



# Issues and suggestions on the calculation of patent open license fees

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**Abstract.** The patent open license system has problems such as incomplete consideration of influencing factors in the calculation of license fees, lack of consultation and lack of professional opinions in the determination of license fees. From the perspective of patentees and licensees, this article discusses the difficult problems in the game of interests between the two parties, and proposes that the formulation of licensing fees should consider the influence of multiple factors such as market price, cost benefit, industry field and geographical differences, as well as the opinions of relevant experts. The patentee shall attach an explanation on the calculation of the license fee, and in order to facilitate the drafting of the license fee by both parties, the patentee and the licensee may withdraw it if necessary or the two parties can directly trade according to their needs, so as to make the calculation of the patent open license fee more reasonable and easy to operate, and the transaction process simple and efficient.

**Keywords:** Patent open licensing system; Patent open license fees; License fee calculation; Influencing factors

## 1 Introduction

The core of the patent open licensing system is that the patentee allows anyone to exploit his patent if the conditions are met and cannot prevent others from using it for other reasons. <sup>[1]</sup> The patentee who intends to carry out open licensing submits a written statement to the national patent administration department, clarifying the method and standard for the licensee to pay the license fee, the written statement and the patent will be reviewed by the patent administration department, and when the review is passed, the license statement and license information will be published in the patent gazette, and citizens in need can consult it themselves, want to obtain authorization, according to the requirements of the announcement, use the written way to inform the patentee, pay the license fee to the patentee and record. Some scholars believe that such a change in the nature of patent licensing contracts may lead to an increase in transaction costs in contract formation. In addition, the fourth amendment to the Patent Law also

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provides in principle on issues such as the dispute resolution mechanism for patent open licensing fees and the separate agreement on licensing fees.<sup>[2]</sup>

The system has the advantages of concise procedures and easy operation, but its provisions on the calculation of patent open license fees are not scientific, and it does not consider the game between the interests and costs of the patentee and the licensee, which is easy to cause damage to the interests of one party.<sup>[3]</sup> The patent open license system is precisely the law that regulates the game of interests between patentees and licensees.<sup>[4]</sup>

## **2 Problems in the calculation rules of patent open license fees in China**

### **2.1 Influencing factors are not comprehensively considered**

The interests of both the patentee and the licensee should be protected, and the calculation of the patent license fee should not only consider the patent cost of the patentee, but also the transaction cost of the licensor. It is also necessary to consider whether the patent is cross-industry professional and cross-regional and other influencing factors. At the same time, if the cost of issuing a patent open license is too high in the process of calculating the license fee, it will also discourage the licensee's demand enthusiasm and is not conducive to the implementation of patent open license transactions.

In summary, in the existing patent open licensing system, the influencing factors of license fee pricing are too single, which is unreasonable in the implementation of the system, does not meet the needs of the market, and has poor operability.

### **2.2 Consultation on the determination of license fees**

In China, when a patentee applies for a patent open license, it is necessary to clarify the payment method and standard of patent license fees, and there are only pricing rules, but no negotiation rules, and it is difficult for the two parties to negotiate. The value of patents varies according to market fluctuations, which is affected by the current market, time and geography, and is difficult to assess from a professional point of view. Patent owners may take advantage of information asymmetry and bargaining position to impose differentiated or even discriminatory patent license rate pricing on different licensees.<sup>[5]</sup>

If the patentee's license fee is set too low at the time of application, as the market changes, the advantages of the patent begin to be highlighted, which will cause damage to the interests of the patentee, and the patentee will withdraw the patent open license statement in order to obtain a reasonable patent license fee. If the license fee is too high, it is difficult to attract the licensee in demand to trade. When the licensee finds that the benefit is harmed, the licensee may terminate the transaction in search of a more reasonable and lower cost transaction.

### **2.3 Lack of professional opinion on the determination of license fees**

When a dispute arises between the parties regarding the implementation of an open license, the parties shall negotiate and settle it; Those who are unwilling to negotiate or fail to negotiate may request the patent administration department under the State Council to conduct mediation, or may file a lawsuit with the people's court. The patent administration department not only participates in the announcement and filing of patent open license contracts throughout the process, but also has professional ability and evaluation ability in the process of performing its duties, which is unparalleled by patentees and licensees, and the ability of patent administration departments is far from being comparable to ordinary mediation institutions.<sup>[6]</sup> If the licensee conceals from the patentee the patent royalties payable under the pricing rules, it is difficult for the patentee to protect its rights and interests by proving the scale of the licensee's actual use of the patent right, including the amount of production of the patented product, profits, sales and other benefits arising from data that may involve trade secrets.

## **3 Suggestions on improving the calculation of patent open license fees in China**

### **3.1 Consider multiple influencing factors**

**Market.** Since the market environment can change at any time, the evaluation of patent open license fees is a highly specialized science, whether the license fee is priced too high or too low, and the patent value does not match the market price, thus hindering the progress of patent open license transactions. Therefore, it is particularly important to accurately judge the market price and price the license fee according to the development of market economics.

**Cost benefits.** The patentee's R&D costs, application costs, sales costs, and reasonable profits all constitute the inherent returns of the patentee when the patent open license transaction is concluded. When a licensee obtains a patent open license, it also has costs and risks, such as the time, opportunity, manpower and material costs of finding suitable patent rights for production and operation, and market risks such as whether the profits are considerable after being put into production and operation.<sup>[7]</sup> The patentee's ability to supervise the licensee's use of the patent right is weak, and in the event of a dispute, it may be difficult for the patentee to obtain information such as the specific production, manufacturing, and business scale of the licensee's implementation of the patent right, especially for data involving trade secrets, and there may be problems of information asymmetry. Faced with such problems, they have the right to claim infringement liability from the court according to Article 71, Paragraph 4 of the Patent Law.<sup>[8]</sup> The license fee can be made more reasonable when the parties determine the license fee based on their respective revenue costs.

**Industry segments.** The UK Intellectual Property Office's Patent Practice Guide highlights the characteristics of differentiated rates applied in the field of patented technology, and the open license rate for pharmaceutical patents proposes the license analogy method, the patent compulsory license analogy method, the profit distribution

method and the daily drug cost equivalence method for patients. The patent open license fee in the field of machinery is significantly reduced, in principle, between 5% and 7% of the sales price of the patented product; In the fields of surgical medical devices, agricultural chemicals, and bulk chemicals, according to existing cases, the patent open license fee is between 4% and 18%.<sup>[9]</sup> When calculating China's patent open license fees, it should also be appropriately differentiated according to different technical fields, and gradually find out the pricing and reasonable acquisition ratio of license fees in each professional field.

**Geographical differences.** After the same patent is put into use in different regions, the benefits and scope of influence are very likely to be linked to the local economic development level, and it is more practical to consider the difference between regions into the calculation of licensing fees, and the formulation of licensing fees according to local conditions will be more conducive to the sustainable development of the patent open licensing system.

**Expert opinion.** The calculation of patent open license fee is closely related to economics and the field to which the patent belongs, the determination of the industry to which the patent belongs should not be simply categorized, the patent may achieve cross-industry, then it will face the possible situation that the proportion of license fees in different industries is inconsistent, at this time, when calculating the patent open license fee, it is necessary to regulate the license fee according to the price competition and revenue cost in economics, and also calculate the value of the patent according to the professional market and technical problems in each professional field to obtain a reasonable amount of license fees. Expert research in related professional fields is very informative.

### **3.2 Additional Explanation License Fee**

For the calculation of patent open license fees, the two parties may first negotiate in good faith in accordance with the FRAND principle, and if they reach consensus, they will submit a written patent open license transaction contract to the State Council in accordance with the original procedure, and if it is difficult for the two parties to reach a consensus, they may apply to the State Council for a ruling. In technical standard-setting organizations, the principle of fairness and reasonableness and non-discrimination (FRAND principle) in relevant patent policies and the statement issued by patentees to comply with this principle play an important role in the rational operation of the patent royalty pricing mechanism.<sup>[10]</sup>

If the license fee is determined according to the combination of the comparable agreement method and the top-down analysis method, a reasonable cost-benefit estimate range can be given by the patentee, and then the cost benefit estimation range previously given can be further narrowed by comparing the value of the patent held by the patentee with that of other licensees for similar or equal size patent licensing agreements, and then through the analysis of the correlation ratio, a reasonable patent royalty can be obtained, that is, the product of the upper limit of the range and the relative value rate. If patent license fees are collected according to experience, practice and international practice according to a certain percentage, that is, based on experience, 30% of

the patent revenue of the patented product can be obtained, or 5% of the actual sales profit of the patented product can be collected.

Whether it is a combination of a comparable agreement approach and a top-down analysis approach, or a percentage fee based on experience, reference practice and international practice, it takes into account the form of the market, the cost of the patentee and the licensee, and is both reasonable and realistic. In practice, the patentee may, based on relevant references, require the licensee to grant a license fee according to the corresponding proportion of patent use. For example, if the number of goods using the patent right is small, the license fee will be paid directly according to the regulations, and if the number begins to increase, different license fee proportions can be set in different intervals to reduce the dispute process between the two parties over the license fee.

The initiation of the patent open licensing system needs to be carried out with the assistance of the patent administration, but the public power does not interfere with the system, and the platform built by the patent administration for the exchange between the patentee and the licensee needs to charge a certain fee. When the patentee submits a written statement of the implementation of the patent open license system to the patent administration department, it must submit a certain handling fee, and when the patentee and the licensee reach a negotiated agreement, it needs to pay the platform fee according to the amount specified by the patent administration department. When determining patent fees, the patent administration department starts on the day when the patentee's license statement and patent licensing information are published, and collects fees based on the length of time the patent open license information is published on the platform.

Therefore, when the patentee publishes the license fee, it is necessary to attach an appendix to the license fee on how to obtain the license fee, what method is used to formulate it, the factors to be considered and the specific reference data, so as to show the reasonableness of the license fee and quickly give the licensee the source of the license fee to persuade the licensee to use the patent.

### **3.3 Negotiate and draft license fees**

Since the patent license fee is related to the respective interests of the patentee and the licensee, and the license fee determines whether the patent open license transaction can be carried out smoothly and whether it can continue in the market. Therefore, it is necessary to prevent the patentee from unilaterally considering the influencing factors to unilaterally price and excessively protect its own interests, allow the licensee to participate in the determination of the patent open license fee, add a bargaining link when paying the license fee after the opening license, and negotiate the license fee between the two parties. This is not only more fair and reasonable, the licensee has the right to bargain, which mobilizes the licensee's enthusiasm for trading, and then promotes the transaction degree of the patent trading market

## 4 Conclusion

When determining the license fee, the patentee needs to set the license fee corresponding to different degrees of use according to its own needs in accordance with the FRAND principle, and use one of the methods such as the top-down method or the comparable agreement method to fully consider each constraint to calculate the license fee reasonably, and also need to explain the calculation method used in determining the license fee and the relevant data attached to the reference, so as to better persuade the licensee to accept the license fee. If there is a dispute between the parties to determine the license fee, the patent open license shall be withdrawn and the license fee shall be redetermined with the consent of both parties, or the two parties shall make their own transactions according to the agreed license fee. Finally, training on the calculation of royalties can be provided for patentees in need to meet the needs of different patentees. When pricing licensing fees, it is necessary to consider not only many objective factors, but also the sense of social responsibility of the patentee and the enterprise

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