

PATENT COOPERATION TREATY

*Common Quality Framework for
International Search and Preliminary Examination*

***Report Under Paragraph 21.17 of the
PCT International Search and Preliminary Examination Guidelines***

by: **Korean Intellectual Property Office**

on: **31.01.2008**

Documents referred to in this report:

[list any documents which appended to the report for information or publicly available documents which are referred to]

INTRODUCTION

The Korean Intellectual Property Office (KIPO) has set one of its organizational objectives as improvement of patent examination quality in parallel with faster examination.

To achieve the above goals, various activities at KIPO have been organized under the following four initiatives: customer-oriented management; Six Sigma management; knowledge management; and performance-based management. The customer-oriented management focuses on listening to customers and improving customer service. To keep our customers satisfied, we have checked the patent examination process and redesigned our work process.

The Six Sigma management is a method of improving our work process so that we can eliminate defects in our work process with respect to filing applications and conducting examinations. With Six Sigma, we can effectively handle problems that caused complaints from customers.

The knowledge management is a means of expanding the knowledge capability of our staff by sharing knowledge. Through the knowledge management system, work efficiency in patent examinations has been improved.

We also enforce activities for improving the quality of patent examination, by reflecting examination quality-related indicators such as examination error rate and observance rate of deadline for submitting examination reports to the performance evaluation of each individual and each team.

Regarding the quality management system of PCT examination, KIPO additionally established a PCT Quality Committee to effectively develop and plan appropriate activities in 2004, and we made annual plans to improve the quality of our activities as a PCT ISA/IPEA.

QUALITY MANAGEMENT SYSTEM

Establishment and maintenance of the QMS

The Authority should show that it has established and is maintaining, or is establishing, a QMS which:

- (a) sets out basic requirements regarding resources, administrative procedures, feedback and communication channels required to underpin search and examination (S&E); and*
- (b) incorporates a quality assurance scheme for monitoring compliance with these basic requirements and with PCT/GL/ISPE.*

To maintain the high quality of examinations, the Quality Management System (QMS) for PCT at KIPO has been established and maintained by many teams. They include 30 examination teams of our four examination bureaus, the International Application Team, the Examination Review Team, the Customer Service Team, the Information Development Team and the Information Management Team, the Patent Examination Policy Team and the Patent Examination Support Team.

The 30 examination teams conduct international searches and preliminary examinations and prepare the International Search Report (ISR) and the International Preliminary Examination Report (IPER). The drafted ISRs and IPERs are monitored under the responsibility of directors of examination teams.

The International Application Team is responsible for receiving international applications, sending ISRs or IPERs to applicants and International Bureau, distributing guidelines of PCT procedure for applicants, and promoting international applications for applicants.

Every six months the Examination Review Team extracts samples of ISRs or IPERs that have been completed and reviews the quality of the samples. The review results are sent to each examination team.

The Customer Service Team conducts customer satisfaction surveys on our examination procedure and takes action to eliminate the problems identified by customers.

The Information Development Team and the Information Management Team are responsible for maintaining IT system and collecting prior arts that are required to underpin search and examination.

The Patent Examination Policy Team and Patent Examination Support Team produce examination manuals and revise national PCT-related regulations. The two teams are also responsible for a quality assurance of ISRs and IPERs for monitoring whether they are complied with PCT Guideline.

The QMS for PCT is also controlled by the PCT Quality Committee, which is organized for controlling PCT quality. The ad-hoc committee consists of the KIPO deputy commissioner, the director generals of four patent examination bureaus and six directors from the following ad-hoc QM teams: the PCT Policy QM team (comprising of the Patent Examination Policy Team and the Patent Examination Support Team); the Quality Assurance QM Team (consisting the Examination Review Team); the IT Resources QM Team (consisting the information development team and information management team); the Administration and Communication Channel QM Team (consisting of the International Application Team); the International Feedback QM Team (consisting the International Cooperation Team); and the Human Resources QM Team (consisting the Human Resource Management Team). The director of the PCT Policy QM Team is the leader of the six QM teams.

The deputy commissioner, who heads the PCT Quality Committee, is responsible for convening and chairing meetings every year to review the tasks of each team. The director generals of the four examination bureaus are responsible for suggesting projects and collecting and reporting on the opinions of examiners. Each of the six teams aims to develop and work on its own projects.

The main role of the PCT Quality Committee is to supervise the overall plans and performance of the relevant teams, to coordinate activities between the QM teams, and to conduct internal review of all the teams.

The detailed roles of the QM teams are as follows:

The PCT Policy QM Team establishes policies on PCT-related education and training for examiners, makes examination manuals, revises national PCT-related regulations, and manages the system of PCT specialists;

The Quality Assurance QM Team builds a system for reviewing the quality of PCT reports, conducts reviews, elicits feedback, and plans customer satisfaction surveys;

The IT Resources QM Team establishes the examination IT infrastructure, such as system development and database management;

The Administration and Communication Channel QM Team trains staff who are in charge of PCT-related public affairs, distributes guidelines for applicants, helps examiners to observe report deadlines, and fosters communication between examiners and applicants;

The International Feedback QM Team monitors PCT-related public inquiries on KIPO's English Web site and fosters effective communication with other intellectual property offices;

The Human Resources QM Team establishes a human resources infrastructure for PCT examinations and PCT quality management.

As another activity for quality management (QM), we have held a weekly executive meeting, chaired by commissioner and attended by all director generals. At this meeting, major activities regarding quality management are reported, and when a special issue on PCT quality management arises, the issue is discussed at the meeting.

Resources - infrastructure

Provide information about the infrastructure in place which ensures the following:

- (a) Adequate quantity of search and examination (S&E) staff, including:*
 - (i) means for matching the quantity of S&E staff to the inflow of work;*

As of October 2007, the total number of patent examiners at KIPO is 711, and most of them are engineering majors. The number of patent examiners has been continually increased for the fast and accurate examinations.

PCT specialists, who are selected from pool of senior examiners with good English competence and considerable examination experience, carry out international searches and preliminary examinations. When the number of PCT applications increases, the more PCT specialists are designated, and when PCT applications are highly concentrated in a specific field, additional PCT specialists are designated from among our senior examiners who are in charge of domestic applications for that particular field.

As of October 2007, the number of PCT specialists of KIPO is 384, and they are in charge of various tasks pertaining to international searches and international preliminary examinations, as well as examination tasks for domestic applications.

- (ii) means for ensuring that recruited S&E staff have the necessary technical qualifications;*

To be a patent examiner, technical educational background is required. As of October 2007, 311 patent examiners (43.7% of total examiners) have PhD degrees in the technical field and lots of them have field experience in research and development at private companies and research institutes.

Besides our efforts to recruit capable examiners, KIPO has intensified the continuing education of examiners in their respective fields of technology through specialized lectures and seminars. For instance, KIPO outsourced the education of examiners to universities or educational institutes to present tailored lectures and to encourage

examiners to continually learn state-of-the-art knowledge in specialized fields of technology. Also patent examiners can obtain new technology knowledge by inviting experts to give presentations on new technology at various seminars and joining a voluntarily organized study group.

(iii) means for ensuring that S&E staff have language skills, or have access to supporting translation arrangements, as necessary to meet Rule 34.

PCT specialists, who carry out international searches and preliminary examinations, have language skills enough to comprehend foreign PCT minimum documents and prepare ISRs and IPERs in English.

To improve the language skills of examiners and to help examiners with international searches and international preliminary examinations, KIPO has an in-house language program for English, Japanese, Chinese and Spanish. Examiners also take foreign language courses at various universities.

In addition, KIPO supports a translation of foreign patent documents by implementing the machine translator in the searching system. Currently, we provide a Japanese-Korean machine translation and plan to gradually implement English-Korean, German-Korean and French-Korean machine translation systems from 2008.

(b) Adequate quantity and skills of administrative staff to support S&E.

The main role of the International Application Team is to provide administrative PCT procedures. The administrative staff consists of seven formality examiners (In 2007, two more examiners are added compared to the five examiners in 2006.) and four assistants, who are responsible for tasks related to the international phase of PCT applications.

The formality examiners all have more than three years of working experience at KIPO. They also constantly endeavor to improve their capacity by undertaking on-the-job training, joining a study group (named as PCT Reform study group) and by

participating in training programs offered by the International Intellectual Property Training Institute of KIPO.

(c) *Provision of appropriate equipment and facilities to support S&E.*

To support the search and examination process, all staff's personal computers are linked to the six kinds of servers for the examination system and another four for the search system. Based on a gigabit Ethernet system, examiners can prepare ISA/IPEA reports on their personal computers.

We have developed our own PCT International Search and Preliminary Examination System, which is operating under the KIPOnet (A computerized system to automate administrative procedures in KIPO). Through the system, all PCT related procedure from filing a PCT application to drafting and issuing ISR/IPERs is processed online.

The KIPO Patent Search System (called "e-KIPASS), which is developed by KIPO, enables patent examiners to conduct full text searches of patent documents from Korea, Japan, the USA and Europe. It also enables us to conduct reserved search requests, and to deliver the results to customers through after-hours batch work. Using 'non-patent literature unified meta searches' for electronic journals, including IEEE, Sciencedirect, and OSA, this system can search multiple Internet sites and show the results on the same screen. Furthermore, various commercial search services on the Internet, such as delphion.com and stn.com are available to patent examiners in KIPO.

Currently, KIPO has more specialized search systems such as the Business Model Search System, Biotech Search System. Our Biotech Search System enables us to manage and retrieve information on nucleic and amino acid sequences by using an internal sequence-listing database. With our Business Model Search System, we can promptly search Internet databases of business models and business methods, including those featured in gazettes, technology abstracts and electronic documents from Korea and the USA.

Six staff members and five outsourced employees support the search and examination system by managing relevant data and by maintaining the international search and examination systems, as well as the hardware, security, and other relevant tasks. To operate the systems effectively and support system management, Help Desk and IT consultants offer electronic support to each examination bureau.

(d) Provision of the minimum documentation supporting S&E, as referred to in Rule 34.

To provide the minimum documentation supporting S&E for PCT, we have documented the patent documents from 25 countries and organizations in the form of books, microfilm, CD-ROMs, and databases. Moreover, 532 kinds of non-patent literature such as scientific journals, books, Web databases, and electronic journals are provided. Our digital library has 300,000 volumes of relevant books that can be directly accessed. All these materials are available at any time to examiners.

- (e) Provision of up-to-date work manuals. These must include explanations of:*
- (i) quality criteria and standards;*
 - (ii) descriptions of work procedures;*
 - (iii) instructions ensuring that the work procedures are adhered to.*

As an effort to keep up-to-date work manuals, we translated Patent Cooperation Treaty (PCT), regulation under the PCT, administrative instructions and PCT examination guideline that are published by WIPO into Korean and distributed the translated version of PCT-related manuals to PCT specialists.

Along with them, we published the *Manual for PCT International Search Reports and International Preliminary Examination Reports*, which presents detailed work processes, contains PCT regulations and rules, and offers guidelines for PCT examinations related to specific processes. In particular, the manual details the mistakes that examiners frequently tend to make in their reports. It also gives various examples from other international authorities and checklists that describe things to identify when establishing

their reports. Also the manual is updated whenever PCT or regulation under the PCT is changed.

The *PCT Formality Examination Manual*, which is published by the International Application Team, contains images and charts to describe all the steps of substantive tasks to give examiners a better understanding of the examination process.

(f) *Provision of an effective training and development program for all staff involved in S&E, including means to ensure the acquisition and maintenance of the necessary experience, skills and familiarity with work manuals.*

Recognizing the importance of maintaining a high quality of PCT examinations, we have intensified our training and development program for PCT specialists. The International Intellectual Property Training Institute offers following PCT-related training courses:

- Training Course for New Examiners, which provides basic training for newly appointed examiners
- PCT Basic Examination Course and PCT Advanced Examination Course for designated and potential PCT examiners.

The PCT Examination Course uses the *Manual for PCT International Search Reports and International Preliminary Examination Reports* to cover the following subjects: an outline of PCT applications, on-the-job training for preparing PCT international search reports, written opinions, and international preliminary examination reports.

In addition, KIPO often provides examination-related training programs by holding seminars on the PCT system. We also established an electronic bulletin board (called “Knowledge Management System”), which not only enables PCT experts to answer questions related to PCT examinations but also keeps examiners informed of important changes in the PCT system.

(g) Continuously monitoring and identifying resources, other than staff, required to deal with demand and comply with quality standards for S&E.

To deal with demand and comply with quality standards for S&E, we continuously monitor and identify the resources required for S&E. Namely, the number of PCT applications that require international searches and preliminary examinations is investigated simultaneously at the International Application Team, the Patent Examination Policy Team and the Patent Examination Support Team. The Information Development Team and the Information Management Team monitor equipment and facilities required in (c) and the minimum documentation required in (d) to examine whether or not they are comply with PCT QM standards. Each team takes necessary measures to meet the standards that are identified from the monitored results. When discussion or cooperation between the related teams is required to take a measure, appropriate solution is taken at meeting of the PCT Quality Committee or the weekly executive meeting chaired by the Commissioner.

Administration - procedures

Provide information on those administrative procedures and control mechanisms which ensure the following:

- (a) Timeliness of S&E and related functions, to quality standards in accordance with PCT/GL/ISPE.*

Although the KIPOnet system automatically manages a variety of schedules for ISRs and IPERs, the International Application Team also manages the due dates for each PCT application. This double-checking system raises the reliability in meeting deadlines. Furthermore, by connecting the observance of deadlines to the work performance of each examiner, KIPO has increased the motivation of examiners to submit reports on time.

To make the process clearer, the International Application Team, which is in charge of dispatching ISRs and IPERs to WIPO and individual applicants, manages due dates for the preparation of such reports and informs examiners of missing reports. Moreover, the patent examination bureaus themselves notify the examiners of the due date ahead of particular deadlines.

- (b) Coping with fluctuations in demand and backlog management.*

Fluctuations in demand and backlog are monitored and when the number of PCT applications increases, more examiners are designated as PCT specialists to cope with the demand.

During the period from 2004 to 2007, the number of PCT specialists increased from 130 to 384, which represents a triple increase. In case PCT applications tend to be concentrated in some specific fields of technology, all senior examiners involved in that field are designated as PCT specialists. And director in each examination team adjusts to distribute all work evenly to each examiner in that team.

Quality Assurance Procedures

Provide information on procedures which ensure that S&E reports of a quality standard in accordance with PCT/GL/ISPE are issued. In particular, provide information on:

- (a) Activities related to verification, validation and monitoring; as carried out in order to assess compliance of S&E work with PCT/GL/ISPE.*

Before issuing an ISR or IPER, the drafted ISR or IPER is reported to director of each examination team to ensure that our searches and examinations comply with the guidelines. After issuing an ISR or IPER, a quality control is conducted by extracting a sample of issued ISRs or IPERs, and the sample is checked against the established standards by the Examination Review Team.

The Examination Review Team has established the standards for the quality review of PCT examinations. The team has performed a quality review of ISRs and IPERs sampled in the second half of 2005 to check whether examiners collectively observe the regulations and examination guidelines of the PCT. Since 2007, the quality review is performed every six months.

Besides the quality review of the Examination Review Team, the Examination Policy Team and the Examination Support Team continuously monitor if search and examination activities meet the PCT guidelines and decide necessary follow-up measures, such as revising and reforming relevant regulations, and changing policy.

- (b) Processes for measuring, recording, monitoring and analysing performance of the QMS to assess its conformity with the requirements of Chapter 21 and, if applicable, any other normative reference for the QMS.*

Recognizing the importance of QM, KIPO has put more priority on the high quality of ISRs and IPERs. The performance of QMS is measured and analyzed at the meeting of the PCT Quality Committee or the executive meeting chaired by the Commissioner

- (c) *Activities related to verifying the effectiveness of actions taken to deal with deficiencies, including:*
 - (i) *taken to eliminate, correct or authorise release of deficient S&E work which does not comply with the quality standards;*
 - (ii) *those actions taken to eliminate the causes of deficient S&E work and prevent the deficiencies from recurring.*

Because a director in each examination team is responsible for all ISRs and IPERs that are established by examiners in the team, the director identifies that ISRs and IPERs comply with the quality standard set out by PCT guideline. If deficiencies in ISRs or IPERs are found, they are ordered to be corrected by director. And some necessary measures are taken to prevent those deficiencies from recurring. Also one PCT quality manager is designated in each examination team and manages to prevent recurring error and to answer the questions that other examiners in that team ask.

At present, we have five English consultants who are responsible for editing and correcting the PCT examination reports of our examiners. PCT examiners are obligatorily asked to consult with English consultants regarding IPERs or written opinions.

- (d) *Activities ensuring the continuous improvement of established processes underpinning the issue of S&E reports.*

Every six months the Examination Review Team performs a quality review of ISRs and IPERs and gives training to examiners to solve recurring problems.

The Examination Policy Team and the Examination Support Team make and distribute checklists and FAQs that relate to establishing ISRs and IPERs.

At the annual meeting of the PCT Quality Committee, which is chaired by the KIPO deputy Commissioner, the committee members discuss and establish substantial and effective plans to improve the quality of PCT examinations.

Feedback arrangements

Give information on arrangements to:

- (a) Provide feedback to staff informing them of results of verification, validation and monitoring carried out in order to assess compliance of S&E work, so that:*
 - (i) deficient S&E work is corrected;*
 - (ii) corrective action, i.e. action necessary to prevent recurrence, is identified and implemented;*

To prevent recurring deficiencies of reports of our PCT examinations, we use a feedback system that every PCT examination report should be reported to the team director before issuing the report. If deficiencies in ISR or IPER are found, they are ordered to be corrected by director. After issuance of the report, the Examination Review Team performs a quality review of ISRs and IPERs sampled in every six months and analyzes the results of reviews. The results include patterns and the error rate of deficiencies found on the sampled reports. The review results are informed to each examination bureau to help examination bureaus identify the errors and implement corrective action.

- (iii) best practice is identified, disseminated and adopted.*

The Examination Review Team has published an annual casebook on the results of examination reviews and uses the casebook as an educational material for examiners. The annual casebook could help examiners to prevent the same faults from recurring and remove the causes of the faults.

- (b) Accommodate prompt feedback from WIPO, designated and elected offices; so that potential systemic issues, e.g. recurring deficiencies of S&E work, as identified by these bodies, are evaluated and addressed.*

The International Application Team exchanges e-mail with WIPO and each national patent office and promptly replies to each office's request. After receiving an e-mail from another office regarding a potentially recurring error, the team requests a concerned team to address the error problems promptly.

Communication, Guidance and Responses to Users

Give information on arrangements to:

- (a) *Provide communication channels for dealing promptly with enquiries and enabling appropriate two-way communication between applicants and examiners.*

All examiners in KIPO must write their name and contact details on their reports so that applicants can contact them directly and easily.

Even applicants may ask for an interview with patent examiners to discuss the concerned matters. Specialized PCT counselors working at a Call Center, run by KIPO, deal promptly with enquires made by applicants.

- (b) *Provide concise and comprehensive guidance and information to users (particularly unrepresented applicants) on the S&E process using the website of your Authority, guidance literature, and other means.*

The International Application Team has published the *PCT International Application Guide* to introduce international searches and preliminary examinations, as well as the entire PCT system. The guidebook provides a better understanding of the procedures related to international searches and preliminary examinations.

We provide applicants useful information including announcement and change of PCT system, PCT regulations, and examination guideline at the Web site <www.pct.go.kr>. All these materials are provided in Korean so that applicants easily understand the PCT system. In addition, we try to directly give applicants explanation on PCT filing procedures by holding PCT seminars.

- (c) *Monitor and react to user needs and feedback, including:*
 - (i) *measuring user satisfaction and perception;*

Every year KIPO conducts a survey to measure user satisfaction and perception. Along with this survey, we often measure the degree of satisfaction to our service and the level of understanding of PCT users during PCT seminars.

(ii) handling complaints;

The International Application Team meets with counselors working at the Call Center and accepts applicants' complaints by listening to the opinion of specialized PCT counselors of the center.

In addition, the team offers appropriate guidance to specialized PCT counselors by enabling them to communicate with the examiners.

(iii) correcting deficiencies identified by users;

Whenever the International Application Team receives an error notice from users, it requests the corresponding team that issued the notice to correct the error. The responsible team then resends the corrected documents to the applicants or relevant agencies.

(iv) taking corrective action, i.e. action to eliminate the cause of deficiencies, in response to recurring or systematic deficiencies identified by users,

(v) taking preventive action, i.e. action to eliminate the cause of potential deficiencies, in response to potential deficiencies or problems identified by users;

(vi) ensuring needs and legitimate expectations of users are met.

We endeavor to meet the needs and expectations of users by the following means: conducting a patent customer satisfaction survey; visiting various companies and offices to find out the problems that need to be addressed in patent administration; collecting innovative ideas and suggestions for improving our procedures; and meeting with other departments, such as the Call Center, to determine which regulations or systems need to be revised.

INTERNAL REVIEW

Chapter 21.10 specifies that, in addition to a "quality assurance system for checking and ensuring compliance with the requirements set out in its QMS" [c.f. Chapter 21.03, 21.07], "each Authority should establish its own internal review arrangements to determine the extent to which it has established a QMS based on the above model". This model is set out by Chapter 21 as a whole [c.f. Chapter 21.02]. Since a QMS which does not contain this provision for internal review would not meet the requirements of Chapter 21, the report under 21.17 should contain at least the information on the extent to which arrangements for internal review required by 21.10 are in place. These are:

The Authority should show that arrangements are in place to ensure that:

- (a) An internal review is carried out to determine:
 - (i) the extent to which a QMS complying with the model of Chapter 21 has been established;*
 - (ii) the extent to which the Authority complies with the requirements of its QMS;*
 - (iii) the extent to which the Authority complies with PCT/GL/ISPE.**
- (b) The internal review demonstrates whether or not the requirements of the QMS and PCT/GL/ISPE are being applied consistently and effectively.*
- (c) The internal review takes place at least once a year.*

At the annual meeting of the PCT Quality Committee, which is chaired by the KIPO deputy Commissioner, an internal review is conducted to determine the extent to which we comply with the requirements of our QMS and the extent to which we comply with PCT/GL/ISPE.

In addition, through the biannual quality review done by the Examination Review Team and the weekly executive meeting, we examine if we consistently and effectively meet the requirements of the QMS and PCT/GL/ISPE.