

# **Notice from Guangzhou Municipal Housing and Urban-Rural Development Bureau on Enhancing Graded Safety Risk Management for Construction Projects**

To all parties concerned:

In order to implement the requirements of the *Notice on Issuing the Trial Implementation Plan for the Reform of the Construction Project Review and Approval System in Guangzhou* (Sui Fu [2018] No. 12), further deepen reforms that delegate power, improve regulation and upgrade services, continue to improve the business environment, standardize graded safety risk management in construction projects within the municipality, enhance the capacity for overall management of safety risks, and effectively prevent and control production safety incidents, the following notices on further strengthening graded safety risk management in construction work are hereby issued based on laws, regulations and provisions such as the *Production Safety Law*, *Guangdong Provincial Regulations Regarding Production Safety* and *Administrative Measures of the Guangdong Provincial Department of Emergency Management Regarding Graded Safety Risk Management (Trial)*:

## **1. Definition and Scope of Application**

1.1. Safety risks refer to a combination of the possibilities of hazardous events or exposing personnel to hazardous environments arising during construction and such resulting adverse consequences as personal injury or property damage. Based on the likelihood of production safety incidents, the consequences, and their scope of impact, the risks are graded as significant risks, major risks, general risks, and minor risks, which are respectively labelled red, orange, yellow and blue.

1.2. Risk management refers to the dynamic processes of identification, analysis, evaluation and management of risks and continuous improvement thereof. Inadequate risk management leads to hidden dangers which, if not dealt with timely, would heighten risk levels, as well as increase the likelihood of accidents and the severity of the consequences. Graded risk management should be carried out together with screening and rectification procedures to provide a two-layer safeguard against safety risks. Risk management should prioritize prevention, with enterprises assuming primary responsibility, government authorities providing oversight, and support from the wider public in the form of participation in joint governance. The social responsibility borne by the relevant parties should correspond to the assessed grade of risk. Authorities at various levels with relevant oversight and management responsibilities should strengthen their supervision efforts.

1.2.1. Risk identification is the process of dynamically uncovering, screening and recording all kinds of safety risks in construction projects. The scope of risk identification includes the sources, conditions, behaviors, or the combinations thereof that may lead to personal injury, health hazards or property damage.

1.2.2. Risk analysis refers to estimating the likelihood of hazardous events, forecasting the severity of the consequences and the resulting impact by adopting suitable qualitative or quantitative methods, or a combination of both, based on identified risks.

1.2.3. Risk evaluation is the process of determining the grade of the risk based on the results of risk analysis.

1.2.4. Risk management refers to the effective risk control exercised by construction safety risk manager to eliminate or reduce the possibility of production safety incidents, mitigate the damage caused by such incidents and minimize their impact. The construction safety risk manager achieves these through organizing construction work, sound management systems, technology, management of emergencies, and safety education, on the basis of the results of risk evaluation and characteristics of the relevant risks.

1.3. Graded safety risk management undertaken by the various companies involved in project development, surveying, design, construction works, and construction supervision, (hereinafter referred to as participating companies), with respect to both their internal systems and their construction projects, as well as the oversight and management of risk management efforts by municipal and district-level housing and urban-rural development authorities and construction safety oversight agencies acting on their behalf, shall be executed in accordance with this Notice.

## **2. Construction Safety Risk Management**

2.1. The various participating companies are the main parties responsible for risk management. They shall adopt reasonable and practical measures to screen, identify, analyze and control safety risks:

2.1.1. They shall carry out risk identification, analysis and evaluation in accordance with the methods and standards provided in the *Technical Guide for Graded Safety Risk Management in Building and Municipal Infrastructure Engineering Projects* issued by the Guangdong Provincial Department of Housing and Urban-Rural Development (hereinafter referred to as the *Technical Guide*), and make a checklist of graded risk and hazard sources for building projects in four

aspects: safety management, civic-minded construction, division and sub-division of projects, and equipment and facilities.

2.1.2. They shall make well-developed risk management measures through administration, education, discipline, insurance and others and focus on the effective control of significant risks by complying with the principles of elimination, prevention, mitigation, isolation, warning and the like. For significant risks that cannot be effectively mitigated, such timely measures as suspension of work ,closing of the construction site, evacuating on-site operating personnel and other personnel within the scope of impact, and cordoning off affected zones shall be adopted in accordance with relevant laws, , in order to prevent any accidents that may occur as a result.

2.2. All participating companies should pay close attention to risk status after changes in the nature of risk sources. In case of the following, risk grading and management measures should be timely adjusted:

2.2.1. Changes to laws, regulations, standards and norms may affect risk grading;

2.2.2. Significant changes to organizational structure;

2.2.3. Changes in construction materials, working conditions, construction plans or key equipment and facilities;

2.2.4. Safety incidents have occurred in any project carried out by a participating company or significant/major safety incidents have occurred in the relevant industrial sector;

2.2.5. Extreme weathers, important holidays, major events and the like;

2.2.6. Other conditions that may have an impact on risk.

### 2.3. Risk Management by Project Developers

2.3.1. The project developer bears primary responsibility for graded construction safety risk management and shall comprehensively coordinate and organize the companies involved in surveying, design, construction work, and construction supervision, with regards to graded construction safety risk management.

2.3.2. The project developer shall list both the significant risks and major risks of the project in bidding documents. When applying for construction permits, the

project developer shall provide such materials as the list of significant risks and major risks of the project and related safety management measures.

2.3.3. The project developer shall, in accordance with the provisions of the contracts, timely make full payment to the construction contractors for all expenses incurred for necessary graded construction safety risk management. Should it be necessary to adjust the payments for expenses incurred as a result of the implementation of construction technical measures and corresponding safety and civic-minded construction measures, due to such reasons as changes to project design, the project developer shall adjust such payments as agreed.

2.3.4. The project developer shall not arbitrarily shorten a reasonable construction schedule. If it becomes necessary to adjust the construction schedule, the project developer shall identify in advance the factors which may lead to increased risks or new risks due to such adjustment, and take effective measures to manage risks and prevent potential hazardous events.

2.3.5. For the course of construction project with sources for major or significant risks where third-party monitoring is required by regulations, the project developer shall engage a qualified third party to monitor the process.

2.3.6. The project developer may engage professional third-party audit agencies to conduct a science-based and systematic assessment of safety risk management for the entire course of the project, regularly evaluate quality management systems and existing quality risks, and implement project risk management. The audit agency may also put forward safety risk analyses, prevention and control measures, as well as relevant countermeasures, in order to timely adjust the grading and checklist of risk sources as well as measures for the management thereof.

#### 2.4. Risk Management by Project Surveying Companies and Project Design Companies

2.4.1. The project surveying company and project design company shall identify, in advance, the safety risks in the construction of the project during the project surveying and project design stages, and indicate key parts and processes that involve significant risks and major risks in surveying and design documents. In these documents, the project surveying company and the project design company shall propose measures to guarantee safety in both the construction site and the surrounding area.

2.4.2. The project surveying company and the project design company shall join in the formulation of specific construction plans for projects with significant or major

risks (including preventive risk control measures and emergency response plans), as well as expert review conferences, that are organized by the project developer.

2.4.3. After the emergency rescue work to address significant or major risks in construction projects has been completed, the project surveying company and the project design company shall participate in the formulation of project recovery plans and conduct postmortem assessment of the emergency rescue efforts.

## 2.5. Risk Management by Construction Supervision Companies

2.5.1. The construction supervision company is responsible for overseeing graded construction safety risk management. The construction supervision company shall establish the work mechanisms for graded construction safety risk management, including risk management in supervision plans, prepare corresponding detailed rules for the implementation of such supervision, and regularly inspect the on-site implementation of these systems.

2.5.2. The construction supervision company shall review relevant documents on graded construction safety risk management prepared by the project departments of construction contractors, and inspect the implementation of risk identification and management measures through on-site patrols, on-site supervision, audit and examination. During the time when major or significant risks may occur in the course of construction projects, project management personnel from the construction supervision company shall perform their supervision responsibilities at the construction site.

2.5.3. Where any construction contractor is found to have wrongly identified, analyzed or evaluated risks, adopted improper management measures, or inadequately implemented such measures, the construction supervision company shall require the construction contractor to implement rectifications within a prescribed time limit. Where hidden significant risk hazards are found or potential safety risks of the project are heightened due to inadequate risk management, the construction supervision company shall require the construction contractor to halt construction and report such incidents to the project developer. Where severe consequences to construction safety may arise as a result of refusal to halt construction for rectification, the case shall be immediately reported to relevant authorities responsible for safety oversight with administrative jurisdiction over the projects.

## 2.6. Risk Management by Construction Contractors

2.6.1. The construction contractor shall undertake the main responsibility for graded construction safety risk management, incorporate graded construction safety

risk management into their internal production safety accountability systems, and establish mechanisms for education and training, supervision and inspection, as well as assessment, discipline and incentives. The construction contractor shall guide their project departments in focusing on significant and major risks when carrying out graded safety risk management. In addition, the construction contractor shall also regularly summarize and evaluate the state of graded risk management within their organization to continuously improve related work mechanisms.

2.6.2. The construction contractor shall establish internal directories for identified construction safety risks. After review by personnel in charge from technical departments and safety departments, these directories shall be released to project departments for the purposes of identifying risk sources.

2.6.3. The construction contractor shall carry out special inspections on the implementation of management measures for significant risks and major risks. The intensity and frequency of such inspections shall vary with different executives or departments. The manager of the construction contractor shall participate in such inspections at least once every six months; personnel in charge of safety at the company shall join in the inspection at least once every quarter; safety departments shall inspect the implementation of safety measures at least once per month. In the event that problems are discovered, rectification measures shall be formulated, and persons in charge of implementing such measures shall be identified. Progress in rectification should be tracked by means of inspection records.

2.6.4. If general contracting is adopted for a construction project, the general contractor shall be responsible for the centralized coordination and management of construction safety risks. The subcontractors shall be managed by the general contractor and assume responsibility for graded construction safety risk management within the scope of their respective subcontracts. For specialty contracts directly assigned by the project developer, specialty subcontractors shall also be managed centrally by the general contractor. The general contractor shall execute construction safety management agreements with specialty contractors and subcontractors to define the respective responsibilities of each party regarding construction safety risk management.

2.6.5. The construction contractor shall strictly implement their various systems for graded construction safety risk management, formulate work plans for graded safety risk management for construction projects, and clearly define the responsibilities and duties of all departments, construction teams, management personnel and operation personnel.

2.6.6. The construction contractor shall compile a checklist of identified construction safety risk sources. This checklist shall be submitted to staff members in charge of technical departments for review after endorsement in writing by project leaders. Upon approval, the checklist shall be submitted to the project developer and construction supervision company for their review and approval. Such approval should be affirmed in writing by project leaders from the project developer and chief supervisory engineers of the construction supervision company.

2.6.7. Before the commencement of the project, the general contractor shall submit a project risk checklist to the relevant county-level departments responsible for overseeing construction projects in the respective administrative division. Updates to the checklist shall be timely reported to these departments within three calendar days. For projects involving risks graded as “significant”, the current state of risk management, including details of management measures and their efficacy, shall be reported by the general contractor to these departments at least once per month.

2.6.8. The construction contractor shall prepare construction plans that address identified construction safety risks, which shall include technical measures, management measures, and emergency response measures. The construction contractor shall organize expert review conferences to discuss specific construction plans for projects with significant or major risks. If the s general contracting is implemented for the construction projects, such expert review conferences shall be organized by the general contractor. These specific construction plans should have been approved by the construction contractor and reviewed by the chief supervisory engineer prior to expert review.

2.6.9. The construction contractor shall regularly track the levels of significant risks and major risks through on-site inspection, monitoring and supervision. The construction contractor must also vigorously oversee the implementation of graded risk management measures and timely address existing problems in risk management, in order to ensure that all safety risks are controlled and mitigated.

2.6.10. The construction contractor shall set up risk warning bulletin boards at prominent locations at the gates to construction sites with information on the main safety risks, types of accidents that may arise as a result, consequences of accidents, means for management and control, emergency measures, reporting channels, responsible units and persons, contact information, etc. Prominent warning signs should also be placed at areas with significant risks.

2.6.11. The construction contractor shall inform all personnel of the construction safety risks that possibly may arise in their work and the measures to be adopted through technical clarifications regarding safety, safety education at the construction

sites and pre-shift meetings, in order to ensure all personnel have a sound grasp of risk management measures.

2.6.12. During the course of construction projects with potential major or significant risks, the project leaders, professional safety officers and technical personnel of the construction contracting companies must supervise and guide on-site construction work at the construction site, and conduct inspections as stipulated by regulations. In case of any emergency to threaten human safety, they shall immediately organize the evacuation of workers from the dangerous zones.

2.6.13. The construction contractor shall timely update identified risks as required by changes to laws and regulations, standards and norms, the surrounding environment, construction techniques, engineering measures, and other similar circumstances. Where management measures are adjusted, relevant review and approval procedures shall be executed in accordance with this Notice.

2.6.14. Based on the needs of risk management, the construction contractor shall formulate work mechanisms for the inspection and management of potential project safety hazards, and inspect the construction site for such hazards on a daily basis. For the potential hazards identified, such parties shall specify the measures and time limits for rectification, as well as the persons responsible for such rectification.

For general safety hazards identified, safety management personnel from the construction contracting companies shall organize post-rectification audits by relevant staff members. Such audits shall also be reviewed and approved by project leaders. It is permitted to proceed to the next phase of work or resume construction only after the hazards are eliminated.

Significant safety hazards that have been identified shall be timely reported to the administrative departments of the construction contractor, the construction supervision company and the project developer, and rectification shall be carried out to eliminate safety hazards and ensure subsequent construction safety. After the completion of rectifications, the construction safety management department of the company shall organize the review of such rectifications by relevant technical, quality, safety and production management personnel. After passing the review, the results shall be approved and confirmed by the highest-ranking principal officer of the company and reported to the project's chief supervisory engineer and the project leader of the project developer for verification. It is permitted to proceed to the next process or resume construction only after such verification. If safety cannot be guaranteed before or during the elimination of significant safety hazards, there must be a complete or partial suspension of construction operations, or a cessation of the use of relevant equipment and facilities.



### 3. Oversight and Management

3.1. The Municipal Housing and Urban-Rural Development Bureau shall coordinate the oversight and management of building project risk management throughout the municipality. Authorities at all levels overseeing construction shall put greater emphasis on significant risks and major risks during oversight and inspection. For general risks and minor risks, differentiated dynamic oversight may be implemented by taking into account the realities of routine oversight.

3.2. Construction projects that belong to one of the following categories are classified as projects with significant risks. Local departments overseeing construction projects are required to immediately undertake management measures until the accident hazard level is reduced to general or below.

3.2.1. There has been one construction safety incident graded as major or above or two such incidents graded as general within one year;

3.2.2. There are significant accident risk hazards that may severely affect public safety, make adverse social impact and cannot be timely dealt with, as identified during supervisory and law enforcement inspections by oversight departments;

3.2.3. There are significant accident hazards reported by the public or revealed by the media, which have been verified by relevant on-site supervisory departments;

3.2.4. There are significant accident hazards that participating companies (or other responsible units) are unable to deal with in a timely manner;

3.2.5. There are significant accident hazards which have not been completely rectified within the time limit without valid reason;

3.2.6. There are circumstances listed as significant risks by the *Work Guidelines from the Guangdong Provincial Department of Housing and Urban-Rural Development Regarding On-site Screening and Management of Risks and Hazards in Building and Municipal Engineering Projects*;

3.2.7. There are significant accident hazards involved in the project that have been assigned or handed over by superior departments.

3.3. In the case of projects with significant risks listed for warning by the Guangdong Provincial Department of Housing and Urban-Rural Development, spot checks on the management of such projects with significant risks by various units shall be carried out at least once per month by district-level departments in charge of construction and the

Municipal Housing and Urban-Rural Development Bureau at least once every six months during the listing period. After the expiration of the listing period, if the risk grading of the project has been lowered and the project removed from the list by the Guangdong Provincial Department of Housing and Urban-Rural Development, the project is no longer listed for warning.

3.4. Departments at all levels in charge of overseeing construction shall strengthen the oversight and inspection of the management of significant risks with respect to housing construction projects within their jurisdiction, and eliminate, mitigate and control significant risks and effectively guard against significant and major safety incidents by comprehensively adopting such means as industrial planning, industrial policies, administrative approvals, and promotion of advanced science and technology.

3.5. Departments at all levels in charge of overseeing construction shall cooperate with emergency management departments in compiling information on the safety risks of the construction projects within their respective jurisdictions, upload such information into the safety risk management information system and update such information on a regular basis.

The risk information uploaded shall be complete and accurate, with basic information such as risk category, risk grading, risk characteristics and industry classification filled out in the prescribed format, and compile information on the physical location of such risks according to the prescribed coordinate system.

3.6. Participating companies that fail to implement the provisions contained in this notice shall be ordered by the local departments in charge of overseeing construction to remedy their work within a certain period in accordance with the law. Such enterprises will be urged to implement rectifications and listed as targets for intensive oversight and inspection. For enterprises that fail to implement management measures for significant risks, local departments in charge of construction work shall arrange talks with the highest-ranking principal officers of the enterprises responsible for risk management to remind, warn and provide guidance to strengthen safety management and the implementation of management measures. In the case of significant accident risk hazards caused by a failure to manage significant risks, the local departments in charge of overseeing construction shall supervise and order the enterprises to deal with such hazards within a certain period in accordance with the law, regulations, rules and the *Guangdong Provincial Interim Measures for Supervising the Management of Significant Production Safety Accident Hazards by Listing for Warning*. If safety accidents occur due to a failure to implement risk management measures, the persons in charge shall bear due legal liabilities.

3.7. In oversight and inspection, authorities at all levels in charge of overseeing construction shall penalize or discipline those companies in accordance with relevant regulations if such companies fail to perform their due obligations or have committed fraud.

Guangzhou Municipal Housing and Urban-Rural Development Bureau

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