

RESEARCH ON PATENT LICENSING MECHANISM FOR GREEN TECHNOLOGY

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ABSTRACT

Green technology plays an important role in addressing climate change. This paper mainly compares and analyzes the advantages and disadvantages of three licensing models for international green patent technology, namely mandatory licensing, voluntary licensing, and open licensing. Based on this, it proposes path selection strategies for future green technology patent licensing in China to promote the transfer of green technology and the development of green economy.

Keywords: Green Technology; Patent Licensing; Comparative Analysis

INTRODUCTION

The report of the 20th National Congress of the Communist Party of China proposed to implement the “carbon neutrality” and “emission peak” action in a planned and step-by-step manner, deepen the energy revolution, and actively participate in global governance to address climate change. Currently, the global climate change situation is becoming increasingly severe, and the international community, especially climate fragile countries, are calling for accelerating the transition to clean energy and effectively improving the global capacity to respond to climate change. In this context, green technologies play a crucial role in addressing climate change. However, despite the emphasis on international green technology transfer in international law, research have shown that international green technology transfer is insufficient, especially in the case of scarce transfers to developing countries, and the promotion and use of green technology in developing countries face many difficulties. This paper mainly compares and analyzes the advantages and disadvantages of three licensing models for international green patent technology, namely mandatory licensing, voluntary licensing, and open licensing. Based on this, it proposes path selection strategies for future green technology patent licensing in China to promote the transfer of green technology and the development of green economy.

PATENT COMPULSORY LICENSING MODEL

Compulsory patent licensing refers to a legal system in which a third party can use the patented technology of the patentee without the patentee's permission, in the production, manufacturing, sales, and import of products, under special circumstances specified by the laws.ⁱ

Regarding the international rules on compulsory licensing, Article 5A (2) of the Paris Convention stipulates that each country has the right to legislate for compulsory licensing against patent rights. Each country is free to define expressions such as "abuse that may arise from the exercise of exclusive rights granted by patents" or "non implementation".ⁱⁱ In this regard, G H. C. Bodenhausen's Guidelines for the Application of the Paris Convention for the Protection of Industrial Property states that member states may prescribe similar or different

measures according to applicable law, such as granting compulsory licenses in other cases where they deem it necessary to take such measures in the public interest. The guide further explains that this situation may occur when patents involve significant national interests in military security or public health, or when they involve "dependent patents." In these cases, the rules of Article 5A (3) and (4) do not apply.ⁱⁱⁱ In addition, Article 31 of the TRIPS Agreement stipulates that each member may, under prescribed conditions, allow any use other than those permitted by Article 30 to be made without authorization from the patentee. This type of other use usually refers to compulsory licensing and government use without authorization from the patentee. Meanwhile, Article 31 (b) allows for special compulsory licensing "in situations of national emergency or other extreme emergencies, or in situations of public non-commercial use", such as allowing patented pharmaceutical products produced under such licensing to be exported to countries where the pharmaceutical sector lacks production capacity.^{iv}

In many countries, the public policy objective of mandatory licensing regulations is to safeguard public interests, including health, national defense, and economic development. Based on the successful experience and beneficial effects of compulsory licensing of drug patents, the implementation of the green technology patent compulsory licensing system in China requires strong theoretical and practical requirements, which have legality and urgency. Firstly, it is possible to limit the need for excessive protection of patented technology, stimulate innovation, and balance the relationship between patent holders and the public interest; Secondly, this is an effective means to break through the barriers to green technology protection in developed countries; Finally, it is possible to maintain a fair competitive environment for the green technology industry.

However, irrespective that the provisions of the Paris Convention for the Protection of Industrial Property and the TRIPS Agreement provide international legal basis for countries to establish compulsory patent licensing systems, the compulsory licensing system for green technology patents has always been opposed by developed countries and relevant organizations. Apart from mandatory licensing of pharmaceutical patents in South Africa and India, there are not many practices in developing countries regarding mandatory licensing of patents. In addition, there are also some obstacles and difficulties. Firstly, improper use may lead to compulsory patent licensing becoming a national requisition; Secondly, the abuse of

non-public power –the disguised infringement of patent rights through administrative means; Once again, the relevant concepts of compulsory licensing lack operability, such as unclear identification of "public interest" and uncertain concept of "implementation".^v Therefore, according to the existing patent law, there are still certain difficulties in implementing compulsory licensing in the field of green technology, and there is an urgent need for adjustment and improvement. Not only should environmental protection be clearly included in the scope of public interest, but government usage terms should also be added and applicant qualifications relaxed. At the same time, relevant licensing standards and licensing fee pricing mechanisms should be explored to prevent monopolies.

PATENT VOLUNTARY LICENSING MODEL

Patent voluntary licensing refers to the situation where the patentee or authorized person voluntarily authorizes the other party to implement their patented technology within a predetermined scope. Voluntary licensing allows patent holders to better control potential threats through agreements, benefiting partners through potential benefits in research, goodwill, pricing, and marketing; And partially protect the economic interests of patent holders, while creating additional sources of income. In short, voluntary licensing can reflect the needs of all parties involved and provide the maximum return for both parties at the minimum cost.^{vi}

In the field of complex technology, many companies develop powerful patent portfolios to achieve patent defense, in order to cross license with competitors and maintain their operational freedom. Green technology cross licensing allows both parties to allow each other to use their own patented technology, effectively removing obstacles to patented technology, ultimately achieving commercialization of patented technology, reducing infringement risks, achieving mutual development, and promoting the development of the entire industry. In addition, patent pools are also a common way of voluntary licensing. Compared to cross licensing, a general patent pool typically has multiple licensing entities who negotiate and agree to develop a template- based license term, forming a consistent external "packaged" license. Typically, specific cooperating institutions or organizations are required to manage the patent pool, and

after reaching a consensus decision, licenses are provided externally in the name of the organization. Moreover, the patent pool will be open to parties who do not have their own technology or have weak patent portfolios, as the goal is to receive currency rather than obtaining patent implementation rights as a reward. However, enterprises or organizations participating in patent cross licensing or patent pools may also hinder the development of other market entities and reduce the enthusiasm for research and development investment by reaching monopoly agreements.^{vii}

PATENT OPEN LICENSE MODEL

Open license is essentially a voluntary license with the following common characteristics: firstly, the patentee makes a statement to an unspecified entity that they are willing to license the patent to others for use. This statement is considered an offer and must meet the legal conditions of the offer. Once a third party makes a commitment, the license contract is established. Secondly, patent licensors in open licenses can only grant ordinary licenses and cannot grant exclusive or exclusive licenses. Thirdly, to encourage open licensing, patent holders are entitled to a reduction in annual patent fees. Finally, the patentee has the right to withdraw the open license declaration, but the withdrawal does not have retrospective effect and does not affect the validity of the prior open license contract.^{viii}

For example, the Patent Commons program supported by the Linux Foundation is a good strategy for addressing third-party patent threats. The patentee may promise to third parties or beneficiaries to allow them to use their patent in accordance with prescribed terms and conditions, and may determine the allowable scope and purpose of use based on the terms. The patentee may further establish a so-called "defensive termination clause" that allows the patentee to terminate the commitment in the event that a third party or beneficiary fails to comply with the permitted scope of use or related statements.^{ix}

The implementation of patent open licensing for green technologies has certain practical significance, which is necessary for the green industry to participate in open market competition, collaborative innovation of green technologies, and to break through the patent jungle in the field of green technologies. The attempts to share patents in the field of green

technology, such as Eco Patent, Green Xchange, COSIA, WIPO GREEN, and low-carbon patent commitments, have provided valuable practical experience for patent open licensing. The fourth amendment to China's Patent Law (2020 Revised Edition) has added a patent open licensing system, providing an implementation basis. It is recommended that in addition to meeting the general requirements of the license agreement, the green technology patent open license contract also needs to be certified or published by authoritative institutions or platforms, and formal written legal documents should be provided to reduce potential disputes or unenforceability.

COMPREHENSIVE COMPARISON AND ANALYSIS

Compulsory licensing is a form of licensing that the state enforces to ensure implementation. Although most countries currently recognize the patent compulsory licensing system, the use of compulsory licensing is rare in reality, and there are unfavorable factors, such as reducing incentives for innovation or hindering the long-term diffusion and development of domestic patented technologies. Voluntary licensing can reflect the needs of the parties and enable the agreement to establish a win-win relationship between the parties.

Nevertheless, there are also some problems with voluntary licensing. In addition to legal issues such as lack of transparency, inconsistency in multiple external licenses, wide scope of patent rights, and geographical limitations, there may also be a lack of effective communication channels and opportunities, high transaction costs, and the emergence of monopolies. The open patent licensing system also has significant advantages compared to voluntary licensing. The open licensing system provides a platform and channel for patent holders and the public to convert and promote patent applications, enabling them to license their patented technology while minimizing maintenance fees, negotiation fees, and fees arising from licensing disputes. The licensee can clearly know which patents can be licensed (in some countries, the licensing declaration also provides the licensing price), and if there are differences in licensing conditions between the two parties, they can request the relevant authorities to make a decision. Consumers can also benefit from a decrease in licensing fees, which theoretically means a decrease in the price of the final product. Especially in the licensing of Standard Essential

Patents (SEP), utilizing open licenses can greatly reduce the time span and cost of disputes arising from it.

Based on the above comparative analysis, it is suggested that in the future, China can incentivize the implementation and enforcement of the green technology open license system through private procedures. The plan is to establish an internet platform for green technology patent open license, share a database with license statements, and establish a selection mechanism and integrity mechanism to promote practical implementation. Private systems are not omnipotent and have their drawbacks. Therefore, it is necessary to use public systems to create a green patent system, including inclusive patent systems and fair use patent systems. Finally, policies such as green technology research and development sharing, green technology patent commitment communities, and international monitoring and evaluation of green technology patents will be implemented to promote green development.

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ENDNOTES

ⁱTaolve Zhang, 'Compulsory licensing of patented drugs under the threat of COVID-19: path comparison and enlightenment between Germany and China' 1 (2020) German Research.

ⁱⁱ Article 5A (2) of the Paris Convention.

ⁱⁱⁱ Bodenhausen's Guidelines for the Application of the Paris Convention for the Protection of Industrial Property, WIPO Publication No. 611.

^{iv} Article 31 of the TRIPS Agreement.

^v Hongtao Nie & Xinyue Han, 'Reflection and Reconstruction of China's Compulsory Drug Licensing System under the International Public Health Crisis' 60 (2021) Rule of Law Forum.

^{vi} Liguozhang, 'The Licensing Mechanism and Improvement of Key Patented Technologies in Public Health Emergencies' 06 (2021) Tsingush Law Review.

^{vii} Ibid.

^{viii} Hongxing Bu, 'Research on the Construction of Open Patent Licensing in the Internet Era' 3(2020) Technology and the Law.

^{ix} Peiyu He, 'Research on Optimization of Open License System Based on Game Analysis' 12(2021) Science and Technology Management Research.

