

# Current Situation and Countermeasure of Heavy Pollution Weather Contingency Plan

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**Abstract:** In recent years, some hazy weather has often appeared for a relatively long period of time in China, which in turn has a serious impact on people's normal production and life as well as on their health. Thus, only by formulating a scientific and reasonable contingency plan for heavy pollutions can heavy polluted weather be better dealt with. After analyzing the contingency plans for heavily polluted weather in most areas of China, it has been found that the emergency plans in some areas have low quality of texts, inadequate authority of the organizations and other problems. Therefore, to improve the scientificity and effectiveness of contingency plans.

## 1. Introduction

In recent years, some misty haze weather in our country often occurs for a relatively long time and in a relatively wide range, leaving a serious impact on people's production and life as well as their health. Since China formulated the Action Plan for Prevention and Control of Atmospheric Pollution in 2003, many regions have also formulated contingency plans for heavy pollution in order to confront heavy-polluted weather more scientifically, so that pollution levels can be effectively reduced to ensure people's normal life and physical health.

## 2. Practice Status of Contingency Plans for Heavily-Polluted Weather

Since 2014, a total of about 200 warnings of heavily-polluted weather have been issued in our country and effective measures have been taken in many cities, resulting in obvious effect. Although it must be admitted that the air quality in many areas still does not meet the norms and there is no corresponding contingency plan prepared for it, the heavily-polluted weather contingency plans in some regions are already ahead of many other regions, which indeed meets the actual needs of the people. Yet in the process of concrete practice, the contingency plans in many regions have exposed short, flat and fast characteristics, simply considering the current measures to be taken and the anxiety of the people, without integrating different factors needed in an emergency situation for the actual development of the city, thus the scientificity and effectiveness of the contingency plan are not guaranteed.

## 3. The Problems and Deficiencies in the Process of Practice

### 3.1 Less Convergence of Contingency Plan and Unreasonable Warning Classification

The classification standards of reasonable early warnings have clearly stipulated in our country, especially the red warning, usually with expressions of the "blue, yellow, orange and red" colors. However, contingency plans prepared in many regions are usually divided into two or three levels, and the warning conditions in different regions have a certain gap. Therefore, it is very easy to have situations of "a delayed warning" or "no warning".

### **3.2 Poor Practicality of emergency response measures and incomplete organizations**

Although handling contingency plans have been documented in many regions in our country, there is no deep understanding of the objectives and tasks of air pollution prevention and control as well as the bearing capabilities of the economic society, so there is no scientific justification for the specific emission causes and emission characteristics of air pollutants, the specific measures for emergency response of contingency plans have not been assigned to specific departments, and the responsibilities of different departments and different implementing units have not been clearly defined, resulting in the lack of scientificity and low effectiveness of contingency plans.

### **3.3 Incomplete early warning consultation system**

Relevant provisions of our country have clearly pointed out that "the environmental protection departments and the meteorological departments should continuously strengthen cooperation and establish a system of monitoring and warning of heavily-polluted weather". But judging from the current situation, the environmental protection departments and the meteorological departments in most parts of China have not yet establish a sound consultation mechanism for predicting and forecasting heavily-polluted weather and have not realized the strong monitoring and early warning on air pollutants and careful study on relevant dynamic tendencies according to the provisions of the environmental protection department. Therefore, the meteorological department should mainly conduct an effective forecast of the meteorological conditions in the case of air pollution and carry out the monitoring and early warning on the extreme hazy conditions so as to establish a sound early warning consultation system.

### **3.4 Incomplete evaluation system after the plan**

Prior to the formal implementation of the contingency plan, the handling unit should conduct an effective evaluation of the scientific performance and effectiveness of heavily-polluted weather in the response process. When the emergency plan is formally promulgated, the relevant units should conduct an evaluation and draw a conclusion based on the specific effects of emergency response in different situations. Only in this way can the response capacity of contingency plans be really enhanced. However, we must admit that many existing systems do not have a strong backing and the reports submitted by different departments after each actual implementation of the plan are presented in the form of work summary, while the evaluation of the implementation results of emergency response by the evaluation system has not been completely fixed, so there is a lack of an independent third-party evaluation system.

## **4. Related Comments and Suggestions on the Editing of Warnings on Heavily-polluted Weather**

### **4.1 All forces are carried out precisely so as to well prepare for editing emergency plans in the early stage**

In order to do a good job in the prevention of heavy polluted weather, the contingency plan is the main assistant for governments at all levels. Therefore, relevant state regulations should be strictly followed in the designated process, organization be carried out among different governments, all forces be integrated, all relations be clarified, all channels be kept open, and specialized agencies and personnel be prepared to edit and organize contingency plans. In addition, in the process of editing, departments and units at all levels and the people should be fully mobilized to participate in editing and arranging contingency plans. Local actual conditions should be considered in the process, including natural and social conditions. Fully understand the specific conditions of urban air pollution with its inventory. Collect and summarize the meteorological data and air pollution data in recent years, carefully analyze the time period, frequency, duration and sources of heavy pollution that has occurred, so as to fully understand the dynamic data of industrial and mobile sources for a

better preparation before editing. Emergency exercise are necessary after finishing the editing of a contingency plan and relevant government departments and relevant technical experts are required to conduct a serious evaluation on the scientificity and effectiveness of the contingency plan. After the contingency plan is issued, there should be necessary summary and assessment of its scientificity and effectiveness after each real emergency response.

#### **4.2 Responsibilities are sorted out and the cohesion of contingency plan system is strengthened**

Governments at all levels should decompose the contingency plan for heavily-polluted weather, so that specific work can be assigned to each department and specific implementation unit. The specific responsibilities of each department and implementation unit in heavily-polluted weather in the response process should be very clear, especially the emergency response procedures and measures. The environmental protection department and other related units should strictly follow the specific responsibilities in the contingency plan, and will reduce the overall emissions of pollutants, mainly reduce the concentration of pollutants emitted and effectively improve the air quality, carefully understand the industrial, motor vehicles and dust pollution control measures, identify measures to decrease the concentration of pollutants, scientifically develop the feasibility of the program with contingency plans as the main code of practice. Due to the variety of problems that may be encountered in the implementation process, emergency response measures need to be refined to achieve specific actions and to fully implement all responsibilities to specific positions and specific personnel.

#### **4.3 In-depth analysis is made for the grading and information release of early warnings**

In different regions, the major causes of heavy pollution in these years should be carefully analyzed, relevant state regulations should be referred to and the classification of warnings should be rationally determined. The commonly adopted expressing way is "blue (Grade 4), yellow (third), orange (second) and red (first). Because different warning forms are likely to occur in many ways, the relevant units should establish an early warning consultation mechanism in advance, fully integrate the local prediction and warning capabilities, make clear the releasing and lifting process of the warning information, make sure of the task, the time limit and the specific working methods in different aspects, "response to early warning." as soon as possible, avoid the situation without early remedial measures and avoid "delayed warning" or "no warning" due to human factors. Determine the level of early warning strictly based on the specific local air quality monitoring data and specific weather changes. The target of early warning release is mainly the government agencies, subordinate governments and public institutions that need to take measures. In the specific process of formulation, a perfect consultative system should be established gradually, the technical support of experts in the monitoring and warning of heavy pollutions should be brought into full play, and the study on specific countermeasures to heavy pollution should be continuously carried out, improving suggestions and countermeasures should be put forward on all aspects of emergency management of heavily-polluted weather so that strong technical support can be better provided for response to the heavily-polluted weather.

#### **4.4 Scientific evidence continuously improves the emergency countermeasures for contingency plans**

At present, China's emergency response plan is divided into four specific corresponding levels, namely, Level One, Two, Three and Four. More specific measures can be formulated for reducing pollution according to actual situations in different region. First of all, control the industrial pollution sources, include some enterprises with relatively low level of technology and environmental pollution control and management in the emergency shutdown or limited production blacklist and continuously encourage enterprises to adopt cleaner and more environmentally friendly production methods to ensure better operation of the equipment for dust removal and desulphurization and denitrification. Secondly, regarding the sources of coal pollution, reduce the use of unqualified coal, reserve enough high quality coal, ban, transform or replace small boilers with poor quality. Next, as

for the motor vehicle sources, strengthen the detection of automobile exhaust, eliminate old vehicles as soon as possible, limit the use of motor vehicles or mechanical equipment with serious air pollution emissions in face of emergencies. Finally, jointly renovate the dust pollution in urban and rural areas, include the construction sites with poor pollution control on the emergency shutdown list, and carry out emergency control of open burning, suspend classes in some schools such as primary and secondary ones and adopt a flexible work system for some business units or institutions if the air pollution is very serious. When pollution prevention is important, provisions should be stricter and some emergency measures can be taken when necessary. Where conditions allow, necessary meteorological interventions should be made to better reduce the risk of damage caused by the weather.

#### **4.5 Strict law enforcement is applied to supervise the implementation of countermeasures for emergency response plans**

Only by ensuring strict enforcement of law in the implementation process can better promote the countermeasures for emergency response plans. The relevant provisions of our country have clearly established that inactive work and failure to perform their duties to respond to emergency heavily-polluted weather should be held criminally liable in accordance with the law. In heavily-polluted weather, the government should better enforce the law and organize relevant departments to examine the concrete implementation of emergency response of some units. Also, according to the actual conditions, the laws of environmental protection and the latest judicial interpretation of the two Supremes, the government should investigate and affix the responsibility for some units that have not performed their duties seriously so as to ensure that all the measures in the contingency plan are actually implemented.

### **5. Conclusions**

With the continuous development of our economy and society, some heavily-polluted weather are inevitable. When these situations actually occur, the government should first ensure people's normal production and life and then open contingency plans in the shortest time to minimize the losses. In this paper, we mainly analyze the current situation of emergency plans for heavily-polluted weather, find out some existing shortcomings and put forward corresponding improvements, hoping to have a certain reference value.

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