

NEWSLETTER

知产快报

● China National Intellectual Property Administration (CNIPA) issued a notice (No. 328) on September 25, 2019 announcing revisions to Guidelines for Patent Examination which will take effect on November 1, 2019. One of the most important parts of these revisions is related to provisions on the "three-step approach" and on the assertion of common knowledge for assessing inventive step. This short article discusses the revisions, as well as practical tips.



An Insight into Assessment of Inventive Step Discussions on Revisions to Examination Guidelines

China National Intellectual Property Administration (CNIPA) issued a notice (No. 328) on September 25, 2019 announcing revisions to Guidelines for Patent Examination which will take effect on November 1, 2019. One of the most important parts of these revisions is related to provisions on the "three-step approach" and on the assertion of common knowledge for assessing inventive step. This short article discusses the revisions, as well as practical tips.

I. Revised Contents (additions underlined and deletions strikethrough)

	Guidelines for Patent Examination (Effective February 1, 2010)	Revised Guidelines for Patent Examination ^[1] (Effective November 1, 2019)
Revision 1	<p>Chapter 4 of Part II</p> <p>3.2. 1. 1 Approach to Assessment</p> <p>(2) Determining the distinguishing features of the invention and the technical problem actually solved by the invention</p> <p>During examination, the examiner shall objectively analyze and determine the technical problem actually solved by the invention. For this purpose, the examiner shall first determine the distinguishing features of the claimed invention as compared with the closest prior art and then determine the technical problem actually solved by the invention on the basis of the technical effect of the distinguishing features. The technical problem actually solved by the invention, in this sense, means the technical task in improving the closest prior art to achieve a better technical effect.</p>	<p>Chapter 4 of Part II</p> <p>3.2. 1. 1 Approach to Assessment</p> <p>(2) Determining the distinguishing features of the invention and the technical problem actually solved by the invention</p> <p>During examination, the examiner shall objectively analyze and determine the technical problem actually solved by the invention. For this purpose, the examiner shall first determine the distinguishing features of the claimed invention as compared with the closest prior art and then determine the technical problem actually solved by the invention on the basis of the technical effect of the distinguishing features <u>that can be achieved in the claimed invention</u>. The technical problem actually solved by the invention, in this sense, means the technical task in improving the closest prior art to achieve a better technical effect.</p>

<p>Revision 2</p>	<p>Chapter 4 of Part II 3.2. 1. 1 Approach to Assessment</p> <p>The re-determined technical problem may depend on the particular situations of each invention. As a principle, any technical effect of an invention may be used as the basis to re-determine the technical problem, as long as the technical effect could be recognized by a person skilled in the art from the contents set forth in the description.</p>	<p>Chapter 4 of Part II 3.2. 1. 1 Approach to Assessment</p> <p>The re-determined technical problem may depend on the particular situations of each invention. As a principle, any technical effect of an invention may be used as the basis to re-determine the technical problem, as long as the technical effect could be recognized by a person skilled in the art from the contents set forth in the description. <u>The technical features that are functionally mutually supportive and have an interaction relationship shall be considered as a whole in consideration of the above technical features and the relationship between them in the claimed invention.</u></p>
<p>Revision 3</p>	<p>Chapter 8 of Part II 4.10.2.2 Text of Office Action</p> <p>The common knowledge of the art cited in the Office Action by the examiner shall be accurate. If the applicant has objections to the common knowledge cited by the examiner, the examiner shall state the reasons or provide corresponding evidence for proof.</p>	<p>Chapter 8 of Part II 4.10.2.2 Text of Office Action</p> <p>The common knowledge of the art cited in the Office Action by the examiner shall be accurate. If the applicant has objections to the common knowledge cited by the examiner, the examiner shall <u>provide corresponding evidence for proof</u> state the reasons or state the reasons provide corresponding evidence for proof. <u>For determination of technical features that contribute to solving of technical problems in the claims as common knowledge, the examiner should provide evidence to prove such assertion.</u></p>

II. Our Analysis

The “three-step approach” to assess inventiveness essentially consists in three steps: (i) identifying the closest prior art; (ii) defining the difference(s) between the claimed invention and the closest prior art and determining the technical problem(s) that the claimed invention addresses and actually solves; and (iii) examining whether or not the claimed solution to the technical problem(s) is obvious for one skilled person in the art.

1. *More strict requirements for determining a technical problem*

It is prescribed in the Guidelines for Patent Examination (hereinafter referred to as the “Guidelines”) that inventive step of an invention is generally assessed by adopting the “three-step approach”. The second step of the “three-step approach” involves how to determine the technical problems that is actually solved by the claimed invention. The second step is crucial for judging whether the claimed invention involves an inventive step given the fact that the conclusion therefrom would affect “whether or not there exists such a technical motivation” in the third step.

According to the revised Guidelines, “determining the technical problem actually solved by the invention on the basis of the technical effect of the distinguishing features” has been amended as “determining the technical problem solved by the invention on the basis of the technical effect of the distinguishing features that can be achieved in the claimed invention” (see Revision 1 above). Besides, the revised Guidelines further points out that “the technical features that are functionally mutually supportive and have an interaction relationship shall be considered as a whole in consideration of the above technical features and the relationship between them in the claimed invention” (see Revision 2 above).

a. In accordance with the revised Guidelines, the determination of a technical problem shall be made according to the technical effects of the distinguishing feature that can be achieved in the claimed invention, rather than functions of the distinguishing features themselves or their roles in other technical solutions.

As for how to determine the technical problems according to the revised Guidelines, CNIPA gives the following example.

The technical solution of the claimed invention is as follows:

The inventor has found that, during the preparation of the diphenyl sulfone compounds, the diphenyl sulfone compound product was colored, which is caused by the metal ions oozing from the tank, and the coloring affects the quality of the product. The solution proposed by the claimed invention is to add a corrosion-resistant layer to the tank, which may be glass or a fluorine-containing resin or the like to prevent metal ions from oozing. The description of the claimed invention indicates that the technical problem to be solved by the invention is to prevent the diphenyl sulfone compound product from being colored by metal ions.

Claim 1 of the claimed invention claims a method for preparing diphenyl sulfone compounds, and defines that the reaction is carried out in the tank having the corrosion-resistant layer on the inner wall.

Reference Document 1 discloses a method for purifying the diphenyl sulfone compounds, and claim 1 differs from the reference document 1 in that the tank used in the claimed invention has the corrosion-resistant layer. However, the reference document 1 does not impose any requirements on the reaction tank, nor does it mention the problem that the diphenyl sulfone compound product may be colored.

After searching a reference document 1, the examiner takes the view that the distinguishing feature is that the reference document 1 did not disclose that the tank had the corrosion-resistant layer. Based on this distinguishing technical feature, there are two possible ways to determine the technical problem:

One way is that since the distinguishing feature is that the claimed invention has the corrosion-resistant layer, it can be considered that the problem actually solved by the claimed invention is “how to prevent corrosion of the tank”.

Alternatively, in view of the fact that the corrosion-resistant layer of the claimed invention is applied for preventing metal ions

from oozing out and coloring the product, it can be determined that the technical problem to be solved by the claimed invention is "how to prevent the diphenylsulfone compound product from being colored".

The first way of determining the technical problem mentioned above only considers the role played by the distinguishing feature itself, and does not consider the role played by the distinguishing feature in the claimed invention, and thus does not comply with the provisions of the revised Guidelines on how to determine technical problems. The second way of determining technical problems takes into account the role of the corrosion-resistant layer in the claimed invention and thus meets the provisions of the revised Guidelines on how to determine technical problems.

b. In accordance with the revised Guidelines, the determined technical problem should be specific and not too generic. If it is too generic, the technical problem is not a technical problem determined by the technical effects of the distinguishing feature that can be achieved in the claimed invention, but a generic technical problem.

In practice, such Office Action may be received:

For example, the examiner searches a closest prior art D1, the distinguishing feature of D1 as compared with the claimed invention is the connection between multiple components. Based on such a distinguishing feature, examiner may determine the technical problem as: how to achieve a connection between multiple components. The determined technical problem is obviously too generic and broad, and does not consider the role played by the connection relationship between such components in the claimed invention.

For another example, the examiner searches a closest prior art D1, and the distinguishing feature of D1 as compared with the claimed invention is that the signal interaction between a terminal and a server in the claimed invention is different from that in D1. Based on such a distinguishing feature, the examiner may determine the technical problem as: how to achieve information transmission. The technical problem determined in this way generalize the

signal interaction in the specific application scenario of the claimed invention as the information transmission problem in the communication field, which completely ignores the effect brought by the signal interaction between the terminal and the server in the specific application scenario of the claimed invention.

After the revised Guidelines come into effect, the issuance of Office Actions that determine the technical problems in a manner similar to the above two examples may be reduced. If such a situation arises, the applicant should indicate the irrationality of the examiner's determination of the technical problems when responding to the Office Actions.

c. In accordance with the revised Guidelines, the technical effects brought by the distinguishing technical features should be considered as a whole when determining the technical problems.

In practice, in the case where there are multiple distinguishing features, the examiner may analyze the multiple distinguishing features one by one, determine partial technical problems solved by the respective distinguishing features, and then simply combine the partial technical problems to obtain the technical problem to be solved by the claimed invention. Such a way of determining technical problems tends to neglect the association between technical features, and simply matches individual features to individual problems, with the consequence that the each feature's contribution to the inventiveness is underestimated.

In the mechanical field, the so-called associated features may be multiple components with mechanical coordination relationships; in the communication field, the so-called associated features may be multiple steps associated with signal transmission; in the chemical field, the so-called associated features may be associated steps, process conditions, etc., during the chemical reactions. These associated features work together to produce specific technical effects that should be considered to determine the technical problem(s) solved by these associated features. Only based on these technical problems can we reasonably judge whether the distinguishing features are obvious in the third step of inventiveness judgment. This

is also consistent with the principles of examination set out in Section 3.1 of the Guidelines: "When evaluating whether or not an invention involves an inventive step, the examiner shall consider not only the technical solution itself, but also the technical field to which the invention pertains, the technical problem solved, and the technical effects produced by the invention. The invention shall be considered as a whole."

2. *A Higher Bar for Asserting Common Knowledge*

Before the revisions, the examiners could either state reasons or provide evidence for asserting a feature as common knowledge. In practice, an examiner usually makes an assertion of common knowledge without any evidentiary proof.

After the revisions, an examiner is required firstly to provide evidence or secondly to state reasoning while making an assertion of common knowledge (see Revision 3 above). In particular, if the examiner asserts that a technical feature in a claim that contributes to the technical solution is common knowledge, evidence should be provided in support of this assertion. This, to some extent, limits the chances of the examiner abusing the common knowledge to evaluate the inventive step.

III. Reasons for the Revisions

1. *Avoiding Ex Post Facto Analysis*

The essence of the "three-step approach" is to assess the inventive step more objective by providing a unified way of judgment. However, because the judgment of technical problems is subjective, different determination of the technical problems may lead to different conclusions.

European Patent Office's "problem-solution approach" is similar to CNIPA's "three-step approach", and the European Patent Office proposed a "could-would approach" to avoid ex post facto analysis.

While there are similar provisions concerning "Ex Post Facto Analysis" in China's Guidelines (see the Section 6.2 of Chapter 4 of Part II: " When evaluating the inventive step of

an invention, the examiner is apt to underestimate the inventive step of the invention since he has already known the contents of the invention, and hence a mistake of ex post facto analysis is likely to be made"), but on what is "ex post facto analysis" situation Guidelines does not give specific examples.

According to the revised Guidelines, it is prescribed that the examiner shall determine the technical problem on the basis of the technical effect of the distinguishing features that can be achieved in the claimed invention. This can, to some extent, prevent the examiner from bringing the re-determined technical problem closer to the secondary prior art (which is combined with the closest prior art to assess inventive step of the claimed invention) or common knowledge in this art, or prevent the examiner from determining an over generic or broad technical problem, thereby making the re-determined technical problem reflect the idea when the inventor(s) of the claimed invention made the invention and avoiding "ex post facto analysis".

2. *Responding to Social Objections on Determination of Common Knowledge*

According to the Guidelines before the revisions, the examiner may determine that a feature belongs to common knowledge only by stating reasons without providing evidence. According to our professional experience and incomplete statistics, the proportion that the examiner uses common knowledge to evaluate inventive step in the Office Action is as high as 60% [2]; and it is not uncommon for the examiner to cite common knowledge to evaluate the feature that is determined by the applicant as the key point of the invention. Even if the applicant requests the examiner to provide evidence, the examiner often does not reply to such requests, resulting in the abuse of common knowledge.

After the revision, the Guidelines stipulates the examiner's usage of the common knowledge when commenting on inventiveness, and clearly stipulates that if the examiner believes that the technical features that contribute to the technical solution of the technical problem (such as the features related to the key point of the invention) are common knowledge, then the examiner should provide evidence.

It is foreseeable that Examiner is less likely

to comment a feature as common knowledge by only stating reasons in the future and will be more likely to provide evidence to support Examiner's assertions regarding common knowledge.

IV. Impact and Recommendations After Revisions

First of all, the revisions are beneficial to the applicant and will add more constraints and burdens to the examiner. For the applications currently under examination and the applications submitted after November 1, 2019, after receiving an Office Action, if the applicant disagrees with the examiner's assertion of a feature as common knowledge, especially when the features related to the key points of the invention are determined by the examiner as common knowledge, the applicant may request the examiner to provide evidence when replying to the Office Action. In addition, it is also suggested to explain the technical idea to the examiner in conjunction with the technical background of the claimed invention, letting the examiner understand the improvement(s) made by the claimed invention and avoiding the examiner's misunderstanding of the key point of the claimed invention.

Secondly, in the revised Guidelines, there is no further provision on the form of evidence of common knowledge. The concept of common knowledge in the Guidelines is given by way of example, in which it is pointed out that common knowledge, for example, is a customary means in the art to solve the re-determined technical problem, or a technical means disclosed in a textbook or reference book to solve the re-determined technical problem (see the Section 3.1.1.1 of Chapter 4 of Part II in the Guidelines).

The proof of the common knowledge in the invalidation procedure is prescribed in the Chapter 8 of Part V in the Guidelines that "The party concerned alleging that certain technical means is common knowledge in the art shall bear the burden of proof for its allegation.The party concerned may prove that certain technical

means is common knowledge in the art with reference to the technical contents recorded in a reference book such as a textbook, a technical dictionary, or a technical manual."

It can be seen from the above provisions that the proof of common knowledge can be textbooks, reference books, technical dictionaries, technical manuals, and the like in the field.

Considering that the number of cases to be examined by the examiner during the substantive examination stage is large, if the examiner is required to provide proof of common knowledge, while the form of the proof of common knowledge is limited to the textbooks, reference books, technical dictionaries, and technical manuals, the efficiency of the examination may be affected. According to the author's guess, other forms of proof of common knowledge, such as web pages, online videos, journal articles, etc., may appear in future Office Actions. Of course, how the publication dates of these new forms of proof are determined and whether these new forms of proof should be regarded as common knowledge may also be a question to be considered in the future.

At the last, the CNIPA still does not put the discovery of technical problems itself as a factor for assessing inventive step. In the second step of the "three-step approach", a technical problem is determined by default, but in many cases, the discovery of certain technical problems is not obvious in itself, and the technical solution to solve the problem is not obvious, too. In some decisions, the European Patent Office pointed out that the discovery of technical problems may itself be non-obvious, which in turn made the corresponding patent application patentable (see Decision T2/83 from Boards of Appeal of European Patent Office). It is hoped that in the future the discovery of technical problems may be taken into consideration in the evaluation of inventive step by CNIPA.

[1] CNIPA website "Announcement on the Revision of the Guidelines for Patent Examination (No. 328)" <http://www.sipo.gov.cn/zfgg/1142481.htm>

[2] Zhang Yuyue, "Lung Tin IP Newsletter", June 2016.

The newsletter is not intended to constitute legal advice. Special legal advice should be taken before acting on any of the topics addressed here.

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Ms. Stacey SHI has expertise in patent prosecution, patent invalidity, patent administrative litigation, etc., and she is very experienced in patent cases in technical areas of computer software and hardware, internet, e-commerce, electronics, telecommunication, semiconductor, image processing, display and lighting, etc.. Since July 2007, Ms. SHI has represented many companies in over 1,000 patent prosecution and litigation cases.