



The standard essential patent ownership in the global energy interconnection collaborative innovation in China[☆]



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ABSTRACT

The construction of Global Energy Interconnection is a systematic strategic project, for which the formation of collaborative innovation alliances would provide a strong intellectual support. As there is no existing law specifically applicable to standard essential patents in China, one has to turn to rules on ordinary patents. Nevertheless, the differences between ordinary patents and standard essential patents have given rise to a series of problems with standard essential patent ownership, especially ambiguous legal interpretation, predicament produced by joint ownership, unreasonable rules on service invention ownership. It is an important means to add “Appointment Rules” in Article 20 of the Science and Technology Progress Law, to promote cooperative innovation alliances’ project ownership from contract to articles and to reconstruct the attribution rules of the service inventions. It is also suggested to promote constitutionalization of agreement on ownership within cooperated projects and avoid joint ownership of intellectual property. There is also a need to reform rules on service invention ownership and enhance the employee's bargaining power.

1. Introduction

As the heaviest economic resource, energy is an important factor affecting the development of the world economy. The development of the Global Energy Interconnection can solve the problem of unbalanced global energy distribution, improve the global energy coordination mechanism and promote the coordinated development of the world economy. The Global Energy Interconnection is a globally interconnected, intelligent power grid built with ultra-high voltage grids (channels) for the transmission of clean energy (Fan and Pan, 2016). It is a globally interconnected, intelligent power grid built with ultra-high voltage grids (channels) for the transmission of clean energy. The Chinese President Xi Jinping, in his speech entitled *Seeking Common and Sustainable Development and Forge a Partnership of Win-win Cooperation* at the UN Sustainable Development Summit in September 2015, proposed the establishment of a global energy interconnection to facilitate efforts to meet the global power demand with clean and green alternatives.

‘One Belt, One Road’ is a Chinese Initiative for boosting multinational economic cooperation and prosperity. First introduced by

President Xi Jinping in 2013, the Initiative has its official interpretation elaborated in a domestic policy document titled *Vision and Actions on Building the Silk Road Economic Belt and the 21st Century Maritime Silk Road*, which was jointly issued by the National Development and Reform Commission, the Ministry of Foreign Affairs, and the Ministry of Commerce in March 2015.

The ‘Belt’ and the ‘Road’ each refer to a geographical network for the economic cooperation. The former is mainly land-based, comprising rail routes, overland road, oil and natural gas pipelines, and other infrastructure projects. Stretching from Xi’an in central China, crossing Central Asia, and ultimately reaching Moscow, Rotterdam, and Venice, it covers most of the countries in Northeast Asia, West Asia and North Africa, and Middle and East Europe. The latter is a maritime network of navigation routes, ports and other coastal infrastructure connecting South and Southeast Asia, East Africa, and the northern Mediterranean Sea. It is believed that the ‘One Belt, One Road’ Initiative would pave way for all-round exchanges, win-win cooperation, regional development and prosperity, as well as an atmosphere of mutual understanding and trust. The Global Energy Interconnection consists of three tiers of sub-networks: the continental network, the intercontinental network

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and the global network. On the one hand, it is expected to be an integral and constructive part of the ‘One Belt, One Road’ Initiative. On the other hand, the construction of Global Energy Interconnection can provide infrastructure facilities for ‘One Belt, One Road’ Initiative. With the effective implementation of the ‘One Belt, One Road’ Initiative, the construction of such a global energy interconnection has been put onto the fast track.

As a major project that requires systematic international cooperative efforts, the Global Energy Interconnection faces various issues and challenges (Chang, 2017). The multi-sectoral and trans-regional nature of the interconnection, together with the involvement of multiple stakeholders only adds to the difficulty in maintaining a proper balance of interests (Wei et al., 2016). Current studies on the Global Energy Interconnection are still rudimentary, focusing mainly on technical standards and strategic policies (Wei et al., 2016). By contrast, attention invested into the Global Energy Interconnection-related intellectual property (IP) issues, especially standard essential patents (SEPs) are relatively insufficient. It is important to note that the intellectual property laws are intended to promote the labors that lead to innovation (Thomas, 2016). The protective system of intellectual property rights is an important legal system protecting the productions of science technology and culture art, and an important means of policy by which the government promotes technical innovation of corporation as well (Hoejmose et al., 2008). The SEPs and ordinary patent are different in nature. For example, ordinary patent rights focus on the protection of private rights, while SEPs focuses on protecting the public interest. The issue of SEPs consists of multiple dimensions, with patent licensing, patent abuse, and market monopoly as the hottest topics in this field. The lack of appropriate ownership rules has created opportunity for abuse by patentees and the infringement by licensees. While constructing the Global Energy Interconnection, different participants will invest significant amount of intellectual-related resources in order to form patent results. It is particularly so when it comes to standards to which SEPs will be generated. Solving the ownership issue of SEPs generated during the construction of Global Energy Interconnection collaborative innovation will have a great impact on the participation enthusiasm of all participating parties.

This paper aims to explore the legal issues regarding the SEPs under the background of the Global Energy Interconnection. The discussion commences with the necessity of standard essential patents, then go on to explore the legal issues behind them. This paper suggests that there is a need to delegate the power to interpret “national security, national interests or important public interests” to the national security agency. It is also important to reform rules on service invention ownership and enhance the employee's bargaining power.

In terms of research methodology, this paper is based on previous research regarding patent rights in connection with the ‘One Belt, One Road’ Initiative. The paper, firstly, analyzes the necessity to study the issue of the SEPs ownership in the Global Energy Interconnection collaborative innovation in China. The discussion is then turn to the SEPs ownership issue in the Global Energy Interconnection collaborative innovation in China. At the end, the feasible solutions are proposed.

2. Necessity of this research

2.1. Difference of SEPs from ordinary patents

A patent indicates an exclusive right enjoyed by the patentee over its creation within the prescribed territory during the prescribed period of time (Wang and Yang, 2017). It is a statutory right, the acquisition of which is conditioned on the inventor's application to the State Intellectual Property Office (He, 2016). Patent ownership is seen as a way to encourage the additional and often substantial investment necessary for generating new goods and services (Schacht, 2007). Only when the application is granted would the inventor be entitled to enjoy such an exclusive right. A SEP is a technology identified by a standard setting

body as essential to a certain standard, one that is covered by the exclusive right owned by a patentee (Zhang and Ma, 2005). In the words, a SEP is a combination of standard and patent. As such, it possesses characteristics of both systems: the exclusiveness of patent and the universality of standards (Zhao, 2006).

SEPs are a subcategory of ordinary patents, with the following distinctive characteristics. Firstly, a patent is essentially a private right, which means that its exercise by the patentee is free from other's intervention. By contrast, a SEP is tasked to promote the uniform application of a certain standard in a given territory or sector (Qin, 2016). Secondly, a patent is private interest-oriented, while a SEP is public interest-oriented (Zhao, 2006). Thirdly, from a legal perspective, a patent is taken as “legitimate monopoly”, while a SEP is “necessary openness” (Su, 2016). Fourthly, a patent is subject to clear restrictions in terms of territory and time of its validity, while for a SEP, more loose rules apply (Zhai, 2017). Fifthly, license for the exploitation of a patent is diverse and optional, while that for a SEP is uniform (Ding, 2017).

Provisions on the protection of patents could be found mainly in the Patent Law, the Detailed Rules for the Implementation of the Patent Law, the Contract Law, Law on Scientific and Technological Progress, etc. No legal instruments have been specifically enacted for SEPs. As a result, when it comes to the issues regarding a SEP, one has to refer to the above-mentioned laws and regulations. As such, the lack of consideration for the special nature of SEPs would inevitably lead to value misplacement or ownership disputes.

2.2. Diversity of stakeholders in collaborative innovation

Collaborative innovation means the innovation through in-depth cooperation and strategic alliance established by higher education institutions, research institutions and enterprises, as supported by governments, intermediaries, financial institutions and other parties, which join their efforts in pursuing the shared goal, realizing complementary advantages, shared resources and risks, and achieving substantial innovative results (Li and Zhou, 2013). The collaboration between universities and the industry is increasingly perceived as a vehicle to enhance innovation through knowledge exchange (Ankrah and Al-Tabbaa, 2015). Specifically, the Global Energy Interconnection collaborative innovation alliance is the long-term cooperation relationship among the participants, which contribute innovative input for the shared goal of technological development while preserving their independence. Covering energy, information, equipment manufacturing, finance etc., such a multi-sectoral alliance has the conventional parties—higher education institutions, enterprises, research institutions and governments, and non-conventional, such as international organizations, foreign governments, intermediaries and consumers (Li and Dong, 2014).

Laws are enacted as a result of the bargaining and compromise by stakeholders. Accordingly, the more parties involved in a given legal relationship, the harder balance of interest would be. Compared with conventional industry-university-research collaborative innovation alliances, the Global Energy Interconnection collaborative innovation alliance involves more diverse stakeholders as well as wider coverage of industries and sectors (Li and Dong, 2014). Consequentially, it is of greater comprehensiveness and complication. Although the literature on university-industry links has begun to uncover the reasons for, and types of, collaboration between universities and businesses, it offers relatively little explanation to which the ways to reduce the barriers in these collaborations (Bruneel et al., 2010). While Articles 339 and 340 of the Contract Law provide for patent ownership in cases of cooperative development or commissioned development, such provisions are essentially enacted for independent development. Moreover, the provisions on cooperative development or commissioned development are suited to ordinary patents, the application of which to SEPs is hardly ideal (Meng and Liu, 2015). As a result, targeted analysis on SEPs ownership would be desirable.

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