GUIDELINES FOR EXAMINATION AT THE AFRICAN REGIONAL INTELLECTUAL PROPERTY ORGANIZATION (ARIPO)

INTRODUCTION

In pursuance of the Administrative Instructions under the Regulations for Implementing the Harare Protocol on Patents, Industrial Designs and Utility Models, the Director General of the African Regional Intellectual Property Organization (ARIPO) has adopted the guidelines for examination at the ARIPO Office. These guidelines will be revised at regular intervals to take account of developments in international patent law and practice.

The main body of these guidelines comprises the following five parts:

PART I: Examination of Formal Requirements

PART II: Guidelines for Search

PART III: Guidelines for Substantive Examination

PART IV: Special Provisions on the Examination of Applications in the Fields of Chemistry and Biotechnology

PART V: Guidelines on General Procedural Matters

Parts I, II, III and IV deal with the requirements and formalities and substantive examination respectively, regardless of the stage in the procedure. Part V deals with procedural matters relevant to several or all of the stages of the ARIPO procedures.

The guidelines give instructions about the practice and procedure to be followed in the various aspects of the examination of ARIPO applications and registrations of patents and utility models. A search of examination practice and procedure as regards PCT applications, as far as the international phase is concerned, are not subject of these guidelines but are dealt with in the PCT international search and preliminary examination guidelines. The guidelines are addressed primarily to ARIPO staff but it is hoped that they will also be of assistance to the Member States and Industrial Property Agents, since the success of the ARIPO System depends on the good cooperation between contracting states and representatives of

applicants on the one hand and ARIPO on the other. It should be noted that the guidelines do not constitute legal provisions. For the ultimate authority and practice at ARIPO, it is necessary to refer firstly to the Harare Protocol and its Implementing Regulations.

It is also important that the Examiners in the various Sections or Units should not attempt to duplicate one another's effort. The guidelines therefore seek to make clear where demarcations of responsibilities lie. It should not be forgotten that the reputation of ARIPO in the examination process will depend not only on quality but also on the speed with which it deals with its work. The Harare Protocol imposes time limits for responding to office action on applicants as well as staff and therefore the success of the ARIPO System will depend on how the Examiners and other employees undertake their work with reasonable expectation.

PART I: EXAMINATION OF FORMAL REQUIREMENTS

1.1 INTRODUCTION

1.1.1 Overview

This Part I of the Guidelines deals with the following:

(i) the requirements and procedure relevant to the examination as to formalities of ARIPO patent applications;
(ii) the modification to the requirements and procedure of (i) when dealing with international applications filed under the PCT and entering the ARIPO phase;
(iii) formalities matters of a more general nature which can arise during the application procedure or the post-grant stage;
(iv) the presentation and execution of drawings and figurative representations accompanying an ARIPO patent application;
(v) fee questions;
(vi) inspection of files, communication of information contained in files, consultation of the Register of ARIPO Patents and issuance of certified copies.

1.1.2 Responsibility for formalities examination

The matters covered by this Part I are directed to the formalities staff of the ARIPO. They are directed primarily to the Formality Section which is specifically

responsible under the Harare Protocol for ensuring that the formal requirements for ARIPO patent applications are adhered to. Once the application is transferred to the Examining Division, the latter accepts responsibility for the formalities of the application, although it should be understood that reference to the Examining Division is intended to cover the formalities officer to which this work is entrusted.

1.1.3 Purpose of Part I

The formalities staff should note that this Part I of the Guidelines is intended to provide them with the knowledge and background which it is felt will assist them in carrying out their functions in a uniform and expeditious manner. It does not, however, provide authority for ignoring the provisions of the Harare Protocol and in that regard specific attention is directed to Part V dealing with the General Part of the Guidelines.

1.1.4. Other Parts relating to formalities

It is not the intention that the formalities staff should concern themselves with only this Part I of the Guidelines. It is expected that they will have to refer frequently to the other Parts and in particular Part V.

1.2 FILING OF APPLICATIONS AND EXAMINATION ON FILING

1.2.1 Where and how applications may be filed (Rule 10)

An ARIPO application may be filed with either the Office or the Industrial Property Office of any contracting state, if the national law of the contracting state so permits. However, a divisional application may only be filed with the ARIPO Office.

1.2.2 Filing of applications by delivery by hand, by post or by technical means (AI 14)

ARIPO patent applications may be filed in writing, by delivery by hand, by post or by technical means of communication at the ARIPO Office.

The ARIPO Office shall be open for the transaction of any business on working days between the hours of 8:00 a.m. and 16.30 p.m.

1.2.3 **Filing of applications by facsimile**

Applications may also be filed by facsimile with ARIPO or with the competent national authorities of those Contracting States which so permit, namely - at present – Botswana, Gambia, Ghana, Kenya, Lesotho, Liberia, Malawi, Mozambique, Namibia, Rwanda, São Tomé and Príncipe, Sierra Leone, Sudan, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe

Where a document transmitted using such technical means is illegible or incomplete, the document is to be treated as not having been received to the extent that it is illegible or that the attempted transmission failed and the sender must be notified as soon as possible. If an ARIPO patent application is filed by facsimile, a written confirmation is required only where the documents are of inferior quality. In this case, the ARIPO Office will invite the applicant to supply such documents within a non-extendable period of one month. If the applicant fails to comply with this invitation in due time, the ARIPO patent application will be refused. To prevent duplication of files, applicants are asked to indicate on the paper version of the application documents the application number or facsimile date and the name of the authority with which the documents were filed and to make it clear that these documents represent "confirmation of an application filed by facsimile".

1.2.4 **Filing of applications in electronic form or by electronic means (Rule 5 *bis*)**

ARIPO patent applications may be filed with the ARIPO in electronic form either **online** or on **electronic data carriers.**

1.2.5 **Transmittal of applications to ARIPO by receiving Office (Section 2(3), 2(5), (Rule 13), AI 34(2))**

The industrial property office of a Contracting State is obliged to forward to the ARIPO Office, in the shortest time compatible with national law concerning the secrecy of inventions, applications filed.

A time limit of one month after filing is specified for the onward transmission to of applications the subject-matter of which is obviously not liable to secrecy.

1.2.6 Application numbering systems (Rule 13(iii), AI 32 and AI 36)

The number shall consist of the two-letter country code for the Receiving Office, a slant, the letters AP, a slant, the letter P, a slant, and the number allotted internally by the Receiving Office.

For the purposes of ARIPO, the numbering shall consist of the letters AP, slant, the letter P, slant, the last two numbers of the year in which such papers were received, slant, and a five-digit number allotted in sequential order corresponding to the order in which applications are received.

1.2.7 Persons entitled to file an application (Section 2(1))

An ARIPO patent application may be filed by any natural or legal person, or anybody equivalent to a legal person by virtue of the law governing it. For the purposes of proceedings before the ARIPO Office, the applicant shall be deemed to be entitled to exercise the right to the ARIPO patent.

The application may be in the name of one person or several persons may be named as joint applicants.

If it is adjudged that a person other than the applicant is entitled to the grant of an ARIPO patent that person has the option of prosecuting the application as his own application in place of the applicant.

1.2.8 Procedure on filing

1.2.8.1 Filing with ARIPO Office (AI 14, 36)

If the application is filed with the ARIPO Office, the office must mark on each document making up the application and the lodging schedule with the date of receipt. The date of receipt should be so applied as not to obliterate any part of the documents or make them unsuitable for direct reproduction. The lodging schedule should also include the applicant's or representative's file reference number or any other information which would be helpful in identifying the applicant. The receipt of ARIPO patent applications filed online will be acknowledged electronically during the submission session. Where it becomes apparent that such acknowledgment was not successfully transmitted, the authority with which the application is filed will promptly transmit the acknowledgment by other means where the necessary indications furnished to it so permit.

1.2.8.2 Filing with a receiving office (Section 2(1), 2(2), Rule 10, Rule 14(2))

If the application is filed with a competent national authority, that authority must without delay inform the ARIPO Office of receipt of the documents making up the application and indicate the nature and date of receipt of the documents, the application number and any priority date claimed. It is recommended that the competent national authority should indicate as well the applicant's or representative's reference number where such has been indicated.

When the ARIPO Office has received an application which has been forwarded by the industrial property office of a Contracting State, it notifies the applicant, indicating the date of receipt at the ARIPO Office. Once this communication has been received, all further documents relating to the application must be sent directly to the ARIPO Office.

1.2.9 Examination on filing (Rule 14, 15, AI 37)

1.2.9.1 Minimum requirements for according a date of filing

The Receiving Section examines applications to determine whether they meet the minimum requirements for according a date of filing. These requirements are satisfied where the documents filed contain:

(i) an indication that an ARIPO patent is sought;
(ii) the designation of at least one Contracting State;
(iii) information identifying the applicant; and;
(iv) a description and one or more claims.

To be accorded a date of filing, it is essential that the documents be sufficiently legible to enable the information to be discerned.

1.2.9.2 Indication that an ARIPO patent is sought

Use of the prescribed Request Form No. 3 best provides the indication that a patent is sought as referred to in Rule 5(1).

1.2.9.3 Identification of the applicant (Section 3(1), Rule 5(5) (c))

The applicant is sufficiently identified whenever it is possible to establish the identity of the applicant beyond reasonable doubt on the basis of all data contained in the documents filed. Where there is more than one applicant, each applicant must be similarly identified. Objection should not be raised at this stage with regard to the status of the applicant or his entitlement to apply, or where, in the case of joint applicants, there is doubt as to the Contracting States designated by the individual applicants.

1.2.9.4 Description and claims (Section 3(1) (a) (ii), (Rule 5(b), Rule 5(c))

The contents of the description and claims do not require close scrutiny - it is sufficient to identify a document (or documents) which appears to include a description and one or more claims.

1.2.9.5 Deficiencies (Rule 15, AI 31(2))

If the Formality Section notes deficiencies preventing the application being accorded a date of filing, it communicates them to the applicant and invites him to remedy them within a non-extendable period of 1 month of notification of the communication. If the applicant does not remedy the deficiencies in due time he is informed that the application will not be dealt with as an ARIPO application.

1.2.9.6 Date of filing (Rule 14)

The date of filing accorded to the application is the date the application meets the requirements and is either:

(i) the date of receipt at the ARIPO or competent national authority; or

(ii) the date, not later than the 1month period on which the applicant rectifies any deficiencies. In the latter case, the applicant is informed of the date of filing accorded to his application.

1.2.9.7 Filing and designation fees (Rule 11(2) and (3))

The filing and designation fees shall be paid in U.S. dollars direct to the ARIPO Office or the application shall be accompanied by an undertaking signed by the applicant that he will effect payment to the ARIPO Office within a period of 21 days from the date on which the application is filed with the ARIPO office or the industrial

property office of a Contracting State. Where the applicant is a national of the Contracting State in which the application is filed, the industrial property office concerned may accept payment of the fees in local currency equivalent, at the prevailing official rate of exchange, to the prescribed fees; and request the ARIPO Office to debit its account in ARIPO with the amount of such fees.

If the fees have not been paid within the normal period, they may still be validly paid within a non-extendable period of grace of one month, Fees notification of a communication pointing out the failure to observe the time limit, provided that within this period a surcharge is also paid. However, the communication should not be issued until the Formality Section has satisfied itself that the application has been accorded a date of filing.

1.2.9.8 Translation (Section 2(6), Rule 5(2), AI 10)

The translation into English must be filed within 2 after the filing of the application. As to what is understood by "filing of the application", see 1.2 above.

1.2.9.9 Application deemed to be withdrawn

An application that does not meet the above requirements is deemed to be withdrawn. If the application is deemed withdrawn because of non-payment of the filing fee and designation fee, loss of rights ensues on expiry of the normal period, which applies *mutatis mutandis*. The applicant is notified accordingly.

1.2.9.10 Formal examination

Once the "Examination on filing" has been completed and it has been established that the application is not deemed to be withdrawn the application is subjected to a formal examination by the Formality Section.

1.3 EXAMINATION OF FORMAL REQUIREMENTS

1.3.1 Formal requirements (Rule 15 and AI 37)

The formal requirements that an application has to meet and which are the subject of an examination by the Formality Section are those specified in the Harare Protocol. These requirements relate to the following:

(i) representation;
(ii) physical requirements of the application;
(iii) abstract;
(iv) request for grant;
(v) claim to priority;
(vi) designation fees
(vii) designation of inventor; and
(viii) filing of drawings.

1.3.2 Representation

1.3.2.1 Requirements (Section 2(4))

The Formalities Section must ensure that the requirements with regard to representation are met. The main points to be considered are:

(i) an application is filed directly with the Office but the applicant's ordinary residence or principal place of business is not situated in the host country of the Office; or

(ii) an application is filed with the industrial property office of a Contracting State by an applicant whose ordinary residence or principal place of business is not situated in a Contracting State, the applicant shall be represented; and

(iii) that the authorization, if any is required is in order, duly and is filed in due time.

1.3.2.2 Non-compliance

The effect of non-compliance with the provisions with regard to representation and the action to be taken by the formalities section in dealing with any deficiency are considered in Rule 15(2).

1.3.3 Physical requirements (Section 3(2)(a), AI 26)

Every application that is subject to formal examination is examined for compliance with the requirements as to form set out below.

Documents making up the application, replacement documents, translations

It is the responsibility of the Formality Section to ensure that the documents making up the application, i.e. request, description, claims, and abstract, meet the requirements of AI 26(1-8) and, with regard to drawings, the requirements of AI 26 (9), to the extent necessary for the purpose of a reasonably uniform publication of the application.

1.3.4 Filing of subsequent documents

(i) Any document submitted by the applicant after the transmittal of the application to the ARIPO Office shall be filed directly with the ARIPO Office.

(ii) Instruction 26 (1) shall apply to any such document which forms part of the application.

1.3.5 Signature (Rule 5(5))

Documents, with the exception of annexed documents, filed after filing the application must be signed by the applicant or his representative.

1.3.6 Request for grant (Rule 5(5), AI 16)

The request for grant must be made on the appropriate ARIPO Form No. 3 even though the request (the indication that a patent is sought, need initially be in no particular form). Paper versions of ARIPO Form No. 3 are available to applicants free of charge from the ARIPO or Industrial Property Offices with which applications may be filed. The form is furthermore available via the ARIPO

website on the Internet, which is obtainable free of charge from ARIPO (see: www.aripo.org)

Whenever a new version of the Request for Grant form is issued, it is published in the Official Journal of ARIPO and the website. It is recommended always to use the latest version.

1.3.6.1 Examination of the Request for Grant form

The Formality Section examines the request to ensure that it contains the information listed in Rule 5(5).The request form provides for the entry of that information. The petition for the grant is an integral part of the form. The applicant must be allowed to correct deficiencies in the request.

1.3.6.2 Information on the applicant

The request must contain, in the manner specified in Rule 5 (5)(c) and AI 17, the name, address and nationality of the applicant and the State in which his residence or principal place of business is located. Where the application is in the name of more than one applicant, the requirement must be satisfied for each applicant.

1.3.6.3 Signature (Rule 5(5))

The request must be signed by the applicant or his representative. If there is more than one applicant, each applicant or his representative must sign the request.

1.3.7 Naming of inventor (Rule 5(5)(e) and AI 15)

The inventor shall be named as such in the patent, unless, at any time during the pendency of the application, he addresses to the Director General a special written declaration signed by him, indicating that he wishes not to be so named; however, any promise or undertaking by the inventor made to any person to the effect that he will make such a declaration shall be without legal effect.

1.3.7.1 Naming of inventor filed in a separate document

Where the naming of the inventor is filed in a separate document it must contain the surname, given names and full address (to meet the customary requirements for postal delivery) of the inventor, the statement, indicating the origin of the right to the patent and the signature of the applicant or his representative.

In the case of assignment, the words "by agreement dated ..." suffice, in the case of inventions by employees a mention that the inventor(s) is/are employee(s) of the applicant(s) and in the case of succession a mention that the applicant(s) is/are heir(s) of the inventor(s).

The designation of inventor must be signed by the applicant or his representative.

The ARIPO Office does not verify the accuracy of the information given in the designation of the inventor. If the designation of inventor is filed subsequently, the requirements set out in the guidelines shall apply.

1.3.7.2 Deficiencies (Rule 15(2) and AI 9)

Where a naming of the inventor is not filed, or where the details filed contains a major deficiency (e.g. inventor's name or the signature of the applicant is missing) so that it cannot be considered as validly filed, the applicant is informed that the ARIPO patent application will be deemed withdrawn if the deficiency is not remedied within the period prescribed or within a minimum period of ~~two~~ 2 months as from notification of this communication, whichever period is the longer. If the deficiencies are not rectified in due time, the application is deemed to be withdrawn and the applicant is notified accordingly.

If the naming of the inventor filed presents only minor deficiencies (e.g. inventor's address is missing), the applicant is invited to correct these within a time limit set by ARIPO. If this is not corrected in due time, the application is refused. Further processing of the application or re-establishment of rights is possible on request.

1.3.7.3 Incorrect designation (AI 9)

An incorrect designation may be rectified provided a request is received accompanied by the consent of the wrongly designated person and by the consent of the applicant for or the proprietor of the patent where the request is not filed by that party. If a further inventor is to be designated, the consent of the inventor(s) previously designated is necessary. The provisions apply to the corrected designation mutatis mutandis. Rectification may also be requested after the proceedings before the ARIPO are terminated.

These provisions apply as well to the cancellation of an incorrect designation.

1.3.8 Right to priority (Section 2(7) and (8), Rules 8, AI 29)

The applicant for ARIPO patent is entitled to and may claim the priority of an earlier first application where:

(i) the previous application was filed in or for a State recognized as giving rise to a priority right in accordance with the provisions of the Harare Protocol;
(ii) the applicant for the ARIPO patent was the applicant, or is the successor in title to the applicant, who made the previous application;
(iii) the ARIPO application is made during a period of twelve months from the date of filing of the first application; and
(iv) the ARIPO application is in respect of the same invention as the invention disclosed in the previous application.

As concerns (i) above, the previous application may be an application for a patent or for the registration of a utility model or for a utility certificate or for an inventor's certificate. However, a priority right based on the deposit of an industrial design is not recognized.

So long as the contents of the previous application were sufficient to establish a date of filing, it can be used to determine a priority date, irrespective of the outcome (e.g. subsequent withdrawal or refusal) of the application.

As concerns (ii) above, the transfer of the application (or of the priority right as such) must have taken place before the filing date of the later ARIPO application and must be a transfer valid under the relevant national provisions. Proof of this transfer can be filed later.

However, in the case of joint applicants filing the later ARIPO patent application, it is sufficient if one of the applicants is the applicant or successor in title to the applicant of the previous application. There is no need for a special transfer of the priority right to the other applicant(s), since the later ARIPO application has been filed jointly. The same applies to the case where the previous application itself was filed by joint applicants, provided that all these applicants, or their successor(s) in title, are amongst the joint applicants of the later ARIPO patent application.

1.3.8.1 List of Contracting States to the Paris Convention and any member of the World Trade Organization (Section 2(7) (a) and (b))

The recognized States, referred to above, are States party to the Paris Convention for the Protection of Industrial Property, or States not party to that Convention which have made an agreement with ARIPO or any member of the World Trade Organization. In view of the wording which refers to filings "in or for any State party to the Paris Convention" or any member of the World Trade Organization, priority may be claimed of an earlier first filed national application, regional application or international application. A list of States in respect of which the filing is recognized as giving rise to a priority right is annexed to this Chapter. These are the Contracting States to the Paris Convention for the Protection of Industrial Property or members of the World Trade Organization.

1.3.8.2 Multiple priorities (Section 2(8)(c))

The applicant may claim more than one priority based on previous applications in the same or different States. Where multiple priorities are claimed, time limits which are calculated from the priority date run from the earliest date of priority and, as a result, the ARIPO application must be made within twelve months from the earliest priority; this applies if earlier applications have been filed both in States that are parties to the Paris Convention and also in States that have concluded an agreement with ARIPO under the Harare Protocol.

1.3.8.3 Examination of the priority document

The Formality Section need not examine the content of the priority document. However, where it is obvious, e.g. from the title of the document, that the document relates to subject-matter quite different from that of the application, the applicant should be informed that it appears that the document filed is not the relevant document.

1.3.8.4 Declaration of priority (Section 2(8)(b), Rule 8 and AI 29)

An applicant wishing to claim priority must file a declaration of priority indicating the date of the previous application, the State in or for which it was filed and its file number. The date and State of the previous application must be stated in the request for grant at the time of filing the ARIPO patent application. The request for grant may be corrected if it contains errors regarding the date and State of the earlier application, provided that the request for correction is made sufficiently early for the correction to be contained in the publication of the application or at least for a warning to be included in the published application. If the request is filed later it may, exceptionally, be allowed if it is apparent on the face of the published application that a mistake has been made. The file number of

the previous application must be indicated before the end of the sixteenth month after the date of priority claimed; failure to do so constitutes a deficiency which the applicant is requested to rectify.

1.3.8.5 Priority period (Rule 8(2))

Where the date of the first filing given on filing the ARIPO patent application precedes the date of filing of the ARIPO patent application by more than one year, the applicant must be informed by the Formality Section that there shall be no priority for the application unless within a period of one month he indicates a corrected date lying within the year preceding the date of filing. In the event that the date indicated for the previous application is subsequent to or the same as the date of filing, the applicant should be allowed a period of three months for indicating a corrected date (with regard to the possibility of effecting correction of clerical or similar errors).

Where multiple priorities are claimed, the above-mentioned time limit runs from the earliest date of priority.

1.3.8.6 Copy of the previous application (priority document) (Rule 8(4))

A paper copy of the previous application for which priority is claimed (priority document) must be filed before the end of sixteen month after the date of priority. Failure to do so constitutes a deficiency which the applicant is requested to rectify. Where the multiple are claimed, the above mentioned time limit lands from the earliest date of priority.

The copy must be certified as an exact copy of the previous application by the authority which received the previous application and must be accompanied by a certificate issued by that authority stating the date of filing of the previous application. The priority document submitted must be the original, i.e. contain the original of the certificate issued by the receiving authority.

It is also possible to file a copy of the previous application (priority document) on physical media other than paper, e.g. CD-R, provided that:

(i) the physical medium containing the or part of the priority document is prepared by the authority which received the previous application, such as to guarantee that its content cannot undetectably be altered subsequently;

(ii) the content of the physical medium is certified by that authority as an exact copy of the previous application or the part contained therein; and

(iii) the filing date of the previous application is also certified by that authority.

The Harare Protocol provide for the following exception to the requirement that a priority document be filed:

If the previous application is:

(i) an ARIPO patent application;
(ii) an international application filed with ARIPO as receiving Office under the PCT;

1.3.8.7 Non-entitlement to right to priority

An ARIPO patent application has no right to priority if:

(i) the application was not filed within the 12 month period and the applicant has neither:

(a) corrected the priority date on time, such that the date of filing of the ARIPO application no longer exceeds the twelve-month priority period under Section 2(7), nor
(b) successfully requested re-establishment of rights in respect of the priority claim

(ii) the previous application did not seek an industrial property right giving rise to a priority right or

(iii) the previous application does not give rise to a priority right in respect of the State in or for which it was filed

1.3.8.8 Loss of right to priority (Rule 8(6))

The right to priority for an ARIPO patent application is lost where:

(i) the declaration of priority is not filed in due time; or

(ii) the copy of the previous application or of any translation of the previous

application is not filed in due time .

1.3.8.9 Notification

The applicant is notified of any non-entitlement to, or loss of, a priority right. The computation of time limits that depend on the priority will take this new situation into account. This also applies where entitlement to a priority right is surrendered. The termination of a priority right has no effect on a time limit which has already expired.

1.3.9 Title of the invention (Rule 6(1)(a))

1.3.9.1 Requirements

The request for grant must contain the title of the invention. A requirement is that the title must clearly and concisely state the technical designation of the invention and must exclude all fancy names. In this regard, the Formality Section should take the following into account:

(i) personal names, fancy names, the word "patent" or similar terms of a non-technical nature which do not serve to identify the invention should not be used;

(ii) the abbreviation "etc.", being vague, should not be used and should be replaced by an indication of what it is intended to cover;

(iii) titles such as "Method", "Apparatus", "Chemical Compounds" alone or similar vague titles do not meet the requirement that the title must clearly state the technical designation of the invention;

(iv) trade names and trademarks should also not be used; the Receiving Section, however, need only intervene when names are used which, according to common general knowledge, are trade names or trademarks.

1.3.9.2 Responsibility

The ultimate responsibility for ensuring that the title accords with the provisions of the Implementing Regulations rests with the Examining Division. The Formality Section should nevertheless take action to avoid, if possible, the publication of applications having titles which are clearly non-informative or misleading. It is necessary therefore that the Formality Section takes cognizance of the provisions

as set out in the Harare Protocol. In the event of obvious non-compliance with the provisions, ARIPO will of its own motion change the title, if this appears necessary, without informing the applicant there and then. Only when the application is about to be published will the applicant be notified whether the title proposed by him has been changed.

1.3.10 Abstract (Section 3(1)(a)(ii), Rule 5(1)(e), AI 24 and 40)

Every application for a patent must contain an abstract. Where no abstract is provided, the ARIPO Office shall invite the applicant to correct the deficiency either by providing an abstract or by paying the prescribed fee for the preparation of the abstract by the ARIPO Office itself.

1.3.11 Designation of Contracting States (Section 3(1)(a)(iii), Rule 5(1)(f), AI 20)

1.3.11.1 General remarks

All the States designated must be Contracting States to the Harare Protocol at the filing date of the application (for a list of the ARIPO Contracting States, see the General Part of the Guidelines, section). Any other State entered on the request for grant must be disregarded.

1.3.11.2 Insufficient designation fee

If during the periods of grace designation fees are paid, it is first necessary to establish how many designated states are covered by the total sum paid for that purpose. The applicant must then be invited, to inform ARIPO for which Contracting States the designation fees are to be used for or ARIPO will apply the sum paid to the first designated states as indicated on the request submitted by the applicant.

1.3.11.3 Application deemed to be withdrawn

Where no designation fee is validly paid by expiry of the periods of grace, the application is deemed to be withdrawn; the surrender of one or more priority claims subsequent to this legal consequence does not alter the position.

1.3.11.4 Fees (Rules 11 and 17, AI 47(3))

Where the application is deemed to have been withdrawn because of failure to pay the designation fees, the loss of rights ensues on expiry of the normal period. Similarly, the deemed withdrawal of a designation of a Contracting State takes effect upon expiry of the normal period, and not upon expiry of the period of grace provided. The applicant is notified of the loss of rights only where, contrary to his originally declared intention in the Request for Grant, he has failed to pay designation fees for States for which he had indicated his intention to pay.

1.3.12 Request for Grant (Section 3(1)(a), Rule 5(1)(a), Rule 17, AI 20 and 47)

The designation of the Contracting States in which protection for the invention is desired shall be contained in the request for grant of an ARIPO patent whereas the designation fees may be paid on filing or within 21 days from the date of filing. The use of the prescribed Request for Grant with its pre-crossed declaration designating all Contracting States belonging to the ARIPO at the filing of the application ensures that all designations are made on the day the application is filed, giving the applicant time, until expiry of the period for paying the designation fees, to decide which Contracting States he actually wants his patent to cover. This he does by paying the designation fees for those States.

Contracting State may be withdrawn by the applicant at any time up to the grant of the patent. The designation fee is not refunded when a designation is withdrawn. Withdrawal of the designation of all the Contracting States results in the application being deemed to be withdrawn and the applicant is notified accordingly. The designation of a Contracting State may not be withdrawn as from the time when a third party proves to the ARIPO that he has initiated proceedings concerning entitlement and up to the date on which ARIPO resumes proceedings for grant.

1.3.13 ARIPO-PCT applications entering the ARIPO phase (Section 3bis)

For ARIPO-PCT applications entering the ARIPO phase, the designation fees must be paid upon entry or within 21 days from the date of entering the ARIPO phase. The designation of any Contracting State for which no designation fee has been

paid in time is deemed to be withdrawn. If no designation fee for the ARIPO-PCT application entering ARIPO phase is paid at all within the basic period, the ARIPO patent application is deemed to be withdrawn. If the ARIPO finds that such deemed withdrawal of the ARIPO patent application or the designation of a Contracting State has occurred, it informs the applicant accordingly. The loss of rights is deemed not to have occurred if, within two months from notification of the communication, the omitted act is performed. Upon the receipt of the communication, applicant may request for extension of time to perform the omitted act subject to payment of the prescribed extension request fee.

1.3.14 Correction of deficiencies (Section 3(2)(b), Rule 15(2) and AI 9)

1.3.14.1 Procedure of the Formalities Section

Where during the examination for compliance with the requirements set out in earlier sections of this Chapter that there are deficiencies which may be corrected, the Formality Section must give the applicant the opportunity to rectify each such deficiency within a specified period.

The Formalities Section should in the first report to the applicant raise all the formal objections that become evident from a first examination of the application. If the applicant is required to appoint a representative but has not done so, the formalities examiner should in his first report not only cover this deficiency but any other obvious deficiencies as it should be assumed that the applicant on receipt of the report will appoint a representative within the period allowed.

1.3.14.2 Period allowed for remedying deficiencies (Rule 15bis and AI 13)

The ARIPO Office determines the periods for remedying the following deficiencies:

(i) non-appointment of a representative where the applicant has neither his residence nor principal place of business in a Contracting State, or failure to file an authorization where this is necessary;

(ii) documents making up the application not complying with physical requirements;

(iii) request for grant (with the exception of the priority criteria) not satisfactory

(iv) abstract not filed; and

(v) priority document, file number or translation of the previous application is missing.

The period allowed for remedying any of the above deficiencies must not be less than 2 months and not more than 4 months. As a general rule, the period is set at 2 months. If any of the listed deficiencies is not corrected within the time limit allowed, the application is refused (in cases (i) to (iv) above) or (in cases (v) and (vi) above) a loss of right occurs, and the applicant receives a communication from ARIPO to that effect. Where appropriate, the Search Examiner is informed of such refusal or loss of rights.(See Annex I for the list of Contracting States to the Paris Convention).

1.4 SPECIAL PROVISIONS

1.4.1 ARIPO divisional applications (Section 3(15) and AI 28)

When may a divisional application be filed?

Any pending ARIPO patent application may be divided. In order to divide an ARIPO application, the applicant files one or more ARIPO divisional applications. It is irrelevant what kind of application the ARIPO patent application which is divided, i.e. the parent application, is. The parent application could thus itself be an earlier divisional application. In the case of the parent application being ARIPO PCT application, a divisional application can only be filed once the ARIPO-PCT application is pending before ARIPO acting as a designated or elected Office, i.e. the ARIPO-PCT application must have entered the ARIPO phase.

As noted above, the parent application must be pending when a divisional application is filed. In the case of an application being filed as a divisional application from an application which is itself a divisional application, it is sufficient that the latter is still pending at the filing date of the second divisional application. An application is pending up to (but not including) the date that the ARIPO Patent Journal mentions the grant of the patent. It is not possible to validly file a divisional application when the parent application has been refused, withdrawn or is deemed to be withdrawn. Re-establishment of rights is excluded as regards the filing of a divisional application.

If an application is deemed to be withdrawn due to the non-observance of a time limit (e.g. following failure to file the designation of the inventor to pay the fees for grant and printing or the claims fees, or to file the translation of the claims in due time, the application is no longer pending when the non-observed time limit has expired, unless the loss of rights, as communicated, is remedied. This may be effected either by means of an allowable request for further processing or re-establishment of rights or, if the applicant considers that the finding of ARIPO was inaccurate, by applying for a decision, whereupon either the competent ARIPO department shares his opinion and rectifies its decision or that department gives an unfavorable decision which is subsequently overturned on appeal.

Once an application has been refused, a divisional application can no longer be validly filed, unless the applicant files a notice of appeal, in which case the decision to refuse cannot take effect until the appeal proceedings are over. As the provisions relating to the filing of divisional applications also apply in appeal proceedings, a divisional application may be filed while such appeal proceedings are under way.

1.4.2 Persons entitled to file a divisional application

Only the applicant on record may file a divisional application. This means that, in the case of a transfer of an application, a divisional application may only be filed by or on behalf of the new applicant if the transfer was duly registered and therefore effective at the filing date of the divisional application.

1.4.3 Date of filing of a divisional application; claiming priority

1.4.3.1 Date of filing

An ARIPO divisional application may be filed in respect of subject-matter which does not extend beyond the content of the parent application as filed. Provided this requirement is met, the divisional application is deemed to have been filed on the date of filing of the parent application and enjoys that application's priority. A divisional application filed in due form, i.e. meeting the requirements is accorded the same date of filing as the parent application. The question of whether it is confined to subject-matter contained in the parent application is not decided until the examination procedure.

1.4.3.2 Claiming priority

A priority claimed in the parent application may apply also to the divisional application. Provided that the parent application's priority claim has not lapsed, the divisional application retains that priority; it is not necessary to claim it formally a second time. A parent application's priority claim will, however, not be retained, if that priority claim is withdrawn in the divisional application. If a copy and any translation of the priority application have been filed in respect of the parent application before the divisional application is filed, it is not necessary to file the priority documents again in respect of the divisional application. The ARIPO makes a copy of these documents and places them in the file of the divisional application.

If, when the divisional application is filed, no priority documents have been filed in respect of the parent application, they must be filed in respect of the divisional application and, if the priority of the parent application's remaining subject-matter is to be retained, in respect of the parent application also. The applicant can also inform ARIPO, within the time limit set for filing priority documents in the divisional application proceedings, that he has in the meantime submitted these documents in respect of the parent application. If the subject-matter of the divisional application relates only to some of the priorities claimed in the parent application, priority documents in respect of the divisional application need be filed for those priorities only. This applies also as regards indicating the file number of the priority application.

1.4.4 Filing a divisional application (Section 3(15)(a), AI 28(3)(a)

Where to file a divisional application?

A divisional application must be filed directly to ARIPO. The filing of an ARIPO divisional application with a national authority has no effect in law; the authority may however, as a service, forward the ARIPO divisional application to ARIPO. If a competent national authority chooses to forward the application, it is not deemed received until the documents are filed at ARIPO.

1.4.5 Request for grant

The request for grant of a patent must contain a statement that a divisional application is sought and state the number of the parent application. If the request is deficient, as can arise if there is no indication that the application constitutes a divisional application, although some of the accompanying

documents contain an indication to that effect, or if the number is missing, the deficiency may be corrected in the manner consistent with the guidelines.

1.4.6 Language requirements

A divisional application must be filed in English. The application is not accorded the date of filing of the parent application if the requirement is not met.

1.4.7 Designation of Contracting States

In the divisional application only such Contracting States may be designated as, on the date it is filed, are still validly designated in the parent application. The designation of other States is without effect, and the applicant is notified of this.

1.4.8 Fees

1.4.8.1 Filing and designation fees

The filing and designation fees for the divisional application must be paid within 21 days after it is filed (basic time limit).

1.4.8.2 Renewal fees

For the divisional application, as for any other ARIPO patent application, renewal fees are payable to the ARIPO Office. The date of filing the parent application is also the date from which the time limits for payment of the renewal fees for the divisional application are calculated. If, when the divisional application is filed, renewal fees for the parent application have already fallen due, these renewal fees must also be paid for the divisional application and fall due when the latter is filed. The period for payment of these fees is 21 days after the filing of the divisional application. If not paid in due time, they may still be validly paid within six months of the date on which the divisional application was filed, provided that at the same time surcharge fee of the renewal fees paid late is paid. The same applies if on the date of filing of the divisional application a further renewal fee in addition to those to be made good falls due, or a renewal fee falls due for the first time.

1.4.9 Authorizations

The provisions apply with regard to authorizations in respect of the divisional application. If, according to these provisions, the representative has to file an authorization, he may act on the basis of an individual authorization filed in respect of the parent application only if it expressly empowers him to file divisional applications.

1.4.10 Other formalities examination

The formal examination of divisional applications is carried out as for other applications. The provisions apply with regard to divisional applications relating to nucleotide or amino acid sequences.

1.4.11 Further procedure

Divisional applications are searched, published and examined in the same way as other ARIPO patent applications. The applicant is required to file request for examination and pay search and examination fees.

1.4.12 Display at an exhibition (Section 3(10)(d))

Certificate of exhibition; identification of invention

Where an applicant states when filing his application that the invention which is the subject of the application has been displayed at an official or officially recognized international exhibition falling within the terms of the Convention on international exhibitions, he must file a certificate of exhibition within four months of the filing of the ARIPO patent application. The certificate, which must have been issued during the exhibition by the authority responsible for the protection of industrial property at the exhibition, must indicate the following:

(i) that the invention was exhibited at the exhibition;

(ii) the opening date of the exhibition; and

(iii) the date of the first disclosure, if different from the opening date of the exhibition.

The certificate must be accompanied by an identification of the invention authenticated by the authority referred to above.

1.4.12.1 Defects in the certificate or the identification

The Formality Section acknowledges receipt of the certificate and identification of the invention. The Formality Section draws the applicant's attention to any manifest defects in the certificate or the identification in case it is possible to rectify the deficiencies within two months. The applicant is notified if the certificate or identification is not furnished within the time allowed.

1.4.13 Applications relating to biological material (Section 3(1)(b), Rule 6bis.1)

1.4.13.1 Biological material; deposit thereof

In accordance with Rule *7bis.1(a),* "biological material" means any material containing genetic information capable of reproducing itself or being reproduced in a biological system. Where in relation to an application concerning biological material an applicant states that he has deposited in accordance with the biological material with a depositary institution recognized for the purposes of Rules 6bis.1, he must, if such information is not contained in the application as filed, submit the name of the depositary institution and the accession number of the culture deposit and, where the biological material has been deposited by a person other than the applicant, the name and address of the depositor, within whichever of the following periods is the first to expire:

(i) within a period of sixteen months of the date of filing of the ARIPO patent application or the date of priority, this time limit being deemed to have been met if the information is submitted before completion of the technical preparations for publication of the ARIPO patent application;

(ii) if a request for early publication of the application is submitted, up to the date of such submission; or

(iii) if it is communicated that a right to inspection of the files pursuant exists, within one month of such communication. Moreover, when the depositor and applicant are not identical, the same time limit applies for submitting a document satisfying the ARIPO Office that the depositor has authorized the applicant to refer to the deposited biological material in the application and has given his unreserved and irrevocable consent to the deposited material being made available to the public.

The depositary institution must be one appearing on the list of depositary institutions recognized for the purposes of Rule 6*bis*. 2.(5), as published in the Official Journal of ARIPO. This list includes the depositary institutions, especially the International Depositary Authorities under the Budapest Treaty. An up-to-date list is regularly published in the Official Journal.

1.4.13.2 Missing information; notification

When the Formality Section notices that the information required i.e. indication of the depositary institution and the accession number of the culture deposit or the information and the document referred to in Rule *6(3) bis 1* (authorization to refer the deposit and the consent to it being made available) is not contained in or has not yet been submitted with the application, it should notify the applicant of this fact as this information can only be validly submitted within the time limits specified in Rule 6(3) *bis 1 (2)(a)*. In the case of missing information pursuant to Rule 6(3*) bis 1* the deposit must be identified in the patent application as filed in such a way that the later submitted accession number can be traced back without ambiguity. This can normally be done by indicating the identification reference given by the depositor within the meaning of the Budapest Treaty. The applicant is also informed when a deposit with a recognized depositary institution is referred to but no receipt from the depositary institution has been filed. Any further action is a matter for the Examining Division, in particular, as regards the Examining Division's treatment of applications relating to biological material.

1.4.13.3 Availability of deposited biological material to expert only

Until the date on which the technical preparations for publication of the application are deemed to have been completed, the applicant may inform the ARIPO Office that, until the publication of the mention of the grant of the ARIPO patent or, where applicable, for twenty years from the date of filing if the application has been refused or withdrawn or is deemed to be withdrawn, the availability referred to in Rule *6bis. 3*.is to be effected only by the issue of a sample to an expert.

The above communication must take the form of a written declaration addressed to the ARIPO Office. This declaration may not be contained in the description and the claims of the ARIPO patent application, but may be filed separately. If the declaration is admissible, it is mentioned on the ARIPO Form 25 when the ARIPO patent application is published. If the applicant duly informs the ARIPO Office the biological material is issued only to an expert recognized by the Director General of ARIPO or approved by the applicant.

The list of recognized microbiological experts, giving their particulars and their fields of activity, is published in the Official Journal.

1.4.14 Applications relating to nucleotide and amino acid sequences

If nucleotide and amino acid sequences corresponding to the definition in WIPO Standard ST.25, paragraph 2(ii), are disclosed in the ARIPO patent application, they should be represented in a sequence listing which conforms to this WIPO Standard. The sequence listing should preferably be filed as part of the description, although it may also be filed later, in which case it does not form part of the application. In addition to submission in written form on paper or electronically, the sequence listing must also be submitted in computer readable form either on an authorized electronic data carrier or as attached to the electronically filed application. Data in computer readable form must comply with WIPO Standard ST. 25. The information recorded on the electronic data carrier must be identical to the written sequence listing which is the authentic version. The applicant or his representative must submit a statement to that effect accompanying the data carrier.

The Formality Section will inform the applicant of any deficiencies in the written sequence listing, the electronic data carrier or the statement under Rule 5 and invite him to remedy the deficiencies within a period of two months. If the requirements of Rule 5 are not complied with in good time, where appropriate following the invitation to do so from the Formality Section, the application will be refused. The applicant may request further processing of the application.

1.4.15 Conversion into a national application (Section 3(8) and Rule 19)

The request for conversion is to be made to the ARIPO Office. If a request for conversion is filed with the ARIPO Office, it must specify the Contracting States in which the application of national procedures is desired and be accompanied by a conversion fee. In the absence of the fee the applicant is notified that the request will not be deemed to be filed until the fee is paid. The ARIPO Office transmits the request to the industrial property offices of the specified Contracting States accompanied by a copy of the files relating to the ARIPO application or patent.

1.5 COMMUNICATING THE FORMALITIES REPORT; AMENDMENT OF APPLICATION; CORRECTION OF ERRORS

1.5.1 Communicating the formalities report (AI 42(2))

After a formalities examination, the Formality Section issues a notification to the applicant if the application is found to be formally defective. The notification will identify all the particular requirements of the Harare Protocol which the application does not satisfy and, in the case of deficiencies which can be corrected, will invite the applicant to correct such deficiencies within specified periods. The applicant will be notified of the consequences, e.g. application deemed withdrawn, priority right lost, which result from the deficiencies or failure to take appropriate action within due time.

In general, a time limit will be specified for meeting each particular objection. These time limits are either fixed by the Harare Protocol or left, subject to certain restrictions, to the discretion of the ARIPO Office. If a deficiency is not rectified within due time, then the legal effects that are envisaged will apply.

1.5.2 Amendment of application

1.5.2.1 Filing of amendments

Prior to the receipt of the ARIPO notification the applicant may amend his application only if the Formality Section has invited him to remedy particular deficiencies. Also during the period in which the application may still be with formality section, the applicant may of his own volition amend the description, claims and drawings. However the ARIPO patent application may not be amended in such a way it contains subject matter which extends beyond the content of the application as filed.

1.5.2.2 Examination of amendments as to formalities

The Formality Section examines amendments filed after the receipt of the notification, for formal requirements. Such amendments must remedy the deficiencies notified by the Formality Section.

1.5.3 Correction of errors in documents filed with the ARIPO Office (AI 5(1))

Linguistic errors, errors of transcription and mistakes in any document filed with the ARIPO Office may be corrected on request. Requests for such amendments may be made at any time. However, if the error to be corrected concerns items

which third parties might expect to be able to take at face value, so that their rights would be jeopardized by correction (e.g. priority claims), the request for correction must be filed as soon as possible, and at least in time that it could be incorporated in the publication of the ARIPO patent application. An exception to this rule may be allowed if it is apparent on the face of the published application that a mistake has been made. If the error is in the description, claims or drawings, the correction must be obvious in the sense that it is immediately evident that nothing else could have been intended than what is offered as the correction. Such a correction may be effected only within the limits of what a skilled person would derive directly and unambiguously, using common general knowledge, and seen objectively and relative to the date of filing, from the whole of the documents as filed. Pursuant to this Notice, these technical documents may also be attached in a format other than those listed, provided that the applicant informs the ARIPO, when filing the application, where the ARIPO can reasonably acquire the corresponding software.

It is in particular not allowable to replace the complete application documents (i.e. description, claims and drawings) by other documents which the applicant had intended to file with his request for grant.

1.6 PUBLICATION OF APPLICATION; REQUEST FOR EXAMINATION AND TRANSMISSION OF THE DOSSIER TO SUBSTANTIVE EXAMINERS

1.6.1 Publication of application

1.6.1.1 Date of publication

The application is published as soon as possible after the expiry of a period of 18 months from the date of filing or, where priority is claimed, from the earliest priority date. The application may, however, be published before that date if requested by the applicant and provided the filing and search fees have been validly paid. If the decision granting the patent becomes effective before expiry of the period referred to above, the application and the patent specification will both be published early.

If the applicant abandons his priority date, then the publication is deferred provided that the notification of the abandonment is received by the ARIPO Office before

the termination of the technical preparations for publication. These preparations are considered terminated at the end of the day seven, week before the end of the eighteenth month from the date of priority, if priority is claimed, or from the date of filing, if the priority is abandoned or if no priority is claimed. The applicant is informed when they are actually completed, and also of the publication number and intended publication date. Where the notification of abandonment of the priority is received after that time, publication, if it has not already taken place, takes place as if the priority date applied, although a notice as to the abandonment of the priority will appear in the ARIPO Journal. The same procedure is followed when the priority right is lost.

1.6.1.2 No publication; preventing publication

The application is not published if it has been finally refused or deemed withdrawn or withdrawn before the termination of the technical preparations for publication. These preparations are considered terminated at the end of the day seven, week before the end of the eighteenth month from the date of filing or priority. The application is, however, published if, upon termination of the technical preparations for publication, a request for a decision has been received but no final decision has yet been taken.

If after termination of the technical preparations the application is withdrawn to avoid publication, non-publication cannot be guaranteed. The ARIPO will however try to prevent publication on a case-by-case basis if the stage reached in the publication procedure permits this reasonably easily.

The application may be withdrawn by means of a signed declaration, which should be unqualified and unambiguous. The applicant is bound by an effective declaration of withdrawal, but may make it subject to the proviso that the content of the application is not made known to the public. This takes into account the procedural peculiarity that the applicant who makes his declaration of withdrawal later than seven weeks before the date of publication cannot know whether publication can still be prevented. However, neither the application nor the designation of a Contracting State may be withdrawn as from the time a third party proves that he has initiated proceedings concerning entitlement and up to the date on which the ARIPO Office resumes the proceedings for grant.

1.6.1.3 Content of the publication

The publication must contain the description, the claims and any drawings as filed, and specify, where possible, the person(s) designated as the inventor(s). It also indicates the designated Contracting States. When an ARIPO application is published, the States for which protection is actually sought may not yet be known, because the time limit for paying the designation fees is still running. The publication therefore always shows as designated all States party to the Harare Protocol on the date the application was filed. Those definitively designated - through actual payment of designation fees - are announced later in the Register of ARIPO Patents and the ARIPO Journal.

The publication also contains any new or amended claims filed by the applicant, together with the ARIPO search report and the abstract determined by the Search Division if the latter are available before termination of the technical preparations for publication. Otherwise the abstract filed by the applicant is published. The search opinion is not published with the ARIPO search report. If a request for correction of errors in the documents filed with the ARIPO is allowed, it must be incorporated in the publication. If upon termination of the technical preparations for publication a decision is still pending on a request for correction of items which third parties might expect to be able to take at face value, so that their rights would be jeopardized by correction (e.g. priority claims), this must be mentioned on the front page of the publication, as must a request for correction of errors in the description, claims or drawings. If ARIPO has received a communication from the applicant, this too must be mentioned. Further data may be included at the discretion of the Director General of ARIPO. The publication may not contain any designation of States finally deemed withdrawn or withdrawn by the applicant before the termination of the technical preparations for publication.

The originals of documents filed are used for publication purposes where these documents meet the physical requirements, otherwise the amended or replacement documents meeting these requirements are used. Prohibited material is omitted from the documents before publication, the place and number of words or drawings omitted being indicated.

Sequence listings filed on the date of filing are published as part of the description, whereas sequence listings filed thereafter are published as an annex to the application documents or to the ARIPO patent specification.

1.6.1.4 Separate publication of the ARIPO search report

If not published with the application, the ARIPO search report is published separately.

1.7 APPLICATIONS UNDER THE PATENT COOPERATION TREATY (PCT) BEFORE THE ARIPO OFFICE ACTING AS A DESIGNATED OR ELECTED OFFICE (Section 3*bis* and Rule 23)

1.7.1 Introduction

The general considerations relating to applications under the PCT for which ARIPO acts as a designated or elected Office is deemed to be an ARIPO patent application. In order to initiate the ARIPO phase, the requirements for entry into the ARIPO phase according to Rule 23 must be complied with.

1.7.1.1 Initial processing and formal examination; copy of the international application; translation.

The initial processing and formal examination of international applications in the international phase are carried out by PCT authorities under provisions of the PCT. Unless there is a specific request from the applicant, the ARIPO Office acting as a designated or elected Office may not process or examine an international application prior to the expiry of 31 months from the date of filing of the application or, if priority has been claimed, from the earliest priority date. Since ARIPO has not exercised the waiver referred to in PCT, a copy of the international application will be furnished by the International Bureau.

Where the language of the international application is not an official language of ARIPO, the applicant is required to furnish a translation within the specified period. The application is deemed to be withdrawn if the translation is not furnished within that specified period. If the ARIPO Office finds that the application is deemed to be withdrawn for this reason, it communicates this to the applicant. The loss of rights is deemed not to have occurred if, within two months as from notification of the communication, the translation is filed.

1.7.2 Filing fee and designation fee

The applicant must pay the filing and designation fees within a period of 21 days from the date of entering the ARIPO phase. Failure to pay in due time the filing and designation fee means that the application is deemed to be withdrawn. Any designation of a Contracting State for which the designation fee has not been paid in due time is deemed to be withdrawn. If the ARIPO Office finds that the application or the designation of a Contracting State is deemed to be withdrawn for this reason, it communicates this to the applicant.

1.7.3 PCT vs. Harare Protocol provisions

In proceedings before the ARIPO Office relating to international applications, the provisions of the PCT are applied, supplemented by the provisions of the Harare Protocol.

In case of conflict, the provisions of the PCT prevail. ARIPO cannot require compliance with requirements relating to form or contents of the international application different from or additional to those which are provided for in the PCT. As a result of the overriding PCT provisions and the requirements of the Harare Protocol, relating to international applications pursuant to the PCT. In particular, where the PCT international publication was in an official ARIPO language, it is not necessary for the Formality Section to subject the copy of the application furnished to the ARIPO Office to a formalities examination except to the extent indicated later. On the other hand, where it is necessary to furnish a translation of the international application, the Formality Section must carry out for that translation a more extensive formalities examination.

The formalities examination of an international application, insofar as it differs from that applicable to ARIPO direct applications, is considered in what follows by reference to the provisions of appropriate sections of the earlier Chapters of this Part. Unless otherwise specified, the comments relate to the translation of the international application.

1.7.4 Filing of PCT applications and examination on filing

Where and how applications may be filed do not apply to international applications, except where explicit reference is made to international applications, including ARIPO-PCT applications.

The PCT requirements corresponding to persons entitled to file an application are more restrictive, as in general the applicant must be a resident or national of a PCT Contracting State and therefore no supplementary examination should be necessary.

The date of filing ("Examination on filing")) of a ARIPO-PCT application is that accorded under the PCT by the PCT authority which acted as the receiving Office. Nevertheless, the payment of the filing fee (i.e. the "filing fee and designation fee" as it is called for a ARIPO-PCT application entering the ARIPO phase as part of the "national fee" and, where applicable, the supply of a translation should be checked. The period for supplying the translation and for payment of the above-mentioned fees is as specified in the Harare Protocol.

1.7.5 Examination of formal requirements under the PCT

1.7.5.1 Representation

The provisions of Representation apply to international applications whether furnished in an official language or in translation. A professional representative having a right to practice before the PCT International Authorities is not necessarily authorized to act before the ARIPO Office.

1.7.5.2 Physical requirements

The application must be examined for compliance with the physical requirements. The requirements are in general identical with the corresponding requirements of the PCT and no supplementary examination should be necessary when the application is furnished in an official language.

1.7.5.3 Request for grant

The request for grant ("Request for grant")) for international applications will appear on the PCT Request form (Form PCT/RO/101). This form corresponds in general to the ARIPO Request for Grant form (Form 3) and provides for the entry of the information listed in Section 3, with the exception of the items referred to in sub-paragraphs (e) and (f) thereof.

1.7.5.4 Designation of inventor

The requirement, ("Designation of inventor"), that the designation of inventor is filed in a separate document where the applicant is not the inventor or the sole inventor has to be complied with irrespective of the language of the international application, unless the inventor has already been named in the PCT request. Where the inventor has been named in the PCT request, he cannot waive his right to be mentioned in the published application. If the inventor has not been named in the international application at the expiry of the period of 31 months from the date of filing, or, in the case of priority, from the earliest date of priority claimed, the ARIPO Office invites the applicant to file the designation of inventor within a specified period.

1.7.5.5 Claim to priority

The claim to priority ("Claim to priority")) for an international application refers to the date, or dates, claimed under the PCT. Normally, the copy of the previous application, i.e. the priority document, is furnished to the ARIPO Office as designated Office by the International Bureau.

1.7.5.6 Title of the invention

The title need only meet the less demanding requirements of Rule 5(b).

1.7.5.7 Drawings

"Filing of drawings" with regard to the filing of drawings are identical with the corresponding provisions of Art. 14(2) PCT and therefore no supplementary examination should be necessary.

1.7.5.8 Abstract

The abstract is included in the copy of the international application supplied to the ARIPO Office.

1.7.5.9 Divisional applications

One or more ARIPO divisional applications may be filed in respect of subject-matter contained in an earlier ARIPO-PCT application, but not before the latter application is pending before ARIPO acting as designated or elected Office, i.e.

has entered the ARIPO phase. The divisional application must be filed in the language of the earlier application if that language is an official language of ARIPO, otherwise it must be filed in the language of the translation of the earlier application as furnished to the ARIPO Office.

1.7.5.10 Sequence listings

Rules 5.2 and *13ter* PCT apply to the filing of sequence listings.

Part II GUIDELINES FOR SEARCH

2.1 INTRODUCTION

This part is drafted for, and applies to, ARIPO searches, i.e. searches performed by the ARIPO Office for ARIPO applications. In addition to these searches the Search Examiners of ARIPO are called upon to carry out other types of searches. Searches in the context of the Patent Co-operation Treaty (PCT) are dealt with in the PCT Search and Examination Guidelines.

2.1.1 Search and Examination Section

The unit within the ARIPO Office responsible for carrying out the search and drawing up the search report for an application is the Search and Examination Section, which consists normally of the examiners. In this Part, the term "examiner" is used to mean the examiner entrusted with the search and examination within the Search Examining Section.

2.1.2 Search and substantive examination

The procedure through which an ARIPO patent application proceeds from the filing of the application to the grant of a patent (or the refusal of the application) comprises two separated basic stages, i.e. the search and substantive examination.

2.1.3 Objective of the search

The objective of the search is to discover the prior art which is relevant for the purpose of determining whether, and if so to what extent, the invention to which the application relates is new and involves an inventive step.

2.1.4 Search documentation

The search is carried out through consultation of internal or external collections of documents or databases, the contents of which are systematically accessible, e.g. by means of words, classification symbols or indexing codes. These are primarily patent documents of various countries, supplemented by a number of articles from periodicals and other non-patent literature.

2.1.5 Search report

A search report is prepared containing the results of the search, in particular by identifying the documents constituting the relevant prior art. The search report serves to provide information on the relevant prior art to the applicant, to the Search and Examination Section of the ARIPO Office and, by means of its publication, to the public.

2.1.6 ARIPO searches

The task of the Search and Examination Section is primarily to carry out searches and draw up search reports in relation to ARIPO patent applications. In addition to these usual searches, the Search and Examination Section of the ARIPO Office may be called upon to perform various other types of searches, which are listed in the following paragraphs.

2.1.7 Additional ARIPO searches

At the examination stage of an ARIPO patent application an additional search may be necessary. The reasons for such an additional search may be, for example:

(i) amendment of claims so that they embrace matter not covered by the original search, (for claims not searched because of lack of unity and for amendments introducing subject-matter from the description resulting in claims defining subject-matter which is not linked by a single general inventive concept to the subject-matter originally searched);
(ii) removal by amendment or rebuttal, during substantive examination, of the deficiencies which resulted in the issuance of an incomplete search or a declaration taking the place of a search report.

(iii) reversal, by the Search and Examination Section, of an opinion of the Search Examiner with respect to novelty or lack of inventive step or on other issues, in particular lack of unity of invention, exclusions from the search; and

(iv) limitations or imperfections in the initial search.

The Search and Examination Section makes use of documents found in such an additional search, where they are considered relevant to the examination of the application. Where a new document is used in the examination procedure, a copy must be communicated to the applicant.

In a similar way, an additional search may become necessary during examination of oppositions against an ARIPO patent.

2.1.8 International (PCT) searches

For the search practice as regards international (PCT) searches, reference is made to the PCT International Search and Preliminary Examination Guidelines.

2.1.9 International-type searches

The ARIPO Office may be entrusted to carry out "international-type searches" for national patent applications. These searches are by definition similar to international searches, and the same considerations apply, except where unity of invention is lacking; the procedure is then brought into line with the ARIPO procedure. This means that in case of a lack of unity in a national application subject to an international-type search, the reasons for the lack of unity are not given and a written opinion will not be issued.

2.1.10 Searches on national applications

The Search and Examination Section of the ARIPO Office also carry out searches on national applications of certain of its Contracting States. These guidelines are not necessarily fully applicable to these national searches, nor are the ways in which these searches differ from ARIPO searches specifically pointed out. However, these national searches are to a large extent identical to, or compatible with, ARIPO searches.

2.2. CHARACTERISTICS OF THE SEARCH

2.2.1 Opinions in relation to the search report

The objective of the search is to discover the relevant prior art for the purpose of assessing novelty and inventive step. Decisions on novelty and inventive step are the province of the Substantive Examiner. However, in the search opinion, the Search Examiner gives the applicant a reasoned opinion on whether the application and the invention to which it relates meet the requirements of the Harare Protocol, to which he can reply in the examination procedure. Opinions on patentability are also implicitly expressed in the search report by the assignment of document categories, and are subject to review by the Substantive Examiner at the examination stage, in particular in the light of the applicant's reply thereto.

The assessment of patentability at the search stage can have a direct bearing on the execution of the search itself, (search for subject-matter of dependent claims), (search in analogous technical fields) and (stopping the search when only trivial matter remains).

2.2.2 Opinions on matters relating to the limitation of the search

Occasionally matters of substantive examination other than novelty or inventive step have a direct bearing on the execution of the search and may result in a limitation thereof; here again these opinions are subject to review by the Substantive Examiner.

2.2.3 Scope of the search

2.2.3.1 Completeness of the search

The ARIPO search is essentially a thorough, high-quality, all-embracing search. Nevertheless, it must be realized that in a search of this kind, 100% completeness cannot always be obtained, because of such factors as the inevitable imperfections of any information retrieval system and its implementation, and may not be economically justified if the cost is to be kept within reasonable bounds. The search should be carried out in such a manner as to reduce to a minimum the possibility of failing to discover complete anticipations for any claims, or other highly relevant prior art. For less relevant prior art, which often exists with a fair

amount of redundancy amongst the documents in the search collection, a lower recall ratio can be accepted. The scope of the Search and Examination Section must endeavor to discover as much of the relevant prior art as its facilities permit and must, in any case, consult the documentation specified in the PCT Regulations (Rule 34 PCT). It follows from this definition ("as its facilities permit") that the scope of an ARIPO search shall be equivalent to an International search. International and ARIPO searches shall thus be fully compatible.

2.2.3.2 Effectiveness and efficiency of the search

The effectiveness and efficiency of any search for relevant documents depend on the degree of order which is available in, or which can be applied to, the collection of documents to be searched, the order allowing the examiner to determine sections of the documentation to be consulted. The basic components for creating order in a collection of documents are words, classification units, indexing codes or bibliographical links between documents by commonly cited documents. The order may have a permanent character, as with indexing words, classification symbols or indexing codes, or it may be created on demand by a search strategy judiciously using the above-mentioned basic components, the outcome of which is a section of the documentation which is likely to contain material pertinent to the invention. The examiner should for reasons of economy exercise his judgement, based on his knowledge of the technology in question and of the available information retrieval systems, to omit sections of the documentation in which the likelihood of finding any documents relevant to the search is negligible, for example documents falling within a period preceding the time when the area of technology in question began to develop. Similarly he need only consult one member of a patent family unless he has good reason to suppose that, in a particular case, there are relevant substantial differences in the content of different members of the same family.

2.2.3.3 Special documents to be consulted

Certain categories of documents may be of special relevance to the ARIPO patent system, though they do not form part of the PCT minimum documentation. These documents should be consulted for ARIPO searches, additional ARIPO searches and international-type searches, and also for national searches unless specifically excluded in the agreement with the State concerned.

2.2.4 Search in analogous fields

The search is carried out in collections of documents or databases which may contain material in all those technical fields pertinent to the invention. The search strategy should determine the sections of the documentation to be consulted covering all directly relevant technical fields, and may then have to be extended to sections of the documentation covering analogous fields, but the need for this must be judged by the examiner in each individual case, taking into account the outcome of the search in the sections of the documentation initially consulted.

The question of which technical fields are, in any given case, to be regarded as analogous has to be considered in the light of what appears to be the essential technical contribution of the invention and not only the specific functions expressly indicated in the application. The decision to extend the search to fields not mentioned in the application must be left to the judgement of the examiner, who should not put himself in the place of the inventor and try to imagine all the kinds of applications of the invention possible. The overriding principle in determining the extension of the search in analogous fields should be whether it is probable that a reasonable objection of lack of inventive step could be established on the basis of what is likely to be found by the search in these fields.

2.2.5 Search on the internet

The ARIPO search can also cover internet sources, including online technical journals, online databases or other websites. The extent of such internet searches depends on the individual case, but in some technical fields a systematic internet search will regularly be necessary. Especially in fields related to information or software technology, searches bypassing the internet will often not yield the most relevant prior art.

2.2.6 The subject of the search

2.2.6.1 Basis for the search

The search should be made on the basis of the claims, with due regard to the description and drawings (if any). The claims determine the extent of the protection which will be conferred by the ARIPO patent if granted.

2.2.7 Interpretation of claims

The search should on the one hand not be restricted to the literal wording of the claims, but on the other hand should not be broadened to include everything that might be derived by a person skilled in the art from a consideration of the description and drawings. The objective of the search is to discover prior art which is relevant to novelty and/or inventive step. The search should be directed to what appear to be the essential features of the invention and take into account any changes in the (objective) technical problem underlying the invention which may occur during the search as a result of the retrieved prior art. In this regard it should be noted that although explicit references in the claims to features elucidated in the description are only permissible where "absolutely necessary", claims containing such references should still be searched if these technical features are unambiguously defined by specific parts of the description.

When interpreting claims for the purpose of the search, the search will also take into consideration prior art incorporating technical features which are well known equivalents to the technical features of the claimed invention, which may undermine inventive step.

2.2.7.1 Amended claims

Where an ARIPO application does not derive from an earlier international application, the applicant may amend the claims before receiving the ARIPO search report. The search and examination is directed to the claims as originally filed or amended in the ARIPO application. However, where an ARIPO application derives from an earlier international application, the applicant may have amended the international application in the international phase, either after receipt of the international search report (Art. 19(1) PCT) or during international preliminary examination (Art. 34(2)(b) PCT). The applicant may then specify that he wishes to enter the ARIPO phase with these or otherwise amended application documents (including claims). Furthermore, the applicant is given the opportunity by the ARIPO Office to amend the application documents (including the claims) within a set time limit. The application as amended serves as the basis for any supplementary ARIPO search which has to be performed.

2.2.7.2 Abandonment of claims

For ARIPO applications, claims that are deemed to have been abandoned for non-payment of fees must be excluded from the search. This applies both to searches to be carried out in respect of directly-filed ARIPO applications and to supplementary ARIPO searches to be carried out in respect of ARIPO-PCT applications

entering the ARIPO phase.

2.2.7.3 Anticipation of amendments to claims

In principle, and insofar as possible and reasonable, the search should cover the entire subject-matter to which the claims are directed or to which they might reasonably be expected to be directed after they have been amended . For example, where an application relating to an electric circuit contains one or more claims only directed to the function and manner of operation, and the description and drawings include an example with a detailed non-trivial transistor circuit, the search should include this circuit.

2.2.7.4 Broad claims (Rule 7(1))

No special search effort need be made for searching unduly wide or speculative claims, beyond the extent to which they relate to matter which is sufficiently disclosed in the application, and are supported by the description. If, for example, in an application relating to and describing in detail an automatic telephone exchange, the claims are directed to an automatic communication switching centre, the search should not be extended to automatic telegraph exchanges, data switching centers etc. merely because of the broad wording of the claim, but only if it is probable that such an extended search could produce a document on the basis of which a reasonable objection as regards lack of novelty or inventive step could be established. Likewise, if a claim is directed to a process for manufacturing an "impedance element" but the description and drawings relate only to the manufacture of a resistor element, and give no indication as to how other types of impedance element could be manufactured by the process of the invention, extension of the search to embrace, say, manufacture of capacitors would not normally be justified. If the main claim relates to the chemical treatment of a substrate, whereas it appears from the description or all the examples that the problem to be solved is solely dependent on the nature of natural leather, it is clear that the search should not be extended to the fields of plastics, fabrics or glass. Similarly, if the description and drawings are directed to a lock with a safety cylinder whereas the claims refer to a device allowing the indexation of the angular position of a first element with respect to two other rotating elements, then the search should be limited to locks. In exceptional cases where the lack of disclosure or support is such as to render a meaningful search over the whole of the scope of the claim(s) impossible, application of the procedure for an incomplete search or a declaration taking the place of a search report may be appropriate.

2.2.7.5 Independent and dependent claims (AI 22(5))

The search carried out in sections of the documentation to be consulted for the independent claim(s) must include all dependent claims. Dependent claims should be interpreted as being restricted by all features of the claim(s) upon which they depend. Therefore, where the subject-matter of an independent claim is novel, that of its dependent claims will also be novel. When the patentability of the subject-matter of the independent claim is not questioned as a result of the search, there is no need to make a further search or cite documents in respect of the subject-matter of the dependent claims as such. For example, in an application relating to cathode ray oscilloscope tubes, in which the independent claim is directed to specific means along the edge of the front of the tube for illuminating the screen and a dependent claim is directed to a specific connection between the front and the main part of the tube, the examiner should, in the sections of the documentation he consults for searching the illumination means, also search for the connecting means whether in combination with the illumination means or not. If, after this search, the patentability of the illuminating means is not questioned, the examiner should not extend his search for the connecting means to further sections of the documentation which are likely to contain material pertinent to or specifically provided for these connections. If in an application dealing with a pharmaceutical composition for treating nail infections the patentability of the subject-matter of the independent claim relating to specific combinations of the active ingredients is not questioned as a result of the search, there is no need to continue the search for dependent claims dealing with the use of a specific volatile organic solvent as a carrier in the composition.

2.2.7.6 Search on dependent claims

However, where the patentability of the subject-matter of the independent claim is questioned, it may be necessary for assessing whether the subject-matter of the dependent claim as such is novel and involves an inventive step to continue the search in other sections of the documentation, e.g. in one or more additional classification units. No such special search should be made for features that are trivial or generally known in the art. However, if a handbook or other document showing that a feature is generally known can be found rapidly, it should be cited.
When the dependent claim adds a further feature (rather than providing more detail of an element figuring already in the independent claim), the dependent claim is to be considered in combination with the features in the independent claim and should be dealt with accordingly.

2.2.7.7 Combination of elements in a claim

For claims characterized by a combination of elements (e.g. A, B and C) the search should be directed towards the combination. However, when searching sections of the documentation for this purpose, sub-combinations, including the elements individually (e.g. A and B, A and C, B and C, and also A, B and C separately) should be searched in those sections at the same time. A search in additional sections of the documentation either for sub-combinations or for individual elements of the combination should only be performed if this is still necessary for establishing the novelty of the element in order to assess the inventive step of the combination.

2.2.7.8 Different categories

When the application contains claims of different categories, all these must be included in the search. However, if a product claim clearly seems to be both new and non-obvious, the examiner should make no special effort to search claims for a process which inevitably results in the manufacture of that product or for use of the product. When the application contains only claims of one category, it may be desirable to include other categories in the search. For example, generally, i.e. except when the application contains indications to the contrary, one may assume that in a claim directed to a chemical process, the starting products form part of the state of the art and need not be searched; the intermediate products are only searched when they form the subject of one or more claims; but the final products will always have to be searched, except when they are evidently known.

2.2.8 Subject-matter excluded from search (Section 3(10)(h))

The examiner may exclude certain subject-matter from his search. These exclusions may result from certain subject-matter not complying with the provisions of the Harare Protocol and National Laws of Contracting States relating to exclusions from patentability or to susceptibility to industrial application. They may also arise where the application does not comply with the provisions of the Harare Protocol to such an extent that a meaningful search is impossible for some or all of the claims, or for a part of a claim, for other reasons or where the application does not comply with Rule 7 *bis*.3 (see paragraph 3.3.4.1).

2.2.9 Lack of unity (Section *2bis* and AI 21)

Also, when the claims of the application do not relate to one invention only, nor to a group of inventions linked so as to form a single general inventive concept, the search will normally be restricted to the invention or the linked group of inventions first mentioned in the claims. Restriction of the search for the above reasons will be notified to the applicant in a communication accompanying the partial search report.

2.2.10 Technological background

In certain circumstances it may be desirable to extend the subject-matter of the search to include the "technological background" of the invention. This would include: – the preamble to the first claim, i.e. the part preceding the expression "characterized by" or "characterized in that"; – the state of the art which in the introduction of the description of the application is said to be known, but not identified by specific citations; – the general technological background of the invention (often called "general state of the art").

2.3 SEARCH PROCEDURE AND STRATEGY

2.3.1 Procedure prior to searching

2.3.1.1 Analysis of the application

When taking up an application to be searched, the examiner should first consider the application in order to determine the subject of the claimed invention. For this purpose he should make a critical analysis of the claims in the light of the description and drawings. He should in particular consider the content of the claims, description and drawings sufficiently to identify the problem underlying the invention, the inventive concept leading to its solution, the features essential to the solution as found in the claims and the results and effects obtained Furthermore, where technical features which are not present in the claims are indicated in the description as essential for the solution of the stated problem, these features should be included in the search.

2.3.1.2 Formal deficiencies

If the examiner notices any formal shortcomings which have been overlooked by the Formality Section, he calls these, by means of an internal communication, to the attention of the Formality Section (or of the Search and Examination Section in the case of an additional search requested by that Section) which takes appropriate action. However, the examiner should not repeat the tasks of the Formality Section and should not undertake any time-consuming enquiries into these matters. Such deficiencies which the examiner might notice include:
(i) physical deficiencies of the application, including:

(a) no paper and/or no electronic sequence listing
(b) incorrect sequence and/or positioning of page numbering; and/or failure to use Arabic numerals in page numbering;

(c) presence of drawings in the description and/or claims

(d) presence of erasures and/or alterations in the application documents, such that the authenticity of the content and/or the requirements for good reproduction are jeopardized;

(ii) presence of prohibited matter in the application:

(a) which is contrary to "order public"; or

(b) constituting disparaging statements;

(iii) failure to comply with the provisions relating to the deposition of biological material, in particular with regard to the correct identification in the application of the depository institution and accession number of the biological material assigned to the deposited material by the depository institution failure to correctly identify the application as a divisional application.

2.3.1.3 Documents cited in the application

Documents cited in the application under consideration should be examined if they are cited as the starting point of the invention, as showing the state of the art, or as giving alternative solutions to the problem concerned, or when they are necessary for a correct understanding of the application. However, when such citations clearly relate only to details not directly relevant to the claimed invention, they may be disregarded.

In the exceptional case that the application cites a document that is not published or otherwise not accessible to the Search and Examination Section and the document appears essential to a correct understanding of the invention to the extent that a meaningful search would not be possible without knowledge of the content of that document, the Search and Examination Section should invite the applicant to either submit the document or indicate the subject-matter to be searched. If no copy of the document is received within the time limit and the applicant is unable to convince the Search Section in a timely response to the invitation that the document is not essential to facilitate a meaningful search, an incomplete search report or, where applicable, a declaration replacing the search report is prepared. This incomplete search report or declaration will be issued giving the following grounds:

(i) the non-availability of the document rendered the invention insufficiently disclosed; and

(ii) the insufficient disclosure mentioned in (i) existed to such a degree that a meaningful search was not possible on at least part of the claimed invention.

It should also be noted that where the applicant furnishes the document after the search report and the search opinion have been prepared, an additional search on that subject-matter originally excluded from the search may be carried out due to the correction of the deficiency which led to the incomplete search. However, applicants must be aware that such later furnished information can only be taken into account for sufficiency of disclosure under certain circumstances.

2.3.1.4 Abstract; official classification; title of the invention; publication

The examiner should then consider the abstract (together with the title of the invention and the figure, if any, of the drawings to be published with the abstract) in relation to the requirements laid down in the Implementing Regulations. Since the abstract should relate to the application as filed, the examiner should consider it and determine its definitive content before carrying out the search, in order to avoid being inadvertently influenced by the results of the search. If publication of the application is due before the search report is drawn up, the examiner has to establish the official classification of the application much earlier than he carries out the search; he examines then at the same time the abstract for the purpose of publication. This examination of the abstract does not go beyond ensuring that it relates to the application concerned and that no conflict exists with the title of the

invention or with the classification of the application. Information in relation to the abstract, the title of the invention and the figure, if any, of the drawings to be published with the abstract is transmitted to the applicant in the communication accompanying the search report. If the search report is published separately, this information is not given in the communication.

2.3.2 Search strategy

2.3.2.1 Subject of the search; restrictions

Having determined the subject of the invention, it may be desirable for the examiner to prepare first a search statement, defining the subject of his search as precisely as possible. In many instances one or more of the claims may themselves serve this purpose, but they may have to be generalized in order to cover all aspects and embodiments of the invention. At this time, the considerations relating to subjects excluded from patentability and to lack of unity of invention should be borne in mind. The examiner may also have to restrict the search because the requirements of the Harare Protocol are not met to such an extent that a meaningful search is impossible or because the application does not comply with Rule 7 *bis.3*. Any such restrictions to the search must be indicated in the search report or declaration taking the place of the search report. The declaration should indicate the reasons for any restrictions. The declaration or the incomplete search report is considered, for the purposes of subsequent proceedings, as the search report.

2.3.2.2 Formulating a search strategy

Next the examiner should start the search process by formulating a search strategy, i.e. a plan consisting of a series of search statements expressing the subject of the search, resulting in sections of the documentation to be consulted for the search. In its initial phase, a search strategy will contain one or more combinations of the basic components of the claims. The search process should be interactive and iterative in the sense that the examiner should reformulate his initial search statement(s) according to the usefulness of the information retrieved. When using classification units, the examiner should select the classification units to be consulted for the search, both in all directly relevant fields and in analogous fields. The selection of the classification units in related fields should be limited to:

(i) higher subdivisions allowing searching by abstraction (generalization) in as much as this is justified from a technical viewpoint; and

(ii) parallel subdivisions, bearing in mind the fact that the fields in question will become increasingly unrelated.

When the examiner is in doubt about the appropriate fields in which to conduct his search, he may request advice from the appropriate Principal Examiner.

Usually various search strategies are possible, and the examiner should exercise his judgement, based on his experience and knowledge of the available search tools, to select the search strategy most appropriate to the case in hand. He should give precedence to search strategies yielding sections of the documentation in which the probability of finding relevant documents is highest. Usually the main technical field of the application will be given precedence, starting with the basic components most relevant to the specific example(s) and preferred embodiments of the claimed invention.

2.4 CARRYING OUT THE SEARCH; TYPES OF DOCUMENTS

The examiner should then carry out the search, directing his attention to documents relevant for novelty and inventive step. He should also note any documents that may be of importance for other reasons, such as:

(i) conflicting documents which are:

(a) published ARIPO applications;

(b) published international applications;

(c) published national applications of the Harare Protocol Contracting States;

(d) any document published during the priority interval of the application which may be relevant in case of a non-valid priority date. When published within the priority interval of the application under search, these applications are cited in the search report as "P" documents; when published after the ARIPO or international filing date, they are cited in the search report as "E" documents;

(ii) documents putting doubt upon the validity of any priority claimed, which are cited in the search report as "L" documents;

(iii) documents contributing to a better or more correct understanding of the claimed invention, which are cited in the search report as "T" documents;

(iv) documents illustrating the technological background, which are cited in the search report as "A" documents;

(v) ARIPO patent applications having the same filing or priority date as the application in respect of which the search is carried out, from the same applicant and relating to the same invention and therefore relevant to the issue of double patenting , which are cited in the search report as "L" documents;

(vi) documents indicating or establishing the publication date of a document drawn from the internet, which are cited in the search report as "L" documents
; and

(vii) documents retrieved from the internet which do not have any publication date but which the examiner nonetheless wants to cite to inform the applicant or third parties which are also cited as "L" documents.

However, the Examiner should not spend a significant amount of time in searching for these documents, nor in the consideration of such matters unless there is a special reason for doing so in a particular case.

The examiner should concentrate his search efforts on the use of search strategies yielding sections of the documentation in which the probability of finding highly relevant documents is greatest, and, in considering whether to extend the search to other less relevant sections of the documentation, he should always take account of the search results already obtained.

2.4.1 Reformulation of the subject of the search

The examiner should continuously evaluate the results of his search, and if necessary reformulate the subject of the search accordingly. For example, the selection of the classification units to be searched or the order of searching them may also require alteration during the search as a consequence of intermediate results obtained. The examiner should also use his judgement, taking into account results obtained, in deciding at any time during the systematic search whether he should approach the search documentation in some different manner, e.g. by consulting:

(i) documents cited in relevant documents produced by the search, for example cited in the description or search report of a patent document; or

(ii) documents citing a relevant document produced by the search, or whether he should turn to documentation outside that which is available to the Search and Examination Section in-house. When searching external document collections for material in relation to unpublished subject-matter using other than secure connections, like the Internet, the examiner should be extremely careful when formulating search strategies so as not to unwittingly reveal confidential material – i.e. any part of the unpublished patent application.

2.4.2 Closest prior art and its effects on the search

It may happen that the examiner does not find any documents published before the earliest priority date which prejudice the novelty or the inventive step of the claimed invention. In such cases, the examiner should, whenever possible, cite in the search report at least that prior art found in the course of search which discloses a solution to the same problem as that underlying the claimed invention (wherein this problem may change depending on the prior art retrieved and wherein the known solution is technically the closest to the claimed solution ("closest prior art"). Such prior art is to be cited as an "A" document in the search report.

If such a document cannot be found, the examiner should cite as the closest prior art a document which solves a problem closely related to the problem underlying the claimed invention and wherein the solution is technically most similar to that of the application under search.

Where the examiner retrieves documents which are incidentally prejudicial to the novelty of the claimed invention (to be cited as "X") but which do not affect the inventive step thereof after appropriate amendment of the application, and does not retrieve any other documents prejudicing inventive step, the examiner should also proceed as above.

In the case of an ARIPO application derived from an international application and being subjected to a supplementary ARIPO search after entering the ARIPO phase, it is possible that the examiner does not uncover any further relevant prior-art documents in the search over and above the documents already cited in the international search report by the International Searching Authority. In such cases, it is permissible to have no further relevant documents in the supplementary ARIPO search report.

2.4.3 End of search

Reasons of economy dictate that the examiner use his judgement to end his search when the probability of discovering further relevant prior art becomes very low in relation to the effort needed. The search may also be stopped when documents have been found clearly demonstrating lack of novelty in the entire subject-matter of the claimed invention and its elaborations in the description, apart from features which are trivial or common general knowledge in the field under examination, application of which features would not involve inventive step. The search for conflicting applications should, however, always be completed to the extent that these are present in the available documentation.

2.5 PROCEDURE AFTER SEARCHING

2.5.1 Preparation of the search report

After completion of the search, the examiner should select from the documents retrieved the ones to be cited in the report. These should always include the most relevant documents which will be specially characterized in the report. Less relevant documents should only be cited when they concern aspects or details of the claimed invention not found in the documents already selected for citation. In cases of doubt or borderline cases in relation to novelty or inventive step, the examiner should cite rather more readily in order to provide for examination the opportunity to consider the matter more fully.

To avoid increasing costs unnecessarily, the examiner should not cite more documents than is necessary and therefore, when there are several documents of equal relevance, the search report should not normally cite more than one of them. In any case, the search report is accompanied by an annex drawn up by computer and listing the patent documents which are available and belong to the same patent family. In selecting from these documents for citation, the examiner should pay regard to language convenience, and preferably cite (or at least note) documents in the language of the application. Subsequently, the examiner prepares the search report.

2.5.2 Documents discovered after completion of the search

It may happen occasionally, that after completion of a search report, the Search Examiner discovers further relevant documents (e.g. in a later search for a related application). These documents should be added to the search report up to the time that preparations for its publication are completed. Up to the filing of a request for examination, such later discovered documents should be communicated to the applicant in an addition to the search report and this information will be published. Thereafter, such documents may
be used in examination.

2.5.3 Errors in the search report

When a material error is found to be present in a search report prior to publication thereof, a new search report will be drawn up which supersedes the preceding one. Where the search report has already been sent to the applicant, but has not yet been published, the error should immediately be notified to the applicant. When a serious error is noted following publication of the search report, a corrigendum is published in the ARIPO Patent Journal, and the applicant and the Search and Examination Section should be informed accordingly. If the error comprises the transmission of an incorrect document as a citation, the correct document should be sent.

2.6 PRECLASSIFICATION (ROUTING) AND OFFICIAL CLASSIFICATION OF ARIPO PATENT APPLICATIONS

2.6.1 Definitions

By "pre-classification" is meant a first stage of routing, for purposes of internal handling, whereby the subject of the claimed invention (or the invention first claimed, if there is more than one) is broadly identified by means of the appropriate classification symbols. By "official classification" is meant the assigning of the appropriate classification symbols identifying the technical subject of the claimed invention (or of the subjects of each of the claimed inventions, if there is more than one), such identification being as precise and comprehensive as the classification permits. In addition, non-obligatory classification or indexation symbols may be attributed to any additional information contained in the document to be classified, which should be identified according to the Guide to the International Patent Classification ("IPC") published by WIPO (see also the WIPO

website). The official classification of the ARIPO patent application is performed by the examiner, using the classification symbols contained in the rules of the IPC for the inventions as claimed ("Obligatory Classification"). He can also assign appropriate classification symbols and/or indexing codes to any additional information ("Non-Obligatory Classification") as defined in the Guide to the IPC in force at the time.

2.6.2 Pre-classification (routing)

In order for an application to be allotted to the competent Examiner, a pre-classification must be made. The level of classification at this stage should be as general as practicable on the basis of a quick and cursory scrutiny of the document (e.g. the title and independent claim or claims). On the other hand, the level should be specific enough to avoid the need for any intermediate stage of pre-classification before allocation to the competent Examiner. The most appropriate level in the light of these considerations is usually that of the sub-class. Only rarely, when the sub-class is exceptionally large or heterogeneous and spread over different fields, is pre-classification to a main ("00") or sub-group necessary. This classification should be indicated by the use of the appropriate symbols in a space to be provided on the dossier.

The pre-classification required for this first allocation should be made on the basis of the independent claims. If this results in pre-classification in more than one sub-class, then whichever of these seems to be the most relevant to the claimed invention (or the invention first claimed, if there is lack of unity of invention) should be selected. This is the pre-classification which should be indicated on the dossier. In most cases no further classification is required to enable applications to be allotted to the Search Examiner within a section, but, where it is necessary, it falls within the authority of the examiner in charge of the field to arrange for such allotment in an expedient manner.

2.6.3 Incorrect pre-classification

If, on reaching the section, an application has been found to be incorrectly pre-classified and thus inappropriately allocated, it is reclassified and re-allocated by the section receiving it, the indication on the dossier being appropriately amended. Normally this is done by mutual agreement with the section to which it is proposed to re-allocate it. However, cases arise over which there is disagreement or uncertainty regarding classification boundaries, or where the section dealing with the case is uncertain as to its correct classification, and in such instances the

section having the case should not spend time in trying to resolve the matter, but should consult the Principal Examiner in the Section.

2.6.4 Official classification of the application

The official classification of the ARIPO patent application is performed by the examiner. Preferably, this should be done when he has studied the content of the application in order to carry out the search. However, if publication of the application is due before the search report is drawn up, it is necessary for the examiner to study the application sufficiently to determine the official classification at this earlier stage. If the official classification of the application is in more than one sub-class, or more than one main ("00") group within a sub-class, then all such classifications should be assigned. The classification of the invention as claimed should be distinguished from any additional classification and/or indexing code. In addition, where it is necessary to assign more than one symbol for the invention itself, the symbol which in the examiner's opinion most adequately identifies it, or, when this presents difficulties, the symbol which identifies the invention for which most information is given, should be indicated first, e.g. in order to facilitate subsequent allocation of the applications. The classification should be determined without taking into consideration the probable content of the application after any amendment, since this classification should relate to the disclosure in the published application, i.e. the application as filed. If, however, the examiner's understanding of the invention, or of the content of the application as filed, alters significantly as a result of the search (e.g. as a result of prior art found or because of clarification of apparent obscurities), he should amend the classification accordingly, if the preparations for publication have not at that stage been completed.

2.6.5 Classification when the scope of the invention is not clear (e.g. a partial search)

When the scope of the invention is not clear, the classification has to be based on what appears to be the invention insofar as this can be understood. It is then necessary to amend it if obscurities are removed by the search, as discussed.

2.6.6 Classification in cases of a lack of unity of invention

Where objection of lack of unity of invention arises, all inventions must be classified, since all will be disclosed in the published application. Each invention claimed is to be classified.

2.6.7 Priority

If the claimed priority dates cannot be verified at this stage, uncertainty will exist as regards their validity and the search for conflicting applications should be extended so as to cover all published applications with an earliest claimed priority date up to the filing date (not the claimed priority date(s)) of the application under consideration.

2.6.8 Contents of prior-art disclosures

As a general rule, the Search Examiner selects for citation only documents which are present in the search documentation or which it has access to in some other manner.

2.7 UNITY OF INVENTION

2.7.1 Partial ARIPO search report

If the Search and Examination Section considers that the ARIPO application does not comply with the requirement of unity of invention, it must search it, and draw up the partial ARIPO search report for those parts of the application which relate to the invention (or group of inventions forming unity) first mentioned in the claims. The partial ARIPO search report is supplemented with a specification of the separate inventions.

When determining which invention is the invention or unitary group of inventions first mentioned in the claims, the examiner takes account of the content of the dependent claims, disregarding trivial claims.

2.7.2 Documents relevant only to other inventions

Whilst documents relevant only to other inventions may be retrieved during the search on the invention first mentioned in the claims, these are not necessarily included in the partial ARIPO search report. Such documents must, however, be cited in the partial search report if they form the basis for a lack of unity a posteriori.

2.7.3 Procedures in cases of lack of unity

2.7.3.1 Request for refund of further search fee(s)

At the examination stage the applicant may contest the allegation of non-unity and request a refund of one or more of the further fee(s) paid. If the Examining Section finds this to be justified, the fee(s) in question will be refunded.

2.7.3.2 Decision with respect to unity of invention

From the preceding paragraph it is clear that the decision with respect to unity of invention rests with the substantive Examiner. Consequently, the criteria to be applied in this respect by the Search Examiner should not be different from those applied by the substantive Examiner. In particular, the Search Section should not raise an objection of lack of unity merely because the inventions claimed are classified in separate classification units, or merely for the purpose of restricting the search to certain sections of the documentation, for example, certain classification units.

2.7.3.3 Complete search despite lack of unity

Exceptionally, in cases of lack of unity, especially "a posteriori", the examiner is able to make a complete search and prepare a search opinion for all inventions with negligible additional work and cost, in particular when the inventions are conceptually very close. In those cases, the search for the further invention(s) is completed together with that for the invention first mentioned in the claims. All results should then be included in a single search report, which raises the objection of lack of unity and identifies the different inventions. It further indicates that the Search Section did not invite the applicant to pay further search fee(s) because all claims could be searched without effort justifying such a fee. However, the search opinion still raises the issue of unity of invention.

2.7.3.4 Supplementary ARIPO search

When in a supplementary ARIPO search following an international (PCT) search a problem of unity of invention arises, the supplementary ARIPO search report will be based on the invention or group of inventions first mentioned in the claims serving as basis for the supplementary ARIPO search, independently of the findings of the International Searching Authority as regards unity of invention.

2.8 SUBJECT-MATTER TO BE EXCLUDED FROM THE SEARCH

2.8.1 Methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practiced on the human or animal body

With regard to methods for treatment of the human or animal body by surgery or therapy, or diagnostic methods practiced on the human or animal body, it should be noted that according to products, in particular substances or compositions, for use in any of these methods, are not excluded from patentability, provided that the use of the product for any such method is not comprised in the state of the art. It should be noted that a claim in the form "Use of a substance or composition X for the manufacture of a medicament for therapeutic application Z" ("Swiss-type" claim) may be allowable for either a first or any further "subsequent" such application.

Even if a claim is drafted as a method of medical treatment and is for this reason not directed to patentable subject-matter, a meaningful search may be possible if the determining technical feature is the effect of the substance, which can be searched. If, however, specific method features are present (e.g. dosing instructions for the user, combination of pharmaceutical with physical treatment), a meaningful search may not be possible.

However, regardless of whether such claims are searched or not, the applicant’s attention should be drawn in the search opinion (if applicable,) to the fact that such subject-matter is excluded from patentability.

2.8.2 No meaningful search possible

What is or is not "meaningful" is a question of fact for the Search and Examination Section to determine. The exercise of the Search Examiner's discretion will depend upon the facts of the case. There are clearly cases where a search is rendered de facto impossible by the failure to meet the prescribed requirements of the Harare Protocol. The word "meaningful" should be construed reasonably.

On the one hand, the word "meaningful" should not be construed because a search is difficult. On the other hand, it may be the case that a given claim could, theoretically, be searched completely, but that nevertheless, the Search Examiner comes to the conclusion, under a proper consideration of the relevant provisions of the Harare Protocol, that it would not be meaningful to do so, in the sense that it would not serve any useful purpose to do so having regard, for example, to any possible future prosecution of the application. In other cases, it may be that the results of the search themselves would be quite meaningless.

(i) claims lacking support; insufficient disclosure

One example would be the case of a broad or speculative claim supported by only a limited disclosure covering a small part of the scope of the claim. This could be the case if the broadness of the claim is such as to render a meaningful search over the whole of the claim impossible, and where a meaningful search could only be performed on the basis of the narrower, disclosed invention. This may mean a search of the specific examples. In such a case, it will often be de facto impossible to do a complete search of the whole of the claim at all, because of the broad drafting style. In other cases, a search of the whole of the claim would serve no useful purpose, as the claim would not be defensible in any subsequent examination phase.

(ii) claims lacking conciseness

An example would be where there are so many claims, or so many possibilities within a claim, that it becomes unduly burdensome to determine the matter for which protection is sought. A complete search (or any search at all) may de facto be impossible, or alternatively may serve no useful purpose as the claim or claim set would be indefensible in any subsequent examination phase.

(iii) claims lacking clarity

An example would be where the applicant's choice of parameter to define his invention renders a meaningful comparison with the prior art impossible, perhaps because the prior art has not employed the same parameter, or has employed no

parameter at all. In such a case, the parameter chosen by the applicant may lack clarity. It may be that the lack of clarity of the parameter is such as to render a meaningful search of the claims or of a claim or of a part of a claim impossible, because the results of any search would be meaningless, the choice of parameter rendering a sensible comparison of the claimed invention with the prior art impossible. If so, the search possibly being restricted to the worked examples, as far as they can be understood, or to the way in which the desired parameter is obtained.

These examples are not exhaustive. The basic principle is that there should be clarity and openness both for the applicant and for third parties as to what has and what has not been searched.

2.8.3 Invitation to indicate subject-matter for search

The ARIPO Office considers that the application does not comply with the Harare Protocol to such an extent that it is impossible to carry out a meaningful search into the state of the art on the basis of all or some of the subject-matter claimed, it will invite the applicant to file, within a period of two months, a statement indicating the subject-matter to be searched. The invitation will also give the reasons behind this finding and may additionally indicate the claimed subject-matter on which the Search Section considers it feasible to base a meaningful search.

2.8.4 Reply to the invitation

If the applicant replies in time to the invitation, indicating the subject-matter to be searched, and if a meaningful search based on the subject-matter that he has indicated is deemed possible by the Search Examiner, a search will be conducted on that subject-matter. If the applicant does not reply in time to the invitation, the Search Examiner will determine what to search. In either case a partial search report will be drawn up accordingly, or in exceptional cases a declaration replacing the search report. This limitation of the search has consequences in examination.

If the applicant replies to the invitation under but in his reply indicates subject-matter which it is still not possible to search in full, the Search Examiner will determine the subject-matter to search, but will do so in a way which is consistent with the applicant's response, to the extent that this is possible, or in exceptional cases may determine that no meaningful search is possible at all. If the applicant replies in time to the invitation, he may, instead of indicating the subject-matter to be searched, simply argue why he believes that it is possible to carry out a

meaningful search on all of the subject-matter claimed. If the Search Examiner is convinced by the applicant's argumentation, a full search report will be issued and the consequences of a limitation of the search which apply in examination will not ensue. If the Search Examiner is not convinced, or is only partially convinced, it will issue a partial search report and will determine which subject-matter to search or, in exceptional cases, will issue a declaration replacing the search report.

2.9 REVIEW

2.9.1 More than one independent claim per category

2.9.1.1 Invitation to indicate which independent claim to search

If the ARIPO Office considers that the claims as filed do not comply with Administrative Instruction 21, it will invite the applicant to indicate, within a period of two months, claims complying with Administrative Instruction 21on the basis of which the search is to be carried out.

2.9.1.2 Reply to the invitation

If the applicant replies to the invitation, indicating an independent claim in a particular category which he wishes the ARIPO to search, the ARIPO will conduct the search based on this claim. If the applicant fails to provide such an indication in due time, the search will be carried out on the basis of the first claim in each category. In either case a search report will be drawn up accordingly. This limitation of the search has consequences in examination. In reply to this invitation, the applicant may also indicate more than one independent claim in the same category for search, where these fall within the exceptions provided. However, if the applicant does so, but the ARIPO Office finds that the claims indicated do not fall within the exceptions provided for, only the independent claim with the lowest number indicated by the applicant will be searched. For example, if an application contains independent product claims 1, 10 and 15, an invitation is sent and the applicant contends in his reply that independent product claims 10 and 15 fall within the exceptions provided for in and indicates that these two claims are to be searched, but the Search Examiner does not agree, then only claim 10 will be searched. In any timely response to the invitation, the applicant may, instead of indicating the independent claim or claims to be searched, simply argue why he

believes that the claims comply with Administrative Instruction 22 why the plurality of independent claims in the same category fall within one or more of the exceptions provided for in Administrative Instruction 22. If the Search Examiner is convinced by the applicant's argumentation, a search report will be issued on the basis of all the claims, and the consequences of a limitation of the search which apply in examination will not ensue. If the Search Examiner is not convinced, it will issue a search report for which the search will be conducted based on the first independent claim in that category.

2.9.1.3 The content of the extended ARIPO search report

The search opinion will invite the applicant to limit the application to claims which have been searched. Furthermore, if in response to the invitation the applicant disputes the finding under, but the Search Examiner is not convinced by the applicant's argumentation, it will indicate why this is the case in the search opinion, as appropriate.

2.9.1.4 Cases where claims fees are not paid

If an independent claim has been deemed to be abandoned as a result of the non-payment of claims fees, the applicant cannot indicate this claim for search in response to the invitation, because no search is conducted on such a claim. The indication of such a claim by the applicant in response to the invitation will be ignored by the ARIPO Office, which will then search the first independent claim in the category in question for which claims fees have been paid. If all independent claims in the category in question have been deemed to be abandoned for failure to pay claims fees, no invitation will be sent in respect of these claims and none of them will be subject to a search.

2.9.1.5 Applications which lack unity

Cases will arise where the application does not comply with unity of invention. It may be appropriate to raise only the issue of unity of invention and send an invitation. It may, however, be necessary to apply the procedures (invitation to pay additional search fees for inventions other than the first mentioned in the claims). In this case, the ARIPO Office will first send the applicant an invitation, requesting him to indicate the independent claims to be searched.

In cases where the lack of unity is already apparent when the invitation is sent, it will also identify the first invention mentioned in the claims and the claims which

relate to this invention, either in full or in part, and will invite the applicant to indicate which claims to search in respect of this invention first mentioned in the claims. After expiry of the time limit, the claims to be searched in respect of the first invention will be determined according to the procedures. A partial search report will then be prepared on the invention first mentioned in the claims. This will be sent to the applicant along with an invitation to pay additional search fees in respect of the other inventions. Where appropriate, this invitation may also include an invitation according to , requesting the applicant to clarify the claims to be searched in respect of any additional inventions for which he subsequently pays additional search fees. Conversely, it may also happen that after an invitation is sent in respect of all claims, the claims which are subject to a search are subject to an objection of lack of unity a posteriori. In such cases, an invitation to pay additional fees will then be sent, the invitation being based only on the subject-matter of the claims determined by the applicant's response.

For ARIPO-PCT supplementary search reports, where these exceptional conditions apply, the procedure will be as above, with the exception that instead of being sent an invitation, the applicant is sent a partial supplementary ARIPO search report drawn up on those parts of the application which relate to the invention, or group of inventions first mentioned in the claims.

2.9.1.6 Treatment of dependent claims

Claims depending either directly or indirectly via other dependent claims on an independent claim excluded from the search are likewise excluded from the search. Conversely, if a dependent claim depends on more than one previous claim, not all of which were searched, that dependent claim will be searched only in as far as it depends on a claim or claims which were searched.

2.10 Search documentation

2.10.1 Organization and composition of the documentation available to the Search Examiner

The basic part of the search documentation consists of a collection of patent documents systematically accessible in a manner suitable for searching. Additionally, periodicals and other publications of technical literature are put at the disposal of the examiners. This non-patent literature is accessible through in-house or external databases, some of which are arranged in the library in a manner suitable for consultation; parts thereof, such as particularly relevant articles, are selected and made available for direct access by incorporating these, or copies

thereof, into the systematic documentation. The systematically accessible part of the search documentation includes the minimum documentation required for an International Searching Authority under Rules 34 and 36.1(ii) PCT and extends somewhat beyond these minimum requirements.

2.10.1.1 Systematic access systems

All examiners have at their disposal computer facilities for searching the search documentation. These allow, amongst other things, the use of the International Patent Classification (IPC) but comprises finer internal subdivisions. Searches can also be performed using other classification systems and/or words.

2.10.2 Patent documents arranged for systematic access

2.10.2.1 PCT minimum documentation

The systematically accessible search documentation includes the national patent documents belonging to the PCT minimum documentation as specified in Rule 34.1(b)(i) and (c) PCT:

(i) the patents and/or published patent applications, published in or after 1920 by France, the former Reichspatentamt of Germany, Switzerland (in the French and German languages only), the United Kingdom, the Federal Republic of Germany, and the United States of America;

(ii) the utility certificates, and/or published applications therefor, issued by France;

(iii) the patents and/or published patent applications in the English, French or German language in which no priority is claimed, and the abstracts in English of the patents and/or published patent applications in the Spanish language in which no priority is claimed, as selected and made available by the national Office of certain countries, e.g. Austria, Australia, Canada and Spain;

(iv) the abstracts in English of the patents issued, and/or patent applications published, by Japan, the former Soviet Union, the Russian Federation, the Republic of Korea and the People's Republic of China, and the inventors' certificates issued by the former Soviet Union and the Russian Federation, for which abstracts in the English language are generally available**.** Also included are published international (PCT) and regional (e.g. ARIPO) patent applications, patents, and inventors' certificates.

2.10.2.2 Unpublished patent applications

Since the completion of the search for conflicting applications that are not published at the time of the initial search is entrusted to the Substantive Examiner, the documents which can be cited in the search report do not include unpublished patent applications.

2.10.2.3 Patent family system

The ARIPO Office should keep a patent family system based on application data and priority data of the patent documents stored in databases of the ARIPO Office. When viewing patent documents on screen, normally only one representative document of a patent family is displayed, but links to the other members of its patent family are provided.

The practice of not including all members of a patent family in the manual search files (as accepted by WIPO) is followed extensively.

2.11 DIFFERENT TYPES OF SEARCH REPORTS DRAWN UP BY THE ARIPO OFFICE

The ARIPO Office will draw up the following types of search reports:

(i) ARIPO search reports;

(ii) supplementary ARIPO search reports concerning PCT applications;

(iii) international-type search reports;

(iv) search reports drawn up on behalf of national offices; and

(v) search reports further to special work.

Further, in the examination procedure, accounts containing the results of additional searches are drawn up when necessary and are not published. However, the documents cited therein may be used in the examination procedure. This chapter

sets out the requirements for search reports of type (i) only, although it is the intention that all search reports drawn up by the ARIPO Office are as similar as possible.

2.11.1. Form and language of the search report

2.11.1.1 Form

The standard search report is prepared by the examiner and contains a main page to be used for all searches for recording the important features of the search, such as:

(i) the application number;

(ii) the classification of the application;

(iii) the fields searched;

(iv) the relevant documents revealed by the search; and
(v) the name of the examiner who executed the search.

2.11.1.2 Language

The search report or the declaration accompanying or replacing it should be drawn up in English.

2.11.2 Identification of the patent application and type of search report

On the main page and supplemental sheets, the ARIPO patent application is identified by its filing number. The type of the search report is indicated in the report. In case of a joint publication of the application and the search report, the main page of the report is marked A1 (WIPO Standard ST. 16). If publication of the application is due before the search, the main page is marked A2 (WIPO Standard ST. 16). The subsequent search report is established on a new main page which is marked A3 (WIPO Standard ST. 16). Where the search report is a supplementary ARIPO search report in respect of an international application, this search report is established on a new main page marked A4 (WIPO Standard ST. 16).

2.11.3 Classification of the patent application

The main page of the report gives the official classification symbol(s) for the ARIPO patent application. If the application is to be published before the search report is prepared (A2 publication), the examiner prepares supplemental sheet A before the publication of the application. In such cases, supplemental sheet A will contain all of the requisite information, and also the official classification of the application . When subsequently the search report is established, the official classification of the application is repeated on the separately published search report. Where the examiner has modified the official classification (i.e. the official classification as given in the A2 published application differs from that given on the later published A3 search report –, it is this amended classification which will appear on the later published A3 search report.

2.11.4 Areas of technology searched

Although the Harare Protocol does not require the ARIPO search report to identify the areas of technology searched, this information is included in the report in the form of a list of IPC symbols up to the sub-class level. Where the search report is entirely or partly based on a previous search made for an application relating to a cognate subject, the sections of the documentation consulted for this previous search are also identified in the report as having been consulted for the application in question. This is done by indicating the appropriate IPC symbols.

2.11.5 Documents noted in the search: Identification of documents in the search report

2.11.5.1 Bibliographic elements

All documents cited in the search report must be identified unambiguously by indicating the necessary bibliographic elements. All citations in the search report should comply with WIPO Standard ST. 14 (Recommendation for the inclusion of references cited in patent documents), WIPO Standard ST. 3 (Two-letter codes) and ST. 16 (Standard code for identification of different kinds of patent documents). This does not exclude deviations in those special cases where strict adherence, whilst not necessary for the clear and easy identification of a document, would require considerable extra cost and effort.

2.11.5.2 Corresponding documents

The examiner will often be confronted by the existence of "corresponding" documents, that is to say documents which have the same or substantially the same technical content. These usually fall into one of two groups, namely patent documents from a patent family and abstracts:

(i) patent documents in the same patent family.

These are patent documents from the same country or from different countries, and which share at least one claimed priority. If a cited patent document belongs to a patent family, the examiner need not cite all the members of the family which are known or accessible to him, since these are already mentioned in the annex to the search report. However, he may mention one or more members in addition to the one cited. Such documents should be identified by the Office of origin, type and number of document, and preceded by the sign ampersand (&).
(a) one document of the patent family is published before the earliest priority date of the application, but is published in a non-ARIPO language, whereas a different member of the same patent family is published in an ARIPO language, but after the earliest priority date of the application.
(b) different documents in the same patent family each containing relevant technical subject-matter not present in the other family members;
(c) where a family member is cited in the application in a non-ARIPO language and there exists another family member in an ARIPO language, where these are both published before the earliest priority date.

(ii) abstracts of documents

These are provided by one of a number of database providers (for example Chemical Abstracts, Derwent or Patent Abstracts of Japan) and may relate to many different types of disclosure such as patent documents, journal articles, PhD theses, books etc. The abstract provides a summary of the most important aspects of the technical content of the original document. Most abstracts cited are in the English language. In all cases where an abstract is cited in the search report, the examiner must input the original document to which the abstract relates after the "&" sign.

The examiner may choose to cite the abstract (in which case the original document must be cited as an "&" document) rather than cite the original document for one of a number of reasons. These reasons include: the original document is not easily available to the examiner (for example, retrieval of PhD theses); or the original document is in anon-ARIPO language and no other corresponding document exists

(for example, a Japanese patent document with no family members, or a journal article in Russian).

2.11.5. 3 Languages of the documents cited

Frequently, members of the same patent family are published in a number of different languages. Consequently, the examiner has a choice regarding the language of the document which is cited in the search report. If the relevant technical content does not differ between the various family members and they are all published before the earliest priority date of the application, then all of the members of the family are of equal relevance to the application. In such cases, the examiner should choose the document to be cited by virtue of the language of publication.

2.11.5.4 Supplementary ARIPO search report

In the case of a supplementary ARIPO search report it is permissible under certain circumstances to have no documents at all cited on the supplementary ARIPO search report. In such cases, the expression "No further relevant documents disclosed" will appear in the search report. However, in such cases, the search opinion (if applicable) will give an opinion on the patentability of the claimed invention over the state of the art cited in the International Search Report.

2.12 CATEGORIES OF DOCUMENTS (X, Y, P, A, D, ETC.)

All documents cited in the search report are identified by placing a particular letter in the first column of the citation sheets. Where needed, combinations of different categories are possible. The following letters are used:

(i) particularly relevant documents

Where a document cited in the ARIPO search report is particularly relevant, it should be indicated by the letter "X" or "Y". Category "X" is applicable where a document is such that when taken alone, a claimed invention cannot be considered novel or cannot be considered to involve an inventive step. Category "Y" is applicable where a document is such that a claimed invention cannot be considered to involve an inventive step when the document is combined with one or more

other documents of the same category, such combination being obvious to a person skilled in the art. However, if a document (a so-called "primary document") explicitly refers to another document as providing more detailed information on certain features and the combination of these documents is considered particularly relevant, the primary document should be indicated by the letter "X", i.e. not "Y", and the document referred to should be indicated as "X" or "L" as appropriate;

(ii) documents defining the state of the art and not prejudicing novelty or inventive step. Where a document cited in the ARIPO search report represents state of the art not prejudicial to the novelty or inventive step of the claimed invention, it should be indicated by the letter "A";

(iii) documents which refer to a non-written disclosure

Where a document cited in the search report refers to a non-written disclosure, the letter "O" should be entered. Examples of such disclosures include conference proceedings. In cases where the oral disclosure took place at an officially recognised exhibition. The document category "O" is always accompanied by a symbol indicating the relevance of the document according to
(i) or (ii), for example: "O, X"; "O, Y"; or "O, A";

(iv) intermediate documents

Documents published on dates falling between the date of filing of the application being examined and the date of priority claimed, or the earliest priority if there is more than one , should be denoted by the letter "P". The letter "P" should also be given to a document published on the very day of the earliest date of priority of the patent application under consideration. The document category "P" is always accompanied by a symbol indicating the relevance of the document according to (i) or (ii), for example: "P, X"; "P, Y"; or "P, A";

(v) documents relating to the theory or principle underlying the Invention. Where a document cited in the search report may be useful for a better understanding of the principle or theory underlying the invention, or is cited to show that the reasoning or the facts underlying the invention are incorrect, it should be indicated by the letter "T";

(vi) potentially conflicting patent documents Any patent document bearing a filing or priority date earlier than the filing date of the application searched (not the

priority date –) but published later than that date and the content of which would constitute prior art relevant to novelty should be indicated by the letter "E". Where the patent document and the application searched have the same date, the patent document should also be identified by the letter "E". An exception is made for patent documents based on the claimed priority under consideration; these documents should not be cited;

(vii) documents cited in the application

When the search report cites documents already mentioned in the description of the patent application for which the search is carried out, these should be denoted by the letter "D";

(viii) documents cited for other reasons

Where in the search report any document is cited for reasons (in particular as evidence) other than those referred to in the foregoing paragraphs, for example:
(a) a document which may throw doubt on a priority claim;

(b) a document which establishes the publication date of another citation; or
(c) a document relevant to the issue of double patenting, such document should be indicated by the letter "L". Brief reasons for citing the document should be given. The citation of documents of this type need not be linked to any of the claims.

However, where the evidence which they provide relates only to certain claims (for example the "L" document cited in the search report may invalidate the priority claim in respect of certain claims only), then the citation of the document should be linked to those claims.

2.12.1 Relationship between documents and claims

Each document cited in the search report should be accompanied by an indication of the claims to which it relates, unless the document is indicated by category letter "L". One and the same document may be indicated by different categories with respect to different claims, wherein each category is associated with particular claims. For example:
X WO9001867 A (WIDEGREN LARS)
8 March 1990
1
Y * column 3, line 27 - line 43; figure 1 * 2-5

A * figure 2 * 6-10
The above example means that the cited document discloses subject-matter which prejudices the novelty or inventive step of the subject-matter of claim 1 and the inventive step of the subject-matter of claims 2 to 5, when combined with another document cited in the search report, and that it represents non-prejudicial state of the art for the subject-matter of claims 6 to 10. The passages or figures are not necessarily relevant to the claims and the category indicated on the same line. Furthermore, each independent claim should be mentioned in the search report at least once in relation to at least one document published before the earliest priority date (unless the independent claim in question is excluded from the search by virtue of a restriction of the subject of the search.

2.12.2 Authentication and dates

The date on which the search report was drawn up is indicated in the report. This date should be that of the drafting of the report by the examiner who carried out the search. The name of the examiner must appear on the search report.

2.12.3 Copies to be attached to the search report

2.12.3.1 General remarks

The search report is sent to the applicant and transmitted to the Search and Examination. In both cases, the report must be accompanied by copies of all documents cited, except those documents appearing in the search report after the "&" symbol, which are not designated for copying and communication to the applicant. These cited documents are used to assess the patentability of the claimed invention both in the search opinion (if applicable and in the examination procedure.

2.12.3.2 Electronic version of document cited

In the case of a patent document, a complete copy is supplied even if the patent is bulky. In cases where part or all of the document is published only by electronic means, an electronic version of at least those parts of the document not available in paper form will be made available to the applicant. This must be done in such a way that the applicant is provided with the whole document either in a combination of paper and electronic forms or in electronic form only.

2.12.3.3 Patent family members; the "&" sign

In the case of patent families, only a copy of the member of the family actually cited is normally supplied. The other members are mentioned in an annex systematically produced by the computer for information only. However, in certain circumstances one or more further patent documents in the same patent family may be mentioned on the search report after the "&" sign. In these cases, the examiner may designate that a patent document appearing after the "&" sign is also copied and forwarded to the applicant (this document will then also be included in the examination file and may be referred to in the search opinion, if applicable.

2.12.3.4 Reviews or books

In the case of a review or a book, copies should be made of the title page and the relevant pages of the publication concerned.

2.12.3.5 Summaries, extracts or abstracts (Section 3(1) and AI 24)

Where a document cited is a summary, extract or abstract of another document, published separately, a copy of the summary, extract or abstract is forwarded to the applicant along with the report. If, however, the Search Examiner considers that the entire document is required, that document must be cited and a copy must be attached to the report. In the case of a reference obtained by an online search for which neither the printed version from the database nor the original article is available at the ARIPO Office at the time of drafting the search report, the print-out is added to the file in lieu of the original. This may also be done where the printed form of the abstract is available, but where there is no difference in the relevant technical content between the abstract derived from the database print-out and the printed version thereof.

2.12.3.6 Transmittal of the search report and search opinion (if applicable)

The ARIPO Office forwards the search report, the search opinion (if Applicable and copies of all cited documents to the applicant), including those documents appearing after the "&" sign and designated to be copied and sent to the applicant.

2.12.4 The abstract

2.12.4.1 Purpose of the abstract

The application must contain an abstract. The purpose of the abstract is to give brief technical information about the disclosure as contained in the description, claims and any drawings.

2.12.4.2 Definitive content

The abstract is initially supplied by the applicant. The examiner has the task of determining its definitive content, which will normally be published with the application. In doing this, he should consider the abstract in relation to the application as filed. If the search report is published later than the application, the abstract, published with the application will be the one resulting from the examination.

In determining the definitive content, the examiner should take into consideration that the abstract is merely for use as technical information and in particular must not be used for the purpose of interpreting the scope of the protection sought. The abstract should be so drafted that it constitutes an efficient instrument for purposes of searching in the particular technical field and should in particular make it possible to assess whether there is need for consulting the ARIPO patent application itself.

2.12.4.3 Content of the abstract

The abstract must:

(i) indicate the title of the invention;

(ii) indicate the technical field to which the invention pertains;

(iii) contain a concise summary of the disclosure as contained in the description, claims and drawings, which must be so drafted as to allow a clear understanding of the technical problem, the gist of the solution of that problem through the invention and the principal use of the invention and, where applicable, it should contain the chemical formula which, among those contained in the application, best characterizes the invention;
(iv) not contain statements on the alleged merits or value of the invention or its speculative application;
(v) preferably not contain more than one hundred and fifty words; and

(vi) be accompanied by an indication of the figure or exceptionally more than one figure of the drawings which should accompany the abstract. Each main feature mentioned in the abstract and illustrated by a drawing, should be followed by a reference sign in parenthesis.

2.12.4.4 Figure accompanying the abstract

The examiner should consider not only the text of the abstract but also the selection of the figures for publication with it. He should alter the text to the extent that this may be necessary. He will select a different figure, or figures, of the drawings if he considers that they better characterize the inventions. The examiner may prevent the publication of any drawing with the abstract, where none of the drawings present in the application is useful for the understanding of the abstract. This can be done even when the applicant has requested that a particular drawing or drawings be published with the abstract. In determining the content of the abstract, the examiner should concentrate on conciseness and clarity, and refrain from introducing alterations merely for the purpose of embellishing the language.

2.12.4.5 Checklist

In considering the abstract, the examiner should check it against the General Guidelines for the Preparation of Abstracts of Patent Documents, using the checklist contained WIPO Standard ST. 12.

2.12.4.6 Transmittal of the abstract to the applicant

The content of the abstract is transmitted to the applicant together with the search report.

2.13 THE SEARCH OPINION

2.13.1 Examination Report of the Substantive Examiner

For applications filed with search opinion, the Examining Section will consider both the objections raised in the search opinion and the applicant's response thereto when examining the application further. It may change the position adopted in the search opinion after receiving arguments, amendments and other submissions from the applicant in response to the search opinion or subsequently in examination proceedings. The position may also alter, irrespective of the applicant’s

submissions, where the top-up search could not be completed when the search was performed and state of the art is found in a top-up search by the Substantive Examiner or further state of the art is brought
to the attention of the Substantive Examiner by the applicant or by means of observations.

2.13.2 Basis of the examination report

Where the application is an ARIPO application not derived from an International application, the examination report will always relate to the application documents as originally filed or as amended. However, where the application under consideration derives from an International application and is subject to a supplementary ARIPO search, the applicant will have had the opportunity to amend his application both in the International phase and also upon entry into the ARIPO phase. The examination report will then be based on the application documents constituting the latest filed request from the applicant (this may involve the cancellation of amendments previously filed and consequent
reversion in part or in full to an earlier set of application documents). The supplementary ARIPO search report is also based on these application documents.

PART III: GUIDELINES FOR SUBSTANTIVE EXAMINATION

3.1 CONTENT OF THE ARIPO APPLICATION (OTHER THAN THE CLAIMS)

3.1.1 The Application (Section 3(1) and Rule 5(1)

The contents of the ARIPO application are set out in Section 3(1) and Rule 5(1). The application must contain:

(i) a request (see **Rules 5(3) to 5(5**));

(ii) a description;

(iii) one or more claims;

(iv) one or more drawings (where required)

(v) an abstract

(vi) a designation of the Contracting State in respect of which the patent is requested to be granted.

This chapter discusses the above items (ii) and (iv) insofar as they are the concern of the examiner during substantive examination.

3.1.2 Abstract

The abstract relates to the application as filed and published and its final form accepted under the Harare Protocol for publication is determined by the Examination Division. It is not necessary to bring it into conformity with the content of the published patent even if this should differ in substance from that of the application, since the patent specification does not contain an abstract. The examiner may seek amendment of the abstract. He should, however, note that the abstract has no legal effect on the application containing it; for instance, it cannot be used to interpret the scope of protection or to justify the addition to the description of new subject-matter.

3.1.3 Request for Grant – the title

The items making up this request are dealt with in Rules 5(3) and 5(5). They do not normally concern the examiner, with the exception of the title. The title should clearly and concisely state the technical designation of the invention and should exclude all fancy names. While any obvious failures to meet these requirements are likely to be noted during the formalities examination, the examiner should review the title in light of his reading of the description and claims and any amendments thereto, to make sure that the title, as well as being concise, gives a clear and adequate indication of the subject of the invention. Thus, if amendments are made which change the categories of claims, the examiner should check whether a corresponding amendment is needed in the title.

3.1.4 Description

3.1.4.1 Technical Information of Description (Section 2(9)(b) and Rule 6)

The ARIPO application must "disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art." The provisions relating to the content of the description are set out in Rule 6. The purposes of these provisions are:

(i) to ensure that the ARIPO application contains all the technical information required to enable a skilled person to put the invention into practice; and

(ii) to enable the reader to understand the contribution to the art which the inventor has made.

The description should start with the same title that appears in the request (ARIPO Form No.3). The description should contain subheadings corresponding to the following: "Technical Field", "Background Art", "Disclosure of Invention", "Brief Description of Drawings", "Best Mode(s) for Carrying Out the Invention", "Industrial Applicability" and, where appropriate, "Sequence Listing" and "Sequence Listing Free Text". The use of such subheadings is strongly recommended in order to provide uniformity in publication and to facilitate access to the information contained in the ARIPO application. Some of the recommended subheadings are discussed in the following paragraphs.

3.1.5 Technical Field (Rule 6(1)(b))

The application should specify the technical field to which it relates.

3.1.6 Background Art (Rules 6(1) (c))

The description should also mention any background art of which the applicant is aware, and which can be regarded as useful for understanding the invention and its relationship to the prior art; identification of documents reflecting such art, especially patent specifications, should preferably be included. This applies in particular to the background art corresponding to those technical features of the invention which are necessary for the definition of the claimed subject matter but which, in combination, are part of the prior art.

3.1.7 Disclosure of Invention (Rule 6(1) (d))

The invention as claimed should be disclosed in such a way that the technical problem, or problems, with which it relates can be appreciated and the solution can be understood. To meet this requirement, only such details should be included as are necessary for elucidating the invention. Where the invention lies in realizing what the problem is, this should be apparent, and, where the means of solving the problem (once realized) are obvious, the details given of its solution may, in practice, be minimal.

When there is doubt, however, as to whether certain details are necessary, the examiner should not require their excision. It is not necessary, moreover, that the invention be presented explicitly in problem and solution form. Any advantageous effects which the applicant considers the invention to have in relation to the prior art should be stated, but this must not be done in such a way as to disparage any particular prior product or process. The prior art or the applicant's invention cannot be referred to in a manner likely to mislead. This might be done, for example, by an ambiguous presentation which gives the impression that the prior art had solved less of the problem than was actually the case.

3.1.8 Brief Description of Drawings (Rule 6(1) (e))

If drawings are included they should first be briefly described, in a manner such as:

"Figure 1 is a plan view of the transformer housing; Figure 2 is a side elevation of the housing; Figure 3 is an end elevation looking in the direction of the arrow 'X'

of Figure 2; Figure 4 is a cross-section taken through AA of Figure 1." When it is necessary to refer in the description to elements of the drawings, the name of the element should be referred to as well as its number, that is, the reference should not be in the form "3 is connected to 5 via 4" but "resistor 3 is connected to capacitor 5 via switch 4."

The description and drawings should be consistent with one another, especially in the matter of reference numbers and other signs. However, where, as a result of amendments to the description, whole passages are deleted, it may be tedious to delete all superfluous references from the drawings and in such a case the examiner need not pursue too rigorously the consistent use of reference signs as between the description and the drawings. The reverse situation should not occur, that is, all reference numbers or signs used in the description or claims should also appear on the drawings.

3.1.9 Best Mode for Carrying Out the Invention (Rule 6(1) (f))

The ARIPO application should set forth at least the best mode contemplated by the applicant for carrying out the invention claimed. This should be done in terms of examples, where appropriate, and with reference to the drawings, if any. The applicant need to point out which of their embodiments or examples they consider to be the best mode.

Determining compliance with the best mode requirement requires a two-prong inquiry. First, it must be determined whether, at the time the application was filed, the applicant contemplated a best mode for practicing the invention. This is a subjective inquiry which focuses on the applicant's state of mind at the time of filing. Second, if the inventor did, in fact, contemplate a best mode, it must be determined whether the written description disclosed the best mode such that a person skilled in the art could practice it. This is an objective inquiry, focusing on the scope of the claimed invention and the level of skill in the art. The examiner should assume that the best mode is disclosed in the application, unless evidence is presented that is inconsistent with that assumption. It is therefore extremely rare that an objection based upon a lack of best mode would be made in an international application.

There currently are diverging practices among the International Authorities and designated States with respect to the requirement for the application to set forth the best mode. Where the national law of a designated State does not require the description of the best mode but is satisfied with the description of any mode (whether it is the best contemplated or not), failure to describe the best mode contemplated has no effect in that State.

3.1.10 Structure and Function of the invention

In order that the requirements of Rule 6 may be fully satisfied, it is necessary that the invention be described not only in terms of its structure but also in terms of its function, unless the functions of the various parts are immediately apparent. Indeed, in some technical fields (for example, computers), a clear description of function may be much more appropriate than an over-detailed description of structure.

3.1.11 Sufficiency (Section 2(9)(b))

It is the responsibility of the applicant to ensure that he supplies, when he first files his ARIPO application, a sufficient disclosure, that is, one that meets the requirements of Rule 6 in respect of the invention, as claimed in all of the claims.

Where the disclosure is insufficient to enable a person skilled in the art to carry out the claimed invention, the claim may also be too broad to be supported by the description and drawings. Therefore, in that case, there may be non-compliance with both the requirement concerning sufficiency under this paragraph and the requirement of support of the claims.

Occasionally ARIPO applications are filed in which there is a fundamental insufficiency in the invention in the sense that it cannot be carried out by a person skilled in the art; there is then a failure to satisfy the requirements of Rule 6 which is essentially irreparable. Two instances thereof deserve special mention:

(a) The first is where the successful performance of the invention is dependent on chance. That is to say, a person skilled in the art, in following the instructions for carrying out the invention, finds either that the alleged results of the invention are not reproducible or that success in obtaining these results is achieved in a totally unreliable way. An example where this

may arise is a microbiological process involving mutations. Such a case should be distinguished from one where repeated success is assured even though accompanied by a proportion of failures as can arise, for example, in the manufacture of small magnetic cores or electronic components; in this latter case, provided the satisfactory parts can be readily sorted by a nondestructive testing procedure, no objection necessarily arises under Rule 6.

(b) The second instance is where successful performance of the invention is inherently impossible because it would be contrary to well-established physical laws. This applies, for example, to a perpetual motion machine.

3.1.12 Nucleotide and/or Amino Acid Sequence Listings (Rules *7bis.2(iv)*)

Where the ARIPO application contains disclosure of one or more nucleotide and/or amino acid sequences, the description should contain a separate sequence listing part. The sequence listing may be in written form and computer readable form. Instead of in written form, the sequence listing may be filed on an electronic medium where the receiving Office in which the ARIPO application was filed accepts sequence listings filed on an electronic medium.

3.1.13 Deposit of Biological Material Microorganism (Rules *6bis and 7bis*)

The term “biological material” means any material containing genetic information and capable of reproducing itself or of being reproduced in a biological system. Where the application refers to biological material which cannot otherwise be described in the application to meet the sufficiency of disclosure requirements of Rule 6 the deposit of such material is taken into consideration when determining whether those requirements have been met.

The term "microorganism" includes bacteria and other generally unicellular organisms with dimensions beneath the limits of vision which can be propagated and manipulated in a laboratory, including plasmids and viruses and unicellular fungi (including yeasts), algae, protozoa and, moreover, human, animal and plant cells.

The deposit is considered part of the description to the extent that the requirements regarding sufficiency of disclosure under Rule 6 cannot otherwise be complied

with; thus the deposit would be taken into account in determining compliance with such requirements. Therefore, mere reference to the deposited material in an application may not be sufficient to replace the explicit disclosure of such material in the application in order to comply with the sufficiency of disclosure requirements. It should be noted, however, that a reference to the deposit in the application would not create the presumption that the deposit is necessary or required to comply with those requirements.

A deposit of microorganism is taken into consideration in determining whether the sufficiency of disclosure requirements of Rule 6 has been met. Further, in some Authorities, a deposit of biological material is also taken into consideration in determining whether the support requirement of Rule 7 has been met.

3.1.14 References to Deposited Microorganisms or Other Biological Material as Part of the Description (Section 3(1)(b) and Rule *6bis and 7bis)*

The manner and order of presentation of the various parts of the description should be that specified in Rule 6(1), unless, "because of the nature of the invention, a different manner or a different order would result in a better understanding and a more economic presentation." Since the responsibility for a clear and complete description of the invention lies with the applicant, the examiner should exercise his discretion as to whether to object to the presentation. Some departure from the requirements of Rule 6(1) is acceptable, provided the description is clear and orderly and all the requisite information is present. For example, the requirements of Rule 6(1) may be waived where the invention is based on a fortuitous discovery, the practical application of which is recognized as being useful, or where the invention breaks entirely new ground. Also certain technically simple inventions may be fully comprehensible with the minimum of description and but slight reference to prior art.

3.1.15 Technical Terms

The description should be clear and straightforward with avoidance of unnecessary technical jargon. In general, only such technical terms, signs and symbols should be used as are generally accepted in the art. Little known or specially formulated technical terms may be allowed, provided that they are adequately defined and that there is no generally recognized equivalent. This discretion may be extended to

foreign terms when there is no equivalent in the language of the ARIPO application. Terms already having an established meaning must not be used to mean something different as this is likely to cause confusion. There may be circumstances where a term may legitimately be borrowed from an analogous art. Terminology and signs should be consistent throughout the ARIPO application.

In the particular case of inventions in the computer field, program listings in programming languages cannot be relied on as the sole disclosure of the invention. The description, as in other technical fields, should be written substantially in normal language, possibly accompanied by flow diagrams or other aids to understanding, so that the invention may be understood by those skilled in the art. Short excerpts from programs written in commonly used programming languages can be accepted if they serve to illustrate an embodiment of the invention.

When the properties of a material are referred to, the relevant units should be specified if quantitative considerations are involved. If this is done by reference to a published standard (for example, a standard of sieve sizes), and such standard is referred to by a set of initials or similar abbreviation, it should be adequately identified in the description. The metric system of units of weight and measures should be used or, if another system is used, the units should additionally be expressed in the metric system. Similarly, temperature should be expressed in degrees Celsius or also expressed in degrees Celsius if first expressed in a different manner.

Other physical values (that is, other than those having units directly derivable from length, mass, time and temperature) should be expressed in the units recognized in international practice; for example, for electric units the MKSA (Meter, Kilogram, Second, Ampere) or SI (Système International) systems should be used. Chemical and mathematical symbols, atomic weights and molecular formulae should be those in general use, and technical terms, signs and symbols should be those "generally accepted in the art." In particular, if there are any agreed international standards in the art in question, these should be adopted wherever practicable.

The use of proper names or similar words to refer to materials or articles is undesirable insofar as such words merely denote origin or where they relate to a range of different products. If such a word is used, then in order to satisfy the

requirements of Rule 6, the product should normally be sufficiently identified, without reliance upon the word, to enable the invention to be carried out by a person skilled in the art. However, where such words have become internationally accepted as standard descriptive terms and have acquired a precise meaning (for example, “Bowden” cable, “Bellville” washer), they may be allowed without further identification of the product to which they relate.

References in ARIPO applications to other documents may relate either to the background art or to a part of the disclosure of the invention. Where the reference relates to the background art, it may be in the application as originally filed or introduced at a later date. Where the reference relates directly to the disclosure of the invention (for example, details of one of the components of a claimed apparatus) then, if it is to be taken into account in respect of Rule 6, it must be in the application as originally filed and clearly identify the document referred to in such a manner that the document can be easily retrieved.

If matter in the document referred to is essential to satisfy the requirements of Rule 6, this matter should be incorporated into the description, because the patent specification should, regarding the essential features of the invention, be self-contained, that is, capable of being understood without reference to any other document.

A reference to an unpublished, previously filed application (that is, not published before the international filing date) should not be regarded as being part of the disclosure, unless the application referred to is made available to the public on or before the publication date of the application. The reference to such an application made available to the public on or before the publication date of the application may be replaced by the actual text referred to and may be taken into account by the examiner. Similarly, references to textbooks and periodicals are allowable under the same conditions if it can be proved that the content thereof was fixed prior to the international filing date.

3.1.16 Drawings (Rule 6(1) (e))

The formal requirements relating to drawings are set down in Rules 6(1)(e). The only question likely to cause difficulty is whether the text matter included on the drawings are absolutely indispensable. In the case of circuit diagrams, block schematics and flow sheets, identifying catchwords for functional integers of complex system (for example, “magnetic core store,” “speed integrator”) may be regarded as indispensable from a practical point of view if they are necessary to enable a diagram to be interpreted rapidly and clearly. However, such items can often be identified by a single numeral or letter which is then explained in the description.

Amendments should preferably be identified using functions available in a text editor to clearly indicate deletions and insertions in the amended text. Pages with such indications should be submitted in addition to clean copies. Alternatively, hand-written mark-up pages may be submitted, provided that clean copies are free from handwritten amendments.

3.1.17 Expressions, Etc., Not to Be Used (Section 3(10)(j)(i), AI 25(5))

There are four categories of expressions which should not be contained in an ARIPO application. Examples of the kind of matter coming within the first and second categories (contrary to morality or public order (“ordre public”)) are: incitement to riot or to acts of disorder; incitement to criminal acts; racial, religious or similar discriminatory propaganda; and grossly obscene matter. The purpose of this provision is to prohibit the kind of matter likely to induce riot or public disorder, or lead to criminal or other generally offensive behavior. This provision is likely to be invoked by the examiner only in rare cases.

3.1.18 Disparaging Statement

It is necessary to discriminate in the third category (disparaging statements) between libelous or similarly disparaging statements, which are not allowed and fair comment, for example, in relation to obvious or generally recognized disadvantages, or disadvantages stated to have been found by the applicant, which, if relevant, is permitted.

3.1.19 Irrelevant Matter

The fourth category is irrelevant matter. It should be noted, however, that such matter is specifically prohibited under the provision only if it is "obviously irrelevant or unnecessary," for instance, if it has no bearing on the subject matter of the invention or its background of relevant prior art. The matter to be removed may already be obviously irrelevant or unnecessary in the original description. It may, however, be matter which has become obviously irrelevant or unnecessary only in the course of the examination proceedings, for example, owing to a limitation of the claims of the patent to one of the originally several alternatives.

The attention of ARIPO Examiner is drawn to Rule 9 of the PCT for the application of the above provisions.

3.2 CLAIMS (Section 3(1)(a)(ii) and Rule 7)

3.2.1 General

The claims must:

(i) "define the matter for which protection is sought;"

(ii) "be clear and concise;" and

(iii) "be fully supported by the description."

This chapter sets out the appropriate form and content of the claims, together with how they should be interpreted for the purposes of assessing the novelty and inventive step of the inventions which they define, and searching for prior art which may be relevant to making that determination.

3.2.2 Form and Content of Claims (Rules 7(1) (a*)* and (b))

The claims must be drafted in terms of the "technical features of the invention." This means that claims should not contain any statements relating, for example, to commercial advantages or other non-technical matters, but statements of purpose should be allowed if they assist in defining the invention. It is not necessary that every feature should be expressed in terms of a structural limitation. Since it is a

matter for national law, the examiner should normally not object to the inclusion of functional limitations in a claim provided that a person skilled in the art would have no difficulty in providing some means of performing this function without exercising inventive skill or that such means are fully disclosed in the application concerned. A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person skilled in the art in the context in which it is used. Claims to the use of the invention in the sense of the technical application thereof are permissible.

Rules 7(1) (a) and (b) defines the two-part form which a claim should take "whenever appropriate." The first part should contain a statement indicating the designation of the subject matter of the invention (Rule 7(1) (a), that is, the general technical class of apparatus, process, etc., to which the claimed invention relates, followed by a statement of those technical features "which are necessary for the definition of the claimed subject matter but which, in combination, are part of the prior art." It is clear from this wording that it is necessary only to refer to those prior art features which are relevant to the invention. For example, if the invention relates to a photographic camera but the claimed inventive step relates entirely to the shutter, it would be sufficient for the first part of the claim to read: "A photographic camera including a focal plane shutter having..." (here recite the known combination of features which is utilized) and there is no need to refer also to the other known features of a camera such as the lens and viewfinder. The second part or "characterizing portion" should state the technical features which, in combination with the features stated under the first part (Rule 7(1)(b)), it is desired to protect, that is, the features which the invention adds to the prior art.

The applicant may be invited to follow the above two-part formulation where, for example, it is clear that the applicant's invention resides in a distinct improvement in an old combination of parts or steps. However, as is indicated by Rule 7(1), this form need only be used in appropriate cases. The nature of the invention may be such that this form of claim is unsuitable, for example, because it would give a distorted or misleading picture of the invention or the prior art. Examples of the kind of invention which may require a different presentation are:

(i) the combination of known elements or steps of equal status, the inventive step lying solely in the combination;

(ii) the modification of, as distinct from addition to, a known chemical process, for example, by omitting one substance or substituting one substance for another; and

(iii) a complex system of functionally interrelated parts, the inventive step concerning changes in several of these parts or in their interrelationships.

In examples (i) and (ii), the two-part form of claim according to Rules 7(1) (a) and (b) may be artificial and inappropriate, whereas, in example (iii), it might lead to an inordinately lengthy and involved claim. Another example in which the two-part form of claim provided for in Rule 7(1) may sometimes be inappropriate is where the claimed invention is a new chemical compound or group of compounds that does not fall within a known class. It is also likely that other cases will arise in which it will be appropriate to formulate the claim in a different form.

When determining whether or not to invite the applicant to put a claim in the two-part form provided by Rule 7 (1), it is important to assess whether this form is appropriate." In this respect, it should be borne in mind that the purpose of the two-part form of claim is to allow the reader to see clearly which features necessary for the definition of the claimed subject matter are, in combination, part of the prior art. If this is sufficiently clear from the indication of prior art provided in the description, to meet the requirement of Rule 6, it is appropriate to present the claim in a form other than the two-part form provided by Rule 7(1).

The claim, as well as the description, "may contain chemical or mathematical formulae" but not drawings. "Any claim may contain tables" but "only if the subject matter of the claim makes the use of tables desirable." In view of the use of the word "desirable," the examiner should not object to the use of tables in claims where this form is convenient.

The claims must not, in respect of the technical features of the invention, rely on references to the description or drawings, except where absolutely necessary (Rule 7(2)). In particular, they must not normally rely on references such as: "as described in part ... of the description" or "as illustrated in Figure 2 of the drawings." The emphatic wording of the excepting clause should be noted. Thus, the applicant should be invited to show that it is "absolutely necessary" to rely on reference to the description or drawings in appropriate cases. An example of an exception would be that in which the invention as claimed involved some peculiar

shape illustrated in the drawings but which could not be readily defined either in words or by a simple mathematical formula. Another special case is that in which the invention relates to chemical products whose features can be defined only by means of graphs or diagrams.

If there are drawings and the technical features of the claims would be rendered more intelligible by relating those features to the corresponding features of the drawings, this should preferably be done by placing the appropriate reference signs in parentheses after the features in the claims. This should be done in both parts of claims having the preferred form specified in Rule 7(1). These reference signs are not, however, to be construed as limiting the scope of a claim, but merely as aids to an easier understanding of the defined subject matter.

3.2.3 Kinds of Claim

3.2.3.1 Categories

There are two basic kinds of claim, viz., claims to a physical entity (product, apparatus) and claims to an activity (process, use). The first basic kind of claim ("product claim") includes a substance or composition (for example, chemical compound or a mixture of compounds) as well as any physical entity (for example, object, article, apparatus, machine, or system of cooperating apparatus) which is produced by a person's technical skill. Examples are "steering mechanism incorporating an automatic feedback circuit...;" "a woven garment comprising ...;" "an insecticide consisting of X, Y, Z;" or "a communications system comprising a plurality of transmitting and receiving stations." The second basic kind of claim ("process claim") is applicable to all kinds of activities in which the use of some material product for effecting the process is implied; the activity may be exercised upon material products, upon energy, upon other processes (as in control processes) or upon living things which relate to subjects that may be excluded from international search or preliminary examination).

It should be noted that claims which are worded differently may, in reality, fall within the same category and have effectively the same scope. For example, a claim referring to a "system" and a claim referring to "apparatus" may both be in the "apparatus" category. It should be further noted that it is permitted to include in the same ARIPO application claims of the said different categories provided that

they comply with the requirement of Administrative Instruction 22(6). The examiner should bear in mind that the presence of such different claims may assist an applicant in later obtaining full protection for the invention in all the designated/elected States since infringement of a patent is dealt with by national law. Consequently, while the examiner should draw attention to an unnecessary proliferation of independent claims he should not adopt an over-academic or rigid approach to the presence of a number of claims which are differently worded but apparently of similar effect.

Determination of unity of invention states that "the determination whether a group of inventions is so linked as to form a single general inventive concept (Rule 7(6)) shall be made without regard to whether the inventions are claimed in separate claims or as alternatives within a single claim." This means that while the examiner should take exception to an unnecessary proliferation of independent claims (Rule 7(7)), the examiner should not take exception to two or more independent claims in the same category, provided that there is a unifying inventive concept and that the claims as a whole satisfy the requirement of Rule 7 that they should be "concise". In applying this principle, the examiner should have regard to the remarks concerning claims of apparently similar scope. However there are other circumstances where it may not be appropriate to cover the subject matter of an invention by a single independent claim in a particular category, for example, (1) where the invention relates to an improvement in two separate but interrelated articles which may be sold separately, such as an electric plug and socket or transmitter and receiver, (2) where an invention is concerned with electrical bridge-rectifier circuits, it might be necessary to include separate independent claims to a single-phase and to poly-phase arrangements incorporating such circuits since the number of circuits needed per phase is different in the two arrangements, (3) where the invention resides in a group of new chemical compounds and there are a number of processes for the manufacture of such compounds.

3.2.4 Independent and Dependent Claims (Rules 7(4)(b), 7(7))

All ARIPO applications will contain one or more independent main claims directed to the essential features of the invention. Any such claim may be followed by one or more claims concerning specific forms of that invention. It is evident that any claim relating to a specific form must effectively include also the essential features of the invention, and hence must include all the features of at least one independent claim. The specific forms should be construed broadly as meaning any more specific definition or specifically different embodiments of the invention than that set out in the main claim or claims. It should be noted that, subject to Section 2(9) and Administrative Instruction 21 it is permitted to include a reasonable number of dependent claims claiming specific forms of the claimed invention in the independent claim, even where the features of any dependent claim could be considered as constituting in themselves an invention.

Any dependent claim must include a reference to the claim from which it depends, and must be construed as including all the limitations contained in the claim to which it refers.

A multiple dependent claim includes all the limitations contained in the particular claim in relation to which it is considered.

All dependent claims, however referred back, should be grouped together to the extent and in the most practical way possible. The arrangement must therefore be one which enables the association of related claims to be readily determined and their meaning in association to be readily construed. The examiner should invite the applicant to submit a suitable amendment if the arrangement of claims is such that it creates obscurity in the definition of the subject matter to be protected.

A claim, whether independent or dependent, can contain alternatives, provided those alternatives are of a similar nature and can fairly be substituted one for another, and provided also that the number and presentation of alternatives in a single claim does not make the claim obscure or difficult to construe.

A claim may also contain a reference to another claim even if it is not a dependent claim as defined in Administrative Instruction 22(7). One example of this is a claim referring to a claim of a different category (for example, “Apparatus for carrying out the process of Claim 1 ...,” or “Process for the manufacture of the product of Claim 1 ...”). Similarly, in a situation like a plug and socket example, a

claim to the one part referring to the other cooperating part, for example, “plug for cooperation with the socket of Claim 1 ...,” is not a dependent claim as it does not expressly contain the limitations of the earlier claim from which it depends, rather it only has a functional relationship to that earlier claim.

3.2.5 Interpretation of Claims

Claims should be interpreted the same way for both search and examination purposes. Each claim should be read giving the words the ordinary meaning and scope which would be attributed to them by a person skilled in the relevant art, unless in particular cases the description gives the words a special meaning, by explicit definition or otherwise.

3.2.6 “Use” Claims (Rule 7(3))

A claim to a substance or composition for a particular use should generally be construed as meaning a substance or composition which is in fact suitable for the stated use; a known product which *prima facie* is the same as the substance or composition defined in the claim, but which is in a form which would render it unsuitable for the stated use, would not deprive the claim of novelty, but if the known product is in a form in which it is in fact suitable for the stated use, though it has never been described for that use, it would deprive the claim of novelty. For example, a claim to a known substance or composition for the first use in surgical, therapeutic and/or diagnostic methods that is presented in a form such as: “substance or composition X” followed by the indication of the use, for instance “... for use as a medicament”, “... as an antibacterial agent” or “... for curing disease Y” will be regarded as restricted to the substance or composition when presented or packaged for the use.

3.2.7 Preamble

The effect of the preamble on the evaluation of the elements of a claim for search and examination purposes should be determined on a case by case basis in light of the facts in each case. During search and examination, statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the recited purpose or intended use results in a structural difference (or, in the case of process claims, a difference in process steps) between

the claimed invention and the prior art. If so, the recitation serves to limit the claim. In two-part claims as defined in Rule 7(1) (a) and (b), the preamble is regarded as a limitation on the scope of the claim.

If a claim commences with such words as “Apparatus for carrying out the process, etc. ...” this must be construed as meaning merely apparatus suitable for carrying out the process. An apparatus which otherwise possesses all of the features specified in the claim, but which would be unsuitable for the stated purpose or which would require modification to enable it to be so used, should not normally be considered as coming within the scope of the claim.

For example, a claim recites a machine for cutting meat comprising apparatus limitations. The claim language “machine for cutting meat” sets forth only the function of the apparatus (that is, for cutting meat) without any positive structural limitations. Such language would not be given any weight in assessing novelty and inventive step as long as the prior art cutting machine was capable of cutting meat. In this case, one should treat the words “for cutting meat” merely as limitation to a machine adapted to cut meat. Thus, one would look to the prior art to see whether the cutting machine would be inherently capable of cutting the meat, whether or not the prior art description specified what material is cut by the machine.

Similar considerations apply to a claim for a product for a particular use. For example, if a claim refers to “mold for molten steel,” this implies certain limitations for the mold.

Therefore, a plastic ice cube tray with a melting point much lower than that of steel would not come within the claim. Similarly, a claim to a substance or composition for a particular use should be construed as meaning a substance or composition which is in fact suitable for the stated use; a known product which is *per se* the same as the substance or composition defined in the claim, but which is in a form which would render it unsuitable for the stated use, would not deprive the claim of novelty.

3.2.8 Open and Closed Claims

In evaluating novelty or inventive step, the examiner should consider which type of the transition phrase, such as “consisting of,” “comprising,” “characterized by,” or “consisting essentially of” is used in the claims. The subject matter to be searched depends on the type of transition phrase used.

(a) Where a claim is drafted using a “closed” type of transition phrase, the claim cannot be construed as including products or processes that include structural elements or process steps other than those set forth in the claim. For example, if a claim recites “a product consisting only of A, B and C,” it cannot be construed as including, and is novel over, prior art that discloses a product having A, B, C and D, or any other additional feature or elements. The phrase “consisting of” may be interpreted by some Authorities as a “closed” type of transition phrase; however, other Authorities treat such language as equivalent to “consisting essentially of” as noted in (c) below.

(b) Where a claim is drafted using an “open” type of transition phrase, it can be construed as including products or processes that include non-recited components or process steps, respectively. For example, if a claim recites “a product comprising A, B and C,” it can be construed as including, and lacks novelty over, prior art that discloses a product having A, B, C and D, as well as any additional feature or element.

(c) Where a claim is drafted using “consisting essentially of” as the transition phrase, the claim occupies a middle ground between closed claims that are written in a closed format and fully open claims. The transitional phrase “consisting essentially of” limits the scope of a claim to the specified materials or steps “and those that do not materially affect the basic and novel characteristic(s)” of the claimed invention. For the purposes of search and examination, absent a clear indication in the description or claims of what the basic and novel characteristics actually are, “consisting essentially of” will be construed as equivalent to open (for example, “comprising”) language.

3.2.9 Means plus Function Claims

Where a limitation in the claim defines a means or a step in terms of its function or characteristics without specifying the structure or material or act in support thereof, such a limitation should be construed as defining any structure or material or act which is capable of performing the defined function or which has the defined characteristics, unless the means are further specified in the claim. If the means are further specified, the claim would be interpreted to include those further specified limitations. For example, if a claim recites valve means for restricting the flow of fluid, it would be interpreted by the examiner to include the further specified limitation of a valve means rather than any means for restricting flow of fluid. As another example, a claim aimed at "a building material incorporating a layer which insulates heat" should be interpreted as a building material incorporating any "product" that is "a layer which insulates heat." It should be noted, however, that the issues of whether such means-plus-function claims are clear and concise or not and whether the disclosure of the claimed invention is sufficient for a person skilled in the art or not should be determined separately.

3.2.10 Product by Process Claims

Where a claim defines a product in terms of the process by which the product is made, the claim as a whole is directed to a product. Such a claim lacks novelty if a prior art product, even if made by an undisclosed process, appears to be inherently the same as, or indistinguishable from, the claimed invention.

Where a product can only be defined by the process steps by which the product is made, or where the manufacturing process would be expected to impart distinctive characteristics on the final product, the examiner would consider the process steps in determining the subject of the search and assessing patentability over the prior art. For example, a claim recites "a two-layer structured panel which is made by welding together an iron sub-panel and a nickel sub-panel." In this case, the process of "welding" would be considered by the examiner in determining the subject of the search and in assessing patentability over the prior art since the process of welding produces physical properties in the end product which are different from those produced by processes other than welding; that is, the product can only be defined by the process step. Novelty of the claim is not brought into question unless an identical two-layer structural panel made by means of welding is discovered in the prior art.

3.2.11 Product and Apparatus Limitations in Process Claims

Product and apparatus limitations that appear in process claims must be taken into account for search and examination purposes.

3.2.12 Inconsistency between Claims and Description

Where there is any serious inconsistency between claims and description, amendments to remove this should be invited from the applicant. For example, the description may state, or may imply, that a certain technical feature not mentioned in the claims is essential to the performance of the invention. In such a case, the examiner should invite amendment of the claims to include this feature. However, if the applicant can show convincingly by way of response that it would be clear to a person skilled in the art that the description was incorrect in suggesting that the feature in question was essential, amendment of the description should be invited instead. Another form of inconsistency is that in which the description and drawings include one or more embodiments of the invention which appear to fall outside the subject matter covered by the claims (for example, the claims all specify an electric circuit employing electronic tubes and one of the embodiments employs semiconductors as an alternative). Here again the applicant should be invited to amend the claim or the description and drawings to remove the inconsistency and thus avoid any possible uncertainty which could arise later as to the meaning of the claims. However, inconsistencies which do not cause doubt as to the meaning of the claims may be overlooked.

General statements in the description which imply that the extent of protection may be expanded in some vague and not precisely defined way should be objected to as not complying with Rule 7. In particular, objection should be raised to any statement which refers to the extent of protection being expanded to cover the "spirit" of the invention. Where the claims are directed to a combination of features only, any statement in the description which seems to imply that protection is nevertheless sought not only for the combination as a whole but also for individual features or sub-combinations thereof should be objected to.

3.2.13 Clarity (Rule 7(1))

The requirement that the claims should be clear applies to individual claims and also to the claims as a whole. The clarity of the claims is of the utmost importance for the purposes of formulating an opinion on the questions of whether the claimed invention appears to be novel, to involve an inventive step and to be industrially applicable in view of their function in defining the matter for which protection is sought. Therefore the meaning of the terms of a claim should, as far as possible, be clear for the person skilled in the art from the wording of the claim alone.

Claim must set forth the scope of the invention sought to be protected with a reasonable degree of clarity. Clarity of claim language must be analyzed in light of the content of the particular application disclosure, the teachings of the prior art, and the claim interpretation that would be given by the person skilled in the art at the time the invention was made. If a person skilled in the art can determine the boundaries of the claimed invention with a reasonable degree of certainty, the claim complies with the requirement for clarity.

Breadth of a claim is not to be equated with lack of clarity. If the scope of the subject matter embraced by the claims is clear, and if the applicant has not otherwise indicated that he intends the invention to be of a scope different from that defined in the claims, then the claims comply with the requirement for clarity.

An independent claim should clearly specify all of the essential features needed to define the invention except insofar as such features are implied by the generic terms used, for example, a claim to a “bicycle” does not need to mention the presence of wheels. If a claim is to a process for producing the product of the invention, then the process as claimed should be one which, when carried out in a manner which would seem reasonable to a person skilled in the art, necessarily has as its end result that particular product; otherwise, there is an internal inconsistency and therefore lack of clarity in the claim. In the case of a product claim, if the product is of a well-known kind and the invention lies in modifying it in a certain respect, it is sufficient if the claim clearly identifies the product and specifies what is modified and in what way. Similar considerations apply to claims for an apparatus.

3.2.13.1 Clarity of Relative Terms

A claim that includes vague or equivocal forms of wording which leave the reader in doubt as to the scope of a feature should be objected to for lack of clarity. A claim should not use a relative or similar term such as “thin”, “wide” or “strong” unless the term has a well recognized meaning in the particular art, for example “high-frequency” in relation to an amplifier, and this is the meaning intended. If a term of degree appears in a claim, the examiner should determine whether one skilled in the art would be apprised of the meaning of the term either by a disclosure of a standard for measuring that degree in the description or in view of the prior art and state of the art. It may be appropriate to invite the applicant to either define or excise the term if he could do so without extending the subject matter beyond the content of the application as filed in contravention of Section 2(9)(c) and Administrative Instruction 22(1). An applicant cannot rely on an unclear term to distinguish the claimed invention from the prior art.

The area defined by the claims must be as precise as the invention allows. As a general rule, claims which attempt to define the invention, or a feature thereof, by a result to be achieved should be objected to as lacking clarity. Objection may also be raised under lack of support where the claimed scope is broader than what the description enables. However, no objection should be raised if the invention can only be defined in such terms and if the result is one which can be achieved without undue experimentation, for example, directly and positively verified by tests or procedures adequately specified in the description and involving nothing more than trial and error. For example, the invention may relate to an ashtray in which a smoldering cigarette end will be automatically extinguished due to the shape and relative dimensions of the ashtray. The latter may vary considerably in a manner difficult to define whilst still providing the desired effect. So long as the claim specifies the construction and shape of the ashtray as clearly as possible, it may define the relative dimensions by reference to the result to be achieved without being objected to for lack of clarity; provided that the description includes adequate directions to enable the reader to determine the required dimensions by routine test procedures.

Where the invention relates to a product, it may be defined in a claim in various ways, viz., by a chemical formula, as a product of a process or by its parameters. Definition of a product solely by its parameters may be appropriate in those cases where the invention cannot be adequately defined in any other way, provided that

those parameters can be clearly and reliably determined either by indications in the description or by objective procedures which are recognized in the art. The same applies to a process related feature which is defined by parameters. This can arise, for example, in the case of macromolecular chains. Cases, in which non-art recognized parameters are employed, or a non-accessible apparatus for measuring the parameter is used, may be objectionable on grounds of lack of clarity. The examiner should be aware of the possibility that applicants may attempt to employ unusual parameters to disguise lack of novelty.

Where a claim for an apparatus or a product seeks to define the invention by reference to features of the use to which the apparatus or product is to be put, a lack of clarity can result. This is particularly the case where the claim not only defines the product itself but also specifies its relationship to a second product which is not part of the claimed invention (for example, a cylinder head for an engine, where the former is defined by features of where it is connected in the latter). Such a claim must either set forth a clear definition of the individual product being claimed by wording the claims appropriately (for example, by substituting “connectable” for “connected”), or be directed to a combination of the first and second products (for example, “engine with a cylinder head” or “engine comprising a cylinder head”). It may also be permissible to define the dimensions and/or shape of a first product in an independent claim by general reference to the dimensions and/or corresponding shape of a second product that is not part of the claimed first product but is related to it through use (for example, in the case of a mounting bracket for a vehicle number-plate, where the bracket frame and fixing elements are defined in relation to the outer shape of the number-plate).

Particular attention is required whenever the word “about” or similar terms, such as “approximately,” are used. Such a word may be applied, for example, to a particular value (for example, “about 200°C”) or to a range (for example, “about X to about Y”). In each case, the examiner should exercise judgment as to whether the meaning is sufficiently clear in the context of the application read as a whole. Moreover, if such words as “about” prevent the invention from being unambiguously distinguished from the prior art, an objection should be raised as to lack of novelty or inventive step.

3.2.13.2 Clarity of Other Terms

Trademarks and similar expressions characterize the commercial origin of goods, rather than the properties of the goods (which may change from time to time) relevant to the invention. Therefore the examiner should invite the applicant to remove trademarks and similar expressions in claims, unless their use is unavoidable; they may be allowed exceptionally if they are generally recognized as having a precise meaning.

Expressions like “preferably,” “for example,” “such as” or “more particularly” should be looked at carefully to ensure that they do not introduce ambiguity. The examiner should regard expressions of this kind as having no limiting effect on the scope of a claim; that is to say, the feature following any such expression should be regarded as entirely optional.

Generally, the subject matter of a claim is defined by means of positive features. However, the extent of a claim may be limited by means of a “disclaimer,” a “negative limitation,” or an “exclusion;” in other words, an element clearly defined by technical features may be expressly excluded from the protection claimed, for example in order to meet the requirement of novelty. A claim may also include a negative limitation or language that defines subject matter that is not present in the claimed invention (for example, “wherein the composition is free of water”). There is nothing *per se* ambiguous or uncertain about a negative limitation. A negative limitation renders the claim unclear where it is an attempt to claim the invention by excluding what the applicant did not invent rather than clearly and concisely reciting what he did invent. A claim which recites the limitation “said homopolymer being free from the proteins, soaps, resins, and sugars present in natural Hevea rubber” in order to exclude the characteristics of the prior art product, is considered to be clear where each recited limitation is clear. In addition, the negative limitation “incapable of forming a dye with said oxidized developing agent” is clear because the boundaries of the patent protection sought are clear. If alternative elements are positively recited in the description, they may be explicitly excluded in the claims. The mere absence of a positive recitation is not basis for exclusion.

3.2.14 Conciseness, Number of Claims (Rule 7(1))

The requirement that the claims should be concise refers to the claims in their entirety as well as to the individual claims. For example, undue repetition of words or an undue multiplicity of claims of a trivial nature could be considered as not complying with this requirement.

3.2.15 Support in Description (Rule 7(1))

The claims "shall be fully supported by the description." This means that there must be a basis in the description for the subject matter of every claim and that the scope of the claims must not be broader than is justified by the description and drawings.

As a general rule, a claim is regarded as supported by the description unless, exceptionally, there are well-founded reasons for believing that the person skilled in the art would be unable, on the basis of the information given in the application as filed, to extend the particular teaching of the description to the whole of the field claimed by using routine methods of experimentation or analysis. Support must, however, relate to the features of the claimed invention; vague statements or assertions having no technical or other relevant content provide no basis. The examiner should raise an objection of lack of support only if there are well-founded reasons. Where an objection is raised, the reasons, where possible, should be supported specifically by a published document.

3.2.16 Clear and Complete Disclosure of Claimed Invention (Rule 7(1))

The subject matter of each claim must be supported by the description and drawings "in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art." The disclosure of the claimed invention is considered sufficiently clear and complete if it provides information which is sufficient to allow the invention to be carried out by a person skilled in the art as of the international filing date, without undue experimentation.

The disclosure is aimed at a person skilled in the art. This person is considered, if necessary, to use the general knowledge which would be possessed by such a person to supplement the information contained in the application. The disclosure must be sufficient to carry out the invention on the basis of the knowledge of a person skilled in the art at the time of the international filing date, not at the time of

the search and examination. Although a reasonable amount of trial and error is permissible, a person skilled in the art must, on the basis of the disclosure of the claimed invention and the general knowledge, be able to carry out the invention without "undue experimentation." This is applicable particularly in the field of unexplored technologies.

Factors to be considered in determining whether undue experimentation is needed to carry out the claimed invention include:

(i) the breadth of the claims;

(ii) the nature of the invention;

(iii) the general knowledge of a person skilled in the art;

(iv) the level of predictability in the art;

(v) the amount of direction provided in the application, including references to prior art; and

(vi) the amount of experimentation required to carry out the claimed invention on the basis of the disclosure.

The breadth of the claims is relevant to the determination of undue experimentation, since a person skilled in the art must be able to carry out the entire scope of the claimed invention. For example, the applicant is not entitled to claim everything within the scope of the invention, if the application only discloses how to carry out part of the claimed invention. However, even in unpredictable arts, it is not necessary to provide examples covering every possible variation within the scope of a claim. Representative examples together with an explanation of how these can be applied to the scope of the claim as a whole will ordinarily be sufficient if a person skilled in the art could carry out the claimed invention without undue experimentation.

The subject matter to which the claimed invention pertains, is essential to determine the general knowledge of a person skilled in the art and the state of the art. For example, if the selection of the values for various parameters is a matter of routine for a person skilled in the art, such a selection may not be considered as requiring undue experimentation.

"The amount of direction provided in the application" refers to the information explicitly or implicitly contained in the description, claims and drawings, including working examples and references to other applications or documents. The more that is known in the prior art by a person skilled in the art about the nature of the invention and the more the art is predictable, the less information in the application itself is needed in order to carry out the claimed invention. For example, there is predictability in the art if a person skilled in the art can readily anticipate the effect of a feature of the claimed invention.

In addition to the time and expenses needed for carrying out the experimentation, the character of the experimentation, for example, whether it constitutes merely routine work or goes beyond such routine, should also be considered.

3.2.17 Sufficiency Commensurate with the Claims

Most claims are generalizations from one or more particular examples. The extent of generalization permissible is a matter which the examiner must judge in each particular case in the light of the relevant prior art. An appropriate claim is one which is not so broad that it goes beyond the invention nor yet so narrow as to deprive the applicant of a just reward for the disclosure of the invention. Obvious modifications and uses of and equivalents to that which the applicant has described should not be questioned. In particular, if it is reasonable to predict that all the variants covered by the claims have the properties or uses the applicant ascribes to them in the description, it is proper for the applicant to draft the claims accordingly.

A claim in generic form, which is, relating to a whole class, for example, of materials or machines, may be acceptable even if of broad scope, if there is fair support in the description and there is no reason to suppose that the invention cannot be carried out through the whole of the field claimed. Where the information given appears insufficient to enable a person skilled in the art to extend the teaching of the description to parts of the field claimed but not explicitly described by using routine methods of experimentation or analysis, the examiner should invite the applicant to establish, by suitable response, that the invention can in fact be readily applied on the basis of the information given over the whole field claimed or, failing this, to restrict the claim to accord with the description. An

example of this might be a claim to a specified method of treating "synthetic resin molding" to obtain certain changes in physical characteristics. If all of the examples described related to thermoplastic resins, and the method was such as to appear inappropriate to thermosetting resins, then limitation of the claims to thermoplastic resins might be necessary to comply with the sufficiency requirement.

3.2.18 Relationship of Claims to Disclosure (Rule 7(1))

The claimed invention must be fully supported by the description and drawings, thereby showing that the applicant only claims subject matter which he had recognized and described on the international filing date.

The claims are not consistent and not commensurate with the description and drawings if, after reading the application, the claimed invention is still not at the disposal of a person skilled in the art, because an essential element for the function or operation of the invention is missing from the claim. For example, consider a claim that relates to improved fuel oil compositions which have a given desired property. The description provides support for one way of obtaining fuel oils having this property, which is by the presence of defined amounts of a certain additive. No other ways of obtaining fuel oils having the desired property are disclosed. If the claim makes no mention of the additive, the claim is not fully supported by the description. Another example would consist in the claim not being consistent with the disclosure, for instance, due to contradictions between the elements contained in the claims and the description. One other example would be that, having regard to the description and the drawings, the scope of the claims covers an area which was not recognized by the applicant, for example, mere speculation of possibilities that have not been explored yet.

A claim may broadly define a feature in terms of its function, even where only one example of the feature has been given in the description, if the person skilled in the art would appreciate other means that could be used for the same function. For example, "terminal position detecting means" in a claim might be supported by a single example comprising a limit switch, it being apparent to the person skilled in the art that, for example, a photoelectric cell or a strain gauge could be used instead. In general, however, if the entire contents of the application are such as to

convey the impression that a function is to be carried out in a particular way, with no intimation that alternative means are envisaged, and a claim is formulated in such a way as to embrace other means, or all means, of performing the function, then the claim does not comply with the support requirement. Furthermore, it may not be sufficient if the description merely states in vague terms that other means may be adopted, if it is not reasonably clear what they might be or how they might be used.

Characterization of a chemical compound solely by its parameters may be appropriate in certain cases. Characterization of a chemical compound by its parameters is fully supported by the description only when the invention is described by sufficient relevant identifying characteristics which provide evidence that the applicant recognized and described the claimed invention at the time of filing, such as by a description of partial structure, physical and/or chemical properties, functional characteristics when coupled with a known or disclosed correlation between structure and function, or a combination of these characteristics.

Compliance with the sufficiency requirement of Rule 6 and the requirement for support for the claims in the disclosure of Rule 7 is determined independently. In some cases, where the claim is too broad to be supported by the description and drawings, the disclosure may also be insufficient to enable a person skilled in the art to carry out the claimed invention. Thus there may be non-compliance with both the requirement concerning the relationship of the claims to the disclosure and the sufficiency requirement.

3.2.19 Multiple Dependent Claims (Rule 7(4))

A dependent claim which refers to more than one other claim should refer to them only alternatively. Multiple dependent claims cannot form a basis for other multiple dependent claims.

A dependent claim which refers to more than one other claim may refer to them either alternatively or cumulatively. Multiple dependent claims may form a basis for other multiple dependent claims.

3.2.20 Interpretation of Claims

Where the description provides a special meaning by way of, for example, defining a term appearing in the claim, that definition should be used for the interpretation of the claim. The claims should not be limited in their meaning by what is explicitly disclosed in the description and drawings. The claims should not be limited by the scope of the examples of the claimed invention contained in the description. Further, if the wording of the claims needs interpretation, the description and the drawings, and the general knowledge of a person skilled in the art on the filing date are taken into account.

If the description gives the words in a claim a special meaning, the examiner should, so far as possible, require the claim to be amended whereby the meaning is clear from the wording of the claim alone. The claim should also be read with an attempt to make technical sense out of it. Such a reading may involve a departure from the strict literal meaning of the wording of the claims.

3.2.21 Use Claims

In some International Searching and Preliminary Examining Authorities, for purposes of international search and examination, a "use" claim of the form such as "the use of substance X as an insecticide" or "substance X when/whenever used as an insecticide" should be regarded as equivalent to a "process" claim of the form "a process of killing insects using substance X." (However, it should be noted that in certain designated/elected States, "when/whenever used" claims are considered for the purposes of the national law to be improper process claims which lack clarity and constitute excluded subject matter.) Before such Authorities, a claim of the form indicated should not be interpreted as directed to the substance X recognizable (for example, by further additives) as intended for use of an insecticide. Similarly, a claim for "the use of a transistor in an amplifying circuit" would be equivalent to a process claim for the process of amplifying, using a circuit containing the transistor and should not be interpreted as being directed to "an amplifying circuit in which the transistor is used," nor to "the process of using the transistor in building such a circuit."

3.2.22 Product by Process Claims

The International Searching and Preliminary Examining Authorities have divergent practices with regard to the search and examination of product by process claims.

Where a claim defines a product in terms of the process by which the product is made, the claim should be construed as a claim to the product *per se* that possesses the characteristics derived from the manufacturing process stated in the claim. Therefore, the patentability of a product defined by a product-by-process claim does not depend on its method of production. A product is not rendered novel merely by the fact that it is produced by means of a new process. If the product in such a claim is the same as, or obvious from, a product described in an item of prior art, the claim is unpatentable even though the product described in the item of prior art was made by a different process.

Where a claim defines a product in terms of the process by which the product is made, the claim relates to, and would be anticipated by, only a product which has been actually produced by the process.

3.2.23 Conciseness (Rule 7(1))

Claims may be objected to as lacking conciseness when they are unduly multiplied or duplicative. Claims are unduly multiplied where, in view of the nature and scope of the invention, an unreasonable number of claims are presented which are repetitious and multiplied, the net result of which is to confuse rather than to clarify. The claims should not be unduly multiplied so as to obscure the definition of the claimed invention in a maze of confusion. However, if the claims differ from one another and there is no difficulty in understanding the scope of protection, an objection on this basis generally should not be applied. In addition, claims should differ from one another. If claims are presented in the same application that are identical or else are so close in content that they both cover the same thing, despite a slight difference in wording, an objection on the basis of conciseness may be proper. However, such an objection should not be applied if the change in wording results even in a small difference in scope between the two claims. Individual claims may be objected to as lacking conciseness only when they contain such long recitations or unimportant details that the scope of the claimed invention is rendered indefinite thereby.

The number of claims must be considered in relation to the nature of the invention the applicant seeks to protect. Undue repetition of words or a multiplicity of claims of a trivial nature which render it unduly burdensome to determine the matter for which protection is sought could be considered as not complying with this requirement. What is or what is not a reasonable number of claims depends on the facts and circumstances of each particular case. Regard also has to be had to the interests of the relevant public. The presentation of claims should not obscure the matter for which protection is sought. Furthermore, the number of alternatives presented within a single claim should not make it unduly burdensome to determine the subject matter for which protection is sought.

3.3 Patentability (Section 3(3) and (10) and Rule 18)

3.3.1 Basic requirements

There are four basic requirements for patentability:

(i) there must be an "invention", belonging to any field of technology; Section 3(10)(a)

(ii) the invention must be "susceptible of industrial application";

(iii) the invention must be "new"; and

(iv) the invention must involve an "inventive step".

3.3.2 Further requirements

In addition to these four basic requirements, the examiner should be aware of the following two requirements that are implicitly contained in the Harare Protocol**.**

(i) the invention must be such that it can be carried out by a person skilled in the art (after proper instruction by the application);

(ii) the invention must be of "technical character" to the extent that it must relate to a technical field (Rule 6(1) (b)), must be concerned with a technical problem (Rule 6(1) (b)), and must have technical features in terms of which the matter for which protection is sought can be defined in the claim (Rule 7(1)).

3.3.3 Technical progress, advantageous effects

The Harare Protocol does not require explicitly or implicitly that an invention, to be patentable, must entail some technical progress or even any useful effect. Nevertheless, advantageous effects, if any, with respect to the state of the art should be stated in the description (Rule 6(1) (d)), and any such effects are often important in determining "inventive step".

3.3.4. Inventions

3.3.4.1 Exceptions to patentability (Section3(10)(h) and Rule 7*bis* 3)

Inventions for which patents are granted by the Office shall be new, shall involve an inventive step and shall be industrially applicable. An invention shall be considered to be new if it is not anticipated by the prior art. An "invention" within the meaning of Section 3(10) must be of both a concrete and a technical character. It may be in any field of technology.

The Harare Protocol provides exception to patentability of biotechnological inventions as provided for in **Section3(10)(h) and** Rule 7bis.3.

3.3.5 Examination practice

In considering whether the subject-matter of an application is an invention within the meaning of Section 3 (10), there are two general points the examiner must bear in mind. Firstly, any exception from patentability under Rule 7*bis*.3 applies only to the extent to which the application relates to the excluded subject-matter as such. Secondly, the examiner should disregard the form or kind of claim and concentrate on its content in order to identify whether the claimed subject-matter, considered as a whole, has a technical character. If it does not, there is no invention within the meaning of Section 3(10)**.**

It must also be borne in mind that the basic test of whether there is an invention within the meaning of Section 3(10) is separate and distinct from the questions whether the subject-matter is susceptible of industrial application, is new and involves an inventive step.

Where it is found that the claims relate in part to excluded subject-matter, this may have led to the issuing of a partial ARIPO or supplementary ARIPO search report.

In such cases, in the absence of appropriate amendment and/or convincing arguments provided by the applicant in his response to the invitation or to the search opinion, an objection will also arise.

3.3.6 List of exceptions (Section 3(10)(h))

The items on the list in **paragraph 3.3.4.1** will now be dealt with in turn, and further examples will be given in order better to clarify the distinction between what is patentable and what is not.

3.3.6.1 Discoveries

If a new property of a known material or article is found out, that is mere discovery and unpatentable because discovery as such has no technical effect and is therefore not an invention within the meaning of Section 3(10). If, however, that property is put to practical use, then this constitutes an invention which may be patentable. For example, the discovery that a particular known material is able to withstand mechanical shock would not be patentable, but a railway sleeper made from that material could well be patentable. To find a previously unrecognized substance occurring in nature is also mere discovery and therefore unpatentable. However, if a substance found in nature can be shown to produce a technical effect, it may be patentable. An example of such a case is that of a substance occurring in nature which is found to have an antibiotic effect. In addition, if a microorganism is discovered to exist in nature and to produce an antibiotic, the microorganism itself may also be patentable as one aspect of the invention. Similarly, a gene which is discovered to exist in nature may be patentable if a technical effect is revealed, e.g. its use in making a certain polypeptide or in gene therapy.

3.3.6.2 Scientific theories

These are a more generalized form of discoveries, and the same principle applies. For example, the physical theory of semi conductivity would not be patentable. However, new semiconductor devices and processes for manufacturing these may be patentable.

3.3.6.3 Mathematical methods

These are a particular example of the principle that purely abstract or intellectual methods are not patentable. For example, a shortcut method of division would not be patentable but a calculating machine constructed to operate accordingly may well be patentable. A mathematical method for designing electrical filters is not patentable; nevertheless filters designed according to this method would not be excluded from patentability.

3.3.6.4 Aesthetic creations

An aesthetic creation relates by definition to an article (e.g. a painting or sculpture) having aspects which are other than technical and the appreciation of which is essentially subjective. If, however, the article happens also to have technical features, it might be patentable, a tyre tread being an example of this. The aesthetic effect itself is not patentable, neither in a product nor in a process claim. For example, a book claimed solely in terms of the aesthetic or artistic effect of its information content, of its layout or of its letter font, would not be patentable, and neither would a painting defined by the aesthetic effect of its subject or by the arrangement of colours, or by the artistic (e.g. Impressionist) style. Nevertheless, if an aesthetic effect is obtained by a technical structure or other technical means, although the aesthetic effect itself is not patentable, the means of obtaining it may be. For example, a fabric may be provided with an attractive appearance by means of a layered structure not previously used for this purpose, in which case a fabric incorporating such structure might be patentable. Similarly, a book defined by a technical feature of the binding or pasting of the back may be patentable, even though it has an aesthetic effect too, similarly also a painting defined by the kind of cloth, or by the dyes or binders used. Also a process of producing an aesthetic creation may comprise a technical innovation and thus be patentable. For example, a diamond may have a particularly beautiful shape (not of itself patentable) produced by a new technical process. In this case, the process may be patentable. Similarly, a new printing technique for a book resulting in a particular layout with aesthetic effect may well be patentable, together with the book as a product of that process. Again, a substance or composition defined by technical features serving to produce a special effect with regard to scent or flavour, e.g. to maintain a scent or flavour for a prolonged period or to accentuate it, may well be patentable.

3.3.6.5 Schemes, rules and methods for performing mental acts, playing games or doing business

These are further examples of items of an abstract or intellectual character. In particular, a scheme for learning a language, a method of solving crossword puzzles, a game (as an abstract entity defined by its rules) or a scheme for organizing a commercial operation would not be patentable. A method of doing business is excluded from patentability even where it implies the possibility of making use of unspecified technical means or has practical utility. However, if the claimed subject-matter specifies an apparatus or technical process for carrying out at least some part of the scheme, that scheme and the apparatus or process have to be examined as a whole. In particular, if the claim specifies computers, computer networks or other conventional programmable apparatus, or a program therefore, for carrying out at least some steps of a scheme, it is to be examined as a "computer-implemented invention" (see below).

3.3.6.6 Programs for computers

Programs for computers are a form of "computer-implemented invention", an expression intended to cover claims which involve computers, computer networks or other programmable apparatus whereby prima facie one or more of the features of the claimed invention is realized by means of a program or programs. Such claims may e.g. take the form of a method of operating said apparatus, the apparatus set up to execute the method, or the program itself. Insofar as the scheme for examination is concerned, no distinctions are made on the basis of the overall purpose of the invention, i.e. whether it is intended to fill a business niche, to provide some new entertainment, etc.

The basic patentability considerations in respect of claims for computer programs are in principle the same as for other subject-matter. While "programs for computers" are included among the items in the exception list under paragraph 3.3.4.1, if the claimed subject-matter has a technical character it is not excluded from patentability by the provisions of Rule 7 bis.3. Moreover, a data-processing operation controlled by a computer program can equally, in theory, be implemented by means of special circuits, and the execution of a program always involves physical effects, e.g. electrical currents. Such normal physical effects are

not in themselves sufficient to lend a computer program technical character. However, if a computer program is capable of bringing about, when running on a computer, a further technical effect going beyond these normal physical effects, it is not excluded from patentability. This further technical effect may be known in the prior art. A further technical effect which lends technical character to a computer program may be found e.g. in the control of an industrial process or in processing data which represent physical entities or in the internal functioning of the computer itself or its interfaces under the influence of the program and could, for example, affect the efficiency or security of a process, the management of computer resources required or the rate of data transfer in a communication link. As a consequence, a computer program may be considered as an invention within the meaning of Section 3 (10) if the program has the potential to bring about, when running on a computer, a further technical effect which goes beyond the normal physical interactions between the program and the computer. A patent may be granted on such a claim if all the requirements of the Harare Protocol are met. Such claims should not contain program listings, but should define all the features which assure patentability of the process which the program is intended to carry out when it is run**.** Moreover, the requirement for technical character may be satisfied if technical considerations are required to carry out the invention. Such technical considerations must be reflected in the claimed subject-matter.

Any claimed subject-matter defining or using technical means is an invention within the meaning of Section 3 (10). If claimed subject-matter does not have a prima facie technical character, it should be rejected under Section 3(10). If the subject-matter passes this prima facie test for technicality, the examiner should then proceed to the questions of novelty and inventive step. In assessing whether there is an inventive step, the examiner must establish an objective technical problem which has been overcome**.** The solution of that problem constitutes the invention's technical contribution to the art. The presence of such a technical contribution establishes that the claimed subject-matter has a technical character and therefore is indeed an invention within the meaning of Section 3 (10). If no such objective technical problem is found, the claimed subject-matter does not satisfy at least the requirement for an inventive step because there can be no technical contribution to the art, and the claim is to be rejected on this ground.

3.3.6.7 Presentations of information

A representation of information defined solely by the content of the information is not patentable. This applies whether the claim is directed to the presentation of the information per se (e.g. by acoustical signals, spoken words, visual displays, books defined by their subject, gramophone records defined by the musical piece recorded, traffic signs defined by the warning thereon) or to processes and apparatus for presenting information (e.g. indicators or recorders defined solely by the information indicated or recorded). If, however, the presentation of information has new technical features, there could be patentable subject-matter in the information carrier or in the process or apparatus for presenting the information. The arrangement or manner of representation, as distinct from the information content, may well constitute a patentable technical feature. Examples in which such a technical feature may be present are: a telegraph apparatus or communication system using a particular code to represent the characters (e.g. pulse code modulation); a measuring instrument designed to produce a particular form of graph for representing the measured information; a gramophone record having a particular groove form to allow stereo recordings; a computer data structure defined in terms which inherently comprise the technical features of the program which operates on said data structure (assuming the program itself, in the particular case, to be patentable); and a diapositive with a soundtrack arranged at the side of it.

3.3.7 Biotechnological inventions

3.3.7.1 General remarks and definitions

"Biotechnological inventions" are inventions which concern a product consisting of or containing biological material or a process by means of which biological material is produced, processed or used. "Biological material" means any material containing genetic information and capable of reproducing itself or being reproduced in a biological system Rule 7*bis*.

3.3.7.2 Patentable biotechnological inventions (Rule 7bis. 2)

In principle, biotechnological inventions are patentable under the Harare Protocol. For ARIPO patent applications and patents concerning biotechnological

inventions, the relevant provisions of the Harare Protocol are to be applied and interpreted in accordance with the provisions of Rule 7*bis*. Biotechnological inventions are also patentable if they concern an item on the following non-exhaustive list:

(i) biological material which is isolated from its natural environment or produced by means of a technical process even if it previously occurred in nature. Hence biological material may be considered patentable even if it already occurs in nature.

The human body, at the various stages of its formation and development, and the simple discovery of one of its elements, including the sequence or partial sequence of a gene, cannot constitute patentable inventions.

The examination of a patent application or a patent for gene sequences or partial sequences should be subject to the same criteria of patentability as in all other areas of technology**.** The industrial application of a sequence or partial sequence must be disclosed in the patent application as filed.

(ii) plants or animals if the technical feasibility of the invention is not confined to a particular plant or animal variety. Inventions which concern plants or animals are patentable provided that the application of the invention is not technically confined to a single plant or animal variety.

A claim wherein specific plant varieties are not individually claimed is not excluded from patentability even though it may embrace plant varieties**.** The subject-matter of a claim covering but not identifying plant varieties is not a claim to a variety or varieties. In the absence of the identification of a specific plant variety in a product claim, the subject-matter of the claimed invention is neither limited nor directed to a variety or varieties or

(iii) a microbiological or other technical process, or a product obtained by means of such a process other than a plant or animal variety. Section 3(1)(b).

"Microbiological process" means any process involving or performed upon or resulting in microbiological material.

3.3.8 Exceptions to patentability (Section 3(10)(j))

3.3.8.1 Matter contrary to "*ordre public*" or morality

Any invention the commercial exploitation of which would be contrary to "*ordre public"* or morality is specifically excluded from patentability. The purpose of this is to deny protection to inventions likely to induce riot or public disorder, or to lead to criminal or other generally offensive behaviour. Anti-personnel mines are an obvious example. This is likely to be invoked only in rare and extreme cases. A fair test to apply is to consider whether it is probable that the public in general would regard the invention as so abhorrent that the grant of patent rights would be inconceivable. If it is clear that this is the case, objection should be raised or otherwise not. The mere possibility of abuse of an invention is not sufficient to deny patent protection if the invention can also be exploited in a way which does not and would not infringe "*ordre public*" and morality.

3.3.8.2 Prohibited matter

Exploitation is not to be deemed to be contrary to "*ordre public"* or morality merely because it is prohibited by law or regulation in some or all of the Contracting States. One reason for this is that a product could still be manufactured under an ARIPO patent for export to States in which its use is not prohibited.

3.3.8.3 Offensive and non-offensive use

In some cases refusal of a patent application may be unjustified. This may result when the invention has both an offensive and a non-offensive use, e.g. a process for breaking open locked safes, the use by a burglar being offensive but the use by a locksmith in the case of emergency non-offensive. In such a case, no objection arises. Similarly, if a claimed invention defines a copying machine with features resulting in an improved precision of reproduction and an embodiment of this apparatus could comprise further features (not claimed but apparent to the skilled person) the only purpose of which would be that it should also allow reproduction of security strips in banknotes strikingly similar to those in genuine banknotes, the claimed apparatus would cover an embodiment for producing counterfeit money which could be considered to fall**.** There is, however, no reason to consider the copying machine as claimed to be excluded from patentability, since its improved

properties could be used for many acceptable purposes**.** However, if the application contains an explicit reference to a use which is contrary to *"ordre public*" or morality, deletion of this reference should be required.

3.3.8.4 Economic effects

The ARIPO has not been vested with the task of taking into account the economic effects of the grant of patents in specific areas of technology and of restricting the field of patentable subject-matter accordingly**.** The standard to apply for an exception is whether the commercial exploitation of the invention is contrary to "*ordre public*" or morality.

3.3.8.5 Biotechnological inventions

In the area of biotechnological inventions, the following list of exceptions to patentability is laid down in Rule 7*bis*.3. The list is illustrative and non-exhaustive and is to be seen as giving concrete form to the concept of "ordre public" and "morality" in this technical field. Under Rule 7*bis*.3 of the Harare Protocol, ARIPO patents are not to be granted in respect of biotechnological inventions which concern:

(i) processes for cloning human beings;

For the purpose of this exception, a process for the cloning of human beings may be defined as any process, including techniques of embryo splitting, designed to create a human being with the same nuclear genetic information as another living or deceased human being**.**

(ii) processes for modifying the germ line genetic identity of human

beings;

(iii) uses of human embryos for industrial or commercial purposes;

The exclusion of the uses of human embryos for industrial or commercial purposes does not affect inventions for therapeutic or diagnostic purposes which are applied to the human embryo and are useful to it**.**

(iv) processes for modifying the genetic identity of animals which are likely to cause them suffering without any substantial medical benefit to man or animal, and also animals resulting from such processes.

The substantial medical benefit referred to above includes any benefit in terms of research, prevention, diagnosis or therapy. In addition, the human body, at the various stages of its formation and development, and the simple discovery of one of its elements, including the sequence or partial sequence of a gene, cannot constitute patentable inventions. Such stage in the formation or development of the human body includes germ cells. Also excluded from patentability is processes to produce chimeras from germ cells or totipotent cells of humans and animals**.**

3.3.8.6 Plant and animal varieties, processes for the production of plants or animals

The list of exceptions to patentability under Rule 7 *bis.3* also includes "plant or animal varieties or essentially biological processes for the production of plants or animals".

3.3.8.6.1 Plant varieties

The term "plant variety" is defined in Rule 7*bis*.1. A patent is not to be granted if the claimed subject-matter is directed to a specific plant variety or specific plant varieties. However, if the invention concerns plants and animals and if the technical feasibility of the invention is not confined to a particular plant or animal variety, the invention is patentable.

When a claim to a process for the production of a plant variety is examined, it is not to be taken into consideration. Hence, a process claim for the production of a plant variety (or plant varieties) is not a priori excluded from patentability merely because the resulting product constitutes or may constitute a plant variety.

3.3.8.6.2 Processes for the production of plants or animals

A process for the production of plants or animals is essentially biological if it consists entirely of natural phenomena such as crossing or selection. To take some examples, a method of crossing, inter-breeding, or selectively breeding, say, horses involving merely selecting for breeding and bringing together those animals having

certain characteristics would be essentially biological and therefore unpatentable. On the other hand, a process of treating a plant or animal to improve its properties or yield or to promote or suppress its growth e.g. a method of pruning a tree, would not be essentially biological since although a biological process is involved the essence of the invention is technical; the same could apply to a method of treating a plant characterized by the application of a growth-stimulating substance or radiation. The treatment of soil by technical means to suppress or promote the growth of plants is also not excluded from patentability**.**

3.3.8.7 Microbiological processes (section 3(1)(b))

3.3.8.7.1 General remarks

"Microbiological process" means any process involving or performed upon or resulting in microbiological material. Hence, the term "microbiological process" is to be interpreted as covering not only processes performed upon microbiological material or resulting in such, e.g. by genetic engineering, but also processes which as claimed include both microbiological and non-microbiological steps.

The product of a microbiological process may also be patentable per se (product claim). Propagation of the microorganism itself is to be construed as a microbiological process. Consequently, the microorganism can be protected per se as it is a product obtained by a microbiological process. The term "microorganism" includes bacteria and other generally unicellular organisms with dimensions beneath the limits of vision which can be propagated and manipulated in a laboratory, including plasmids and viruses and unicellular fungi (including yeasts), algae, protozoa and, moreover, human, animal and plant cells.

On the other hand, product claims for plant or animal varieties cannot be allowed even if the variety is produced by means of a microbiological process. The exception to patentability**,** first half-sentence, applies to plant varieties irrespective of the way in which they are produced. Therefore, plant varieties containing genes introduced into an ancestral plant by recombinant gene technology are excluded from patentability**.**

3.3.8.8 Repeatability of results of microbiological processes

In the case of microbiological processes, particular regard should be had to the requirement of repeatability. As for biological material deposited under the terms of 6 bis.2 repeatability is assured by the possibility of taking samples (Rule 6 bis.3) and there is thus no need to indicate another process for the production of the biological material.

3.3.8.9 Surgery, therapy and diagnostic methods (Section 3(10)(j))

ARIPO patents are not to be granted in respect of "methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practiced on the human or animal body; this provision shall not apply to products, in particular substances or compositions, for use in any of these methods." Hence, patents may be obtained for surgical, therapeutic or diagnostic instruments or apparatuses for use in such methods. The manufacture of prostheses or artificial limbs could be patentable. For instance, a method of manufacturing insoles in order to correct the posture or a method of manufacturing an artificial limb should be patentable. In both cases, taking the imprint of the footplate or a molding of the stump on which an artificial limb is fitted is clearly not of a surgical nature and does not require the presence of a medically qualified person. Furthermore, the insoles as well as the artificial limb are manufactured outside the body.

However, a method of manufacturing an endoprosthesis outside the body, but requiring a surgical step to be carried out for taking measurements, would be excluded from patentability.

Patents may be obtained for new products, particularly substances or compositions, for use in these methods of treatment or diagnosis. Where the substance or composition is known, it may only be patented for use in these methods if the known substance or composition was not previously disclosed for use in surgery, therapy or diagnostic methods practiced on the human or animal body ("first medical use"). A claim to a known substance or composition for the first use in surgical, therapeutic and/or diagnostic methods should be in a form such as: "Substance or composition X" followed by the indication of the use, for instance "... for use as a medicament", "... as an antibacterial agent “or "... for curing disease Y".

Where a substance or composition is already known to have been used in a "first medical use", it may still be patentable for any second or further use in a method provided that said use is novel and inventive.

Thus provide for an exception from the general principle that product claims can only be obtained for (absolutely) novel products. However, this does not mean that product claims for the first and further medical uses need not fulfill all other requirements of patentability, especially that of inventive step.

A claim in the form "Use of substance or composition X for the treatment of disease Y..." will be regarded as relating to a method for treatment explicitly excluded from patentability and therefore will not be accepted.

If an application discloses for the first time a number of distinct surgical, therapeutic or diagnostic uses for a known substance or composition, normally in the one application independent claims each directed to the substance or composition for one of the various uses may be allowed; i.e. an a priori objection of lack of unity of invention should not, as a general rule, be raised.

A claim in the form "Use of a substance or composition X for the manufacture of a medicament for therapeutic application Z" is allowable for either a first or "subsequent" (second or further) such application ("Swiss-type" claim), if this application is new and inventive. The same applies to claims in the form "Method for manufacturing a medicament intended for therapeutic application Z, characterized in that the substance X is used" or the substantive equivalents thereof. In cases where an applicant simultaneously discloses more than one "subsequent" therapeutic use, claims of the above type directed to these different uses are allowable in the one application, but only if they form a single general inventive concept. Regarding use or method claims of the above type, it should also be noted that a mere pharmaceutical effect does not necessarily imply a therapeutical application. For instance, the selective occupation of a specific receptor by a given substance cannot be considered in itself as a therapeutic application; indeed, the discovery that a substance selectively binds a receptor, even if representing an important piece of scientific knowledge, still needs to find an application in the form of a defined, real treatment of a pathological condition in

order to make a technical contribution to the art and to be considered as an invention eligible for patent protection**.**

3.3.8.10 Limitations of exception

It should be noted that the exceptions are confined to methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practiced on the human or animal body. It follows that other methods of treatment of live human beings or animals (e.g. treatment of a sheep in order to promote growth, to improve the quality of mutton or to increase the yield of wool) or other methods of measuring or recording characteristics of the human or animal body are patentable, provided that (as would probably be the case) such methods are of a technical and not essentially biological character. For example, an application containing claims directed to the purely cosmetic treatment of a human by administration of a chemical product is considered as being patentable. A cosmetic treatment involving surgery or therapy would, however, not be patentable.

To be excluded from patentability, a treatment or diagnostic method must actually be carried out on the living human or animal body. A treatment of or diagnostic method practiced on a dead human or animal body would therefore not be excluded from patentability. Treatment of body tissues or fluids after they have been removed from the human or animal body, or diagnostic methods applied thereon, are not excluded from patentability insofar as these tissues or fluids are not returned to the same body. Thus the treatment of blood for storage in a blood bank or diagnostic testing of blood samples is not excluded, whereas a treatment of blood by dialysis with the blood being returned to the same body would be excluded.

Regarding methods which are carried out on or in relation to the living human or animal body, it should be borne in mind that the intention of Rule 7*bis*.3 is only to free from restraint non-commercial and non-industrial medical and veterinary activities. Interpretation of the provision should avoid the exceptions from going beyond their proper limits**.**

However, in contrast to the subject-matter referred to in paragraph 3.3.4. which is only excluded from patentability if claimed as such, a method claim is not allowable if it includes at least one feature defining a physical activity or action

that constitutes a method step for treatment of the human or animal body by surgery or therapy. In that case, whether or not the claim includes or consists of features directed to a technical operation performed on a technical object is legally irrelevant to the application.

Taking the three exceptions in turn:

Surgery defines the nature of the treatment rather than its purpose. Thus, for example, a method of treatment by surgery for cosmetic purposes or for embryo transfer is excluded from patentability, as well as surgical treatment for therapeutic purposes.

Therapy implies the curing of a disease or malfunction of the body and covers prophylactic treatment, e.g. immunization against a certain disease or the removal of plaque. A method for therapeutic purposes concerning the functioning of an apparatus associated with a living human or animal body is not excluded from patentability if no functional relationship exists between the steps related to the apparatus and the therapeutic effect of the apparatus on the body**.**

Diagnostic methods likewise do not cover all methods related to diagnosis. To determine whether a claim is directed to a diagnostic method it must first be established whether all of the necessary phases are included in the claim**.**

The claim must include method steps relating to all of the following phases:

(i) the examination phase, involving the collection of data,

(ii) the comparison of these data with standard values,

(iii) the finding of any significant deviation, i.e. a symptom, during the comparison,

(iv) the attribution of the deviation to a particular clinical picture, i.e. the deductive medical or veterinary decision phase (diagnosis for curative purposes *stricto sensu).*

If features pertaining to any of these phases are missing and are essential for the definition of the invention, those features are to be included in the independent claim. Due account should be taken of steps which may be considered to be

implicit: for example, steps relating to the comparison of data with standard values (phase (ii)) may imply the finding of a significant deviation (phase (iii)**.** The deductive medical or veterinary decision phase (iv), i.e. the "diagnosis for curative purposes *stricto sensu*", is the determination of the nature of a medical or veterinary medicinal condition intended to identify or uncover a pathology; the identification of the underlying disease is not required**.**

It is then necessary to establish which of the method steps have technical character. The final phase (iv), for example, is normally a purely intellectual exercise (unless a device capable of reaching the diagnostic conclusions can be used) and therefore not technical in character.

In order to fulfill the "practiced on the human or animal body" criterion, each of the preceding technical method steps relating to phases (i) to (iii) must be performed on a human or animal body. So, for each technical method step, it must be ascertained whether an interaction with the human or animal body takes place. The type or intensity of the interaction is not decisive: this criterion is fulfilled if the performance of the technical method step in question necessitates the presence of the body. Direct physical contact with the body is not required.

It is noted that a medical or veterinary practitioner does not have to be involved, either by being present or by bearing the overall responsibility, in the procedure. If all of the above criteria are satisfied, then the claim defines a diagnostic method practiced on the human or animal body, and an objection will be raised.

Accordingly, methods for merely obtaining information (data, physical quantities) from the living human or animal body (e.g. X-ray investigations, NMR studies, and blood pressure measurements) are not excluded from patentability.

3.3.9. Industrial application (Sections 3(3); 3(10) and Rule 18)

3.3.9.1 General remarks

"An invention shall be considered as susceptible of industrial application if it can be made or used in any kind of industry, including agriculture". "Industry" should be understood in its broad sense including any physical activity of "technical character" i.e. an activity which belongs to the useful or practical arts as distinct from the aesthetic arts; it does not necessarily imply the use of a machine or the

manufacture of an article and could cover e.g. a process for dispersing fog or for converting energy from one form to another. Thus, Section 3(10)(f) excludes from patentability very few "inventions" which are not already excluded by the list paragraph 3.3.4.1. One further class of "invention" which would be excluded, however, would be articles or processes alleged to operate in a manner clearly contrary to well-established physical laws, e.g. a perpetual motion machine. Objection could arise only insofar as the claim specifies the intended function or purpose of the invention, but if, say, a perpetual motion machine is claimed merely as an article having a particular specified construction then objection should be made under Section 2(9) (b).

3.3.9.2 Method of testing

Methods of testing generally should be regarded as inventions susceptible of industrial application and therefore patentable if the test is applicable to the improvement or control of a product, apparatus or process which is itself susceptible of industrial application. In particular, the utilization of test animals for test purposes in industry, e.g. for testing industrial products (for example for ascertaining the absence of pyrogenetic or allergic effects) or phenomena (for example for determining water or air pollution) would be patentable.

3.3.9.3 Industrial application vs. exception under paragraph 3.3.4.1

It should be noted that "susceptibility of industrial application" is not a requirement that overrides the restriction of paragraph 3.3.4.1, e.g. an administrative method of stock control is not patentable, having regard to paragraph 3.3.4.1, even though it could be applied to the factory store-room for spare parts. On the other hand, although an invention must be "susceptible of industrial application" and the description must indicate, where this is not apparent, the way in which the invention is thus susceptible, the claims need not necessarily be restricted to the industrial application(s).

3.3.9.4 Sequences and partial sequences of genes

In general it is required that the description of an ARIPO patent application should, where this is not self-evident, indicate the way in which the invention is capable of

exploitation in industry. The invention claimed must have such a sound and concrete technical basis that the skilled person can recognize that its contribution to the art could lead to practical exploitation in industry. In relation to sequences and partial sequences of genes, this general requirement is given specific form in that the industrial application of a sequence or a partial sequence of a gene must be disclosed in the patent application. A mere nucleic acid sequence without indication of a function is not a patentable invention. In cases where a sequence or partial sequence of a gene is used to produce a protein or a part of a protein, it is necessary to specify which protein or part of a protein is produced and what function this protein or part of a protein performs. Alternatively, when a nucleotide sequence is not used to produce a protein or part of a protein, the function to be indicated could e.g. be that the sequence exhibits a certain transcription promoter activity.

3.4 STATE OF THE ART (Section 3(10)(c))

3.4.1 General remarks and definition

An invention is "considered to be new if it does not form part of the state of the art". The "state of the art" is defined as "everything made available to the public by means of a written or oral description, by use, or in any other way, before the date of filing of the ARIPO patent application". The width of this definition should be noted. There are no restrictions whatever as to the geographical location where or the language or manner in which the relevant information was made available to the public; also no age limit is stipulated for the documents or other sources of the information. There are, however, certain specific exclusions. However, since the "state of the art" available to the examiner will mainly consist of the documents listed in the search report, this section deals with the question of public availability only in relation to written description (either alone or in combination with an earlier oral description or use).

A written description, i.e. a document, should be regarded as made available to the public if, at the relevant date, it was possible for members of the public to gain

knowledge of the content of the document and there was no bar of confidentiality restricting the use or dissemination of such knowledge. For instance, German utility models are already publicly available as of their date of entry in the Register of utility models which precedes the date of announcement in the Patent Bulletin. The search report also cites documents in which doubts with regard to the fact of public availability and doubts concerning the precise date of publication of a document have not, or not fully, been removed. If the applicant contests the public availability or assumed date of publication of the document, the examiner should consider whether to investigate the matter further. If the applicant shows sound reasons for doubting whether the document forms part of the "state of the art" in relation to his application and any further investigation does not produce evidence sufficient to remove that doubt; the examiner should not pursue the matter further. The only other problem likely to arise for the examiner is where:

(i) a document reproduces an oral description (e.g. a public lecture) or gives an account of a prior use (e.g. display at a public exhibition); and

(ii) only the oral description or lecture was publicly available before the "date of filing" of the ARIPO application, the document itself being published on or after this date. In such cases, the examiner should start with the assumption that the document gives a true account of the earlier lecture, display or other event and should therefore regard the earlier event as forming part of the "state of the art". If, however, the applicant gives sound reasons for contesting the truth of the account given in the document then again the examiner should not pursue the matter further.

3.4.2 Internet disclosures

As a matter of principle, disclosures on the internet form part of the state of the art according to Section 3(10)(c)**.** Information disclosed on the internet or in online databases is considered to be publicly available as of the date the information was publicly posted. Internet websites often contain highly relevant technical information. Certain information may even be available only on the internet from such websites. This includes, for example, online manuals and tutorials for software products (such as video games) or other products with a short life cycle.

Hence for the sake of a valid patent it is often crucial to cite publications only obtainable from such internet websites.

3.4.3 Establishing the publication date

Establishing a publication date has two aspects. It must be assessed separately whether a given date is indicated correctly and whether the content in question was indeed made available to the public as of that date.

The nature of the internet can make it difficult to establish the actual date on which information was made available to the public: for instance, not all web pages mention when they were published. Also, websites are easily updated, yet most do not provide any archive of previously displayed material, nor do they display records which enable members of the public - including examiners - to establish precisely what was published and when.

Neither restricting access to a limited circle of people (e.g. by password protection) nor requiring payment for access (analogous to purchasing a book or subscribing to a journal) prevent a web page from forming part of the state of the art. It is sufficient if the web page is in principle available without any bar of confidentiality. Finally, it is theoretically possible to manipulate the date and content of an internet disclosure (as it is with traditional documents). However, in view of the sheer size and redundancy of the content available on the internet, it is considered very unlikely that an internet disclosure discovered by an examiner has been manipulated. Consequently, unless there are specific indications to the contrary, the date can be accepted as being correct.

3.4.4 Standard of proof

When an internet document is cited against an application or patent, the same facts are to be established as for any other piece of evidence, including standard paper publications. This evaluation is made according to the principle of “free evaluation of evidence”. That means that each piece of evidence is given an appropriate weight according to its probative value, which is evaluated in view of the particular circumstances of each case. The standard for assessing these circumstances is the balance of probabilities. According to this standard, it is not sufficient that the alleged fact (e.g. the publication date) is merely probable; the examining division

must be convinced that it is correct. It does mean, however, that proof beyond reasonable doubt ("up to the hilt") of the alleged fact is not required.

In many cases, internet disclosures contain an explicit publication date which is generally considered reliable. Such dates are accepted at face value, and the burden of proof will be on the applicant to show otherwise. Circumstantial evidence may be required to establish or confirm the publication date. If the examiner comes to the conclusion that - on the balance of probabilities - it has been established that a particular document was available to the public at a particular date, this date is used as publication date for the purpose of examination.

3.4.5 Burden of proof

It is a general principle that, when raising objections, the burden of proof lies initially with the examiner. This means that objections must be reasoned and substantiated, and must show that, on the balance of probabilities, the objection is well-founded. If this is done, it is then up to the applicant to prove otherwise - the burden of proof shifts to the applicant.

If an applicant provides reasons for questioning the alleged publication date of an internet disclosure, examiners will have to take these reasons into account. If examiners are no longer convinced that the disclosure forms part of the state of the art, they will either have to present further evidence to maintain the disputed publication date or will not use this disclosure further as prior art against the application.

The later the examiner sets out to obtain such evidence, the more difficult it may become. The examiner should use his judgment to decide whether it is worth spending a short amount of time at the search stage to find further evidence in support of the publication date.

If an applicant refutes the publication date of an internet disclosure with no reasoning or merely with generic statements about the reliability of internet disclosures, this argument will be given minimal weight and is therefore unlikely to sway the examiner's opinion.

While the dates and content of internet disclosures can be taken at face value, there are of course differing degrees of reliability. The more reliable a disclosure, the

harder it will be for the applicant to prove that it is incorrect. The following sections look at the reliability of various popular types of internet disclosure.

3.4.6 Technical journals

Of particular importance for examiners are online technical journals from scientific publishers (e.g. IEEE, Springer, and Derwent). The reliability of these journals is the same as that of traditional paper journals, i.e. very high.

It should be noted that the internet publication of a particular issue of a journal may be earlier than the date of publication of the corresponding paper version. Furthermore, some journals pre-publish on the internet manuscripts which have been submitted to them, but which have not yet been published, and in some cases before they have even been approved for paper publication (for example, the "Geophysics" journal). If the journal then does not approve the manuscript for publication, this pre-publication of the manuscript may be the only disclosure of its content. Examiners should also remember that the pre-published manuscript may differ from the final, published version. The two documents should be treated as separate disclosures, each with its own publication date.

Where the given publication date of an online journal publication is too vague (e.g. only the month and year is known), and the most pessimistic possibility (the last day of the month) is too late, the examiner may request the exact publication date. Such a request may be made directly through a contact form that the publisher may offer on the internet, or via the ARIPO library.

3.4.7 Other "print equivalent" publications

Many sources other than scientific publishers are generally deemed to provide reliable publication dates. These include for example publishers of newspapers or periodicals, or television or radio stations. Academic institutions (such as academic societies or universities), international organizations (such as the European Space Agency ESA), public organizations (such as ministries or public research agencies) or standardization bodies also typically fall into this category.

Some universities host so-called eprint archives to which authors submit reports on research results in electronic form before they are submitted or accepted for publication by a conference or journal. In fact, some of these reports are never

published anywhere else. The most prominent such archive is known as arXiv.org (www.arxiv.org, hosted by the Cornell University Library), but several others exist, e.g. the Cryptology eprint archive (eprint.iacr.org, hosted by the International Association for Cryptology Research). Some such archives crawl the internet to automatically retrieve publications which are publicly available from researchers' web pages, such as Citeseer or ChemXseer (citeseer.ist.psu.edu and chemxseer.ist.psu.edu, both hosted by Pennsylvania State University).

Companies, organizations or individuals use the internet to publish documents that had previously been published on paper. These include manuals for software products such as video games, handbooks for products such as mobile phones, product catalogues or price lists and white papers on products or product families. Evidently, most of these documents address the public - e.g. actual or potential customers - and are thus meant for publication. Hence the date given can be taken as a date of publication.

3.4.8 Non-traditional publications

The internet is also used to exchange and publish information in ways which did not exist before, via, for example, Usenet discussion groups, blogs, e-mail archives of mailing lists or wiki pages. Documents obtained from such sources also constitute prior art, although it may be more involved to establish their publication date, and their reliability may vary.

Computer-generated timestamps (usually seen, for example, on blogs, Usenet or the version history available from wiki pages) can be considered as reliable publication dates. While such dates could have been generated by an imprecise computer clock, this should be weighed against the fact that in general many internet services rely on accurate timing and will often stop functioning if time and date are incorrect. In the absence of indications to the contrary, the frequently used "last modified" date can be treated as the publication date.

3.4.9 Disclosures which have no date or an unreliable date

Where an internet disclosure is relevant for examination but does not give any explicit indication of the publication date in the text of the disclosure, or if an applicant has shown that a given date is unreliable, the examiner may try to obtain

further evidence to establish or confirm the publication date. Specifically, he may consider using the following information:

(a) Information relating to a web page available from an internet archiving service. The most prominent such service is the Internet Archive accessible through the so-called "Wayback Machine" (www.archive.org). The fact that the Internet Archive is incomplete does not detract from the credibility of the data it does archive. It is also noted that legal disclaimers relating to the accuracy of any supplied information are routinely used on websites (even respected sources of information such as *esp@cenet* or IEEE), and these disclaimers should not be taken to reflect negatively on the websites' actual accuracy.

(b) Timestamp information relating to the history of modifications applied to a file or web page (for example, as available for wiki pages such as Wikipedia and in version control systems as used for distributed software development).

(c) Computer-generated timestamp information as available from file directories or other repositories, or as automatically appended to content (e.g. forum messages and blogs).

(d) Indexing dates given to the web page by search engines (e.g. from the Google cache). These will be later than the actual publication date of the disclosure, since the search engines take some time to index a new website.

(e) Information relating to the publication date embedded in the internet disclosure itself. Date information is sometimes hidden in the programming used to create the website but is not visible in the web page as it appears in the browser. Examiners may, for example, consider the use of computer forensic tools to retrieve such dates. In order to allow a fair evaluation of the accuracy of the date by both the applicant and the examiner, these dates should be used only if the examiner knows how they were obtained and can communicate this to the applicant.

(f) Information about replication of the disclosure at several sites (mirror sites) or in several versions. It may also be possible to make enquiries with the owner or the author of the website when trying to establish the publication date to a sufficient degree of certainty. The probative value of statements so obtained will have to be assessed separately.

If no date can be obtained (other than the date of retrieval by the examiner, which will be too late for the application in question), the disclosure cannot be used as prior art during examination. If the examiner considers that a publication, although undated, is highly relevant to the invention and can therefore be considered to be of interest to the applicant or third parties, he may choose to cite the publication in the search report as an L document. The search report and the written opinion should explain why this document was cited. Citing the disclosure will also make it citable against future applications, using the date of retrieval as the date of publication.

3.4.10 Problematic cases

Web pages are sometimes divided into frames the content of which is drawn from different sources. Each of these frames may have its own publication date which may have to be checked. In an archiving system, for instance, it may happen that one frame contains the archived information with an old publishing date whereas other frames contain commercials generated at the time of retrieval. The examiner should ensure that he uses the right publication date, i.e. that the cited publication date refers to the intended content.

When a document retrieved from the Internet Archive contains links, there is no guarantee that the links point to documents archived on the same date. It may even happen that the link does not point to an archived page at all but to the current version of the web page. This may in particular be the case for linked images, which are often not archived. It may also happen that archived links do not work at all.

Some internet addresses (URLs) are not persistent, i.e. they are designed to work only during a single session. Long URLs with seemingly random numbers and letters are indicative of these. The presence of such a URL does not prevent the disclosure being used as prior art, but it does mean that the URL will not work for other people (e.g. the applicant when he receives the search report). For non-persistent URLs, or if, for other reasons, it is considered prudent, the examiner should indicate how he arrived at that specific URL from the main home page of the respective website (i.e. which links were followed, or which search terms were used).

3.4.11 Technical details and general remarks

When printing a web page, care should be taken that the complete URL is clearly legible. The same applies to the relevant publication date on a web page. It should be borne in mind that publication dates may be given in different formats, especially in either the European format dd/mm/yyyy, the US format mm/dd/yyyy or the ISO format yyyy/mm/dd. Unless the format is explicitly indicated, it will be impossible to distinguish between the European format and the US format for days 1-12 of each month.

If a publication date is close to the relevant priority date, the time zone of publication may be crucial to interpret a publication date. The examiner should always indicate the date on which the web page was retrieved. When citing internet disclosures, he should explain the prior art status of the document, e.g. how and where he obtained the publication date (for example that the eight digits in the URL represent the date of archiving in the format YYYYMMDD), and any other relevant information (for example, where two or more related documents are cited, how they are related - for example that following link 'xyz' on the first document leads to the second document).

3.4.12 Enabling disclosures

Subject-matter can only be regarded as having been made available to the public, and therefore as comprised in the state of the art pursuant to Section 3(10), if the information given to the skilled person is sufficient to enable him, at the relevant date, to practice the technical teaching which is the subject of the disclosure, taking into account also the general knowledge at that time in the field to be expected of him.

3.4.13 Date of filing or priority date as effective date

It should be noted that "date of filing" in Section 3(2)(a) is to be interpreted as meaning the date of priority in appropriate cases. It should be remembered that different claims, or different alternatives claimed in one claim, may have different effective dates, i.e. the date of filing or (one of) the claimed priority date(s). The question of novelty must be considered against each claim (or part of a claim where a claim specifies a number of alternatives) and the state of the art in relation

to one claim or one part of a claim may include matter, e.g. an intermediate document, which cannot be cited against another claim or another alternative in the same claim because it has an earlier effective date.

Of course, if all the matter in the state of the art was made available to the public before the date of the earliest priority document, the examiner need not (and should not) concern himself with the allocation of effective dates.

If the applicant files missing parts of the description, or drawings late, the accorded date of the application is the date of filing of these missing elements, unless they are completely contained in the priority document in which case the original filing date is maintained. The date of the application as a whole is thus either the date of filing of the missing elements or the original filing date.

3.4.14 Documents in a non-official language

The search report will include a document in a non-official language only if there is strong evidence (e.g.-coming from drawings, an abstract, a corresponding patent in an official language, or a translation produced by the examiner or by a person familiar with the language of the document) that the document is relevant. The examiner, in the search opinion or in the communication may cite the document on the basis of the same evidence. If, however, the applicant disputes the relevance of the document and gives specific reasons, the examiner should consider whether, in the light of these reasons and of the other prior art available to him, he is justified in pursuing the matter. If so, he should obtain a translation of the document (or merely the relevant part of it if that can be easily identified). If he remains of the view that the document is relevant, he should send a copy of the translation to the applicant with the next official communication.

3.5 CONFLICT WITH OTHER ARIPO APPLICATIONS

3.5.1 State of the art pursuant to priority date

The state of the art also comprises the content of other applications filed or validly claiming a priority date earlier than – but published on or after – the date of filing

or valid date of priority of the application being examined. Such earlier applications are part of the state of the art only when considering novelty and not when considering inventive step. The "date of filing" referred to in Section 3(2)(a) is thus to be interpreted as meaning the date of priority in appropriate cases. By the "content" of other application is meant the whole disclosure, i.e. the description, drawings and claims, including:

(i) any matter explicitly disclaimed (with the exception of disclaimers for unworkable embodiments);

(ii) any matter for which an allowable reference to other documents is made; and

(iii) prior art insofar as explicitly described.

However, the "content" does not include any priority document (the purpose of such document being merely to determine to what extent the priority date is valid for the disclosure of the application.

3.5.2 Requirements

Whether a published application can be a conflicting application is determined firstly by its filing date and the date of its publication; the former must be before the filing or valid priority date of the application under examination, the latter must be on or after that date. If the published application claims priority, the priority date replaces the filing date for that subject-matter in the application which corresponds to the priority application. If a priority claim was abandoned or otherwise lost with effect from a date prior to publication, the filing date and not the priority date is relevant, irrespective of whether or not the priority claim might have conferred a valid priority right.

Changes taking effect after the date of publication (e.g. withdrawal of a designation or withdrawal of the priority claim or loss of the priority right for other reasons) do not affect the application.

3.5.3 Double patenting

The Harare Protocol does not deal explicitly with the case of co-pending ARIPO applications of the same effective date. However, it is an accepted principle in most patent systems that two patents cannot be granted to the same applicant for

one invention. It is permissible to allow an applicant to proceed with two applications having the same description where the claims are quite distinct in scope and directed to different inventions. However, in the rare case in which there are two or more ARIPO applications from the same applicant definitively designating the same State or States the applicant should be told that he must either amend one or more of the applications in such a manner that they no longer claim the same invention, or choose which one of those applications he wishes to proceed to grant. Should two applications of the same effective date be received from two different applicants, each must be allowed to proceed as though the other did not exist.

3.5.4 Conflict with national rights of earlier date

Where a national right of an earlier date exists in a Contracting State designated in the application, there are several possibilities of amendment open to the applicant. First, he may simply withdraw that designation from his application for the Contracting State of the national right of earlier date. Second, for such State, he may file claims which are different from the claims for the other designated States. Third, the applicant can limit his existing set of claims in such a manner that the national right of earlier date is no longer relevant. Amendment of the application to take account of prior national rights should be neither required nor suggested. However, if the claims have been amended, then amendment of the description and drawings should be required if necessary to avoid confusion.

3.6 NOVELTY

3.6.1 Prior art pursuant to Section 3(10)(c)

An invention is considered to be new if it does not form part of the state of the art. For a definition of "prior art", see Section 3(10)(c). It should be noted that in considering novelty (as distinct from inventive step), it is not permissible to combine separate items of prior art together. It is also not permissible to combine

separate items belonging to different embodiments described in one and the same document, unless such combination has specifically been suggested.

However, if a document (the "primary" document) refers explicitly to another document as providing more detailed information on certain features, the teaching of the latter is to be regarded as incorporated into the document containing the reference, if the document referred to was available to the public on the publication date of the document containing the). The relevant date for novelty purposes, however, is always the date of the primary document.

Furthermore, any matter explicitly disclaimed (with the exception of disclaimers which exclude unworkable embodiments) and prior art acknowledged in a document, insofar as explicitly described therein, are to be regarded as incorporated in the document.

It is further permissible to use a dictionary or similar document of reference in order to interpret a special term used in a document.

3.6.2 Implicit features or well-known equivalents

A document takes away the novelty of any claimed subject-matter derivable directly and unambiguously from that document including any features implicit to a person skilled in the art in what is expressly mentioned in the document, e.g. a disclosure of the use of rubber in circumstances where clearly its elastic properties are used even if this is not explicitly stated takes away the novelty of the use of an elastic material. The limitation to subject-matter "derivable directly and unambiguously" from the document is important. Thus, when considering novelty, it is not correct to interpret the teaching document as embracing well-known equivalents which are not disclosed in the documents; this is a matter of obviousness.

3.6.3 Relevant date of a prior document

In determining novelty, a prior document should be read as it would have been read by a person skilled in the art on the relevant date of the document. By "relevant" date is meant the publication date in the case of a previously published document and the date of filing (or priority date, where appropriate) in the case of a document according to Section 3(2)(a).

3.6.4 Enabling disclosure of a prior document

Subject-matter described in a document can only be regarded as having been made available to the public, and therefore as comprised in the state of the art pursuant to Section 3(10)(c), if the information given therein to the skilled person is sufficient to enable him, at the relevant date of the document, to practice the technical teaching which is the subject of the document, taking into account also the general knowledge at that time in the field to be expected of him.

Similarly, it should be noted that a chemical compound, the name or formula of which is mentioned in a prior-art document, is not thereby considered as known, unless the information in the document, together, where appropriate, with knowledge generally available on the relevant date of the document, enables it to be prepared and separated or, for instance in the case of a product of nature, only to be separated.

3.6.5 Generic disclosure and specific examples

In considering novelty, it should be borne in mind that a generic disclosure does not usually take away the novelty of any specific example falling within the terms of that disclosure, but that a specific disclosure does take away the novelty of a generic claim embracing that disclosure, e.g. a disclosure of copper takes away the novelty of metal as a generic concept, but not the novelty of any metal other than copper, and one of rivets takes away the novelty of fastening means as a generic concept, but not the novelty of any fastening other than rivets.

3.6.6 Implicit disclosure and parameters

In the case of a prior document, the lack of novelty may be apparent from what is explicitly stated in the document itself. Alternatively, it may be implicit in the sense that, in carrying out the teaching of the prior document, the skilled person would inevitably arrive at a result falling within the terms of the claim. An objection of lack of novelty of this kind should be raised by the examiner only where there can be no reasonable doubt as to the practical effect of the prior teaching. Situations of this kind may also occur when the claims define the invention, or a feature thereof, by parameters. It may happen that irrelevant prior art, a different parameter, or no parameter at all, is mentioned. If the known and the

claimed products are identical in all other respects (which is to be expected if, for example, the starting products and the manufacturing processes are identical), then in the first place an objection of lack of novelty arises. If the applicant is able to show, e.g. by appropriate comparison tests, that differences do exist with respect to the parameters; it is questionable whether the application discloses all the features essential to manufacture products having the parameters specified in the claims.

3.6.7 Examination of novelty (Section 3(10)(b), Rule 18)

In determining novelty of the subject-matter of claims, the examiner should have regard to the guidance given in Section 3(10)(b). He should remember that, particularly for claims directed to a physical entity, non-distinctive characteristics of a particular intended use should be disregarded. For example, a claim to a substance X for use as a catalyst would not be considered to be novel over the same substance known as a dye, unless the use referred to implies a particular form of the substance (e.g. the presence of certain additives) which distinguishes it from the known form of the substance. That is to say, characteristics not explicitly stated, but implied by the particular use, should be taken into account. For claims to a first medical use it should be borne in mind that a claim to the use of a known compound for a particular purpose (second non-medical use) which is based on a technical effect should be interpreted as including that technical effect as a functional technical feature, and is accordingly not open to objection under Section 3(10)(b), provided that such technical feature has not previously been made available to the public.

3.6.8 Selection inventions

Selection inventions deal with the selection of individual elements, sub-sets, or sub-ranges, which have not been explicitly mentioned, within a larger known set or range.

(i) In determining the novelty of a selection, it has to be decided, whether the selected elements are disclosed in an individualized (concrete) form in the prior art. A selection from a single list of specifically disclosed elements does not confer novelty. However, if a selection from two or more lists of a certain length has to be made in order to arrive at a specific combination of features then the resulting combination of features, not specifically disclosed in the prior art, confers novelty

(the “two-lists principle”). Examples of such selections from two or more lists are the selection of:

(a) individual chemical compounds from a known generic formula whereby the compound selected results from the selection of specific substituents from two or more “lists” of substituents given in the known generic formula. The same applies to specific mixtures resulting from the selection of individual components from lists of components making up the prior art mixture;

(b) starting materials for the manufacture of a final product;

(c) sub-ranges of several parameters from corresponding known ranges.

(ii) A sub-range selected from a broader numerical range of the prior art is considered novel, if each of the following three criteria is satisfied:

(a) the selected sub-range is narrow compared to the known range;

(b) the selected sub-range is sufficiently far removed from any specific examples disclosed in the prior art and from the end-points of the known range;

(c) the selected range is not an arbitrary specimen of the prior art, i.e. not a mere embodiment of the prior art, but another invention (purposive selection, new technical teaching).

An effect occurring only in the claimed sub-range cannot in itself confer novelty on that sub-range. However, such a technical effect occurring in the selected sub-range, but not in the whole of the known range, can confirm that criterion (c) is met, i.e. that the invention is novel and not merely a specimen of the prior art. The meaning of “narrow” and “sufficiently far removed” has to be decided on a case-by-case basis. The new technical effect occurring within the selected range may also be the same effect as that attained with the broader known range, but to a greater extent.

(iii) In the case of overlapping ranges (e.g. numerical ranges, chemical formulae) of claimed subject-matter and the prior art the same principles apply for the assessment of novelty as in other cases, e.g. selection inventions. It has to be decided which subject-matter has been made available to the public by a prior art disclosure and thus forms part of the state of the art. In this context, it is not only

examples, but the whole content of the prior art document which has to be taken into consideration. As to overlapping ranges or numerical ranges of physical parameters, novelty is destroyed by an explicitly mentioned end-point of the known range, explicitly mentioned intermediate values or a specific example of the prior art in the overlap. It is not sufficient to exclude specific novelty destroying values known from the prior art range, it must also be considered whether the skilled person, in the light of the technical facts and taking into account the general knowledge in the field to be expected from him, would seriously contemplate applying the technical teaching of the prior art document in the range of overlap. If it can be fairly assumed that he would do so, it must be concluded that no novelty exists. The criteria mentioned in (ii) above can be applied analogously for assessing the novelty of overlapping numerical ranges. As far as overlapping chemical formulae are concerned, novelty is acknowledged if the claimed subject-matter is distinguished from the prior art in the range of overlap by a new technical element (new technical teaching), for example a specifically selected chemical residue which is covered in general terms by the prior art in the overlapping area, but which is not individualized in the prior art document. If this is not the case, then it must be considered whether the skilled person would seriously contemplate working in the range of overlap and/or would accept that the area of overlap is directly and unambiguously disclosed in an implicit manner in the prior art. If the answer is yes, then novelty is lacking.

3.6.8.1 Non-prejudicial disclosures (Section 3(10)(c))

There are two specific instances (and these are the only two) in which a prior disclosure of the invention is not taken into consideration as part of the state of the art, viz. where the disclosure was due to, or in consequence of: Section 3(10)(c)

(i) an evident abuse in relation to the applicant or his legal predecessor – e.g. the invention was derived from the applicant and disclosed against his wish;

(ii) the display of the invention by the applicant or his legal predecessor at an officially recognized international exhibition as defined in Section 3(10)(c)

3.6.9 Time limit

An essential condition, in both instances (i) and (ii), is that the disclosure in point must have taken place not earlier than six months preceding the filing of the application. For calculating the six-month period the relevant date is that of the actual filing date of the ARIPO patent application, not the priority date.

3.6.10 Evident abuse

Regarding instance (i), the disclosure might be made in a published document or in any other way. As a particular instance, the disclosure might be made in an ARIPO application of earlier priority date. Thus, for example, a person B who has been told of A's invention in confidence, might himself apply for a patent for this invention. If so, the disclosure resulting from the publication of B's application will not prejudice A's rights provided that A has already made an application, or applies within six months of such publication.

For "evident abuse" to be established, there must be, on the part of the person disclosing the invention, either actual intent to cause harm or actual or constructive knowledge that harm would or could ensue from this disclosure.

3.6.11 International exhibition

In instance (ii), the application must be filed within six months of the disclosure of the invention at the exhibition if the display is not to prejudice the application, (Section 3(10)(d)). Furthermore, the applicant must state, at the time of filing the application, that the invention has been so displayed, and must also file a supporting certificate within four months, giving the particulars required. The exhibitions recognized are published in the Official Journal.

3.7 INVENTIVE STEP (Section 3(10)(e) and Rule (18)(3))

3.7.1 General

An invention is considered as involving an inventive step if, having regard to the state of the art, it is not obvious to a person skilled in the art. Novelty and inventive

step are different criteria. The question – "is there inventive step?" – only arises if the invention is novel.

3.7.2 State of the art; date of filing

The "state of the art" for the purposes of considering inventive step is as defined in Section 3(10)(c). It is to be understood as concerning such kind of information as is relevant to some field of technology. The state of the art may reside in the relevant common general knowledge, which need not necessarily be in writing and needs substantiation only if challenged.

3.7.3 Person skilled in the art (Section 3(10)(e))

The "person skilled in the art" should be presumed to be a skilled practitioner in the relevant field, who is possessed of average knowledge and ability and is aware of what was common general knowledge in the art at the relevant date. He should also be presumed to have had access to everything in the "state of the art", in particular the documents cited in the search report, and to have had at his disposal the normal means and capacity for routine work and experimentation. If the problem prompts the person skilled in the art to seek its solution in another technical field, the specialist in that field is the person qualified to solve the problem. The skilled person is involved in constant development in his technical field. He may be expected to look for suggestions in neighbouring and general technical fields or even in remote technical fields, if prompted to do so.

Assessment of whether the solution involves an inventive step must therefore be based on that specialist's knowledge and ability. There may be instances where it is more appropriate to think in terms of a group of persons, e.g. a research or production team, rather than a single person. It should be borne in mind that the skilled person has the same level of skill for assessing inventive step and sufficient disclosure.

3.7.4 Obviousness

Thus the question to consider, in relation to any claim defining the invention, is whether before the filing or priority date valid for that claim, having regard to the art known at the time, it would have been obvious to the person skilled in the art to arrive at something falling within the terms of the claim. If so, the claim is not

allowable for lack of inventive step. The term "obvious" means that which does not go beyond the normal progress of technology but merely follows plainly or logically from the prior art, i.e. something which does not involve the exercise of any skill or ability beyond that to be expected of the person skilled in the art. In considering inventive step, as distinct from novelty, it is fair to construe any published document in the light of knowledge up to and including the day before the filing or priority date valid for the claimed invention and to have regard to all the knowledge generally available to the person skilled in the art up to and including that day.

3.7.5 Problem-and-solution approach

In order to assess inventive step in an objective and predictable manner, the so-called "problem-and-solution approach" should be applied. Thus deviation from this approach should be exceptional.

In the problem-and-solution approach, there are three main stages:

(i) determining the "closest prior art",

(ii) establishing the "objective technical problem" to be solved, and

(iii) considering whether or not the claimed invention, starting from the closest prior art and the objective technical problem, would have been obvious to the skilled person.

3.7.6 Determination of the closest prior art

The closest prior art is that which in one single reference discloses the combination of features which constitutes the most promising starting point for an obvious development leading to the invention. In selecting the closest prior art, the first consideration is that it should be directed to a similar purpose or effect as the invention or at least belong to the same or a closely related technical field as the claimed invention. In practice, the closest prior art is generally that which corresponds to a similar use and requires the minimum of structural and functional modifications to arrive at the claimed invention. The closest prior art must be assessed from the skilled person's point of view on the day before the filing or priority date valid for the claimed invention.

In identifying the closest prior art, account should be taken of what the applicant himself acknowledges in his description and claims to be known. Any such acknowledgement of known art should be regarded by the examiner as being correct, unless the applicant states he has made a mistake.

3.7.7 Formulation of the objective technical problem

In the second stage, one establishes in an objective way the technical problem to be solved. To do this one studies the application (or the patent), the closest prior art and the difference (also called "the distinguishing feature(s)" of the claimed invention) in terms of features (either structural or functional) between the claimed invention and the closest prior art, identifies the technical effect resulting from the distinguishing features, and then formulates the technical problem.

Features which cannot be seen to make any contribution, either independently or in combination with other features, to the technical character of an invention are not relevant for assessing inventive step. Such a situation can occur for instance if a feature only contributes to the solution of a non-technical problem, for instance a problem in a field excluded from patentability.

In the context of the problem-and-solution approach, the technical problem means the aim and task of modifying or adapting the closest prior art to provide the technical effects that the invention provides over the closest prior art. The technical problem thus defined is often referred to as the "objective technical problem".

The objective technical problem derived in this way may not be what the applicant presented as "the problem" in his application. The latter may require reformulation, since the objective technical problem is based on objectively established facts, in particular appearing in the prior art revealed in the course of the proceedings, which may be different from the prior art of which the applicant was actually aware at the time the application was filed. In particular, the prior art cited in the search report may put the invention in an entirely different perspective from that apparent from reading the application only.

The extent to which such reformulation of the technical problem is possible has to be assessed on the merits of each particular case. As a matter of principle any effect provided by the invention may be used as a basis for the reformulation of the

technical problem, as long as said effect is derivable from the application as filed. It is also possible to rely on new effects submitted subsequently during the proceedings by the applicant, provided that the skilled person would recognize these effects as implied by or related to the technical problem initially suggested.

It is noted that the objective technical problem must be so formulated as not to contain pointers to the technical solution, since including part of a technical solution offered by an invention in the statement of the problem must, when the state of the art is assessed in terms of that problem, necessarily result in an *ex post facto* view being taken of inventive activity. Where the claim refers to an aim to be achieved in a non-technical field, however, this aim may legitimately appear in the formulation of the problem as part of the framework of the technical problem to be solved, in particular as a constraint that has to be met.

The expression "technical problem" should be interpreted broadly; it does not necessarily imply that the technical solution is a technical improvement over the prior art. Thus the problem could be simply to seek an alternative to a known device or process which provides the same or similar effects or is more cost-effective. A technical problem may be regarded as being solved only if it is credible that substantially all claimed embodiments exhibit the technical effects upon which the invention is based. Sometimes, the objective technical problem must be regarded as an aggregation of a plurality of "partial problems". This is the case where there is no technical effect achieved by all the distinguishing features taken in combination, but rather a plurality of partial problems is independently solved by different sets of distinguishing features.

3.7.8 Could-would approach

In the third stage the question to be answered is whether there is any teaching in the prior art as a whole that would (not simply could, but would) have prompted the skilled person, faced with the objective technical problem, to modify or adapt the closest prior art while taking account of that teaching, thereby arriving at something falling within the terms of the claims, and thus achieving what the invention achieves. In other words, the point is not whether the skilled person could have arrived at the invention by adapting or modifying the closest prior art, but whether he would have done so because the prior art incited him to do so in the

hope of solving the objective technical problem or in expectation of some improvement or advantage. Even an implicit prompting or implicitly recognizable incentive is sufficient to show that the skilled person would have combined the elements from the prior art. This must have been the case for the skilled person before the filing or priority date valid for the claim under examination.

3.7.9 Combining pieces of prior art

In the context of the problem-solution approach, it is permissible to combine the disclosure of one or more documents, parts of documents or other pieces of prior art (e.g. a public prior use or unwritten general technical knowledge) with the closest prior art. However, the fact that more than one disclosure must be combined with the closest prior art in order to arrive at a combination of features may be a sign of the presence of an inventive step, e.g. if the claimed invention is not a mere aggregation of features.

A different situation occurs where the invention is a solution to a plurality of independent "partial problems". Indeed, in such a case it is necessary to separately assess, for each partial problem, whether the combination of features solving the partial problem is obviously derivable from the prior art. Hence, a different document can be combined with the closest prior art for each partial problem. For the subject-matter of the claim to be inventive, it suffices however that one of these combinations of features involves an inventive step. In determining whether it would be obvious to combine two or more distinct disclosures, the examiner should also have regard in particular to the following:

(i) whether the content of the disclosures (e.g. documents) is such as to make it likely or unlikely that the person skilled in the art, when faced with the problem solved by the invention, would combine them - for example, if two disclosures considered as a whole could not in practice be readily combined because of inherent incompatibility in disclosed features essential to the invention, the combining of these disclosures should not normally be regarded as obvious;

(ii) whether the disclosures, e.g. documents, come from similar, neighbouring or remote technical fields;

iii) the combining of two or more parts of the same disclosure would be obvious if there is a reasonable basis for the skilled person to associate these parts with one another. It would normally be obvious to combine with a prior-art document a well-known textbook or standard dictionary; this is only a special case of the general proposition that it is obvious to combine the teaching of one or more documents with the common general knowledge in the art. It would, generally speaking, also be obvious to combine two documents one of which contains a clear and unmistakable reference to the other. In determining whether it is permissible to combine a document with an item of prior art made public in some other way, e.g. by use, similar considerations apply.

3.7.10 Combination vs. juxtaposition or aggregation

The invention claimed must normally be considered as a whole. When a claim consists of a "combination of features", it is not correct to argue that the separate features of the combination taken by themselves are known or obvious and that "therefore" the whole subject-matter claimed is obvious. However, where the claim is merely an "aggregation or juxtaposition of features" and not a true combination, it is enough to show that the individual features are obvious to prove that the aggregation of features does not involve an inventive step. A set of technical features is regarded as a combination of features if the functional interaction between the features achieves a combined technical effect which is different from, e.g. greater than, the sum of the technical effects of the individual features. In other words, the interactions of the individual features must produce a synergistic effect. If no such synergistic effect exists, there is no more than a mere aggregation of features. For example, the technical effect of an individual transistor is essentially that of an electronic switch. However, transistors interconnected to form a microprocessor synergically interact to achieve technical effects, such as data processing, which are over and above the sum of their respective individual technical effects.

3.7.11 "*Ex post facto*" analysis

It should be remembered that an invention which at first sight appears obvious might in fact involve an inventive step. Once a new idea has been formulated, it can often be shown theoretically how it might be arrived at, starting from

something known, by a series of apparently easy steps. The examiner should be wary of *ex post facto* analysis of this kind. When combining documents cited in the search report, he should always bear in mind that the documents produced in the search have, of necessity, been obtained with foreknowledge of what matter constitutes the alleged invention. In all cases he should attempt to visualize the overall state of the art confronting the skilled person before the applicant's contribution, and he should seek to make a "real-life" assessment of this and other relevant factors. He should take into account all that is known concerning the background of the invention and give fair weight to relevant arguments or evidence submitted by the applicant. If, for example, an invention is shown to be of considerable technical value, and particularly if it provides a technical advantage which is new and surprising and which is not merely achieved as a bonus effect in a "one-way street" situation, and this technical advantage can convincingly be related to one or more of the features included in the claim defining the invention, the examiner should be hesitant in pursuing an objection that such a claim lacks inventive step.

3.7.12 Origin of an invention

While the claim should in each case be directed to technical features (and not, for example, merely to an idea), in order to assess whether an inventive step is present it is important for the examiner to bear in mind that an invention may, for example, be based on the following:

(i) the devising of a solution to a known problem; Example: the problem of permanently marking farm animals such as cows without causing pain to the animals or damage to the hide has existed since farming began. The solution ("freeze-branding") consists in applying the discovery that the hide can be permanently depigmented by freezing;

(ii) the arrival at an insight into the cause of an observed phenomenon (the practical use of this phenomenon then being obvious); Example: the agreeable flavour of butter is found to be caused by minute quantities of a particular compound. As soon as this insight has been arrived at, the technical application comprising adding this compound to margarine is immediately obvious. Many inventions are of course based on a combination of the above possibilities - e.g. the

arrival at an insight and the technical application of that insight may both involve the use of the inventive faculty.

3.7.13 Secondary indicators

3.7.13.1 Predictable disadvantage; non-functional modification; arbitrary choice

It should be noted that if the invention is the result of a foreseeable disadvantageous modification of the closest prior art, which the skilled person could clearly predict and correctly assess, and if this predictable disadvantage is not accompanied by an unexpected technical advantage, then the claimed invention does not involve an inventive step. In other words, a mere foreseeable worsening of the prior art does not involve an inventive step. However, if this worsening is accompanied by an unexpected technical advantage, an inventive step might be present. Similar considerations apply to the case where an invention is merely the result of an arbitrary non-functional modification of a prior-art device or of a mere arbitrary choice from a host of possible solutions.

3.7.13.2 Unexpected technical effect; bonus effect

An unexpected technical effect may be regarded as an indication of inventive step. However, if, having regard to the state of the art, it would already have been obvious for a skilled person to arrive at something falling within the terms of a claim, for example due to a lack of alternatives thereby creating a "one-way street" situation, the unexpected effect is merely a bonus effect which does not confer inventiveness on the claimed subject-matter.

3.7.13.3 Long-felt need; commercial success

Where the invention solves a technical problem which workers in the art have been attempting to solve for a long time, or otherwise fulfils a long-felt need, this may be regarded as an indication of inventive step. Commercial success alone is not to be regarded as indicative of inventive step, but evidence of immediate commercial success when coupled with evidence of a long-felt want is of relevance provided the examiner is satisfied that the success derives from the technical features of the invention and not from other influences (e.g. selling techniques or advertising).

3.7.14 Arguments and evidence submitted by the applicant

The relevant arguments and evidence to be considered by the examiner for assessing inventive step may either be taken from the originally-filed patent application or submitted by the applicant during the subsequent proceedings.

Care must be taken, however, whenever new effects in support of inventive step are referred to. Such new effects can only be taken into account if they are implied by or at least related to the technical problem initially suggested in the originally filed application.

Example of such a new effect:

The invention as filed relates to a pharmaceutical composition having a specific activity. At first sight, having regard to the relevant prior art, it would appear that there is a lack of inventive step. Subsequently, the applicant submits new evidence which shows that the claimed composition exhibits an unexpected advantage in terms of low toxicity. In this case, it is allowable to reformulate the technical problem by including the aspect of toxicity, since pharmaceutical activity and toxicity are related in the sense that the skilled person would always contemplate the two aspects together. The reformulation of the technical problem may or may not give rise to amendment or insertion of the statement of the technical problem in the description.

3.7.15 Selection inventions

The subject-matter of selection inventions differs from the closest prior art in that it represents selected sub-sets or sub-ranges. If this selection is connected to a particular technical effect, and if no hints exist leading the skilled person to the selection, then an inventive step is accepted (this technical effect occurring within the selected range may also be the same effect as attained with the broader known range, but to an unexpected degree). The criterion of "seriously contemplating" mentioned in connection with the test for novelty of overlapping ranges should not be confused with the assessment of inventive step. For inventive step, it has to be considered whether the skilled person would have made the selection or would have chosen the overlapping range in the hope of solving the underlying technical

problem or in expectation of some improvement or advantage. If the answer is negative, then the claimed matter involves an inventive step.

3.7.16 Dependent claims; claims in different categories

If an independent claim is new and non-obvious, there is no need to investigate the novelty and the non-obviousness of any claims dependent thereon, except in situations where the subject-matter of a dependent claim has a later effective date than the independent claim and intermediate documents are to be considered.

Similarly, if a claim to a product is new and non-obvious there is no need to investigate the novelty and non-obviousness of any claims for a process which inevitably results in the manufacture of that product or of any claims for a use of that product. In particular, analogy processes, i.e. processes which themselves would otherwise not involve an inventive step, are nevertheless patentable insofar as they provide a novel and inventive product.

It should, however, be noted that in cases where the product, process and use claims have different effective dates, a separate examination as to novelty and inventive step may still be necessary in view of intermediate documents.

3.7.17 Examples relating to the requirement of inventive step – indicators

The annex to this chapter gives examples of circumstances where an invention may be regarded as obvious or where it may involve an inventive step. It is to be stressed that these examples are only for illustrative purposes and that the applicable principle in each case is "was it obvious to a person skilled in the art?" . Examiners should avoid attempts to fit a particular case into one of these examples if it is not clearly applicable. Also, the list is not exhaustive.

3.7.17.1 Application of known measures

3.7.17.1.1 Inventions involving the application of known measures in an obvious way and in respect of which an inventive step is therefore to be ruled out:

(i) the teaching of a prior document is incomplete and at least one of the possible ways of "filling the gap" which would naturally or readily occur to the skilled person results in the invention;

Example: The invention relates to a building structure made from aluminium. A prior document discloses the same structure and says that it is of light-weight material but fails to mention the use of aluminium;

(ii) the invention differs from the known art merely in the use of well-known equivalents (mechanical, electrical or chemical);

Example: The invention relates to a pump which differs from a known pump solely in that its motive power is provided by a hydraulic motor instead of an electric motor.

(iii) the invention consists merely in a new use of a well-known material employing the known properties of that material;

Example: Washing composition containing as detergent a known compound having the known property of lowering the surface tension of water, this property being known to be an essential one for detergents.

(iv) the invention consists in the substitution in a known device of a recently developed material whose properties make it plainly suitable for that use ("analogous substitution");

Example: An electric cable comprises a polyethylene sheath bonded to a metallic shield by an adhesive. The invention lies in the use of a particular newly developed adhesive known to be suitable for polymer-metal bonding.

(v) the invention consists merely in the use of a known technique in a closely analogous situation ("analogous use").

Example: The invention resides in the application of a pulse control technique to the electric motor driving the auxiliary mechanisms of an industrial truck, such as a fork-lift truck, the use of this technique to control the electric propulsion motor of the truck being already known.

3.7.17.1.2 Inventions involving the application of known measures in a non-obvious way and in respect of which an inventive step is therefore to be recognized:

(i) a known working method or means when used for a different purpose involves a new, surprising effect;

Example: It is known that high-frequency power can be used in inductive butt welding. It should therefore be obvious that high-frequency power could also be used in conductive butt welding with similar effect. However, if high-frequency power were used for the continuous conductive butt welding of coiled strip but without removing scale (such scale removal normally being necessary during conductive welding in order to avoid arcing between the welding contact and the strip), there is the unexpected additional effect that scale removal is found to be unnecessary because at high frequency the current is supplied in a predominantly capacitive manner via the scale which forms a dielectric. In that case, an inventive step would exist.

(ii) a new use of a known device or material involves overcoming technical difficulties not resolvable by routine techniques.

Example: The invention relates to a device for supporting and controlling the rise and fall of gas holders, enabling the previously employed external guiding framework to be dispensed with. A similar device was known for supporting floating docks or pontoons but practical difficulties not encountered in the known applications needed to be overcome in applying the device to a gas holder.

3.7.17.2 Obvious combination of features

3.7.17.2.1 Obvious and consequently non-inventive combination of features:

The invention consists merely in the juxtaposition or association of known devices or processes functioning in their normal way and not producing any non-obvious working inter-relationship.

Example: Machine for producing sausages consists of a known mincing machine and a known filling machine disposed side by side.

3.7.17.2.2 Not obvious and consequently inventive combination of features:

The combined features mutually support each other in their effects to such an extent that a new technical result is achieved. It is irrelevant whether each individual feature is fully or partly known by itself. However, if the combination of features is a bonus effect, e.g. as the result of a "one-way street" situation, the combination might lack an inventive step.

Example: A mixture of medicines consists of a painkiller (analgesic) and a tranquilizer (sedative). It was found that through the addition of the tranquilizer, which intrinsically appeared to have no painkilling effect, the analgesic effect of the painkiller was intensified in a way which could not have been predicted from the known properties of the active substances.

3.7.17.3 Obvious selection

3.7.17.3.1 Obvious and consequently non-inventive selection among a number of known possibilities:

(i) the invention consists merely in choosing from a number of equally likely alternatives;

Example: The invention relates to a known chemical process in which it is known to supply heat electrically to the reaction mixture. There are a number of well-known alternative ways of so supplying the heat and the invention resides merely in the choice of one alternative.

(ii) the invention resides in the choice of particular dimensions, temperature ranges or other parameters from a limited range of possibilities, and it is clear that these parameters could be arrived at by routine trial and error or by the application of normal design procedures;

Example: The invention relates to a process for carrying out a known reaction and is characterized by a specified rate of flow of an inert gas. The prescribed rates are merely those which would necessarily be arrived at by the skilled practitioner.

(iii) the invention can be arrived at merely by a simple extrapolation in a straightforward way from the known art;

Example: The invention is characterized by the use of a specified minimum content of a substance X in a preparation Y in order to improve its thermal

stability, and this characterizing feature can be derived merely by extrapolation on a straight-line graph, obtainable from the known art, relating thermal stability to the content of substance X.

(iv) the invention consists merely in selecting particular chemical compounds or compositions (including alloys) from a broad field.

Example: The prior art includes disclosure of a chemical compound characterized by a specified structure including a substituent group designated "R". This substituent "R" is defined so as to embrace entire ranges of broadly-defined radical groups such as all alkyl or aryl radicals unsubstituted or substituted by halogen and/or hydroxy, although for practical reasons only a very small number of specific examples are given. The invention consists in the selection of a particular radical or particular group of radicals from amongst those referred to as the substituent "R" (the selected radical or group of radicals not being specifically disclosed in the prior-art document since the question would then be one of lack of novelty rather than obviousness). The resulting compounds:

(a) are neither described as having nor shown to possess any advantageous properties not possessed by the prior art examples; or

(b) are described as possessing advantageous properties compared with the compounds specifically referred to in the prior art, but these properties are ones which the person skilled in the art would expect such compounds to possess, so that he is likely to be led to make this selection.

3.7.17.3.2 Not obvious and consequently inventive selection among a number of known possibilities:

(i) the invention involves special selection in a process of particular operating conditions (e.g. temperature and pressure) within a known range, such selection producing unexpected effects in the operation of the process or the properties of the resulting product;

Example: In a process where substance A and substance B are transformed at high temperature into substance C, it was known that there is in general a constantly increased yield of substance C as the temperature increases in the range between 50 and 130 °C. It is now found that in the temperature range from 63 to 65 °C,

which previously had not been explored, the yield of substance C was considerably higher than expected.

(ii) the invention consists in selecting particular chemical compounds or compositions (including alloys) from a broad field, such compounds or compositions having unexpected advantages.

Example: In the example of a substituted chemical compound given at (iv), under 3.7.17.3.1 above, the invention again resides in the selection of the substituent radical "R" from the total field of possibilities defined in the prior disclosure. In this case, however, not only does the selection embrace a particular area of the possible field, and result in compounds that can be shown to possess advantageous properties but there are no indications which would lead the person skilled in the art to this particular selection rather than any other in order to achieve the advantageous properties.

3.7.17.4 Overcoming a technical prejudice

As a general rule, there is an inventive step if the prior art leads the person skilled in the art away from the procedure proposed by the invention. This applies in particular when the skilled person would not even consider carrying out experiments to determine whether these were alternatives to the known way of overcoming a real or imagined technical obstacle.

Example: Drinks containing carbon dioxide are, after being sterilized, bottled while hot in sterilized bottles. The general opinion is that immediately after withdrawal of the bottle from the filling device the bottled drink must be automatically shielded from the outside air so as to prevent the bottled drink from spurting out. A process involving the same steps but in which no precautions are taken to shield the drink from the outside air (because none are in fact necessary) would therefore be inventive.

3.8 UNITY OF INVENTION (Section 2(9)(a), Rule 7(5))

3.8.1 General remarks

An ARIPO application must "relate to one invention only or to a group of inventions so linked as to form a single general inventive concept". The second of these alternatives, i.e. the single-concept linked group, may give rise to a plurality of independent claims in the same category provided these claims comply with, but the more usual case is a plurality of independent claims in different categories.

Special technical features indicate how one determines whether or not the requirement of Section 2(9)(a) is fulfilled when more than one invention appears to be present. The link between the inventions must be a technical relationship which finds expression in the claims in terms of the same or corresponding special technical features. The expression "special technical features" means, in any one claim, the particular technical feature or features that define a contribution that the claimed invention considered as a whole makes over the prior art. Once the special technical features of each invention have been identified, one must determine whether or not there is a technical relationship between the inventions and, furthermore, whether or not this relationship involves these special technical features. It is not necessary that the special technical features in each invention be the same. It makes clear that the required relationship may be found between corresponding technical features. An example of this correspondence is the following: in one claim the special technical feature which provides resilience is a metal spring, whereas in another claim it is a block of rubber.

A plurality of independent claims in different categories may constitute a group of inventions so linked as to form a single general inventive concept. In particular, AI 21 should be construed as permitting the inclusion of any one of the following combinations of claims of different categories in the same application:

(i) in addition to an independent claim for a given product, an independent claim for a process specially adapted for the manufacture of the said product, and an independent claim for a use of the said product; or

(ii) in addition to an independent claim for a given process, an independent claim for an apparatus or means specifically designed for carrying out the said process; or

(iii) in addition to an independent claim for a given product, an independent claim for a process specially adapted for the manufacture of the said

product and an independent claim for an apparatus or means specifically designed for carrying out the said process.

However, while a single set of independent claims according to any one of the combinations (i), (ii) or (iii) above is always permissible, a plurality of such sets of independent claims in one ARIPO patent application can only be allowed if the specific circumstances apply and the requirements are met. The proliferation of independent claims arising out of a combined effect of this kind may therefore be allowed only exceptionally.

Moreover, it is essential that a single general inventive concept links the claims in the various categories. The presence in each claim of expressions such as "specially adapted" or "specifically designed" does not necessarily imply that a single general inventive concept is present.

In combination (i) above, the process is specially adapted for the manufacture of the product if the claimed process results in the claimed product, i.e. if the process is actually suited to making the claimed product accessible and thereby defines a technical relationship between the claimed product and the claimed process. A manufacturing process and its product may not be regarded as lacking unity simply by virtue of the fact that the manufacturing process is not restricted to the manufacture of the claimed product.

In combination (ii) above, the apparatus or means is specifically designed for carrying out the process if the apparatus or means is suitable for carrying out the process and thereby defines a technical relationship between the claimed apparatus or means and the claimed process. It is not sufficient for unity that the apparatus or means is merely capable of being used in carrying out the process. On the other hand, it is of no importance whether or not the apparatus or means could also be used for carrying out another process or the process could also be carried out using an alternative apparatus or means.

3.8.2 Intermediate and final products

Unity of invention should be considered to be present in the context of intermediate and final products where:

(i) the intermediate and final products have the same essential structural element, i.e. their basic chemical structures are the same or their chemical structures are technically closely interrelated, the intermediate incorporating an essential structural element into the final product, and

(ii) the intermediate and final products are technically inter-related, i.e. the final product is manufactured directly from the intermediate or is separated from it by a small number of intermediates all containing the same essential structural element.

Unity of invention may also be present between intermediate and final products of which the structures are not known - for example, as between an intermediate having a known structure and a final product with unknown structure or as between an intermediate of unknown structure and a final product of unknown structure. In such cases, there should be sufficient evidence to lead one to conclude that the intermediate and final products are technically closely interrelated as, for example, when the intermediate contains the same essential element as the final product or incorporates an essential element into the final product.
Different intermediate products used in different processes for the preparation of the final product may be claimed provided that they have the same essential structural element. The intermediate and final products should not be separated, in the process leading from one to the other, by an intermediate which is not new. Where different intermediates for different structural parts of the final product are claimed, unity should not be regarded as being present between the intermediates. If the intermediate and final products are families of compounds, each intermediate compound should correspond to a compound claimed in the family of the final products. However, some of the final products may have no corresponding compound in the family of the intermediate products, so the two families need not be absolutely congruent.

The mere fact that, besides the ability to be used to produce final products, the intermediates also exhibit other possible effects or activities should not prejudice unity of invention.

3.8.3 Alternatives

Alternative forms of an invention may be claimed either in a plurality of independent claims, or in a single claim. In the latter case the presence of the two alternatives as independent forms may not be immediately apparent. In either case, however, the same criteria should be applied in deciding whether or not there is unity of invention, and lack of unity of invention may then also exist within a single claim.

3.8.4 Markush grouping

Where a single claim defines (chemical or non-chemical) alternatives, i.e. a so-called "Markush grouping", unity of invention should be considered to be present if the alternatives are of a similar nature. When the Markush grouping is for alternatives of chemical compounds, they should be regarded as being of a similar nature where:

(i) all alternatives have a common property or activity, and

(ii) a common structure is present, i.e. a significant structural element is shared by all of the alternatives, or all alternatives belong to a recognized class of chemical compounds in the art to which the invention pertains.

A "significant structural element is shared by all of the alternatives" where the compounds share a common chemical structure which occupies a large portion of their structures, or, in case the compounds have in common only a small portion of their structures, the commonly shared structure constitutes a structurally distinctive portion in view of existing prior art. The structural element may be a single component or a combination of individual components linked together. The alternatives belong to a "recognized class of chemical compounds" if there is an expectation from the knowledge in the art that members of the class will behave in the same way in the context of the claimed invention, i.e. that each member could be substituted one for the other, with the expectation that the same intended result would be achieved. If it can be shown that at least one Markush alternative is not novel, unity of invention should be reconsidered.

3.8.5 Individual features in a claim

Objection of lack of unity does not arise because of one claim containing a number of individual features, where these features do not present a technical inter-relationship (i.e. a combination), but merely a juxtaposition.

3.8.6 Lack of unity "*a priori*" or "*a posteriori*"

Lack of unity may be directly evident a priori, i.e. before considering the claims in relation to the prior art, or may only become apparent a *posteriori*, i.e. after taking the prior art into consideration - e.g. a document within the state of the art shows that there is lack of novelty or inventive step in an independent claim, thus leaving two or more dependent claims without a common inventive concept.

3.8.6 .1 Examiner's approach

Although lack of unity may arise a posteriori as well as a priori, it should be remembered that lack of unity is not a ground of revocation in later proceedings. Therefore, although the objection should certainly be made and amendment insisted upon in clear cases, it should neither be raised nor persisted in on the basis of a narrow, literal or academic approach. This is particularly so where the possible lack of unity does not necessitate a further search. There should be a broad, practical consideration of the degree of interdependence of the alternatives presented, in relation to the state of the art as revealed by the search report. If the common matter of the independent claims is well-known, and the remaining subject-matter of each claim differs from that of the others without there being any unifying novel concept common to all, then clearly there is lack of unity. If, on the other hand, there is a common concept or principle which is novel and inventive, then objection of lack of unity does not arise. For determining what is allowable between these two extremes, rigid rules cannot be given and each case should be considered on its merits, the benefit of any doubt being given to the applicant. For the particular case of claims for a known substance for a number of distinct medical uses.

3.8.7 Dependent claims

No objection on account of lack of unity a priori is justified in respect of a dependent claim and the claim on which it depends, on the ground that the general concept they have in common is the subject-matter of the independent claim, which is also contained in the dependent claim. For example, suppose claim 1 claims a turbine rotor blade shaped in a specified manner, while claim 2 is for a "turbine rotor blade as claimed in claim 1 and produced from alloy Z". The common general concept linking the dependent with the independent claim is "turbine rotor blade shaped in a specified manner".

If, however, the independent claim appears not to be patentable, then the question whether there is still an inventive link between all the claims dependent on that claim needs to be carefully considered (see non-unity "*a posteriori*"). It may be that the "special technical features" of one claim dependent on this non-patentable independent claim are not present in the same or corresponding form in another claim dependent on that claim.

3.8.8 Lack of unity during search

In many and probably most instances, lack of unity will have been noted and reported upon by the Search Examiner which will have drawn up a partial search

report based on those parts of the application relating to the invention, or unified linked group of inventions, first mentioned in the claims. The Search Examiner may neither refuse the application for lack of unity nor require limitation of the claims, but must inform the applicant that, if the search report is to be drawn up to cover those inventions present other than the first mentioned, then further search fees must be paid within a stipulated period.

3.8.9 Lack of unity during substantive examination

The final responsibility for establishing whether the application meets the requirement of unity of invention ultimately rests with the Substantive Examiner. Insofar as it finds that unity of invention is given, if the applicant has paid the further search fee(s) and requested a full or partial refund thereof, the Substantive Examiner will order refund of the relevant further search fee(s).
If the applicant has not availed himself of the opportunity to have the search results on the other inventions included in the search report, he will be taken to have elected that the application should proceed on the basis of the invention which has been searched. The Substantive Examiner will normally initially uphold the position taken in the search opinion and will then require deletion of all the inventions other than that which has been searched. If the Substantive Examiner is convinced, e.g. by arguments from the applicant, that the opinion on unity at the search stage was incorrect, then an additional search is performed for that part of the subject-matter which is judged to be unitary with an invention which was searched and the examination is carried out on those claims which comply with the requirement of unity of invention.

If the applicant has taken the opportunity to have other inventions searched, then he may determine that the application is to proceed on the basis of any of these, the other(s) being deleted. If the applicant has not yet done so, the examiner should at the beginning of substantive examination, if he maintains the objection of lack of unity, invite the applicant to state on which invention the prosecution of the application should be based and to limit the application accordingly by excising those parts belonging to the other inventions. For the latter inventions, the applicant may file divisional applications.

Whether or not the question of unity of invention has been raised by the Search Examiner, it must always be considered by the Substantive Examiner. Whenever unity is found to be lacking, the applicant should be required to

limit his claims in such a way as to overcome the objection. Excision or amendment of parts of the description may also be necessary. One or more divisional applications, covering matter removed to meet this objection, may be filed.

3.8.10 Principles of examination

In carrying out examination of unity with regard to a patent application for invention, the following principles shall be followed by the examiner.

(1) To determine whether two or more inventions claimed in an application meet the requirement of unity in accordance with Section (2)(9)(a) and Administrative Instruction 21 is to determine whether the substantive contents of the technical solution described in the claims belong to a single general inventive concept, that is, to determine whether these claims contain one or more of the same or corresponding special technical features which make the claimed inventions technically interrelated. This determination is made on the basis of the contents of the claims, and, where necessary, the contents of the description and the drawings may be referred to.

(2) The claims of two or more inventions belonging to a single general inventive concept may be drafted in any one of the following six forms of combination; however, two or more independent claims that do not belong to a single general inventive concept cannot be claimed in one application even though they are drafted in one of these forms:

(i) independent claims of the same category for two or more products or processes which cannot be included in one claim;

(ii) an independent claim for a product and an independent claim for a process specially adapted for the manufacture of said product;

(iii) an independent claim for a product and an independent claim for a use of said product;

(iv) an independent claim for a product, an independent claim for a process specially adapted for the manufacture of said product, and an independent claim for a use of said product;

(v) an independent claim for a product, an independent claim for a process specially adapted for the manufacture of said product, and an independent claim for an apparatus specifically designed for carrying out said process; or

(vi) an independent claim for a process and an independent claim for an apparatus specifically designed for carrying out said process.

Wherein, the term "same category" in item (i) means the types of the independent claims are the same, i.e., the two or more inventions claimed in one patent application only involve either product inventions or process inventions. Several independent claims with the same category can be involved in one patent application as long as having one or more of the same or corresponding special technical features enable the two or more product inventions or process inventions technically interrelated. Items (ii)-(vi) relate to the combinations of two or more independent claims of different categories.

In the combination of an independent claim for a product and an independent claim for a process specially adapted for the manufacture of said product, the "specially adapted" process necessarily results in the claimed product which is technically interrelated with the process. However, the expression "specially adapted" is not intended to mean that the product could not also be manufactured by any other process.

In the combination of an independent product claim and an independent claim for its use, the use must be derived from the special properties of the product, with technical interrelationship being present between the product and the use.

As for the combination of an independent claim for a process and an independent claim for an apparatus specifically designed for carrying out the process, the "specifically designed" apparatus shall not only be capable of carrying out the process, but the contribution the apparatus makes over the prior art shall correspond to that made by the process. However, the expression "specifically designed" does not mean that the apparatus could not be used to carry out other processes, nor that the process could not be carried out by using other apparatus.
Whether the independent claims of different categories are drafted by way of one making reference to the other is just a matter of form, which does not affect the determination of unity. For example, an independent claim for a process specially adapted for the manufacture of product A may either be drafted as "Process for the

manufacture of product A of claim 1, ..." or be drafted as "Process for the manufacture of product A, ..."

(3) Enumerated above are the six examples of combination of two or more independent claims in the same or different categories which can be included in one application and the appropriate drafting order thereof. However, these six combinations are not exhaustive. In other words, it is possible to use other kinds of combination other than those mentioned above, provided that the claims belong to a single general inventive concept.

(4) The determination of whether two or more inventions belong to a single general inventive concept shall be made without regard to whether the inventions are claimed in separate independent claims or as alternatives within a single claim. In either case, the same criteria shall be applied to determine whether there is unity. The latter case often occurs in Markush claims. Moreover, the order of the claims shall not affect the determination of unity.

(5) Generally, the examiner need only consider unity among the independent claims, and no objection of lack of unity shall be raised as between an independent claim and its dependent claims. However, where a claim appears to be dependent in its form but actually is independent, it shall be examined as to whether it meets the requirement of unity. Where an independent claim cannot be approved for lack of novelty or inventive step, it is then necessary to consider whether its dependent claims satisfy the requirement of unity.

(6) For some applications, the question of unity may be decided before search of the prior art; but for some other applications, the question of unity may be decided only after taking the prior art into consideration. Where the different inventions contained in an application obviously fails to belong to a single general inventive concept, the examiner may decide that the application does not meet the requirement of unity before a search is conducted. For example, the application contains two independent claims respectively of a herbicide and a mower. Because no same or corresponding technical features exist between the two claims, and thus it is impossible for them to have any same or corresponding special technical feature, it is obvious that there is no unity between them, which conclusion can be made before a search is conducted. However, since the special technical feature is to define the contribution over the prior art and to be compared with the prior art, it can be identified only after considering the state of the art. In this regard, for many applications the determination of unity can be made only after search. Where, after

the comparison of an application with the prior art, the novelty or inventive step of the first independent claim of the application is denied, it shall be re-determined as to whether the rest of the independent claims belong to a single general inventive concept.

3.8.11 Approach to the Examination of Unity and Examples

Prior to the search of two or more inventions claimed in one application, whether or not they obviously lack unity shall be firstly determined. If the inventions do not have any same or corresponding technical feature, or the same or corresponding technical features they have are customary means in the art, then it is impossible for them to have any same or corresponding special technical feature that defines a contribution over the prior art, and therefore the inventions obviously lack unity.
For two or more inventions that do not obviously lack unity, the determination of unity can be made only after search. In this case, the following approach is normally adopted:

(1) compare the subject matter of a first invention with the relevant prior art to identify the "special technical feature" that defines the contribution which the invention makes over the prior art;

(2) determine whether a second invention contains one or more special technical features which are the same as or correspond to those in the first invention, so as to determine whether these two inventions are technically interrelated; and

(3) if one or more same or corresponding special technical features exist between the inventions, i. e., the inventions are technically interrelated, it can be concluded that they belong to a single general inventive concept. Conversely, if no technical interrelationship exists between the inventions, it can be concluded that they do not belong to a single general inventive concept and thus it can be determined that there is no unity between them. In the following, the basic points in combination with the basic concepts, principles, and the examination approach in the examination of unity are illustrated by way of examples.

3.8.12 Unity of Independent Claims of the Same Category

Example 1

Claim 1: A conveyer belt X characterized by feature A;
Claim 2: A conveyer belt Y characterized by feature B;

Claim 3: A conveyer belt Z characterized by features A and B.
There is no conveyer belt characterized by the feature A or B disclosed in the prior art. From the prior art, such conveyer belt is non-obvious, and the features A and B are not interrelated.

Explanation: claims 1 and 2 do not contain any same or corresponding technical feature. Therefore, it is impossible for them to have any same or corresponding special technical feature. They are not technically interrelated, and thus do not have unity. Feature A of claim 1 is the special technical feature that defines the contribution which the invention makes over the prior art. Claim 3 contains the special technical feature A, and therefore claim 1 and claim 3 contain the same special technical feature and have unity. Similarly, claim 2 and claim 3 contain the same special technical feature B, and thus also have unity.

Example 2

Claim 1: A transmitter characterized by the time axis expander for video signals.
Claim 2: A receiver characterized by the time axis compressor for video signals.
Claim 3: An apparatus for conveying video signal characterized in that it consists of the transmitter in claim 1 and the receiver in claim 2.
The use of the time axis expander and the time axis compressor in the art has neither been disclosed nor implied in the prior art, and the use is non-obvious.
Explanation: the special technical feature of claim 1 is the time axis expander for video signals, and the special technical feature of claim 2 is the time axis compressor for video signals. The expander and the compressor are technically interrelated and inseparable in use, and are technical features corresponding to each other. Therefore claim 1 and claim 2 have unity. As claim 3 contains the special technical feature as contained in claim 1 and claim 2, it therefore has unity both with claim 1 and with claim 2.

Example 3

Claim 1: A plug characterized by feature A;
Claim 2: A socket characterized by a feature corresponding to feature A;
The plug characterized by feature A and the corresponding socket have not been disclosed or implied in the prior art, and they are non-obvious.

Explanation: claim 1 and claim 2 have a corresponding special technical feature, and the claimed plug and socket are technically interrelated and have to be used together. Therefore claim 1 and claim 2 have unity.

Example 4

Claim 1: A control circuit with feature A for a DC motor.
Claim 2: A control circuit with feature B for a DC motor.
Claim 3: An apparatus comprising a DC motor having control circuit with feature A.
Claim 4: An apparatus comprising a DC motor having control circuit with feature B.

From the prior art, features A and B are the technical features defining the contributions over the prior art respectively, and they are not technically interrelated.
Explanation: feature A is the special technical feature of claims 1 and 3, and feature B is the special technical feature of claims 2 and 4. However, there is no technical interrelationship between features A and B. Therefore, between claims 1 and 3 or between claims 2 and 4 there exists the same special technical feature and thus they have unity, while between claim 1 and claim 2 or 4, or between claim 3 and claim 2 or 4, there is no same or corresponding special technical feature and thus they do not have unity.

Example 5

Claim 1: Filament A for a lamp.
Claim 2: Lamp B having filament A.
Claim 3: Searchlight provided with lamp B having filament A and a swivel arrangement C.
As compared with the filaments disclosed in the prior art, filament A is novel and involves an inventive step.
Explanation: since above three claims have in common the same special technical feature of filament A, unity exists between claims 1, 2, and 3.

Example 6

Claim 1: A process B for making product A.
Claim 2: A process C for making product A.
Claim 3: A process D for making product A.

As compared with the prior art, product A is novel and involves an inventive step.
Explanation: product A is the same special technical feature common to above three process claims, and there is unity between above three processes B, C, and D. Certainly, product A per se may be also a product claim. If product A is known, it shall not be regarded as the special technical feature. In such case, unity between the three processes shall be reassessed.

Example 7

Claim 1: A resin composition, comprising a resin A, a filler B and a flame retardant C.
Claim 2: A resin composition, comprising a resin A, a filler B and an antistatic agent D.
The resin A, the filler B, the flame retardant C and the antistatic agent D are individually known in the art, and the combination of AB does not define the contribution which the invention makes over the prior art, while the combination of ABC forms a high performance uninflammable resin composition, and the combination of ABD forms a high performance antistatic resin composition, both of which have novelty and involve an inventive step.

Explanation: although both claims contain the same features A and B, but none of A, B and the combination of AB defines the contribution which the invention makes over the prior art. The special technical feature of claim 1 is the combination of ABC, and the special technical feature of claim 2 is the combination of ABD. The both features are neither the same nor corresponding to each other. Therefore, unity does not exist between claim 2 and claim 1.

3.8.13 Unity of Independent Claims in Different Categories

Example 8

Claim 1: A compound X.
Claim 2: A method of preparing compound X.
Claim 3: The use of compound X as an insecticide.
(1) Situation 1: the compound X has novelty and involves an inventive step.
Explanation: compound X is the same technical feature common to above three claims. Since it is the technical feature that defines the contribution over the prior art, i. e. the special technical feature, claims 1,2 and 3 have the same special technical feature, and thus unity exists between claims 1 -3.

(2) Situation 2: after search, the examiner finds that the compound X lacks novelty or inventive step as compared with the prior art.

Explanation: no patent right shall be granted to claim 1 since it lacks novelty or inventive step. The common technical feature of claim 2 and claim 3 is still the compound X. However, since compound X has not made a contribution over the prior art, it is not the same special technical feature. Moreover, there is no corresponding special technical feature between claim 2 and claim 3. Therefore, there is no same or corresponding special technical feature between claim 2 and claim 3, and thus they do not have unity.

Example 9

Claim 1: A high strength and corrosion resistant stainless steel strip consisting essentially of (in percentage by weight): Ni =2. 0-5. 0, Cr = 15-19, Mo = 1-2, and the balance Fe, having a thickness of between 0. 5 mm and 2.0 mm, and a 0. 2% yield strength over 50 kg/mm^2.

Claim 2: A process for making a high strength and corrosion resistant stainless steel strip consisting essentially of (in percentage by weight): Ni = 2. 0-5. 0, Cr = 15-19, Mo = 1-2, and the balance Fe, comprising the steps in following order:

(1) hot rolling the stainless steel strip to a thickness of between 2. 0mm and 5. 0mm;

(2) annealing the hot rolled strip at 800tM000t:;

(3) cold rolling the strip to a thickness of between 0. 5 mm and 2.0 mm; and

(4) annealing at 1120tM200t: for 2-5 minutes.

As compared with the prior art, the stainless steel belt having 0. 2% yield strength over 50 kg/mm^2 possesses novelty and involves an inventive step.
Explanation: unity is present between claim 1 and claim 2. The special technical feature of product claim 1 is the 0. *2%* yield strength over 50kg/mm^2. The steps in process claim 2 are specially adapted for producing the stainless steel strip with such yield strength. Although this feature is not apparent from the wording of claim 2, it is clearly disclosed in the description. Therefore, these process steps are the special technical features which correspond to the feature of yield strength in product claim 1.

Claim 2 may also be drafted by making reference to claim 1, but this would not affect the unity between them. An example of drafting in this form may be:
Claim 2: A process for making the stainless steel strip as defined in claim 1, comprising the following steps:
[Steps (l)-(4)are the same as above and are omitted here, j

Example 10

Claim 1: A paint containing dustproof substance X;
Claim 2: A process for painting an article by using the paint as defined in claim 1, including the following steps: (1) atomizing the paint by using compressed air; (2) electrically charging the atomized paint by using an electrode arrangement A and directing the paint to the article.
Claim 3: A painting apparatus including an electrode arrangement A.

As compared with the prior art, both the paint containing substance X and the electrode arrangement A are novel and involve an inventive step. However, the process for atomizing the paint by using compressed air, electrically charging the atomized paint and directing the paint to the article is known.

Explanation: unity is present between claim 1 and claim 2, and the paint containing substance X is the special technical feature common to them. Unity is also present between claim 2 and claim 3, because the electrode arrangement A is their common special technical feature. However, unity does not exist between claim 1 and claim 3, since there is no same or corresponding special technical feature between them.

Example 11

Claim 1: A process for treating textile material, characterized by spraying the material with coating composition A under condition B.
Claim 2: A textile material coated according to the process of claim 1.
Claim 3: A spraying machine for use in the process of claim 1, characterized in that it includes a nozzle C providing a better distribution of the composition being sprayed on the textile material.
A process for treating textile material with a coating composition has been disclosed in the prior art, but the process for coating with the particular coating composition A under the special condition B (for example, as to temperature, irradiation, etc.), i. e. the process of claim 1 is novel. Moreover, the textile material

of claim 2 presents unexpected properties. The nozzle C is novel and involves an inventive step.
Explanation: the special technical feature in claim 1 is the use of special process conditions corresponding to what is made necessary by the choice of the particular coating composition, and the textile material of claim 2 is obtained after treatment by said particular coating composition under the special condition. Therefore, claim 1 and claim 2 have the corresponding special technical feature and unity exists between them. Since the spraying machine in claim 3 has no corresponding special technical feature with claims 1 and 2, there is no unity between claim 3 and claims 1 and 2.

Example 12

Claim 1: A process of manufacture comprising step A and step B.
Claim 2: An apparatus specifically designed for carrying out step A.
Claim 3: An apparatus specifically designed for carrying out step B.
No prior art document relevant to the process of claim 1 has been found.
Explanation: steps A and B are respectively the special technical features defining the contribution which the inventions make over the prior art. Unity is present between claim 1 and claim 2, and between claim 1 and claim 3. As there is no same or corresponding special technical feature between claim 2 and claim 3, there is no unity between them.

Example 13

Claim 1: A fuel burner characterized in that there are tangential fuel inlets into a mixing combustion chamber.
Claim 2: A process for making a fuel burner, characterized in that it includes the step of forming tangential fuel inlets into a mixing combustion chamber.
Claim 3: A process for making a fuel burner, characterized by a casting procedure.
Claim 4: An apparatus for making a fuel burner, characterized in that it includes a unit X for forming tangential fuel inlets in the mixing combustion chamber.
Claim 5: An apparatus for making a fuel burner, characterized in that it includes an automatic control unit D.
Claim 6: A process of manufacturing carbon black by the fuel burner as defined in claim 1, characterized in that it includes the step of tangentially introducing fuel into a mixing combustion chamber.
In the prior art a fuel burner with non-tangential fuel inlets and a mixing combustion chamber has been disclosed. As viewed according to the prior art, the fuel burner with tangential fuel inlets is neither known nor obvious.

Explanation: unity exists between claims 1, 2,4 and 6. The special technical feature common to all the claims is the tangential fuel inlets. However, claim 3 or 5 does not share the same or corresponding special technical feature with claim 1,2,4 or 6, therefore there is non-unity between claim 3 or 5 and claim 1,2,4 or 6. Furthermore, claim 3 and claim 5 would also lack unity with each other.

3.8.14 Unity of Dependent Claims

No objection of lack of unity shall be raised as between a real dependent claim and the independent claim on which it depends, even if the dependent claim may additionally comprise another invention. For example, an independent claim relates to a new process for making cast iron. In an embodiment, the cast iron is made by the process under a certain scope of temperature. In this case, a dependent claim may be drafted to protect the scope of temperature. Even if the scope of temperature is not mentioned in the independent claim, no objection of lack of unity between the dependent claim and the independent claim shall be raised.
For another example, claim 1 is a method for making product A characterized by using B as the raw material; and claim 2 is a method for making product A according to claim 1, characterized in that the raw material B is prepared from material C. Because claim 2 contains all the technical features of claim 1, no matter whether the process for preparing the raw material B from material C is inventive, no objection of lack of unity shall be raised as between claim 1 and claim 2.

Still another example concerns the case where claim 1 claims a turbine rotor blade characterized in that the blade is shaped in a specified manner, while claim 2 is a turbine rotor blade as claimed in claim 1 characterized in that the blade is made from alloy A. In this example, even if the alloy A is new and may independently constitute an invention and its use in turbine rotor blade is inventive, no objection on account of lack of unity shall be raised in respect of claim 2 and claim 1.
It should be noted that, under certain circumstances, a claim which appears to be dependent in its form is actually an independent claim, and thus concern in unity may arise accordingly. For example, claim 1 is a contactor with features A, B, and C, while claim 2 defines a contactor according to claim 1 wherein the feature C is replaced by feature D. Since claim 2 does not contain all the features of claim 1, it is not a dependent but independent claim. Whether the two claims have unity shall be examined according to the principles of examination on unity for independent claims of the same category. Where an independent claim is not patentable due to

the reason of lack of novelty, inventive step etc., the question of lack of unity may arise among its dependent claims.

Example

Claim 1: A display with features A and B.
Claim 2: The display according to claim 1 with additional feature C.
Claim 3: The display according to claim 1 with additional feature D.
(1) Situation 1: as compared with displays in the prior art, the display with features A and B as claimed in claim 1 has novelty and involves an inventive step.
Explanation: claims 2 and 3 are dependent claims that further define the extent of protection of claim 1, and thus unity exists between claims 1,2 and 3.
(2) Situation 2: as viewed from the combination of two prior art documents, the display as claimed in claim 1 does not involve an inventive step, and features C and D are respectively the technical features which make contributions over the prior art and are not interrelated at all.
Explanation: since claim 1 does not involve an inventive step and cannot be granted a patent right, the remaining claims 2 and 3 shall be taken as independent claims to determine whether unity exists there between. Because the special technical feature C of claim 2 and the special technical feature D of claim 3 are neither the same nor correspond to each other, there is no unity between claim 2 and claim 3.

3.9 DIVISIONAL APPLICATIONS (Section 3(15) and AI 28)

3.9.1 Several Circumstances to File Divisional Application

In any of the following circumstances in which unity is not present in an application, the examiner shall invite the applicant to amend the application (including to divide the application) to meet the requirement of unity.

(1) The original claims contain two or more inventions that do not meet the requirement of unity.
Where two or more inventions not belonging to a single general inventive concept are claimed in the original claims of an application, the examiner shall invite the applicant to restrict the claims to one of the inventions (usually the invention

corresponding to claim 1) or to two or more inventions belonging to a single general inventive concept. For the removed inventions, the applicant may file divisional applications.

(2) There is no unity between an added or replacing independent claim introduced during amendments to the application and the invention defined in the original claims.

In the process of examination, the applicant may amend the claims by introducing to the claims a new independent claim which defines an invention originally described in the description only or, in response to an Office Action, by replacing an original independent claim with a new independent claim which defines an invention originally described in the description only. If there is no unity between the newly introduced invention and the invention defined in the original claims, generally the examiner shall invite the applicant to remove the added or replacing invention from the claims. The applicant may file a divisional application for the removed invention.

(3) One of the independent claims lacks novelty or inventive step, and there is no unity between the other claims.

The lack of novelty or inventive step of a certain independent claim(usually claim 1) may result in lack of unity among its parallel independent claims or even among its dependent claims in case they no longer share the same or corresponding special technical features. In this case, the claims need to be amended, and for any subject matter removed after amendment, the applicant may file a divisional application. For example, an application contains a product, a process for making the product and a use of the product, and it is found after search and examination that the product is not new. In this case, the remaining independent claims of the process for making the product and the use of the product obviously do not have the same or corresponding special technical features, and therefore, they need to be amended.

In the above circumstances, the applicant may file a divisional application on his own initiative or as a response to an Office Action. It should be noted that because whether to file a divisional application is a voluntary choice of the applicant, the examiner shall only invite the applicant to restrict the two or more inventions that do not have unity to one invention or to amend the inventions to form a single general inventive concept. It is up to the applicant whether to file a divisional application for any invention removed after the amendment.

Moreover, an application may be divided by filing one or more divisional applications based on that application, and a divisional application may be further divided by filing one or more further divisional applications, but the basis shall be the original application that the divisional application is derived from. Where any further divisional application is filed from a divisional application, if the time of filing fails to satisfy the requirement provided in Section 3(15), the further divisional application shall not be accepted unless it is filed as a response to an Office Action noting the defect of lack of unity in the divisional application.

3.9.1.1 Requirements to be met by a Divisional Application

A divisional application shall meet the following requirements.

(1) Text of the divisional application
A divisional application shall, at the beginning of its description, i. e. , before the part of technical field to which the invention pertains, indicate the original application from which it is divided and the filing date, the application number and the title of the original application.

In filing a divisional application, a copy of the original application shall be submitted; if priority is claimed, a copy of the priority document of the original application shall also be submitted.

(2) Contents of the divisional application

The divisional application shall not go beyond the scope of disclosure contained in the initial application. Otherwise, it shall be rejected on the ground that it does not comply with Administrative Instruction 28.

(3) Description and claims of the divisional application

The claims of the parent application after division and the divisional application shall claim protection of different inventions respectively. However, their descriptions may have variations. For example, the original application contains two inventions A and B before division. After the application is divided, if the claims of the parent application claim for the protection of invention A, the description of the parent application may still contain both invention A and invention B, or just keep only invention A; if the claims of the divisional application claim for the protection of invention B, the description of the divisional

application may still contain both invention A and invention B, or just keep only invention B.

3.9.2 Examination on Division of an Application

In case where an application needs to be divided, the examination on division of an application includes the examination of the divisional application and of the parent application after division, which shall be performed according to Administrative Instruction 28.

(l) In accordance with Administrative Instruction 28, the divisional application shall not go beyond the scope of disclosure contained in the initial application. Otherwise, the examiner shall invite the applicant to make a-amendments. If the applicant does not make any amendment, or if the amendments made go beyond the scope of disclosure contained in the initial description and the claims, the examiner may reject the divisional application either on the ground that the divisional application does not comply with Administrative Instruction 28 or on the ground that the amendments do not comply with Section 3(10)(g).

(2) In accordance with Administrative Instruction 21where an application does not conform with Section 2(9)(a), the examiner shall invite the applicant to amend the application, that is, to restrict the application to one invention or to amend the inventions to form a single general inventive concept, within the specified time limit; the examiner shall meanwhile also remind the applicant that the application will be deemed withdrawn if no response is to be made within the time limit without justified reasons, and that the examiner may reject the application under Section 2(9)(a) if the defect of lack of unity is not overcome. Similarly, a divisional application lacking unity of invention shall also be dealt with in the same way.

PART IV: SPECIAL PROVISIONS ON THE EXAMINATION OF APPLICATIONS IN THE FIELDS OF CHEMISTRY AND BIOTECHNOLOGY

Introduction

Many special issues exist in the examination of invention applications in the field of chemistry. For example, under most circumstances, whether a chemical invention can be carried out is difficult to be predicted and needs to be verified and confirmed by virtue of test result; some chemical products whose structures are not clear yet have to be defined by virtue of their property parameters and/or methods of preparation; the discovery of the new property or use of a known chemical product does not mean the change of its structure or composition. Therefore, the product cannot be regarded as possessing novelty; some inventions relating to biological material cannot be carried out merely according to the written disclosure

of the description, and the deposit of the biological material shall be used as a supplementary means. This Part is meant to set forth some provisions on how to handle issues that are particular to the examination of invention applications in the field of chemistry according to the principles of the Patent Law and its Implementing Regulations, provided that the general provisions of these Guidelines are satisfied.

4.1 Applications for Chemical Invention for Which No Patent Right Shall Be Granted

4.1.1 Natural Substances

A substance, found in the nature and existing in its natural state, is merely an object of discovery in the sense of the "scientific discoveries" as provided for in paragraph 3.3.4.1 and no patent right shall be granted for it. However, if a substance is isolated or extracted from the nature for the first time, of which the structure, the morphology or other physical/chemical parameters are unknown in the prior art and can be precisely characterized, and if it can be exploited industrially, the substance per se and the process for obtaining it are all patentable under the Patent Law.

4.1.2 Medical-use of Substances

As the medical-use of a substance is a use for the diagnosis or treatment of diseases, it falls into the situations provided for in paragraph 3.3.4.1, hence, it shall not be granted the patent right. However, if it is used for the manufacturing of a medicament, it may be patentable under the Harare Protocol.

4.2 Sufficient Disclosure of Chemical Invention

4.2.1 Sufficient Disclosure of Chemical Product Invention

Here, the word "chemical product" includes compound, composition, and chemical product which cannot be clearly described by its structure and/or composition. Where the claimed invention is a chemical product itself, the description shall describe the identification, preparation and use of the chemical product.

(1) Identification of a chemical product

As for the invention of a compound, the description shall indicate the chemical name and the structural formula (including various function groups, molecule steric-configuration and so on) or the molecular formula of said compound. The explanation of the chemical structure shall be clear enough to enable a person skilled in the art to identify the compound. In order to clearly identify the claimed compound, the description shall describe the chemical/physical property parameters (such as the various qualitative or quantitative data and spectrum, etc.) relating to the technical problem to be solved by the invention. Moreover, in the case of a high molecular compound, besides the name, the structural or molecular formula of its repeating units shall be described according to the same requirements as those of the above-mentioned compound, the description shall properly state its molecular weight and the distribution thereof, the arrangement state of its repeating units (such as homopolymeric, copolymeric, block-polymeric or graft-polymeric state), etc. If the high molecular compound cannot be completely identified by these structural elements, the property parameters, such as crystallinity, density and second-order transition point, shall also be described.

As for the invention of a composition, besides the components of the composition, the description shall describe the chemical and/or physical state of each component, the range of selection of each component, the range of content of each component and its effect on the property of the composition.
As for a chemical product which cannot be clearly described merely by its structure and/or composition, the description shall further state the product by proper chemical/physical parameters and/or the manufacturing process, so that the claimed chemical product can be clearly identified.

(2) Preparation of chemical product

The description of a chemical product invention shall describe at least one preparation method and disclose the raw materials, procedures, conditions and specially adapted equipment used for carrying out the method so as to make it possible for a person skilled in the art to carry it out. In the case of a compound invention, the example of its preparation is usually required.

(3) Use and/or its technical effect of chemical product

As for a chemical product invention, the use and/or its technical effect of the product shall be completely disclosed. Even if the structure of the compound has been confirmed for the first time, at least one use of the compound shall be described.

If a person skilled in the art is unable, on the basis of the prior art, to predict that the use and/or its technical effect stated in the invention can be earned out, the description shall sufficiently provide qualitative or quantitative data of experimental tests for the person skilled in the art to be convinced that the technical solution of the invention enable the use to be carried out and/or the effect as expected to be achieved.
For a new pharmaceutical compound or pharmaceutical composition, not only its specific medical use or pharmacological action, but also its effective amount and the method of application shall be described. If a person skilled in the art is unable, on the basis of the prior art, to predict that said use or action stated in the invention can be carried out, the qualitative or quantitative data of the laboratory test (including animal test) or clinical test shall be sufficiently provided for the person skilled in the art to be convinced that the technical solution of the invention can solve the technical problem or achieve the technical effect as expected. The description shall describe effective amount, method of application or method of formulation to such an extent that the person skilled in the art can carry it out.

As for the property data showing the effect of the invention, the method used to measure it shall be specified when various measuring methods for it in the prior art yield different results. If it is a special method, it shall be explained in detail to enable a person skilled in the art to carry it out.

4.2.2 Sufficient Disclosure of Chemical Process Invention

(l) For a chemical process invention, regardless of a process for preparing a substance or any other process, the raw materials, procedures and processing conditions adopted in the process shall be described. If necessary, the effect of the process on the property of the title substance shall be described so as to enable a person skilled in the art, when carrying out the invention according to the process described in the description, to solve the problem which the invention is intended to solve.

(2) As for the raw materials used in the process, the components, property, manufacturing process or source of it shall be described in such a manner that a person skilled in the art can obtain it.

4.2.3 Sufficient Disclosure of Use Invention of Chemical Product

As for a use invention of a chemical product, the description shall describe the chemical product to be used, the method for using the product and the effect to be achieved to enable a person skilled in the art to carry it out. If the product to be used is a new chemical product, the statement of the product in the description shall comply with relevant requirements in Section 2(9)(b). If a person skilled in the art cannot predict the use according to the prior art, the description shall sufficiently provide data of experimental tests for a person skilled in the art to be convinced that the product is useful for said use and can solve the technical problem or achieve the technical effect as expected.

4.2.4 Specific Mode for Carrying Out the Invention

Chemistry is an experimental science, and a number of inventions in this field need to be verified by experimentation, therefore, the description generally shall include embodiments, in case of an invention of a product, for instance, those which specifically show how to make the product and how to use it.

(1) The number of embodiments needed in the description depends on the extent to which the technical features are generalized in the claim, such as the extent of generalization of parallel alternative elements and the range of selected values of data. The number of embodiments needed in a chemical invention varies depending on the nature and specific fields of technology of the invention. As a general rule, there shall be a sufficient number of embodiments for a person skilled in the art to understand how to carry out the invention and to assess that the invention can be carried out and achieve the effect as expected through the whole of the scope defined by the claims.

(2) Whether or not the description is sufficiently disclosed is judged on the basis of the disclosure contained in the initial description and claims, any embodiment and experimental data submitted after the date of filing shall not be taken into consideration.

4.3 CLAIM OF CHEMICAL INVENTION

4.3.1 Claim of Compound

The claim of a compound shall be characterized by the name or the structural or molecular formula of the compound. The compound shall be named according to general nomenclature, rather than a trade name or code name. The structure of the compound shall be clear e-enough, and any ambiguous or vague wording is not permitted.

4.3.2 Claim of Composition

4.3.2.1 Open-Ended Mode, Close-Ended Mode and Their Application Requirements

In accordance with the provisions of Rule 7(1), if it is not appropriate, according to the nature of the invention, to present the independent claim in the form of a preamble portion and characterizing portion, it may be presented in other form. Generally, the claim for composition is such an example.

The claim for a composition shall be characterized by the features of the composition, such as the components, or the components and the contents thereof. There are two modes of presentation for the claim of a composition: open-ended and close-ended. The open-ended mode means that the composition does not exclude those components that are not mentioned in the claim. The close-ended mode means that any of the other components that are not mentioned in the claim shall be excluded. The commonly used wording for open-ended mode and close-ended mode is as follows:

(1) open-ended mode: wording such as "comprising", "including", "containing", "essentially comprising", "substantially comprising", "mainly consisting of, "be mainly composed of, "substantially consist of", "be substantially composed of", etc. All of them indicate that some components which are not indicated in the claim may be further included in the composition, though the indicated components may take quite a great proportion in content;

(2) close-ended mode: wording such as "consisting of...", "be composed of...", "be balanced with ...", etc. All of them indicate that the composition claimed is composed of the indicated components only, without any other components to be

included in. However, there may be impurities, and the impurities may take only normal proportion in content.

It shall be noted that, when the open-ended mode or close-ended mode expressions are used, they must be supported by the description. For example, the claim of a composition is A + B + C. If there is, in fact, no other component described in the description, it shall not be presented in an open-ended mode.

It shall also be pointed out that if the independent claim of a composition is A + B + C, where the claims following it is A + B + C + D, if the claim A + B + C is in open-ended mode, the claim involving component D shall be a dependent claim; if the claim A + B + C is in close-ended mode, the claim involving component D shall be an independent claim.

4.3.2.2 Definition of Component and Content in Claim of Composition

(1) If the substance or improvement of an invention lies in the components per se, the solution to the technical problem only depends on the selection of the components, and a person skilled in the art can determine the contents of the components according to the prior art or by simple experiment, it is permitted to only define the components in the independent claim. However, if the substance or improvement of an invention lies both in the components and relates to the contents thereof, the solution to the technical problem depends not only on the selection of the components, but also on the determination of the particular contents of said components. In this case, both the components and the contents shall be defined in the independent claim, otherwise the claim is not complete, and lacks essential technical features.

(2) In certain technical fields, such as the field of alloys, both the necessary components and the contents thereof usually shall be defined in the independent claim.

(3) No ambiguous or vague words such as "about", "or so", "approximately", etc. , shall be used to define the content of a component. Usually, such words shall be deleted whenever they appear. The content of the component may be indicated by "0-X", " < X" or "less than X", etc. The component indicated by "0-X" is optional component. By " < X" or "less than X", etc., "X =0" is also included. It usually shall not be allowed to use " > X" to indicate the range of content.

(4) The total sum of the content in percentage of each component of a composition shall be equal to 100% and the ranges of the contents of the components shall meet the following requirements: the maximum value of the content of one component + minimum values of the contents of all the other components should be equal to 100; the minimum value of the content of one component + maximum values of the contents of all the other components should be equal to 100.

(5) Where it is difficult to indicate the particular relations among the components of a composition by words or by numerical value, the claim may be defined by a formula showing the characteristic relation or amount relation or by the use of a diagram. The specific meaning of the diagram shall be explained in the description.

(6) Qualitative written description instead of numeric quantitative expressions is acceptable if it is clear in meaning and known in the relevant field of technology, such as "the content is sufficient to make certain material moistened", "catalytic amount", etc.

4.3.2.3 Other Definition for Claim of Composition

Generally, there are three types of claims of a composition: non-defining, function-defining and use-defining. Examples are:

(1)"A hydrogel composition comprising polyvinyl alcohol of molecular formula (I), saponifier and water"(the molecular formula (I)is omitted here);

(2) "A magnetic alloy comprising 10% -60% by weight of A and 90% -40% by weight of B"; and

(3) "A butene dehydrogenation catalyst comprising Fe_30_4 and K.O.."

Among the above, (i) is a non-defining type, (2) is a function-defining type and (3) a use-defining type. When the composition possesses two or more applicable properties or application fields, the use of a non-defining claim is permitted. For example, according to the description, the hydrogel composition in above-mentioned (1) possesses such properties as formability, hygro-scopicity, film-formability, adhesivity and high caloricity; hence, it can be used in such fields as a food additive, a gluing agent, an adhesive, a coating material, a microorganism culture medium or a heat insulation medium if there is only one property or use of the composition disclosed in the description, the composition shall be drafted as the function-defining or use-defining type, such as (2)or (3) mentioned above. In certain fields, such as the field of alloys, the intrinsic property and/or use of the

invented alloy usually shall be specified. Most pharmaceutical claims shall be drafted as the use-defining type.

4.3.2.4 Claim of Chemical Product Which Cannot Be Clearly Characterized Merely by Features of Structure and/ or Composition

As for a claim of a chemical product which cannot be clearly characterized merely by features of structure and/or composition, it is permitted to further use physical/chemical parameter (s) and/or the manufacturing process to characterize the claim.

(1) Circumstances where it is permitted to use physical/chemical parameter (s)to characterize the claim of a chemical product are: the chemical product has unclear structure and cannot be precisely characterized merely by using its chemical name, structural formula or composition. The said parameter (s) shall be clear enough.

(2) Circumstances where it is permitted to use the manufacturing process to characterize the claim of a chemical product are: the chemical product cannot be sufficiently characterized by the features other than the manufacturing process.

4.3.3 Claim of Chemical Process

The claim of the process invention in the field of chemistry, be it a process for preparing a substance or another process (e. g., method of application, process method or treatment method of a substance), may be defined by the features of the process relating to procedure, substance and apparatus.

The process features relating to procedure include process steps (it may also be reaction steps) and process conditions, such as temperature, pressure, time, catalysts or other auxiliaries used in process steps.

The process features relating to substance include the chemical component, chemical-structural formula, physical/chemical property parameters of the raw material used in the process and the product.

The process features relating to apparatus include the type of the apparatus specially adapted in said process and the property or function of the apparatus relating to said process invention.

In the case of a specific process claim, one of the three types of technical features may be selected depending on the subject matter claimed, the technical problem to be solved and the substance or improvement of an invention.

4.3.4 Use Claim

4.3.4.1 Types of Use Claim

The invention relating to the use of a chemical product is made on the basis of discovery of a new property of the product and the use of such property. Regardless of a new or known product, its property is inherent in the product per se. The essence of the use invention does not lie in the product per se, but in the application of its property. Hence, a use invention is an invention of process, and its claim is a process claim.

If product B is invented by making use of product A, the application shall be based on product B per se, and its claim is a product claim rather than a use claim.

The examiner shall take notice of the wording to distinguish a use claim from a product claim. For example, "using compound X as an insecticide" or "the use of compound X as an insecticide" is a wording used in use claim, which is of type of process claim, while the wording "an insecticide made of compound X" or "the insecticide containing compound X" is not a use claim, but a product claim.

It shall also be clarified that "the use of compound X as an insecticide" shall not be construed as equivalent to "the compound X for an insecticide". As the latter is a product claim defining the use, it is not a use claim.

4.3.4.2 Claim of Medical Use of Substance

An application relating to the medical use of a substance shall not be granted if its claim is drafted in the wording "use of substance X for the treatment of diseases", "use of substance X for diagnosis of diseases" or "use of substance X as a medicament", because such claim is one for "method for the diagnosis or for the treatment of diseases" as referred to in Rule 7(3). However, since a medicament and a method for the manufacture thereof are patentable according to the Patent Law, it shall not be contrary to Rule 7(3), if an application for the medical use of a substance adopts pharmaceutical claim or use claim in the form of method for preparing a pharmaceutical, such as "use of substance X for the manufacturing of a

medicament", "use of substance X for the manufacturing of a medicament for the treatment of a disease" and so on.

The above-mentioned use claim in the form of method for manufacturing a medicament may be drafted as "use of compound X for manufacturing a medicament for the treatment of disease Y" or the like.

4.3.5 Novelty of Chemical Invention

4.3.5.1 Novelty of Compound

For a compound claimed in an application, if it has been referred to in a reference document, it is deduced that the compound does not possess novelty, unless the applicant can provide evidence to verify that the compound is not available before the date of filing. The word "refer to" mentioned above means to define clearly or explain the compound by the chemical name, the molecular formula (or structural formula), the physical/chemical parameter(s) or the manufacturing process(including the raw materials to be used).

For example, if the name and the molecular formula (or structure formula) of a compound disclosed in a reference document are difficult to be identified or unclear, but the document discloses the same physical/chemical parameter(s) or any other parameters used to identify the compound as those of the claimed compound of an application, it is deduced that the claimed compound does not possess novelty, unless the applicant can provide evidence to verify that the compound is not available before the date of filing.

If the name, molecular formula (or structure formula) and physical/chemical parameter(s)of a compound disclosed in a reference document are unclear, but the document discloses the same method of preparation as that of the claimed compound of an application, it is deduced that the claimed compound does not possess novelty.

(2) A general formula cannot destroy the novelty of a specific compound included in the general formula. However, the disclosure of a specific compound destroys the novelty of a claim for said general formula containing said specific compound, but it does not affect the novelty of a compound other than the specific compounds contained in said general formula. A series of specific compounds may destroy the novelty of the corresponding compounds in the series. The compounds in a range (such as $C_{,4}$) destroy the novelty of the specific compounds at the two ends of that

range (C, and C_4). However, if the compound C_4 has several isomers, the compounds C_{14} cannot destroy the novelty of each single isomer.

(3) The existence of a natural substance per se does not destroy the novelty of the invented substance. A natural substance destroys the novelty of said invented substance only when it is disclosed in a reference document and is identical with or directly equivalent to the invented substance in structure and morphology.

4.3.5.2 Novelty of Composition

(1) Judgment of novelty on a composition merely defined by its components
Composition X consisting of components (A + B + C) is disclosed in a reference document,

(i) if the subject matter of an invention application relates to composition Y(components: A + B), and the claim for composition Y is presented in the close-ended mode, for example, it is described as "consisting of A + B", the claim possesses novelty even if the technical problem solved by the invention is the same as that of composition X;

(ii)if the claim for composition Y is presented in the open-ended mode as "containing A + B", and the technical problem solved by the invention is the same as that of composition X, then the claim does not possess novelty;

(iii) if the exclusive method is used to present the claim of composition Y, i. e. , when it is indicated that "C" is not contained in it, the claim possesses novelty.

4.3.5.3 Judgment of novelty on a composition defined by its components and contents

For the judgment of novelty on a composition defined by its components and contents, the provisions of, Administrative Instruction 22 shall apply.

4.3.5.4 Novelty of Chemical Product Characterized by Physical/Chemical Parameter(s) or Manufacturing Process

(1) For the claim of a chemical product characterized by physical/chemical parameter(s), if it is impossible to compare the product characterized by said

parameter(s) with that disclosed in a reference document based on the parameter (s) described and to determine the difference between them, it is deduced the product claim characterized by said parameter (s) does not possess novelty as required in Section 3(10)(a).

(2) For the claim of a chemical product characterized by manufacturing process, the novelty shall be determined on the product per se, rather than merely comparing the manufacturing process therein with the process disclosed in a reference document to find whether or not the two processes are identical. A different manufacturing process does not always result in the change of a product per se.

If, compared with a product disclosed in a reference document, the difference of said claimed product lies only in the manufacturing process, having neither parameters disclosed in the application, which may be used to prove its difference, nor indications of any change in its function and/or nature resulting from the difference of the process, then it is deduced that the product claim characterized by the process does not possess novelty as required in Section 3(10)(a).

4.3.5.5 Novelty of Use Invention of Chemical Product

Since a chemical product is novel, the use invention of the novel product will naturally possess novelty.

A known product is not rendered novel merely because a new application thereof has been put forward. For example, if product X is known as a detergent, then the product X used as a plasticizer does not possess novelty. However, a known product does not destroy the novelty of its new use if the new use per se is an invention. This is because such use invention is an invention of method of application, and the substance of the invention lies in how to apply the product rather than the product per se. For example, said product X is originally used as a detergent. Then, someone discovers from research that it can be used as a plasticizer after adding to it certain additives. Then its preparation, the kind of additives selected and the proportion etc. , are the technical features of the method of application. Under such circumstances, the examiner shall assess whether the method per se possesses novelty and shall not consider that the method of application does not possess novelty on the grounds that product X is known.
As for a medical-use invention relating to a chemical product, the following aspects shall be taken into consideration when the examination of novelty is earned out.

(1) Whether or not the new use is different in substance from the known use. The use invention does not possess novelty when the difference between the new use and the known use lies merely in the form of expression, but the substance of them is the same.

(2) Whether or not the new use is revealed directly by the mechanism of action or pharmacological action of the known use. The use does not possess novelty if it is directly equivalent to the mechanism of action or pharmacological action of the known use.

(3) Whether or not the new use belongs to generic (upper level) term of the known use. The known use defined by specific (lower level) term may destroy the novelty of the use defined by generic (upper level) term.

(4) Whether or not the features relating to use, such as the object, mode, route, usage amount, interval of administration can define the procedure of manufacture of a pharmaceutical. The distinguishing features merely present in the course of administration do not enable the use to possess novelty.

4.3.6 Inventive Step of Chemical Invention

4.3.6.1 Inventive Step of Compound

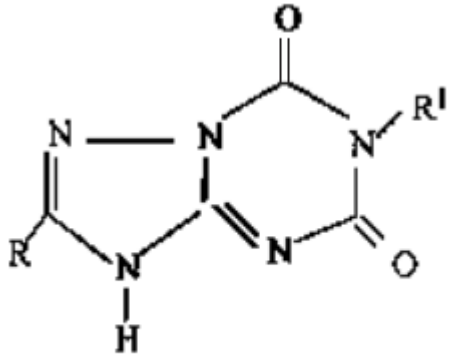
(1) When a compound is novel, not similar in structure to a known compound, and has a certain use or effect, the examiner may deem it to involve an inventive step without requiring that it shall have an unexpected use or effect.

(2) For a compound that is similar in structure to a known compound, it must have unexpected use or effect. The said unexpected use or effect may be a use different from that of the known compound, the substantive progress or improvement of a known effect of a known compound, or a use or effect which is not clear in the common general knowledge or cannot be deduced from the common general knowledge.

(3) Whether two compounds are similar in structure has relation to the technical field of the compounds, the examiner shall apply different criteria to different technical fields. The following are some examples:

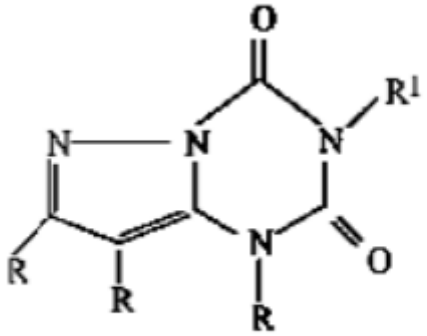
Example 1

Prior art:



1a

Application:



1b

The compounds with similar structures must have the identical basic core structure or basic rings. As the structure of (lb) is not similar to that of (la), when determining the inventive step of (I b), no evidence is necessary to show that (I b) has an unexpected use or effect compared with (la).

Example 2

Prior art: N,N-C6H4-S02NHR' (Ha)

Application: H2N-C6H4-S02-NHCONHR' (Hb) Sulfonamide (Ha) is an antibiotic, and sulfonyolurea (b)an antidiabetic. They are similar in structure but different in pharmaceutical effect. The (H b) involves an inventive step because it has unexpected use or effect.

Example 3

Prior art: H2N-C6H4-S02NHCONHR' (Ilia)

Application: H3C-C6H4-S02NHCONHR' (fflb)

The structure of amino-sulfonyolurea (HI a) is similar to that of methyl-sulfonyolurea (HI b). The difference lies in NH_2 and CH_3 only. Being short of unexpected use or effect, (IE b) does not involve an inventive step.
(4) It shall be noted that the inventive step of a compound ought not to be denied simply on the grounds of structural similarity. It is necessary to further explain that its use or effect can be expected or is predictable, or that a person skilled in the art is able to produce or use that compound by logical analysis, inference or limited experiment on the basis of the prior art.
(5) If the effect of a technical solution is caused by something known and inevitable, the technical solution does not involve an inventive step. For example, an insecticide A-R is in the prior art, wherein, R is C|_3 alkyl. It has been pointed out in the prior art that the effectiveness of insecticide is improved with the increase of the number of atom in the alkyl. If the insecticide in an application is A-C_4H_9, the effectiveness has been obviously improved compared with the prior art. The application does not involve an inventive step because it has been pointed out in the prior art that the improved effectiveness of the insecticide is inevitable.

4.3.6.2 Inventive Step of Use Invention of Chemical Product

(1) Inventive step of use invention of new product

A use invention of a new chemical product is regarded as involving an inventive step if the use cannot be expected from the known product having a similar structure or composition.

(2) Inventive step of use invention of known product

A use invention of a known product is regarded as involving an inventive step if the new use cannot be derived or expected from the structure, composition, molecular weight, known physical/chemical property and existent use of the product, but utilizes a newly discovered property of the product, and produces unexpected technical effect.

4.3.7 Industrial Applicability of Chemical Invention

4.3.7.1 Dishes and Cooking Methods

A dish which cannot be made industrially and implemented repeatedly does not possess practical applicability, and thus shall not be granted a patent right. A cooking method which depends on such uncertain factors as skills and creativity of the cooker cannot be implemented repeatedly and thus cannot be used industrially, and therefore it does not possess practical applicability and shall not be granted a patent right.

4.3.7.2 Medical Prescription

The prescriptions of a doctor refer to the prescriptions made by the doctor according to the concrete conditions of a particular patient. As the prescriptions of a doctor, the making up of a prescription by a doctor and the process of medicine dispensation merely according to the prescription of a doctor do not possess practical applicability, they shall not be granted the patent right.

4.3.8 Unity of Chemical Invention (Section 2(9)(a) and AI 21)

4.3.8.1 Unity of Markush Claim

Where a single claim of an application is defined by a number of alternative elements, the "Markush" claim is formed. The Markush claim shall also comply with the provisions on unity as provided for in Section 2(9)(a) and Administrative Instruction 21. If the alternative elements in a Markush claim possess similar nature, they shall be regarded as technical-related and having the same or corresponding special technical features, and the claim may be considered as meeting the requirements of unity. Such alternative elements are called Markush elements.

Where the Markush elements are for alternatives of compounds, they shall be regarded as being of a similar nature, and at the same time the Markush claim possesses unity if they meet the following standards:

(1) all alternative compounds possess a common property or activity; and

(2) all alternative compounds possess a common structure, which constitutes the distinguishing feature between the compounds and those in the prior art, and is

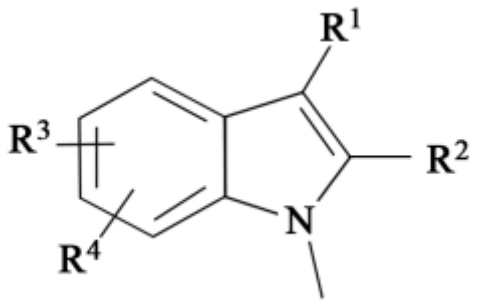
essential to the common property or activity of the compounds of general formula, or under the circumstances that they do not have a common structure, all of the alternative elements belong to the same class of compounds recognized in the technical field to which the invention pertains.

A "recognized class of compounds" means there is an expectation from the knowledge in the art that members of the class belong to the same class of compounds with the same performance in the context of the claimed invention, i. e., each member may be substituted by another, with the expectation that the same intended result will be achieved.

Examples

Example 1

Claim 1: The compounds of the general formula:



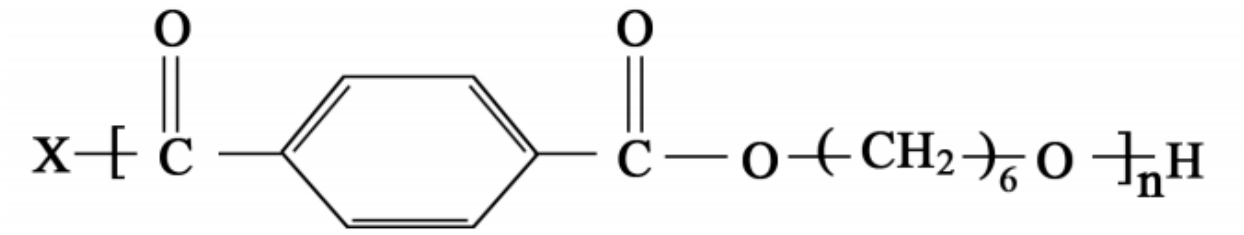
Wherein, R1 is pyridyl; R2-R4 are methyl, tolyl or phenyl... the compounds are used as a pharmaceutical for further enhancing the oxygen-intake capacity of blood.

Explanation: in the general formula, indolyl moiety constitutes the common moiety to all of the Markush compounds, but the prior art has disclosed the compounds which possess a common structure, i.e. , said indolyl moiety, and are capable of enhancing the oxygen-intake capacity of blood, therefore, the indolyl moiety cannot constitute the distinguishing feature between the compounds of general formula claimed in claim 1 and those in the prior art, the unity of claim 1 cannot be determined on the basis of indolyl moiety.

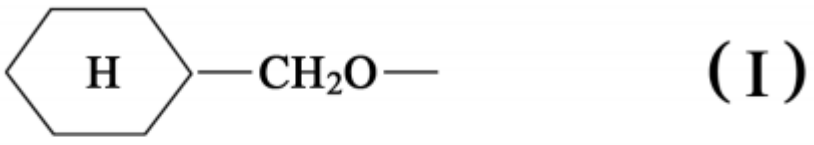
The compounds of general formula claimed in claim 1 change the R' group of the indolyl into 3-pyridyl, thereby possess the function of further enhancing the oxygen-intake capacity of blood, therefore, the 3-pyridyl indolyl moiety may be regarded as an essential part to the function of the compounds of general formula, and the moiety is a common structure which is distinguished from the prior art, so the Markush claim possesses unity.

Example 2

Claim 1: The compounds of general formula:

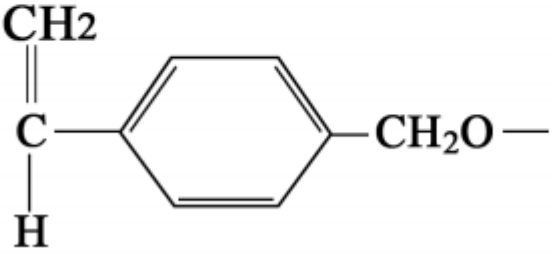


Wherein, 100 55 n^50, X is:



(I)

or



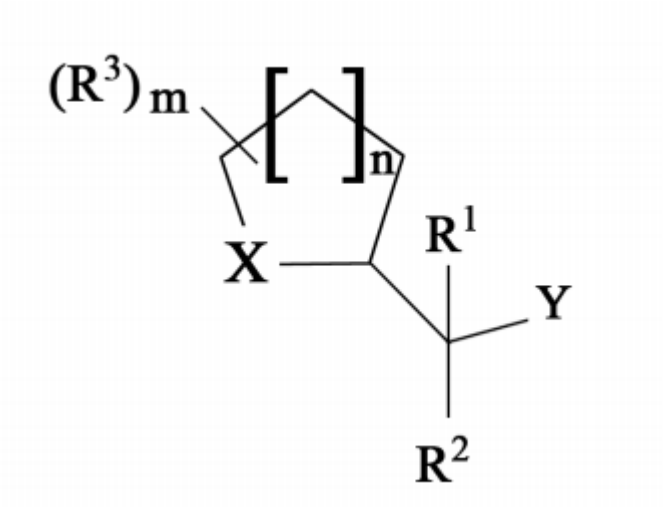
(II)

Explanation: it is indicated in the description that said compound is prepared via esterifying the terminal group of known polyhexamethylene terephthalate. It possesses anti-pyrolysis property when it is esterized into (I). However, when it is

esterized into (II), it does not possess the anti-pyrolysis property due to the existence of "CH2 = CH-". Therefore, (I) and (II) have no common property, and the Markush claim does not possess unity.

Example 3

Claim 1: A nematocide composition comprising a compound with the following general formula as an active component:



Wherein, m, n = 1, 2 or 3; X = O, S; R3 = H, C, -C8 alkyl; R1 and R2 = H, halogen, C, -C3 alkyl; Y = H, halogen, amine; ...

Explanation: although all of the compounds in this formula have the same function of killing nematode, but they are five-, six- or seven-member rings compound respectively, and they belong to heterocycle compounds in different classes; hence, they have no common structure; at the same time, there is not an expectation from the prior art in the relevant technical field of this invention that these compounds have same performance in the context of the claimed invention, i. e., each member may be substituted by another with the same result achieved. This Markush claim does not possess unity.

Example 4

Claim 1: A herbicide composition including the mixture of compounds A and B in effective amount and a diluent or inert carrier, wherein, A is 2,4-dichlorophenoxyacetic acid and B is selected from the following compounds:

cupric sulfate, sodium chloride, ammonium sulfamate, sodium trichloroacetate, dichloropropyl acid, 3-amino-2, 5-dichlorobenzoic acid, diphenamide, ioxynil, 2-(l-methyl-n-propyl)-4, 6-dinitrophenol, dinitroaniline and triazine.

Explanation: under such circumstances, the Markush elements B have no common structure, and there is not an expectation from the prior art in the relevant technical field of this invention that the compounds with these Markush elements B used as components of the herbicide composition may be substituted one for the other with the same result achieved; hence, they cannot be regarded as the compounds of the same class in the relevant technology of this invention, but compounds of the following different classes: (a) inorganic salt: cupric sulfate, sodium chloride, ammonium sulfamate; (b) organic salt or acid: sodium trichloroacetate, dichloropropyl acid, 3-amino-2, 5-dichloro-benzoic acid; (c) amide: diphenamide; (d) nitrile: ioxynil; (e) phenol: 2-(l-methyl-n-propyl)-4, 6-dinitrophenol; (f) amine: dinitroaniline; and(g) heterocycle: triazine. Accordingly, unity does not exist between the inventions claimed in claim 1.

Example 5

Claim 1: A hydrocarbon catalyst for gaseous oxidation comprises X or X + A.
Explanation: in the description, RCH_3 is oxidized to RCH_2OH with X; $RCH_3$is oxidized to RCOOH with X + A. These two catalysts have the same function—for oxidation of RCH_3. Although X + A makes the oxidation of RCH_3 more sufficient, the function is the same, and both of the two catalysts have common component X which is distinguished from the prior art and is essential to the common function, therefore claim 1 possesses unity.

4.3.8.2 Unity Between Intermediate and Final Product: (Section 2(9)(a) and AI 21)

An application relating to an intermediate shall also comply with the provisions on unity as provided for in Section 2(9)(a) and Administrative Instruction 21.

4.3.8.3 Basic Principle

(1) Unity exists between an intermediate and a final product if the following two conditions are simultaneously met:

(i) the intermediate and the final product have the same basic structure unit, or their chemical structures are technically closely related, and the basic structure unit of the intermediate is incorporated into the final product;

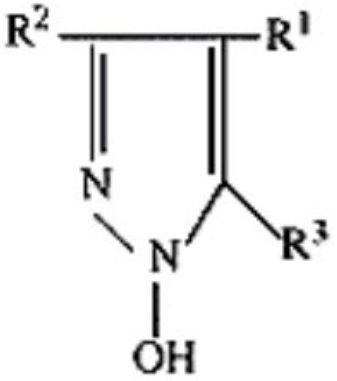
(ii) the final product is prepared or separated directly from the intermediate.

(2) For several processes for preparing the same final product from the different intermediates, if these different intermediates possess the same basic structure unit, these processes may be claimed for protection in one application.

(3)The different intermediates of different structural parts of the same final product shall not be claimed in one application.

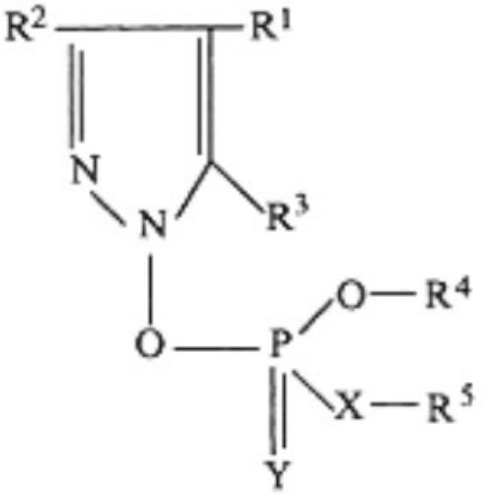
Examples:

Claim 1



(the intermediate)

Claim 2:



(the final product)

Explanation: the chemical structures of the intermediate and the final product mentioned above are technically closely related, the basic structure unit of the intermediate is incorporated into the final product, and the final product can be prepared directly from the intermediate. Therefore, unity exists between claim 1 and claim 2.

Example 2

Claim 1: An amorphous polyisoprene (the intermediate).

Claim 2: A crystalline polyisoprene (the final product).

Explanation: in this example, the crystalline polyisoprene is obtained directly by way of stretching the amorphous polyisoprene. As their chemical structures are identical, unity exists between claim 1 and claim 2.

4.4 EXAMINATION OF INVENTION APPLICATION IN THE FIELD OF BIOTECHNOLOGY

In this section, the term "biological material" means any material containing genetic information and capable of reproducing itself or being reproduced in a biological system, such as gene, plasmid, microorganism, animal, plant, and so on. For the definition of the term "animal" and "plant", the provisions of Rule *7 bis.1* shall apply. The said animal and plant therein may be a taxon of any rank of animal and plant, such as kingdom, phylum, classis, order, family, genus, species, and so on.

4.4.1 Examination of Claimed Subject Matters

4.4.1.1 Examination of Claimed Subject Matters According to (Section 3(3) and Rule 18)

Some inventions concerning biotechnology are exemplified in this Part which cannot be granted the patent right in accordance with the provisions of Section 3(3) and Rule 18. Furthermore, the following inventions shall not be granted the patent right in accordance with the provisions of Section 3(3) and Rule 18.

4.4.1.2 Embryonic Stem Cell of Human Beings

Both an embryonic stem cell of human beings and a preparing method thereof shall not be granted the patent right in accordance with the provisions of Rule *7 bis.3*.

4.4.1.3 Human Body at the Various Stages of Its Formation and Development

The human body, at the various stages of its formation and development, including a germ cell, an oosperm, an embryo and an entire human body shall not be granted the patent right in accordance with the provisions of Rule *7 bis.3*.

4.4.1.4 Inventions-Creations Mentioned in Rule 7*bis*.3

Where an invention-creation is developed relying on the genetic resources, the acquisition or use of which is not consistent with the provisions of the laws and administrative regulations, it belongs to the inventions-creations excluded from patent protection.

4.4.2 Examination of Claimed Subject Matters According to Rule 6*bis*

4.4.2.1 Microorganism

The term "microorganism" includes bacteria, actinomycetes, fungi, viruses, protozoa and algae, etc. A microorganism existing in the nature without the involvement of any artificially induced technical treatment is, however, a scientific discovery hence, it is unpatentable. Microorganism per se constitutes a subject matter of patent protection only when it is isolated into pure culture and has particular industrial use.

4.4.2.2 Gene or DNA Fragment

No matter it is a gene or a DNA fragment, it is, in substance, a chemical substance. The said gene or DNA fragment includes those isolated from microorganism, plant, animal or human body, as well as those obtained by other means. A gene or DNA fragment found in nature and existing in its natural state is merely a discovery. It falls into "scientific discoveries" as provided for in **paragraph 3.3.4.1** and is unpatentable. However, a gene or a DNA fragment *per se* and the process to obtain it are subject matters of patent protection if it is isolated or extracted for the first time from nature, its base sequence is unknown in the prior art and can be definitely characterized, and it can be exploited industrially.

4.4.2.3 An Animal, a Plant and a Constitutive Part Thereof (Rule 7*bis*.3)

An embryonic stem cell of an animal at the various stages of its formation and development, such as a germ cell, an oosperm, an embryo and so on, belong to the category of the "animal variety" said in Rule 7*bis*.3, they are unpatentable in accordance with the provisions of Rule 7*bis*.3.

A somatic cell of an animal as well as a tissue and an organ of an animal (except an embryo) are not in conformity with the definition of "animal" said in this Part, so they do not belong to the subject matters excluded according to the provisions of paragraph 3.3.4.1.

A single plant and its reproductive material (such as seed, etc.), which maintains its life by synthesizing carbohydrate and protein from the inorganic substances, such as water, carbon dioxide and mineral salt and so on through photosynthesis, belong to the category of the "plant variety" said in paragraph 3.3.4.1, and they are unpatentable in accordance with the provisions of paragraph 3.3.4.1. If a cell, a

tissue and an organ of a plant do not possess the above-mentioned characteristic, they cannot be regarded as "plant varieties", therefore, they do not belong to the subject matters excluded according to the provisions of paragraph 3.3.4.1.

4.4.2.4 Transgenic Animal and Plant (Rule 7*bis*)

Transgenic animal or plant is those obtained by biological method, such as DNA recombination technology of the genetic engineering. The animal or plant per se still belongs to the category of the "animal variety" or "plant variety" defined in paragraph 3.3.4.1. In accordance with the provisions of paragraph 3.3.4.1, no patent right shall be granted to them.

4.4.3 Sufficient Disclosure of the Description (Section 2(9)(b))

4.4.3.1 Deposit of Biological Material

(1) It is stipulated in Section 2(9)(b) that the description shall set forth the invention or utility model in a manner sufficiently clear and complete so as to enable a person skilled in the art to carry it out.

In general, the description shall sufficiently disclose in writing the invention for which the patent protection is sought. In the particular field of biotechnology, it is sometimes difficult to describe the specific feature of a biological material in writing, and the biological material per se cannot be made available even if there is such a description, hence, a person skilled in the art may remain unable to carry out the invention. Under this circumstance, in order to meet the requirements as set forth in Section 2(9)(b) the biological material shall be deposited with a depositary institution designated by the ARIPO Office according to relevant provisions.

Where a biological material, which is involved in the application and indispensable for the invention to be completed, is not available to the public and has not been deposited according to Rule 6 *bis.4* by the applicant, or although it has been deposited according to the relevant provisions, the certificate of deposit and the certificate of viability provided by the depositary institution have not been submitted at the date of filing, or, at the latest, within four months from the date of filing, the examiner shall reject the application for its non-compliance with the provisions of Section 2(9)(b).

Where an application relates to a biological material which is not available to the public, it shall indicate, in the request and the description, the taxonomic

denomination and Latin scientific name of the biological material, the name and address of the depositary institution, the date on which the sample of the biological material was deposited and the accession number of the deposit. In addition to the taxonomic denomination and Latin scientific name of the biological material, the date on which the sample of the biological material was deposited, the whole name and its abbreviation of the depositary institution in which the biological material is deposited and the accession number of the deposit shall be indicated when the biological material is mentioned for the first time in the description. Moreover, such information shall be presented as part of the description in the position corresponding to the description of the drawings. If the applicant submitted on time, the request, certificate of deposit and certificate of viability which complied with the provisions of Rule 6 *bis.4*, but failed to indicate the information a-bout the deposit in the description, it is permitted for the applicant to add the relevant information in the request to the description in the stage of substantive examination.

(2) "Biological material which is not available to the public" mentioned in Rule 6 *bis.4* includes the biological material held by an individual or entity, deposited with a depositary institution not for the purpose of patent procedures and not released to the public; or although the process for producing the biological material is described in the description, a person skilled in the art still cannot repeat the process so as to obtain said biological material, e. g., new microorganisms created by means of screening, mutation, etc., which cannot be repeated. All these biological materials shall be deposited according to relevant provisions.

The following are the circumstances in which a biological material shall be regarded as available to the public and the deposit thereof is not required:

(i) as for the biological material commercially available to the public at home and abroad, the commercial supplier of it shall be indicated in the description, and if necessary, the evidence shall be submitted to show that the biological material is commercially available to the public before the date of filing(or the priority date where priority is claimed);

(ii) biological materials which have been deposited with a depositary institution recognized by the patent offices of various countries or by international patent organizations for the purposes of patent procedures, and have been published in the ARIPO Patent Journal or have been granted the patent right before the date of filing (or the priority date where priority is claimed) of the application filed in China; and

(iii) the biological material that must be used in an application has been disclosed in a non-patent document before the date of filing (or the priority date where priority is claimed), with the source of the document indicated in the description, the public access to the biological material described, and the proof of guaranteeing the biological material accessible to the public for twenty years from the filing date provided by the applicant of the application.

(3) For the biological materials deposited with the depositary institution designated by the ARIPO Office, the institution shall confirm its viability. If the biological material is confirmed dead, polluted, inactive, or variant, the applicant shall deposit the biological material identical with that initially deposited together with the original sample, and notify the Patent Office. The latter deposit is then deemed as the continuation of the original deposit.

(4)The depositary institutions designated by the ARIPO Office refer to the international depository institutions for biological material samples acknowledged by the Budapest Treaty.

4.4.4 Inventions Relating to Genetic Engineering

The term "genetic engineering" here means the technology which manipulates genes artificially by gene recombination, cell fusion, etc. Inventions relating to genetic engineering include those of a gene(or a DNA fragment), a vector, a recombinant vector, a transformant, a polypeptide or a protein, a fused cell, a monoclonal antibody, etc.

4.4.4.1 Inventions of Product

As for the inventions relating to a gene, a vector, a recombinant vector, a transformant, a polypeptide or a protein, a fused cell, a monoclonal antibody per se, the description shall disclose the identification, preparation and use and/or technical effect of the product.
(1) Identification of product

For an invention of a gene, a vector, a recombinant vector, a transformant, a polypeptide or a protein, a fused cell, a monoclonal antibody, etc. , the description shall indicate the structure of the product, such as base sequence of a gene, amino acid sequence of a polypeptide or protein, etc. When the structure of the product

cannot be clearly described, the description shall describe the physical/chemical parameters, biological property and/or preparation method of the product, etc.

(2) Preparation of product

The way of making the product shall be described in the description except where the product can be made by a person skilled in the art without such description when taking into account the overall description of the initial description, claims, drawings and the prior art.

For an invention of a gene, a vector, a recombinant vector, a transformant, a polypeptide or a protein, a fused cell, a monoclonal antibody, etc. , when it is not possible to describe a process for producing said product in the description in such a manner that a person skilled in the art can reproduce it, the obtained transformant (including a transformant which produces a recombinant polypeptide or protein) or fused cell, etc., into which the gene, the vector, the recombinant vector has been introduced, shall be deposited in accordance with the provisions of Rule 6 *bis.4*.

For an invention of a process for producing a gene, a vector, a recombinant vector, a transformant, a polypeptide or a protein, a fused cell, a monoclonal antibody, etc. , if the process involves the use of a biological material which is not available to the public before the date of filing(or the priority date where priority is claimed), the biological material shall be deposited in accordance with the provisions of Rule 6*bis*.4.

Specifically, the invention may be described as follows:
(i) Gene, vector or recombinant vector

A process for producing a gene, a vector or a recombinant vector shall be described by respective origin or source, means for obtaining said gene, vector or recombinant vector, an enzyme to be used, treatment conditions, steps for collecting and purifying it, and means for identification, etc.

(ii) Transformant

A process for producing a transformant shall be described by a gene or a recombinant vector introduced, a host (a microorganism, a plant or an animal), a method for introducing the gene or the recombinant vector into the host, a method for selectively collecting the transformant, or means for identification, etc.

(iii) Polypeptide or protein

A process for producing a polypeptide or a protein by gene recombination shall be described by stating means for obtaining a gene encoding the polypeptide or the protein, means for obtaining an expression vector used, means for obtaining a host, a method for introducing the gene into the host, a method for selectively collecting the transformant, steps for collecting and purifying the polypeptide or the protein from the transformant into which the gene has been introduced, or means for identification of the polypeptide or the protein, etc.

(iv) Fused cell

A process for producing a fused cell (such as a hybridoma) shall be described by stating source of the parent cells, pretreatment of the parent cells, fusion condition, a method for selectively collecting the fused cell, or means for identification, etc.

(v) Monoclonal antibody

A process for producing a monoclonal antibody shall be described by stating means for obtaining or producing immunogen, a method for immunization, a method for selectively obtaining antibody producing cells, or means for identification of the monoclonal antibody, etc.

When the invention relates to a monoclonal antibody which satisfies specific conditions, (e. g. , a monoclonal antibody whose affinity to the antigen A is specified by the specific coupling constant), even if a process for preparing a hybridoma which is capable of producing said monoclonal antibody is described according to above-mentioned disclosure in "(iv) Fused cell", it is random and unable to be reproduced to carry out said process for obtaining a specific result. Therefore, said hybridoma shall be deposited in accordance with the provisions of Rule 6 bis.4, except where the applicant can submit sufficient evidence to show that the hybridoma can be created repeatedly by a person skilled in the art on the basis of the disclosure in the description.

(3) Use and/or technical effect of a product

For an invention of a gene, a vector, a recombinant vector, a transformant, a polypeptide or a protein, a fused cell, a monoclonal antibody, etc. , the description

shall describe the use and/or technical effect of the product, and specify the technical means, condition, etc. , which is needed to obtain said effect.
For instance, the applicant shall submit evidence in the description to show that the gene has the special function, in case of a structural gene, the polypeptide or the protein encoded by said gene has the specific function.

4.4.4.2 Inventions of Process for Producing Product

For an invention of a process for producing a gene, a vector, a recombinant vector, a transformant, a polypeptide or a protein, a fused cell, a monoclonal antibody, etc., the description shall describe said process in a manner sufficiently clear and complete so as to enable a person skilled in the art to prepare the product by using said process, and at least one use of said product shall be described in the description when said product is novel. For the specific requirement of the description, the provisions of Rule 6.

4.4.4.3 Nucleotide or Amino Acid Sequence Listing

(1) When an invention relates to a nucleotide sequence consisting of 10 or more nucleotides, or an amino acid sequence of a protein or peptide consisting of 4 or more L-amino acids, a "Sequence Listing" prepared in accordance with "Standard for the presentation of nucleotide and/or amino acid sequence listing and its electronic file" issued by the State Intellectual Property Office shall be submitted.

(2)The "Sequence Listing" shall be arranged at the end of the description as a separate part of it. Furthermore, the applicant shall submit computer-readable copy recording the nucleotide or amino acid sequence listing.

If the nucleotide or amino acid sequence listing recorded in computer-readable copy submitted by applicant is not consistent with that written sequence listing disclosed in the description and claims, the written sequence listing shall prevail.

4.4.4.4 Inventions Relating to Microorganism

(1) The deposited microorganism shall be described by the strain denomination, the species denomination and genus denomination in accordance with microbiological nomenclature. Where it is not identified with a species denomination, a genus denomination shall be provided. The Latin scientific denomination of a microorganism involved in the invention shall be provided in brackets when it is referred to for the first time in the description. Where that

microorganism has been deposited with the depositary institution designated by the ARIPO Office, the date of deposit, the whole name and its abbreviation of the depositary institution and the access number of the deposit shall be indicated in the description. In other parts of the description, the microorganism deposited may be represented by the abbreviation of the depositary institution and the access number of the microorganism, such as *Staphylococcus Aureus* CCTCC8605.

(2) Where the microorganism involved is a new species, its taxonomic characteristics shall be described in detail, the reason to classify it as a new species shall be clarified, and the relevant document on which the classification is based shall be indicated.

4.4.5 Claims of Inventions in the Field of Biotechnology (Rule 7*bis*)

The claims shall comply with the provisions of Rule 7*bis*.

4.4.5.1 Inventions Relating to Genetic Engineering

For an invention of a gene, a vector, a recombinant vector, a transformant, a polypeptide or a protein, a fused cell, a monoclonal antibody, etc., the claim of the invention may be described as indicated below.

4.4.5.1.1 Gene

(1) A gene may be defined directly by specifying its base sequence.

(2) A structural gene may be defined by specifying an amino acid sequence of the polypeptide or protein encoded by said gene.

(3) Where the base sequence of the gene or the amino acid sequence of the polypeptide or protein encoded by said gene is set forth in the "Sequence Listing" or drawing of the description, reference may be made to the sequence by use of the sequence identifier in the "Sequence Listing" or the number of the drawing.
Example

A DNA molecule whose base sequence is represented by SEQ ID NO: 1(or Fig. 1).
(4) Where a gene has a special function, for example, the protein encoded by it has the activity of enzyme A, the gene may be defined by a combination of the terms "substitution, deletion or addition" and functions of the gene.

Example

A gene encoding a protein of (a)or (b)as follows:

(a)a protein whose amino acid sequence is represented by Met-Tyr-...-Cys-Leu,

(b) a protein derived from the protein of (a) by substitution, deletion or addition of one or several amino acids in the amino acid sequence defined in (a) and having the activity of enzyme A.

The above-mentioned expression of the gene is permissible only if:

I. the said derived protein of (b) is exemplified in the description, for instance in the examples; and

II. the description states the technical means used for producing the derived protein of (b) and verifying its function (otherwise, the description does not sufficiently disclose the gene).

(5) Where a gene has a special function, for example, the protein encoded by it has the activity of enzyme A, the gene may be defined by a combination of the terms "hybridize under stringent conditions" and functions of the gene.

Example

A gene selected from the group consisting of:

(a) a DNA molecule whose nucleotide sequence is represented by ATGTATCGG.. .TGCCT,

(b) a DNA molecule which hybridizes under stringent conditions to the DNA sequence defined in (a) and encodes the protein having the activity of enzyme A.
The above-mentioned expression of the gene is permissible only if:

I. "stringent conditions" are described in detail in the description; and

II. the said DNA molecule defined in(b) is exemplified in the description, for instance in the examples.

(6) When the above-mentioned expressions of (1)-(5) cannot be used, a gene may be described by specifying functions, physiochemical properties, origin or source of said gene, a process for producing said gene, etc.

4.4.5.1.2 Vector

(1) A vector may be defined by specifying a base sequence of its DNA.

(2) A vector may be described by specifying a cleavage map of DNA, molecular weight, number of base pairs, source of the vector, process for producing the vector, function or characteristics of the vector, etc.

4.4.5.1.3 Recombinant Vector

A recombinant vector may be described by specifying at least one of the gene and the vector.

4.4.5.1.4 Transformant

A transformant may be described by specifying its host and the gene (or the recombinant vector) which is introduced.

4.4.5.1.5 Polypeptide or Protein

(1) A polypeptide or protein may be defined by specifying an amino acid sequence or a base sequence of structural gene encoding said amino acid sequence.

(2) Where the amino acid sequence of the polypeptide or protein is set forth in the "Sequence Listing" or drawing of the description, reference may be made to the sequence by use of the sequence identifier in the "Sequence Listing" or the number of the drawing.

Example
A protein whose amino acid sequence is represented by SEQ ID NO: 2 (or Fig. 2).

(3) Where a protein has a special function, for example, it has the activity of enzyme A, the protein may be defined by a combination of the terms "substitution, deletion or addition" and functions of the protein.

Example

A protein of (a)or (b) as follows:

(a)a protein whose amino acid sequence is represented by Met-Tyr-...-Cys-Leu,

(b) a protein derived from the protein of (a) by substitution, deletion or addition of one or several amino acids in the amino acid sequence in (a) and having the activity of enzyme A.

The above-mentioned expression of the protein is permissible only if:

I. the said derived protein of (b) is exemplified in the description, for instance in the examples; and
II. the description states the technical means used for producing the derived protein of (b) and verifying its function(otherwise, the description does not sufficiently disclose the protein).

(4) When the above-mentioned expressions of (1)-(3) cannot be used, a polypeptide or protein may be described by specifying functions, physiochemical properties, origin or source of said polypeptide or protein, a process for producing said polypeptide or protein, etc.

4.4.5.1.6 Fused Cell

A fused cell may be described by specifying parent cells, function and characteristics of the fused cell, or a process for producing the fused cell, etc.

4.4.5.1.7 Monoclonal Antibody

A claim directed to a monoclonal antibody may be defined by specifying hybridoma which produces it.

Example

A monoclonal antibody against antigen A, produced by a hybridoma having CGMCC Deposit No. xxx.

4.4.5.2 Inventions Relating to Microorganism

(1) A microorganism involved in a claim shall be described according to the microbiological taxonomic denomination. its Latin scientific name shall also be provided in brackets where it is first mentioned. Where the microorganism has been deposited with a depositary institution designated by the ARIPO Office, the abbreviation of that institution and the access number shall also be indicated in the description of the microorganism.

(2) If a specific mutant strain of a microorganism is not mentioned in the description, alternatively, the specific mutant strain is mentioned rather than a corresponding mode for it to be earned out being provided by the description, any claim for that mutant strain shall not be permissible.

As for a claim for "derivative" of a microorganism, the meanings of "derivative" may refer to not only a new strain derived from the microorganism, but also the metabolites produced by the microorganism, so the meanings of it are indefinite, which makes the protection extent of such claim unclear.

4.4.5.3. Examination of Novelty, Inventive Step and Industrial Applicability

4.4.5.3.1. Novelty of Inventions Relating to Genetic Engineering

(1) Genes

If a protein per se possesses novelty, the invention of the gene encoding the protein also possesses novelty.

(2) Recombinant protein

If a protein as an isolated and purified single substance is known, an invention concerning a recombinant protein defined by a different preparation process and having an identical amino acid sequence does not possess novelty.

(3) Monoclonal antibody

If antigen A is novel, a monoclonal antibody of antigen A is considered novel. However, if a monoclonal antibody of a known antigen A' is known and that the antigen A involved in the invention has the same epitope as that of antigen A', it is

deduced that the monoclonal antibody of the known antigen A' is capable of binding to antigen A. In such a case, the invention of the monoclonal antibody of antigen A does not possess novelty except where the applicant can verify, according to the disclosure of the application or the prior art, that the monoclonal antibody defined by the claim of the application is different from those disclosed in reference documents.

4.4.5.3.2 Inventive Step of Inventions Relating to Genetic Engineering

(1) Gene

Where a protein is known, but its amino acid sequence is not, an invention of a gene encoding the protein does not involve an inventive step if a person skilled in the art can readily determine the amino acid sequence at the time of filing. However, when the gene has a specific base sequence and has technical effects compared with other genes having a different base sequence encoding said protein, which a person skilled in the art cannot expect, the invention of said gene involves an inventive step.

If the amino acid sequence of a protein is known, an invention of a gene encoding the protein does not involve an inventive step. However, if the gene has a particular base sequence and has technical effects compared with other genes having a different base sequence encoding said protein, which a person skilled in the art cannot expect, the invention of said gene involves an inventive step.
If the claimed structural gene of an invention is the naturally obtainable mutant of a known structural gene and that the claimed gene is derived from the same species as that of the known structural gene and has the same properties and functions as those of the known structural gene, then the invention does not involve an inventive step.

(2) Recombinant vector

If both a vector and an inserted gene are known, an invention of a recombinant vector obtained by a combination of the two usually does not involve an inventive step. However, if an invention of a recombinant vector with a specific combination of them can produce unexpected technical effects compared with the prior art, the invention involves an inventive step.

(3)Transformant

If both a host and an inserted gene are known, an invention of a transformant obtained by a combination of them generally does not involve an inventive step. However, if an invention of a transformant obtained from a specific combination of them can produce unexpected technical effects compared with the prior art, it involves an inventive step.

(4) Fused cell

If parent cells are known, an invention of a fused cell produced by fusing the parent cells does not involve an inventive step. However, if the fused cell has an unexpected technical effects compared with the prior art, the invention of the fused cell involves an inventive step.

(5) Monoclonal antibody

If an antigen is known and it is clearly known that the antigen has immunogenicity (for example, said antigen clearly has immunogenicity because a polyclonal antibody of the antigen is known or the antigen is a polypeptide with a large molecular weight), the invention of a monoclonal antibody of the antigen does not involve an inventive step. However, if the invention is further defined by other features, and hence has unexpected technical effects, the invention of that monoclonal antibody involves an inventive step.

4.4.5.3.2.1 Inventions Relating to Microorganism

(1) Microorganism *per se*

For a microorganism, if its taxonomic characteristics are remarkably different from those of the known species(i. e., a new species), it involves an inventive step. If for an invention of a microorganism, though there is no substantive difference between the taxonomic characteristics of the microorganism involved in the invention and those of the known species, so long as the microorganism produces technical effects that cannot be expected by a person skilled in the art, it involves an inventive step.

(2) Invention relating to the use of microorganism

An invention relating to the use of a microorganism does not involve an inventive step if the microorganism used in the invention is known and that said microorganism belongs to the same genus as that of another known microorganism

of the same use. However, if said invention produces unexpected technical effects compared with the latter microorganism, it involves an inventive step.

An invention relating to the use of a microorganism shall involves an inventive step if the microorganism used in the invention is remarkably different from a microorganism of known species with taxonomic characteristics (i.e., the microorganism used in the invention is a new species), even if the use is the same.

4.4.5.3.3 Industrial Applicability

In the field of biotechnology, since some inventions cannot be repeated, they do not possess practical applicability, and shall not be granted the patent right.

4.4.5.4 Processes for Screening Particular Microorganisms from Natural Environment

Under most circumstances, the process to screen a particular microorganism from the natural environment is not repeatable because it is limited by the objective condition and is very random. For example, a particular microorganism has been isolated and screened from the soil in some place of some county of some province. The indeterminate geographic position, constant change of the natural and artificial environment and the contingency of the existence of such microorganism even in the same piece of soil may render it impossible to repeatedly screen out the microorganism with the exact same biochemical hereditary feature in the same species of the same genus within the valid term of twenty years of the patent right. Therefore, the process for screening a particular microorganism from natural environment generally does not possess practical applicability. Unless the applicant can provide sufficient evidence to prove the repeatability of the process, no patent right shall be granted to it.

4.4.5.5 Processes for Producing New Microorganism through Artificial Mutagenesis by Physical/Chemical Process

This type of process mainly depends on the random mutation of the microorganism occurring under the condition of mutagenesis. This mutation is in fact a change of one or more bases during DNA replication, and a bacterial strain with certain characteristics is then screened out. Because the base changes at random, even if the condition of mutagenesis has been clearly disclosed, it is difficult to achieve exactly the same result by repeating the condition of mutagenesis. Under most circumstances, such process does not comply with the provisions of Article 22. 4.

Unless the applicant provides sufficient evidence to prove that the microorganism with desired characteristics can be definitely produced by mutagenesis under certain mutagenic conditions, no patent right shall be granted to this type of processes.

PART V: GUIDELINES ON GENERAL PROCEDURAL MATTERS

5.1 COMMUNICATIONS AND NOTIFICATIONS

Communication should be sent, *inter alia*

i. If an applicant or his representative has to be informed of deficiencies, where appropriate with a request to remedy those deficiencies.
ii. If the applicant or his representative is to be invited to file observations on particular questions or to submit documents, evidence, etc to clarify the issues involved.
iii. If in the opinion of the Examiner the patent cannot be granted or maintained in the text as requested by the applicant or representative of the applicant, but could possibly be granted or maintained in an amended text of more limited scope.
iv. If information necessary to the conduct of the proceedings has to be communicated to the parties
v. If the decision is to be based on grounds on which the parties had not had the opportunity to comment.

Since each communication issued may entail prolonging the proceedings or prosecution of an application, efforts should be made to ensure that it is managed with as few communications as possible. If a communication has to be issued, it should cover all the points which are necessary or likely to be of importance for the particular stage of the prosecution of applications or proceedings.

6.1.1 Procedure for amendments to documents

The content of an ARIPO application, patent or registered utility model may be amended within the limits laid down in the Harare Protocol. This will normally be done by submitting missing documents or by filing replacement pages. Where replacement pages are filed, the applicant or patent proprietor should, in the interest of procedural efficiency, identify clearly all amendments made, and indicate on which passages of the original application these amendments are based.

5.2 TIME LIMITS, LOSS OF RIGHTS, FURTHER AND ACCELERATED PROCESSING AND RE-ESTABLISHMENT OF RIGHTS (Rule 15*bis*)

5.2.1 Time Limits

The Harare Protocol imposes time limits upon parties to proceedings. Some of these are fixed by the sections of the Protocol. Others are fixed in the Implementing Regulations, others take the form of a stipulated range. In other cases, a period is provided for in the Harare Protocol. The length of such period should be based in principle on the amount of work which is likely to be required to perform the operation in question. Time limits for operations in respect of which the setting of a time limit is not explicitly provided for in the Harare Protocol, the duration of time limits may be fixed by ARIPO at its own discretion. Any period fixed by ARIPO will usually be specified in full months which may be calculated from the receipt of the communication by the person to whom it is addressed.

Apart from the automatic extension of time limits and in cases in respect of which ARIPO specifies a fixed period which may not be extended, the duration of time limits may be extended, but the applicant must request this extension in writing before expiry of the period that has been set. However, a request for a longer extension especially if the total period set exceeds six months, should be allowed only exceptionally when the reasons given are sufficient to show convincingly that a reply in the period previously laid down will not be possible.

If a party has not acted within a time limit, various sanctions may be applied depending on the circumstances.

5.2.2 Loss of Rights

If a party to the proceedings or a third party fails to comply with a limit laid down in the Harare Protocol or fixed by ARIPO, this will result in a loss of right. If the person concerned considers that the findings of ARIPO are inaccurate, he may within 2 months after the notification of the communication apply for a decision on the matter by ARIPO. The competent section of ARIPO

will give such a decision only if it does not share the opinion of the person requesting it: otherwise it will inform the person requesting the decision and continue with the proceedings. Since such decisions are subject to appeal, the reasons on which they are based must be stated. Only the person affected by the loss of rights noted will be party to the proceedings.

5.3 APPLICATIONS UNDER THE PATENT COOPERATION TREATY (PCT)

ARIPO may act as a "designated office" or an "elected office" for an international application filed under the Patent Cooperation Treaty designating ARIPO (ARIPO-PCT application) for the purpose of the Harare Protocol. However, in the case of ARIPO-PCT applications, the provisions of the PCT apply in addition to those of the Harare Protocol, and where there is conflict between them e.g. in the case of certain time limits, the PCT prevail.

In addition to being a designated office, ARIPO may act as a receiving office. An international application for which ARIPO is chosen by the applicant as the receiving office must be filed directly with the ARIPO Office. An exception applies only where the applicant is obliged under the applicable national law of a contracting state to file the international application concerned via a national authority. In that case, the national authority acts as intermediary (filing office) of the ARIPO office as receiving office and is obliged to ensure that the application reaches the ARIPO Office not later than two weeks before the end of the thirteenth month after filing or, if priority is claimed, after the date of priority.

The initial processing and formal examination of international applications are carried out by the receiving office and the international bureau of the World Intellectual Property Organization (WIPO) in accordance with the provisions of the PCT. When ARIPO is acting as a receiving office, ARIPO employees will work in accordance with the PCT receiving office guidelines.