

The Dilemma of Electromagnetic Radiation Pollution Management in China and Countermeasures

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Abstract: With the development of industrialization, electromagnetic technology has attracted much attention. In recent years, civil disputes arising from electromagnetic radiation in China are frequent, but because there are large loopholes and legislative gaps in the legal governance of electromagnetic radiation pollution in China at present, there are problems such as difficult proof of evidence and unclear determination of responsibility, which is not conducive to the maximum protection of the rights and interests of the parties. Only the establishment of a sound legal prevention system, laws and regulations as the framework, supplemented by supporting administrative system, the formation of a perfect electromagnetic radiation pollution legal governance system, in order to make China's electromagnetic radiation pollution prevention and control problems can be solved.

Keywords: Industrialization, Electromagnetic radiation pollution, Legal governance, Systematization.

1. Introduction

With the continuous progress of industrialization, the use of electromagnetic is becoming more and more widespread. Scientific research has found that electromagnetic radiation will cause certain adverse effects on the environment and human body after reaching a certain value, resulting in electromagnetic radiation pollution. On the legislative level, the Civil Code contains a series of "green clauses" and establishes a "green legal system", which echoes the Environmental Law. China's legislation on environmental protection is focused on the top-level design at the macro level, but does not fully cover all aspects of environmental pollution, and has not yet formed a systematic regulation, especially in the area of electromagnetic radiation pollution. The ambiguity of the legal regulation of electromagnetic radiation pollution and the blurring of the division of responsibility are the common problems of such civil disputes, which lead to the embarrassing situation of "no basis, no evidence" when dealing with such disputes. Based on this, China urgently needs to improve the governance system by clarifying the relationship between authority and responsibility, improving the administrative system, building a legislative system, etc., to crack the current governance dilemma.

2. China's Electromagnetic Radiation Pollution Legal Governance Status and Dilemma

2.1. There Are Technical Bottlenecks in The Collection of Evidence of Electromagnetic Radiation Contamination

In the dispute of electromagnetic radiation pollution, due to the lack of certain scientific identification technology and lead to the difficulties of forensics, identification and other difficulties. For how to define what frequency of electromagnetic waves can cause what degree of harm to the human body, as well as in the complex electromagnetic environment, what kind of electromagnetic waves emitted by the source is the main source of harm to people and other

issues, the current stage of scientific research can not be specifically clarified.

Studies have shown that exposure to high levels of electromagnetic fields can be harmful to human health, while in the case of low-level exposure to electromagnetic fields is not yet confirmed and the causal relationship between human health. [1] First, China's electromagnetic environment monitoring agencies can only monitor the intensity of electromagnetic radiation, and can not analyze the source of radiation and define the degree of harm to human beings on the resulting data. Secondly, the definition of electromagnetic wave frequency size in China only stays in the relevant product quality testing standards, and such standards act as the standard of proof of electromagnetic radiation pollution disputes. However, it must be recognized that such standards for the subject is only the electromagnetic products themselves, can not be used as a direct violation of human standards. In other words, for the existence of electromagnetic waves on the human body to prove the causal evidence standard is a lack of accuracy and objectivity.

On the other hand, the measurement of electromagnetic radiation is divided into the measurement of electric field strength and magnetic field strength according to the measurement parameters, and different types of instruments should be selected for different measurements in order to obtain the best measurement results. [2] Such electromagnetic monitoring agencies usually use detection methods that are long, complex processes, and subject to environmental influences, and the resulting measurement conclusions lack accuracy.

2.2. The Responsibility for Electromagnetic Radiation Pollution and Punishment Is Not Clear

First of all, in the electromagnetic radiation pollution problem, the subject of responsibility for the division of the problem is often more controversial. For engineering electromagnetic radiation pollution, the responsibility is usually attributed to the construction unit party. Whether the supervision of the project party has the obligation to monitor, whether the higher regulatory departments and other relevant administrative departments to assume joint and several

liability, whether the project construction party needs to take the initiative to monitor the degree of electromagnetic radiation and other issues are lack of clear provisions of the current law. Therefore, in such disputes, it is easy for the aggrieved party to file a lawsuit is not clear to whom to file a lawsuit, easy to lead to abuse of the right of action, blind litigation or omission of the defendant, to a certain extent, also increased the judicial pressure.

Secondly, there is also a certain ambiguity among relevant experts and scholars regarding the damages arising from electromagnetic radiation pollution. For example, the damages for electromagnetic radiation pollution of high-voltage transmission and transformer belong to the damages for breach of contract or tort damages, depending on the different qualitative emphasis on the injured party. If characterized as damages for breach of contract, the emphasis is on the failure of the property owner of the electric power facilities to fulfill the contractual obligation not to cause damage to the user; if characterized as tort damages, the emphasis is on the protection of the personal rights of the victim. [3]

Finally, the provisions on liability at this stage are not clear. There are penalty provisions in Articles 59 to 62 of the Environmental Protection Law, but the damage provisions in this regulation and other relevant laws and regulations are less specific in their formulation, making it difficult to determine uniform penalty standards nationwide, leading to greater discretion in many provinces and municipalities that have not made local legislation on the penalties therein, making it difficult to reflect the fairness of the penalties. Although some local regulations on such pollution prevention and control penalties made relevant provisions, but the effect is not significant. For example, in "Shandong Province radiation pollution prevention regulations" clearly specify the amount of punishment and responsible personnel, but still the division of responsibility still lacks comprehensiveness, and the penalty is relatively light, there is a suspicion of formal punishment.

2.3. Administrative Supervision System Is Not Complete Ready

The lack of clarity and imperfection in the regulation of electromagnetic radiation pollution is undoubtedly one of the root causes of environmental pollution problems. China's Ministry of Ecology and Environment, the Ministry of Industry and Information Technology for electromagnetic radiation there are provisions of unified control limits, but also for different industries to develop different standards and norms for administrative supervision to provide a more complete standard guidelines. Nevertheless, for engineering electromagnetic radiation pollution still lacks substantial approval and supervision, resulting in the relevant national standards lose regulatory approval role. For the product class electromagnetic radiation pollution, all kinds of cheap and poor quality household appliances or electronic products easily into the hands of consumers, reflecting the relevant market supervision departments on market access regulations and identification procedures and other supervision and management work loopholes.

The current stage of administrative supervision mechanism has unclear responsibilities and confusing powers. In terms of the construction process of engineering electromagnetic projects, the project supervision authority belongs to the environmental management department, while the project

construction approval authority belongs to the housing and construction department or urban and rural planning department and other departments, the project caused by electromagnetic radiation pollution penalty authority belongs to other administrative departments, it is difficult to form an integrated regulatory work system. The confusion of responsibilities and powers will inevitably lead to the creation of formalization, which in turn leads to the relevant personnel "inaction, disorderly action", for the responsibility to determine "kick the ball" and other phenomena.

2.4. Incomplete Legal System

At this stage, except for the Civil Code and the Environmental Protection Law, which have legislation on radiation pollution at the macro level, only the Measures for the Administration of Electromagnetic Radiation Environmental Protection promulgated by the State Environmental Protection Administration on March 25, 1997 has made special provisions for the prevention of electromagnetic radiation pollution, but the provisions were repealed by the Ministry of Ecology and Environment on July 11, 2019. [4] Therefore, there are no higher-level regulations in the existing laws to make special provisions for electromagnetic radiation pollution, and there is a large legislative gap.

In terms of China's current electromagnetic radiation pollution management, only incomplete local regulations as the legal basis for governance. And at this stage, China has only Sichuan, Jilin, Shandong, Henan, Jiangsu, Heilongjiang, Hebei, Gansu eight provinces for this purpose to develop a special radiation pollution prevention regulations. [5] Although these local legislation to the higher law in principle to further refine and clarify, [6] but all kinds of local regulations for electromagnetic radiation pollution prevention and control of the legislative standards are still not uniform, resulting in uneven legislative effect, the lack of higher-level and more accurate special laws and regulations as a guiding standard for local legislation. Blank legal regulation, especially in areas without local special legislation can easily lead to the embarrassing situation of "no way to follow", resulting in the lack of specific statutory provisions as the basis for judicial decisions, which is not conducive to the establishment of the image of justice among the people.

3. The Legal Governance of Electromagnetic Radiation Pollution in China Suggestions for Countermeasures

The development of industrialization has given rise to new legal relationships, among which the rights and obligations between industrial subjects and the state, and between them and the public are the objects to be focused on in the industrial legal governance system. [7] The same is true for the problem of electromagnetic radiation pollution caused by industrialization. For the adjustment of the legal relationship involved in electromagnetic radiation pollution, it is necessary to analyze from multiple dimensions and construct a legal governance system of electromagnetic radiation pollution in China.

3.1. The Legal Liability for Electromagnetic Radiation Pollution to Identify and Improve

3.1.1. Determination of The Nature of Responsibility

As mentioned earlier, for such civil dispute cases, the more controversial is the issue of tort liability or breach of contract liability, and the injured party requests for tort damages or breach of contract damages. Combined with the views of relevant scholars, for the engineering class electromagnetic radiation pollution, is a more standard environmental tort issue. [8] The focus of the breach of contract damages and tort damages lies in the protection for the project property rights party of the government public power or citizens' personal rights, according to the principle of human rights protection should obviously be characterized as tort liability. For the product class electromagnetic radiation pollution, more disputes around the issue of the sale contract, compared to the seller almost does not exist on the tort exists subjective intention, but the seller is obliged not to infringe the rights of the buyer. Based on this can be concluded, tort liability compensation and breach of contract liability compensation in jurisprudence there is a big difference, especially for the product class electromagnetic radiation pollution tort liability and breach of contract liability of the two competing needs of the law to make clear provisions right.

3.1.2. Responsible Subject Identification

The identification of the subject of responsibility is the basis for making punishment for electromagnetic radiation pollution. In terms of the construction of engineering electromagnetic projects, the first thing that needs to be clarified is the boundary between unit tort liability and individual liability. Secondly, in the construction of electromagnetic engineering projects, whether the project workers are responsible for the existence of intentional or gross negligence, whether the legal representative or shareholders of the enterprise contracted to undertake the project should be jointly and severally liable, etc., all need to be regulated and identified through specific laws.

The identification of the responsible subject is not limited to the civil liability subject, but should also pay attention to the administrative liability subject. Engineering electromagnetic projects or products of electromagnetic products into the market, will certainly go through a series of approval processes and regulatory procedures. For such procedures on the intentional or negligent behavior resulting in electromagnetic radiation pollution, but also the need for the relevant authorities to supervise the administrative behavior of accountability, so that the administrative organs to exercise administrative power more reasonable and legitimate. Therefore, the bearer of responsibility should cover the review and supervision of the relevant administrative organs, the enterprise legal person primarily responsible, the enterprise in the presence of intentional or grossly negligent employees at three levels, and increase the punishment, in order to improve the public trust in the government and the entire electromagnetic industry.

3.2. Improve the Administrative Management of Electromagnetic Radiation Pollution Legislation

3.2.1. Establish A Sound Administrative Review and Supervision System

Before the sound systematization of electromagnetic

radiation pollution control must improve the legal authorization of the administrative departments to act, under the existing provisions of the review of some of the rights of regulatory departments into obligations, and thus strengthen the administrative supervision of electromagnetic radiation pollution prevention and control. For example, Article 24 of the Environmental Protection Law stipulates that the relevant departments of the people's governments at or above the county level have the right to conduct on-site inspections of enterprises, institutions and other production operators that emit pollutants. The word "entitled" in this provision clearly lacks enforcement power. If the relevant departments should conduct regular on-site inspections of the enterprises or other production operators, it would bring some pressure on the regulatory authorities to review the governance and also caution those responsible for the electromagnetic-related works or products.

Electromagnetic engineering projects or electromagnetic products production permit approval, supervision and other powers are more chaotic, the division of functions of various departments is not clear, but if the power is concentrated in individual departments, to a certain extent to improve administrative efficiency, but also very easy to lead to the abuse of power and the prevalence of corruption. Electromagnetic radiation pollution prevention and control is a difficult and complex regulatory task, not only to clearly regulate the responsibilities and powers of various departments, but also in the unified guidance of the supervisory body under the formation of various departments to form an efficient operation of the review and supervision of the work of the closed loop. Based on the current stage of electromagnetic radiation review and supervision of the dilemma, shall form a benign regulatory system of collaborative governance. In the mechanism, environmental protection departments, business administration departments, urban and rural planning departments and other subjects around the system to review and regulate the work, and delineate specific areas of work, work authority and work tasks, for the common goal of electromagnetic radiation pollution management to promote each other, to improve the efficiency of review and regulation.

3.2.2. Improve the Information Disclosure System

In recent years, many victims of electromagnetic radiation pollution cases because they do not understand the relevant electromagnetic radiation indicators, the lack of specific knowledge of the facts and relevant laws and regulations, only based on the skeptical attitude to bring civil litigation. Information disclosure first of all to the relevant laws, regulations and other normative documents and the competent functional departments to make public popularity, so that the masses themselves "have the law to follow, accountability has the door".

For engineering electromagnetic projects, the relevant government administrative departments should bring the project may affect the residents of the surrounding areas for information disclosure, which should also include the electromagnetic project project electromagnetic radiation monitoring data after the completion of the project. In particular, the surrounding commercial housing developments to be built waiting for the construction of residential areas, the relevant departments should let the residents of the surrounding areas and residents who will move here know the electromagnetic radiation situation after the completion of the project, and timely collection of

feedback made by the public for the public information, listen to the voices of the public, if necessary, must also hold hearings, as far as possible to avoid future disputes. For products such as electromagnetic products, each product should be related to electromagnetic radiation data and the approval and supervision process to consumers to make information public, not only to ensure that the source of the product can be traced, but also in front of consumers to make a more powerful safety assurance.

3.3. The Construction of Electromagnetic Radiation Pollution Management Legislative System

3.3.1. The Development of Special Electromagnetic Radiation Pollution Prevention Regulations

As mentioned earlier, there is a gap in the special legislation in the field of environmental protection in China, only the Civil Code, the Environmental Protection Law and other "green regulations" "green principles" to make the norms far from meeting the judicial practice. At this stage, China only has special legislation on water pollution, air pollution, soil pollution, solid waste pollution, noise pollution and other environmental pollution prevention and control, but the special legislation on electromagnetic radiation pollution prevention and control, i.e. "Electromagnetic Radiation Pollution Prevention Law" has not been started. For the current legislative situation, China has some experience in such special legislation for environmental protection, so for electromagnetic radiation pollution prevention and control legislation can follow the current stage of environmental pollution prevention and control special legislation, to develop a set of operable and applicable special regulations, to strengthen the state coercive power on electromagnetic radiation pollution prevention and control intervention, in front of the people to improve the credibility of the government. [9] "Electromagnetic Radiation Pollution Prevention and Control Law" should cover the basic principles of prevention and control, management system, engineering and construction planning, and its risk prevention and different from other environmental pollution prevention and control special legislation. [10] In foreign legislative practice, Sweden and Italy have more detailed legislation on electromagnetic radiation, of which Sweden has its radiation protection law code, so our country in the legislative process can also be fully combined with the actual situation in China for appropriate legal transplantation.

3.3.2. Strengthen Local Legislation on Electromagnetic Radiation Pollution

In the national electromagnetic radiation pollution prevention and control special regulations established, the local should further develop or improve the local regulations in accordance with the special regulations to meet the actual local situation, so that the top-down implementation of electromagnetic radiation pollution prevention and control in place to strengthen the joint prevention and control efforts of the central and local. At this stage of local legislation only Jilin, Shandong and other eight provinces have, and has been more systematic and perfect, but not detailed and comprehensive enough, but still need to be revised according to the development of social changes. For the provinces and cities that have not carried out local legislation should make reference to the provinces and cities that have carried out local legislation as soon as possible to make the corresponding

local regulations, so that electromagnetic radiation pollution prevention and control in place. Local regulations not only need to strengthen and refine the responsibility system, but also according to the actual situation of the local penalties and fines and other punitive provisions to make corresponding adjustments, to a certain extent, to establish or improve the radiation pollution prevention work target responsibility system and coordination mechanism.

4. Conclusion

In the context of industrialization, electromagnetic radiation pollution has gradually become a major pain point in China's environmental management, but at present, China's scientific research on electromagnetic radiation pollution is still relatively lacking in depth, and has not yet broken through the technical bottleneck needed to break through the legal governance. In addition to strengthening the scientific research in this field, the completion of the legal governance system is a key part of the prevention and control of electromagnetic radiation pollution. At this stage, China needs to build a sound administrative review and supervision system and information disclosure system to improve administrative legislation, from the development of national special regulations and the popularization of local regulations to structure the governance of the legislative system, and then the construction of China's electromagnetic radiation pollution legal governance system, in order to make China's electromagnetic radiation pollution prevention and control problems gradually solved.

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