification certificates can suspend or revoke certificates issued by other accredited entities.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, CMU – *upon the Ministry's initiative, develop a regulatory legal act for further approval and adoption (e.g., CMU Resolution).*

RMA/RSA, LGA, the Agency for Restoration, and other project customers – *integration into practice.*

6 **Right to technical audit by donors:** Introduce a mechanism granting representatives of states and international organizations that provide financial assistance for Ukraine's reconstruction the right to conduct an independent technical audit of projects funded by international financial institutions and donor organizations.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, VRU – *at the initiative of the MinDevelopment, develop a relevant regulatory act for further approval and enactment (e.g., adoption of a specific law or amendments to existing legislation).*

7 **Strengthening the capacity of legal departments:** Conduct research on judicial practices and hold consultative discussions on pressing issues arising from the execution of contracts for technical supervision services. Prepare a comprehensive analysis of court decisions and develop recommendations for effective participation in legal disputes, particularly in cases involving penalties imposed on technical supervision engineers for contract violations or non-compliance of completed work with established standards. Organize training sessions with the involvement of enterprises and organizations under the management of the Agency for Restoration to facilitate experience exchange and enhance the legal awareness of employees.

Potential Stakeholders Involved in Risk Mitigation:

RMA/RSA, LGA, the Agency for Restoration, and other project customers – *integration into practice.*

2.4 Market Access Restrictions for Foreign Companies in the Field of Technical Supervision

The participation of foreign companies in the Ukrainian technical supervision market is hindered by a number of regulatory and administrative barriers, which restrict competition and limit the ability to attract highly qualified foreign specialists.

CAUSES OF THE RISK:

One of the key obstacles is the complex certification process, which is required for participation in public procurement. Foreign companies face difficulties in confirming their compliance with national qualification requirements, which becomes particularly problematic for large-scale projects that require a significant number of certified engineers.

For example, in procurement **UA-2023-07-19-011861-a**, the contracting authority established the following requirements for the technical supervision team:

- Certified Senior Technical Supervision Engineer in Construction – at least 2 persons
- Certified Senior Technical Supervision Engineer in Roads – at least 1 person
- Certified Surveyor Engineer – at least 1 person
- Certified Structural Engineer in Mechanical Resistance and Stability – at least 1 person
- Certified Cost Estimator in Construction Cost Documentation – at least 1 person

These requirements may vary depending on the specifics of the tender. However, the main issue remains the inability of foreign companies to obtain certification within the timeframes set by public procurement procedures. Additionally, the lack of a transparent and efficient mechanism for verifying the education and experience of foreign engineers complicates their adaptation to Ukrainian qualification standards.

RISK MITIGATION STRATEGIES:

1 Improving the Qualification Requirements for Foreign Technical Supervision Engineers:

1. 1 Developing adapted qualification requirements that provide a fast and convenient mechanism for verifying the education and professional experience of foreign engineers.

1.2 Adopting a regulatory act issued by the Cabinet of Ministers of Ukraine that establishes a simplified procedure for granting access to the Ukrainian technical supervision market for foreign companies and aligns their activities with national legislation.

1.3 Easing qualification requirements for technical supervision specialists in construction, particularly by recognizing international certifications.

Potential stakeholders involved in risk mitigation:

The MinDevelopment, CMU – *development or improvement of the relevant regulatory act (e.g. CMU Resolution)*

2 Regulating Contractual Relations Between Ukrainian Clients and Foreign Companies:

2.1. Developing a standard contract for the provision of technical supervision services by foreign companies in Ukraine.

2.2 Incorporating unified FIDIC, NEC, or other internationally recognized contract conditions to regulate relationships between stakeholders.

Potential stakeholders involved in risk mitigation:

The MinDevelopment, CMU – *development or improvement of the relevant regulatory act (e.g. CMU Resolution)*

3 Modernizing the Technical Supervision Process:

3.1. Analyzing EU best practices in technical supervision and incorporating the necessary changes into Ukrainian legislation.

3.2 Clearly defining the rights and responsibilities of technical supervision specialists at all stages of the construction process.

3.3 Introducing an accreditation mechanism for foreign engineers without requiring them to undergo full certification under Ukrainian standards.

Potential stakeholders involved in risk mitigation:

The MinDevelopment, CMU – *development or improvement of the relevant regulatory act (e.g. CMU Resolution)*

KEY TASKS AND FUNCTIONS OF TECHNICAL SUPERVISION

3.1 Lack of a standardized comprehensive reporting format and data on recording deficiencies identified by technical supervision

CAUSES OF THE RISK:

- **Absence of legislatively defined reporting requirements and a standardized reporting format:** Current regulations do not establish clear requirements for technical supervision engineers regarding report submission. The lack of standardization complicates the objective evaluation of completed work and quality control.

- **No mandatory documentation of defects and deviations:** Existing legislation does not require systematic recording of identified defects, damages, deviations from project documentation, or construction norms. State Building Norms (DBN) A.3.1-5:2016 («Organization of Construction Production») only contain a table for supervisory comments (Appendix A), which is rarely used in practice.

  The lack of proper documentation of verbal remarks makes it impossible to track them, particularly during the warranty period of the facility's operation.

RISK MITIGATION MEASURES:

1. **Regulation of the reporting format for technical supervision engineers:** Develop and legally establish a standardized reporting format aligned with international standards. The report should include the following mandatory sections:

   - **Description of completed work for the reporting period:** List and volume of completed construction and installation works. Photographic evidence and confirmation of compliance with project documentation and construction norms.
   - **Quality control of materials and work:** Documents confirming material quality (e.g., certificates). Results of laboratory tests and other inspections. At the same time, it is necessary to take into account the differences in requirements for the construction of roads (including artificial structures) and other types of facilities (their complexes and structural parts), as well as the specific features of testing different types of materials.

- **Identified deficiencies and their elimination:** Information on deviations from project decisions or construction norms. Measures taken to eliminate deficiencies, including timelines and scope of corrective work.
- **Supporting documents: Inspection reports on hidden works:** Other documents confirming compliance with established requirements.
- **General construction project data:** Information on the scope of accepted and paid construction works. Details on defective works and their associated costs.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, CMU **–** *upon the Ministry's initiative, develop a regulatory legal act for further approval and adoption (e.g., CMU Resolution).*

2 **Establishing reporting deadlines:** Legally define mandatory reporting deadlines in the current regulatory framework (e.g., by amending CMU Resolution No. 903 of July 11, 2007). Introduce **electronic reporting** with a pilot phase before full implementation.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, CMU – *initiative by the MinDevelopment to draft and approve the necessary regulatory amendments (e.g., changes to CMU Resolution No. 903 of July 11, 2007).*

3 **Public disclosure of consolidated reports:** Amend relevant regulatory acts (e.g., CMU Resolutions No. 835 of October 21, 2015, and No. 166 of February 13, 2024) to ensure public access to technical supervision reports. Automate the process by integrating reports into electronic reporting systems.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, CMU – *initiative by the MinDevelopment to draft and implement the necessary legal framework (e.g., amendments to CMU Resolution No. 835 of October 21, 2015, and No. 166 of February 13, 2024).*

4 **Regulation of mandatory data entry:** Amend the current regulatory legal acts, including the Law of Ukraine «On Liability for Offenses in City Planning Activity», CMU Resolution No. 903 of July 11, 2007, and CMU Resolution No. 681 of June 23, 2021, in the following aspects:

- **Mandatory data entry:** Technical supervision engineers must enter information on identified defects, deficiencies, damage, and deformations into a designated system (e.g., USESFC) within the established timeframes.
- **Liability for failure to enter data:** Introduce liability measures, including sanctions for technical supervision engineers who ignore or fail to timely record data on defects, deficiencies, damage, deformations, and deviations from project documentation and applicable regulatory documents. This should include photo documentation and geolocation tagging at the construction site.
- **Data entry format:** Amend CMU Resolution No. 681 of June 23, 2021, to ensure that data on defects, deficiencies, damage, deformations, and deviations from project documentation and applicable regulatory documents are entered with photo documentation and geolocation tagging at the construction site.

- **Enhancement of the Unified State Electronic System in the Field of Construction (USESFC):** Amend CMU Resolution No. 903 of June 23, 2021 to ensure that data on defects, deficiencies, damage, deformations, and deviations from project documentation and applicable regulatory documents are entered with photo documentation and geolocation tagging at the construction site.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, Parliamentary Committee on the Relevant Sector, VRU, CMU – *upon the initiative of the MinDevelopment, to draft the necessary regulatory act for further adoption (e.g., amendments to the Law of Ukraine «On Liability for Offenses in City Planning Activities,» CMU Resolution No. 903 of July 11, 2007, and CMU Resolution No. 681 of June 23, 2021). and CMU Resolution No. 681 of June 23, 2021).*

3.2 Absence of a requirement for continuous documentation of the technical supervision engineer's presence at the construction site

CAUSES OF THE RISK:

- Lack of legally defined provisions requiring technical supervision engineers to be present at the construction site on a mandatory and systematic basis. There is no regulated procedure for recording the duration and frequency of their presence at the site.
- Absence of a mechanism to confirm the actual performance of technical supervision, creating opportunities for manipulation, fictitious oversight, and a purely formal approach to fulfilling duties.

RISK MITIGATION MEASURES:

1. **Digitizing the process of collecting data on technical supervision presence:** Develop and implement digital tools for automated tracking of engineers' presence at construction sites. Introduce photo documentation of work, defects, and violations with geolocation, which will be transmitted to a unified electronic system. Integrate these records into the Unified State Electronic System in the Field of Construction (USESFC) to enable automatic registration of the engineer's presence and the creation of a supervision history.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment and the MinDigital **–** *responsible for developing regulatory frameworks for the digitalization of the process.*

2. **Regulating the frequency of presence:** Amend regulatory acts to clearly define the number of site visits, the minimum frequency of inspections, and the mandatory recording of their results. Introduce amendments to the Law of Ukraine «On Liability for Offenses in City Planning Activity» and CMU Resolution No. 903 of July 11, 2007, specifying:

   - Timeframes and frequency of on-site presence of technical supervision engineers at the construction site and the mandatory entry of this information into the designated system within a specified period;
   - Liability for violations of the established timeframes and frequency of on-site presence of technical supervision engineers at the construction site.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, CMU **–** *development of the relevant regulatory act (e.g., CMU Resolution).*

Parliamentary Committee on the Relevant Sector, VRU **–** *introduction of amendments to the current legislative framework.*

3 **Monitoring compliance with timeframes:** Develop a control mechanism for monitoring the presence of technical supervision engineers at construction sites. Introduce the possibility of imposing fines in case of violations of the established frequency of presence or improper fulfillment of technical supervision duties.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment **–** *development of appropriate regulatory measures.*

RMA/RSA, LGA, the Agency for Restoration, and other customers **–** *implementation of monitoring mechanisms in practical activities.*

3.3 Linking technical supervision service payments to a percentage of the cost of accepted works performed by the contractor

CAUSES OF THE RISK:

- **Conflict of interest.** Payment for the work of technical supervision engineers as a percentage of the cost of the contractor's completed work may lead to collusion between the contractor and the technical supervision engineer, potentially resulting in inflated work volumes or violations of the technological execution sequence.

- **Dependence on the contractor.** Engineers may be inclined to approve completed works even if they do not meet established standards, as their payment is directly tied to the total cost of the contractor's work.

- **Insufficient remuneration.** Conscientious technical supervision engineers who identify deficiencies and refuse to accept substandard work may find themselves at a disadvantage, as their payment could be reduced or delayed.

- **Loss of objective control.** The contractor may incentivize document signing through unofficial payments («kickbacks») in exchange for concealing violations.

- **Artificial inflation of service costs.** The fixed percentage for technical supervision services (1.5% according to the Order of the Ministry of Infrastructure of Ukraine No. 753 dated October 7, 2022, «On Approval of the Methodology for Determining the Cost of Road Works and Services for the Assessment of New Construction, Reconstruction, Repairs, and Maintenance of Public Roads,» and the Order of the Ministry for Communities and Territories Development of Ukraine No. 281 dated November 1, 2021, «On Approval of Cost Estimation Standards in Construction») does not account for the complexity of the construction project. This may create opportunities for manipulation in cost calculations and inefficient use of budget funds.

RISK MITIGATION MEASURES:

1. **Amendments to regulatory documents:** Introduce changes to the Methodology for Determining the Cost of Road Works and Services for the Assessment of New Construction, Reconstruction, Repairs, and Maintenance of Public Roads (Order of the Ministry of Infrastructure No. 753 dated October 7, 2022) and the Cost Estimation Standards of Ukraine: Guidelines for Determining Construction Costs (Order of the MinDevelopment No. 281 dated November 1, 2021). Amend regulatory documents to differentiate the cost of technical supervision services based on the complexity and category of the construction project, similar to the approach used for calculating the cost of design work. This approach will help reduce corruption risks by increasing the value of services and encouraging the technical supervision market to participate in procurement processes while simultaneously preventing excessive spending on high-cost projects.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment – *development of appropriate regulatory measures.*

2 **Use of an electronic system for recording presence on site:** Automating the tracking of technical supervision engineers' presence at construction sites. Integrate digital tools for location tracking, photo documentation of defects and deficiencies with geotagging. Establish a mechanism to confirm the actual provision of technical supervision services for monitoring and oversight by the customer (similar to what is outlined in Section 3.3).

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment – *development of appropriate regulatory measures.*

RMA/RSA, LGA, the Agency for Restoration, and other customers – *implementation in practical operations..*

3 **Alternative approach:** If it is not possible to reach consensus on changes among all stakeholders, it would be advisable to introduce additional provisions in regulatory documents that include a percentage in the cost of technical supervision services to cover risks associated with technical supervision. This percentage could serve as a financial reserve to be used in cases where the work is performed improperly and does not meet established requirements. The funds accumulated for covering technical supervision risks could be used to finance additional inspections, defect corrections, or re-inspections, ensuring a higher level of quality control over completed work. It is also essential to establish clear criteria for the use of these funds to prevent their misuse. This may include reporting procedures, expense justifications, and control mechanisms over their use. Implementing this approach would help mitigate risks for both customers and contractors while increasing the accountability of technical supervision engineers for the quality of their work.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment – *development of appropriate regulatory measures.*

RMA/RSA, LGA, the Agency for Restoration, and other customers – *implementation in practical operations.*

4 **Development of a methodology for determining and assessing the cost of technical supervision services:** Introduce a methodology that takes into account the complexity of the construction project, the volume of completed work, and the quality of technical supervision. Establish a requirement for involving additional personnel on large and complex projects.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment – *development of appropriate regulatory measures.*

3.4 Assigning technical supervision the function of monitoring price levels for key construction materials and structures

CAUSES OF THE RISK:

- **Lack of regulatory obligation.** Current legislation does not establish the responsibility of technical supervision engineers for monitoring the prices of construction materials, creating legal uncertainty and allowing them to evade accountability for potential overpricing in cost estimates.

- **Possibility of abuse.** The absence of a clearly regulated price control mechanism enables manipulations, where materials are procured at inflated prices without clear accountability.

- **Duplication of functions.** The function of monitoring and analyzing material costs is assigned to various entities without defining responsible persons or a coordination mechanism between them.

RISK MITIGATION MEASURES:

1. **Regulating the monitoring obligation:** Amend the provisions of the Law of Ukraine «On Liability for Offenses in City Planning Activity» and the CMU Resolution No. 903 dated July 11, 2007. Define:

   - Obligation (or prohibition) of monitoring and determining regional price levels by technical supervision engineers during financial settlements with the construction contractor.
   - Liability for non-compliance or violation of this obligation.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, CMU – *development or improvement of the relevant regulatory framework (e.g., amendments to CMU Resolution No. 903 dated July 11, 2007).*

The MinDevelopment, Parliamentary Committee on the Relevant Sector, VRU – *upon the initiative of the MinDevelopment, draft and propose the necessary regulatory act for further approval and enactment (e.g., amendments to the Law of Ukraine «On Liability for Offenses in City Planning Activities»).*

2. **Development of a unified algorithm:** Develop and approve a regulatory document outlining the algorithm for monitoring and determining regional price levels during financial settlements with contracting organizations.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment **–** *development of appropriate regulatory measures.*

3 **Allocation of responsibility among all construction participants when signing acceptance certificates for completed construction works (form KB-2v):** Amend the relevant regulatory legal acts to clearly define the scope and extent of responsibility for each construction participant after the signing and acceptance of completed works. These changes are proposed to be introduced into the Law of Ukraine «On Liability for Offenses in City Planning Activity».

Potential Stakeholders Involved in Risk Mitigation:

MinDevelopment, CMU **–** *development of the relevant regulatory legal act (e.g., CMU Resolution).*

Parliamentary Committee on the Relevant Sector, VRU **–** *introduction of amendments to the current legislative framework.*

3.5 Acceptance of hidden works and signing of hidden works acts by technical supervision engineers

CAUSES OF THE RISK:

- According to the CMU Resolution No. 903 dated July 11, 2007, technical supervision is required to document hidden works. The absence of a clear methodology and the potential for manipulation in rejecting works not classified as hidden pose risks to construction quality.

RISK MITIGATION MEASURES:

1. **Regulating accountability:** Introduce amendments to the Law of Ukraine «On Liability for Offenses in City Planning Activities» to establish liability for technical supervision engineers for the improper acceptance or signing of hidden works reports.

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, Parliamentary Committee on the Relevant Sector, VRU – *development of the necessary regulatory framework (e.g., amendments to the Law of Ukraine «On Liability for Offenses in City Planning Activities»).*

2. **Digitalization of the process for recording hidden works:** Implement a digital mechanism for recording hidden works by storing data on such works in a unified electronic system with photo documentation and geotagging capabilities. Introduce the signing of hidden works reports through electronic services, including the «Diia» portal. Integrate this system with the State Electronic System in the Field of Construction (USESFC) to ensure automatic record-keeping and verification of hidden works. The system's data should be available for developing standard project design tasks and updating DBN A.2.2-3:2014 «Composition and Content of Project Documentation for Construction.»

Potential Stakeholders Involved in Risk Mitigation:

The MinDevelopment, the MinDigital – *at the initiative of MinDevelopment, develop the necessary regulatory framework for further approval and implementation.*

APPENDIX 1

List of regulatory and legal acts:

1 Laws of Ukraine:

- Law of Ukraine «On Public Procurement» dated December 25, 2015, No. 922-VIII;
- Law of Ukraine «On Regulation of City Planning Activity» dated February 17, 2011, No. 3038-VI;
- Law of Ukraine «On Liability for Offenses in City Planning Activities» dated October 14, 1994, No. 208/94-VR.

2 Resolutions of the Cabinet of Ministers of Ukraine:

- Resolution of the Cabinet of Ministers of Ukraine dated July 11, 2007, No. 903 «On Author and Technical Supervision During the Construction of an Architectural Object»;
- Resolution of the Cabinet of Ministers of Ukraine dated October 12, 2022, No. 1178 «On Approval of the Specifics of Public Procurement of Goods, Works, and Services for Customers Covered by the Law of Ukraine 'On Public Procurement' During the Period of Martial Law in Ukraine and for 90 Days After Its Termination or Cancellation»;
- Resolution of the Cabinet of Ministers of Ukraine dated June 23, 2021, No. 681 «Certain Issues of Ensuring the Functioning of the Unified State Electronic System in the Field of Construction.»

3 Orders of Ministries:

- Order of the Ministry of Restoration of Ukraine dated August 6, 2024, No. 787 «On Approval of Standard Contract Forms for the Provision of Engineering and Consulting Services in Construction, for the Provision of Engineering and Consulting Services in Construction (Consulting Engineer Services), and for the Implementation of Technical Supervision in Construction»;
- Order of the Ministry for Communities and Territories Development of Ukraine dated May 5, 2016, No. 115 «On Approval of the State Building Codes A.3.1-5:2016 'Organization of Construction Production'»;

APPENDIX 1 (continued))

- Order of the Ministry of Infrastructure of Ukraine dated October 7, 2022, No. 753 «On Approval of the Methodology for Determining the Cost of Road Works and Services for the Assessment of New Construction, Reconstruction, Repairs, and Maintenance of Public Roads»;
- Order of the Ministry for Communities and Territories Development of Ukraine dated November 1, 2021, No. 281 «On Approval of the Cost Estimate Standards of Ukraine in Construction.»