Study on Emergency Plan for Production Safety Accidents in Water Conservancy Industry in Lishui City in the New Period

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Abstract. At present, the water conservancy industry has not formulated a comprehensive emergency plan for production safety accidents. In order to fully implement the national decision-making and deployment of work safety, and to promote the modernization of emergency management systems and capabilities in the water conservancy industry, it is necessary to carry out related research on emergency plans for production safety accidents in the water conservancy industry. This article takes Lishui City as an example, and expounds the main contents of production safety accidents emergency plan for the water conservancy industry in the new period from the aspects of application scope, working principle, emergency command agencies and duties, and emergency response. The aim is to standardize the emergency management and emergency response procedures for production safety accidents in the water conservancy industry in Lishui City, improve the ability to prevent and respond to production safety accidents, and provide references for other provinces and municipalities to study related plans.

1. Introduction

Safety responsibilities are heavier than Taishan, and we cannot relax at all \cite{1}. In 2019, the State Council issued the Regulations on Emergency Response to Production Safety Accidents. Article 5 of the Regulations clearly states that "People's governments at or above the county level and their departments responsible for production safety supervision and management shall address the characteristics and hazards of possible production safety accidents, carry out risk identification and assessment, formulate corresponding emergency rescue plans for production safety accidents, and publish them to the society according to law "\cite{2}. Therefore, in order to fully implement the national decision-making and deployment of work safety, and to modernize the emergency management system and capabilities of the water conservancy industry, it is necessary to carry out related research on emergency plans for production safety accidents in the water conservancy industry. This article takes Lishui City as an example, and expounds the main contents of production safety accidents emergency plan for the water conservancy industry in the new period from the aspects of application scope, working principle, emergency command agencies and duties, early warning and information reporting, and emergency response. The aim is to standardize the emergency management and emergency response procedures for production safety accidents in the water conservancy industry, improve the ability to prevent and respond to production safety accidents, and minimize human casualties.
and property losses, and at the same time provide a reference for other provinces and municipalities to study related plans.

2. Scope of application
This plan applies to the emergency treatment of Lishui Municipal Water Resources Bureau when a production safety accident or a risk-related accident occurs within the following scope:

(1) Lishui Municipal Water Resources Bureau and its direct units are responsible for and supervise the construction, operation and management of water conservancy projects and other production and operation activities.

(2) Two or more deaths (including 2 people) occur at one time during the construction, operation and management of water conservancy projects, and other production and operation activities in 9 counties (cities, districts) of Lishui City, or the accident exceeds the county (city, district) water administrative department's emergency handling capacity or the accident crosses the county (city, district) level administrative district.

The occurrence of natural disasters (such as floods, earthquakes, typhoons, etc.), public health, social security, etc. shall be implemented in accordance with the corresponding emergency plans of the national, Zhejiang and Lishui municipal governments.

3. Working principle of the plan

3.1. People-oriented and reduce casualties
Taking the actual protection of people's lives and property safety and the safety of water conservancy projects as the starting point and end point, to minimize personnel casualties, property damage and social hazards caused by production safety accidents, prevent the situation from expanding; protect the safety of emergency responders at the scene.

3.2. Territory-based, department coordination
According to different levels of production safety accidents, the people's governments at or above the county level uniformly lead and direct them. Under the unified leadership and organization of the Municipal Party Committee and Municipal Government, the Municipal Water Resources Bureau plays a guiding, coordinating, supervising, and coordinating role, and is responsible for handling relevant production safety accidents in accordance with its duties and authorities.

3.3. Responsibility for division of labor and coordinated response
Lishui City's water conservancy industry's emergency response to production safety accidents is directed and coordinated by the Municipal Water Conservancy Bureau's production safety emergency command agency. The units directly under the bureau, the county water administrative department, and local water conservancy project production and operation units should strengthen cooperation and coordinate water treatment production in accordance with their respective responsibilities Security incident.

3.4. Professional guidance and technical support
Strengthen the analysis and research of the causes of accidents, make full use of industry resources, coordinate water conservancy emergency experts and professional rescue teams, and provide professional technical support for scientific disposal; adopt advanced rescue equipment and technology to enhance emergency rescue capabilities; establish a linkage coordination mechanism to form a unified command Quick response mechanism that is responsive and efficient.

3.5. Prevention first, safety first
Implement the policy of "safety first, prevention first, comprehensive management"[3], establish and improve the dual preventive working mechanism of safety risk classification management and hidden
danger investigation and management, adhere to the combination of accident prevention and emergency response work; strengthen prevention, prediction and early warning work. We should do a good job in the monitoring of major hazard sources, risk management and control, education and training, team building, material reserves, pre-plan drills, and support capacity building under normal conditions.

4. Emergency command agency and duties
Lishui City's water conservancy industry production safety accident emergency organization and command system is composed of Lishui Water Conservancy Bureau's production safety emergency command agency, the county (city, district) water administrative department's production safety emergency command agency, on-site emergency rescue command agency, municipal water conservancy bureau directly affiliated units, and water conservancy project construction, operation and other units.

The emergency command mechanism of the Bureau is composed of four emergency working groups, namely, the Bureau's work safety leading group, the organization coordination group, the logistics support group, and the expert group. The Bureau's work safety leading group has a team leader and a standing deputy team leader, and the other groups have a team leader.

4.1. Responsibilities of the Leading Group for Work Safety
(1) Carry out the national, provincial and municipal laws, regulations and policies on emergency handling of production safety accidents;
(2) Comprehensively guide and coordinate accident emergency rescue work;
(3) Responsible for decision-making on major matters of emergency rescue, responsible for designating technical experts to carry out emergency disposal work at the scene;
(4) Responsible for issuing orders to start and cancel emergency response.

4.2. Duties of the organization coordination group
(1) Responsible for the overall coordination, organization management, and information release of production safety accident emergency rescue;
(2) Communicate and implement the decision-making and deployment of the leadership team in a timely manner;
(3) Collect and summarize the accident scene information and report it in time;
(4) Prepare a summary of accident emergency response work.

4.3. Duties of the logistics support team
(1) Responsible for materials, equipment and vehicle dispatch required for emergency rescue work;
(2) Responsible for emergency rescue funds, health care, emergency electricity, communications, water supply and other related safeguards;
(3) Provide other necessary on-site disposal conditions and support for on-site rescue.

4.4. Duties of the expert group
(1) Rush to the scene in a timely manner, under the unified command of the on-site emergency rescue command agency, make a judgment on the cause, development trend, hazard degree and possible impact of the on-site accident, and formulate rescue measures and disposal plans in time;
(2) According to the formulated disposal plan, clarify the division of responsibilities of each working group on site, and immediately organize and carry out accident emergency disposal work;
(3) According to the progress of accident disposal, make suggestions on accident investigation, impact treatment and other follow-up work, whether to terminate this plan and other work.
5. Early warning and information reporting

5.1. Early warning
When the relevant water conservancy-related production and operation units of the city find dangerous information that may cause production safety accidents, the person in charge of the unit should report to the local water administrative department and the local people's government in a timely manner, and issue warnings to surrounding units and personnel in a timely manner according to the authority. And effective measures should be taken in time to control the development of the situation and be prepared for self-rescue and mutual rescue.

5.2. Information Report
Safety incidents must be reported on a case-by-case basis. After receiving the accident report, the emergency command agency of the State Council shall report to the Municipal Emergency Management Department and the Provincial Water Conservancy Department in accordance with the Ministry of Water Resources' Rules for the Reporting and Disposal of Water Conservancy Safe Production Information and the Provincial and Municipal Government Accident Information Reporting Regulations.

Accident reporting method: a combination of express reports and text reports. Express reports will be issued in the first time, and text reports will be supplemented later, and will be renewed in time according to the development and handling of the situation.

6. Emergency response to production safety accidents

6.1. Production safety accidents directly under the water bureau
According to the level and development trend of water conservancy production safety accidents, the emergency response to production safety accidents of the units directly under the Water Conservancy Bureau is divided into four levels: level IV, level III, level II, and level I. Levels IV and III are initiated by the Executive Deputy Leader of the Bureau Leading Group, and levels II and I are initiated by the Leader of the Bureau Leading Group. The accident start conditions are as follows:

1) If an accident involving less than 3 people or an emergency evacuation of less than 50 people occurs, a Class IV emergency response shall be initiated.

2) In the event of a general accident, or an accident involving more than 3 people and less than 10 people, or an emergency evacuation of more than 50 people and less than 200 people, or a serious development that requires upgrading to level I, a level III emergency response shall be initiated.

3) If there is a major accident, or there are accidents involving more than 10 people and less than 50 people, or an emergency evacuation of more than 200 people and less than 500 people, or if the development of the situation requires a level one upgrade, a level II emergency response is initiated.

4) If a particularly serious or major accident occurs, or if more than 50 people are involved in an accident, or an accident that requires emergency evacuation of more than 500 people, or if the development of the situation requires a level one upgrade, a level I emergency response shall be initiated.

After summing up, the main processes of level I emergency response include initiation of response, dispatch of on-site working group, establishment of emergency command, consultation and deployment, on-site rescue, transfer of command, tracking of developments, timely release of information, and completion of response. Appropriate simplification of the other three emergency response procedures based on the level I emergency response procedures.

6.2. County level water conservancy project production safety accident
According to the level and development trend of water conservancy production safety accidents, the emergency response of water conservancy project production safety accidents supervised by the county (city, district) water administrative department is divided into three levels: level III, level II,
and level I. Level III is initiated by the Executive Deputy Leader of the Bureau Leading Group, and Levels II and I are initiated by the Leader of the Bureau Leading Group.

1) A general accident involving 2 deaths, or accidents involving 3 or more and 10 or less, or an emergency evacuation of 50 or more and 200 or less, or a local situation that the development of the situation requires the immediate intervention of the Municipal Water Resources Bureau, Initiate a Class III emergency response.

2) If there is a major accident, or there are accidents involving more than 10 people and less than 50 people, or an emergency evacuation of more than 200 people and less than 500 people, or if the development of the situation requires a level one upgrade, a level II emergency response shall be initiated.

3) If a particularly serious or major accident occurs, or if more than 50 people are involved in an accident, or an accident that requires emergency evacuation of more than 500 people, or if the development of the situation requires a level one upgrade, a level I emergency response shall be initiated.

According to laws and regulations related to production safety, production safety accidents are led and commanded by the people's governments at or above the county level according to different levels, and the territorial management system is implemented. Therefore, the level I emergency response process for production safety accidents in county-level water conservancy projects, compared with the production safety accidents directly under the water conservancy bureau, reduces the two steps of establishing an emergency headquarters and transferring command authority. Correspondingly simplified on the basis of level I.

After the emergency handling of production safety accidents is over, Lishui Municipal Water Resources Bureau shall do a good job in supervising, coordinating and checking the aftermath disposal of the accidents, and evaluate the actual emergency effectiveness of the emergency planning for production safety accidents, and comprehensively summarize the lessons learned. Promoting the modernization of emergency management systems and capabilities is both an urgent task and a long-term task[5].

7. Conclusions
Safe production is a major issue that affects the lives and property of the people, and emergency capabilities are an important part of the national governance system and the modernization of governance capabilities. The "Regulations on Emergency Response to Production Safety Accidents" streamlined the emergency management responsibilities and positioning of governments at all levels and provided a strong organizational guarantee for emergency management of production safety accidents. The emergency management of production safety accidents in the water conservancy industry has just started, and there is still a long way to go. It is of great significance to formulate targeted, practical and operable emergency plans for production safety accidents. Production safety needs to establish an emergency plan system of "horizontal to side, vertical to the bottom, and mutual connection".

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