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**INTERNATIONAL PATENT COOPERATION UNION
(PCT UNION)**

**WORKING GROUP ON REFORM
OF THE PATENT COOPERATION TREATY (PCT)**

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PHYSICAL REQUIREMENTS OF THE INTERNATIONAL APPLICATION

Document prepared by the International Bureau

SUMMARY

1. The Working Group is invited to give an opinion on possible changes to the physical requirements of international applications under the PCT aimed at facilitating electronic processing and especially improving the quality of the optical character recognition (OCR) process, having regard to the consequences for national phase processing and for national applications to which requirements may be extended under the Patent Law Treaty (PLT). It is proposed that the opinions be fed back into discussions in other WIPO fora relating to the updating of WIPO Standard ST.22 (concerning OCR requirements).
2. The Working Group is further invited to consider whether the work of the task force on physical requirements of international applications on the matter of photographs and color drawings should continue to be suspended, pending progress on this matter in the Trademark Standards Task Force of the Standards and Documentation Working Group (SDWG), or whether the PCT task force should be re-activated to further look into the matter from a PCT perspective.

BACKGROUND

3. It is recalled that the Working Group on Reform of the PCT, at its eighth session held in Geneva from May 8 to 12, 2006, recommended amendments to certain physical requirements of international applications set out in Rule 11¹, which were later adopted by the PCT Assembly, in order to assist electronic processing of international applications. A number of Contracting States also considered that further review of this Rule was desirable. As stated in the report of the meeting (document PCT/R/WG/8/9, paragraph 79):

“79. Some delegations suggested further changes to Rule 11 as worthy of consideration. One such change would review the margin requirements under Rule 11.6. Another concerned a possible restriction of the possibilities for providing hand-drawn chemical formulae under Rule 11.9(b). The Secretariat offered to cooperate with delegations in developing such suggestions, noting particularly that the issues were particularly relevant to the processing in electronic form of international applications filed on paper.”

4. In addition, at the same session, the Working Group agreed that a task force be established with a view particularly to making recommendations providing for the inclusion of photographs and color drawings in international applications (see document PCT/R/WG/8/9, paragraph 80).

5. At its ninth session held in Geneva from April 23 to 27, 2007, the Secretariat informed the Working Group about the progress of the work. As stated in the report of the meeting (document PCT/R/WG/9/8, paragraph 159):

“159. The Secretariat informed the Working Group that, in response to the invitation at the previous session of the Working Group for submission of proposals related to the physical requirements of international applications, one such proposal had been submitted by the Delegation of the Russian Federation and had been made available before the session as an informal paper and posted on the PCT reform electronic forum. It was observed that the work of the task force which had been set up at the time was currently suspended, pending developments in relation to work in the Standing Committee on Information Technologies Standards and Documentation Working Group on use of photographs and color drawings. The Secretariat stated that the International Bureau was also reviewing the physical requirements with a view to ensuring effective publication of international applications using its recently implemented systems, as well as those in receiving Offices which perform scanning of international applications themselves, and was likely to wish to propose changes to Rule 11 in the near future.”

6. At the same session, the Working Group agreed that the task force on physical requirements of international applications should be reactivated at an appropriate time, preferably when any proposals by the International Bureau were ready to be submitted to it, and that it should consider the proposals which have already been received as well as any others which may be made in the meantime (see document PCT/R/WG/9/8, paragraph 160).

¹ References in this document to “Articles” and “Rules” are to those of the Patent Cooperation Treaty (PCT) and the Regulations under the PCT (“the Regulations”), or to such provisions as proposed to be amended or added, as the case may be.

REVIEW OF PHYSICAL REQUIREMENTS OF INTERNATIONAL APPLICATIONS

7. The International Bureau has undertaken a review of the physical requirements for international applications, aimed at identifying the requirements which are necessary for effective electronic processing, determining whether some requirements are no longer relevant given the changes in processing arrangements and reprographic apparatus commonly used since the Rules were originally adopted, and determining what new options may be desirable for applicants.

8. The review was undertaken taking account of the fact that the physical requirements of international applications are relevant to the processing of applications performed not only by the International Bureau but by a wide variety of receiving Offices and International Authorities, designated Offices during the national phase, and Offices processing direct national applications (assuming that the PLT Assembly decides that the changes shall apply for the purposes of that Treaty, or that many national systems will choose to make similar changes for national applications anyway in order to allow all applications to be processed consistently).

9. Furthermore, the review recognized that a distinction has to be made between the requirements set out by the Regulations and the extent to which those requirements are checked during the international phase, taking into account that:

(a) in accordance with Rule 26.3, the receiving Office is only required to check the compliance of the international application and translations with the requirements of Rule 11 “to the extent that compliance therewith is necessary for the purpose of reasonably uniform international publication” or “to the extent that compliance therewith is necessary for the purpose of satisfactory reproduction” (depending on the purpose for which any particular document is to be used);

(b) in the national phase, the designated Office is permitted to object to deviations from the requirements of Rule 11 which were not objected to in the international phase; just as in the international phase, it is not obliged to make such objections and can limit its checking to the minimum level required to ensure that national processing, such as national publication or making available of copies, can be carried out effectively.

10. Accordingly, the regulatory framework may need to include requirements which are irrelevant to processing in the international phase, but which might be essential to national processing in some Contracting States. On the other hand, a combination of the Rules and receiving Office Guidelines may need to make clear which requirements should be checked during the international phase and which it is merely desirable that the applicant should meet so that he does not run the risk of formal objections being made during the national phase.

11. As a result of this review, the International Bureau has prepared draft proposals for amendments of the Regulations relating to the physical requirements of the description, claims and the abstract, as outlined in paragraphs 13 to 40, below, and contained in the Annex to this document.

12. In view of the ongoing discussions in the task force of the Standards and Documentation Working Group which is reviewing WIPO Standard ST.22 (*Presentation of Patent Applications Typed in OCR Format*) (see document SCIT/SDWG/8/4 and paragraphs 22 to 26 of document SCIT/SDWG/9/12), rather than reactivating the PCT task force on physical requirements of international applications and submitting the proposals for amendment of the Regulations to that task force for consideration, as had been agreed by the Working Group on Reform of the PCT at its ninth session (see paragraph 6, above), it is proposed that the Working Group itself discusses those proposals and, if it reaches agreement on proposed changes to the physical requirements of international applications, reports those PCT requirements (and any further related national requirements which are identified) back to the WIPO Standard ST.22 task force so as to ensure that the PCT requirements and the recommendations of revised ST.22 are consistent and appropriate for both PCT and direct national applications. The WIPO Standard ST.22 task force is expected to complete the Latin-character language version of ST.22 for possible adoption of a revised standard by the SDWG in November 2008; further work is expected to be required on recommendations for non-Latin character languages.

PROPOSED AMENDMENTS TO THE REGULATIONS CONCERNING PHYSICAL REQUIREMENTS

13. Most of the present physical requirements for international applications under Rule 11 focus on the presentation of the information contained in an international application. While those requirements are thus not relevant to the applicant in the context of international applications filed in fully electronic form (XML format), noting that the appearance of the page-based image of an international application filed in XML format is generated automatically and is not under the direct control of the applicant (in general, an applicant filing in XML format only needs to consider the drawings in order to ensure that the physical requirements are met), they are, and will continue to be, at least for the foreseeable future, of considerable importance to the applicant in the context of the vast majority of international applications which are not filed in XML format but on paper or electronically in PDF format (the latter containing representations of images which may need to meet at least some of the physical requirements of Rule 11).

14. Today, the International Bureau, Offices and Authorities are increasingly transitioning from paper and image based application processing to fully electronic processing, involving scanning the application papers and converting them from image files to text files, or converting documents submitted as images files to text files, through optical character recognition (OCR). An OCR process was, of course, not envisaged when the present physical requirements for international applications were adopted. In view of the increased importance of fully electronic processing for the overall efficiency of the PCT system, there thus is a need to adapt the current regulatory framework governing the physical requirements for international applications to facilitate, and improve the quality of, the optical character recognition process, as outlined in the following paragraphs.

Rule 11.3 – Materials to Be Used

15. It is proposed that the requirements on materials to be used be aligned with the recommendations in draft WIPO Standard ST.22, which seek to ensure that the weight and type of paper are such that they will feed properly through automatic sheet feeders of scanners without misfeeds, jamming or risk of damage to the original sheets.

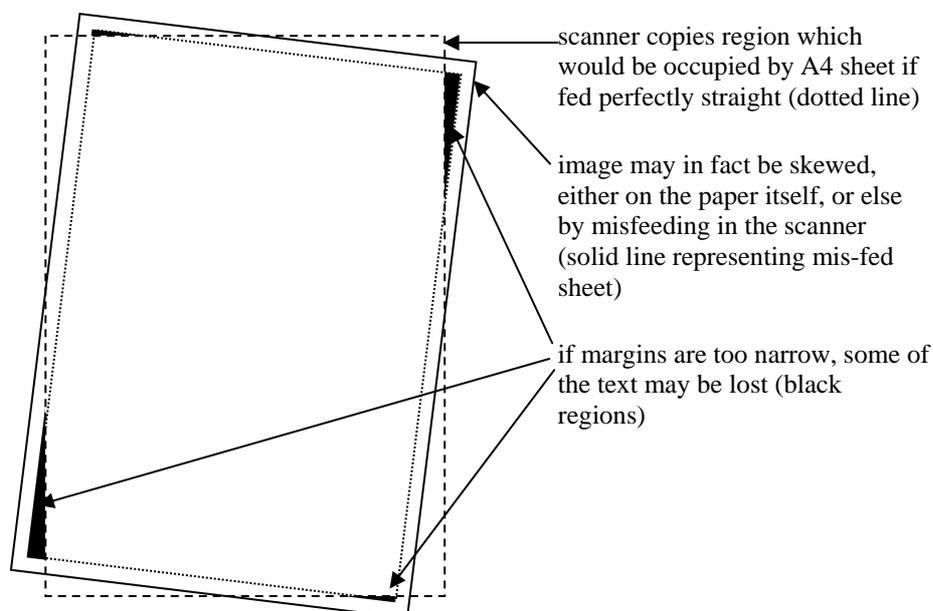
Rule 11.4 – Separate Sheets, Etc.

16. Pages fastened together with staples or similar fasteners take time to unfasten, are always slightly damaged and often have a tendency to stick together, significantly increasing the risk of misfeeding during the scanning process. It is proposed that the pages should rather be held together by non-destructive and easily removed paper clips.

Rule 11.6 – Margins

17. Rule 11.6 sets out the (strict) minimum and (recommended) maximum margin requirements. Checking these requirements and seeking replacement sheets represents a significant burden to some receiving Offices, particularly those Offices which still receive a high number of applications on paper rather than electronically. Furthermore, ensuring that replacement sheets appear correctly within the published international application involves a significant amount of work at the International Bureau, which is not necessary in the case of small deviations from the required margins. At the 9th Session of the Working Group on Reform of the PCT, one Delegation proposed that PCT Rule 11.6 be revised in light of modern equipment available for processing of international applications today, resulting in less of a need for strict margin requirements.

Diagram showing risk of text loss due to paper skew



18. It is clear that, for simple reproduction of sheets, it is now perfectly possible to copy an image almost to the edge of the paper. However, margins approximately equal to those currently required are highly desirable: they allow certain administrative markings to be added sufficiently far from the substantive text that they do not interfere with reliable OCR, facilitate international publication with reasonably uniform appearance, and minimize the risk of loss of text due to misalignments of the paper during printing or scanning (see diagram above).

19. As regards processing in the international phase, minor deviations from these ideal margins are not important: the International Bureau resizes page images for publication to provide appropriate margins and slightly rotates them where necessary to eliminate skew due to misalignment of the paper during printing or scanning. The tools for performing this task are such that this process is significantly quicker and easier than inserting a new page supplied by the applicant to correct minor deviations from the requirements of the Rule. Consequently, it is strongly preferred by the International Bureau that receiving Offices should not object to minor deviations from the margin requirements of Rule 11. Objections should only be made if the margins are so small that:

(a) it is not possible to make the required markings (international application number and, where applicable, date of provision and reason for supplying a substitute sheet) in the margins with adequate separation from the substantive text (see diagram below);

(b) any line numbering or agent's reference included by the applicant cannot be clearly separated from the substantive text; or

(c) there is a risk that part of the page text may be lost during scanning if the image is not perfectly aligned (see diagram above).

20. In practice, this means that no objection should be made by the receiving Office as long as there is a margin of at least about 1.5cm and there is a clear space between the main body of text and any line numbering, agent's reference or marks which the receiving Office needs to add (such as the international application number).

21. However, it is recommended that no change be made to the minimum margin requirements in Rule 11.6 for the following reasons:

(a) The current margins are those considered "ideal" for ensuring easy processing; although the international application can be processed with a smaller margin, setting smaller margin requirements in Rule 11.6(a) might encourage applicants to routinely file with smaller margins, which might actually make the task of receiving Offices as well as the International Bureau more difficult since it would then become essential to check very strictly the compliance with margin requirements.

(b) Bearing in mind the likely application of any changes to national systems, either for convenience or as a requirement of the PLT, strict compliance with the wider margins may still be important for some national Offices which do not possess the tools for easy image manipulation, even though the copies of international applications communicated to them under Article 20 will have been adjusted to ensure appropriate margins.

22. Instead, it is proposed that the Receiving Office Guidelines and PCT training material should be reviewed to ensure that it is clear to receiving Offices that they should not check margins strictly when conducting their check under Article 14.

23. If any Contracting State nevertheless wishes to propose a change to these margins, it is strongly recommended that an equivalent proposal also be made to the task force reviewing draft WIPO Standard ST.22 to reduce the risk of inconsistent requirements and recommendations between different national and international systems.

24. The recommended maximum margins could be deleted from the Rule without practical consequence. However, this is a sensible recommendation for ensuring a reasonably uniform appearance of published documents and, as it is only a recommendation, it does not require any checking by receiving Offices. Consequently, it is proposed not to change this part of the Rule.

25. Consequently, it is proposed that no change be made to the margin requirements in Rule 11.6, but that the Receiving Office Guidelines and PCT training material should be reviewed to ensure that appropriate guidance is given to receiving Offices.

Rule 11.7 – Numbering of Sheets

26. The page numbering is not part of the text of the description and claims which requires capture by OCR. Consequently, it would be desirable for this to be left outside the area reserved for the main text. The current draft ST.22 recommends placing page numbers in the centre of either the top or the bottom margin. However, for PCT purposes, using the bottom margin risks the page number interfering with the stamp denoting a substitute sheet.

27. Consequently, it is proposed that the page number should appear in the centre of the top margin, which is not reserved for any special use.

Rule 11.8 – Numbering of Lines

28. In view of the increasing use of databases containing the textual content of the description, but not displaying the page-based formatting, the use of page and line numbers is becoming less relevant for identifying particular passages of text. In some XML-based systems, it would even be possible for the applicant and the Office processing the application not to be viewing the same page layout of the text in all cases.

29. Consequently it is proposed to recommend that line numbering should no longer be used, and that paragraphs should be numbered instead. These paragraph numbers should appear in the main body of the text so that they are captured by OCR to provide a common system of reference.

Rule 11.9 – Writing of Text Matter

30. With the ever-increasing use of full text patent databases for search and processing of national and international applications using the text of the description, claims and abstract rather than copies of the sheets filed, it is important that the text of the description, claims and abstract of international applications filed in paper or image-based electronic formats can be accurately converted to text formats using OCR.

31. Consequently, it is proposed to introduce the following further requirements based on WIPO Standard ST.22 (appearing in both the current version and proposed revisions expected to be adopted soon by the Standards and Documentation Working Group):

- (a) that the text be presented in a single-column layout;
- (b) that spacing greater than the normal line spacing is used between paragraphs;
- (c) that a non-cursive font with space between each character be used (that is, a plain one without rounded angles and joined-together letters in the manner of hand-writing);
- (d) that black ink (or equivalent – toner, etc.) be used: “dark indelible color” could include gray or other colors, which may significantly reduce the quality of OCR if they are not sufficiently dark that black and white scanning recognized the area as uniform black, or if scanning is in future performed in gray-scale or color to allow the effective use of photographs and color drawings (see paragraphs 41 to 52, below); and
- (e) that the background of the text remains white: text with shaded background is frequently used in tables and occasionally elsewhere, and gives particular difficulties for OCR.

32. Draft WIPO Standard ST.22 also contains many more recommendations in order to assist OCR, but the above (in combination with requirements already existing in Rule 11) appear to be the most fundamental. It is proposed that the others should be reflected in the PCT Applicant’s Guide as recommendations of best practice, but that they not be introduced into Rule 11 since as requirements they would be an excessive regulatory burden and as recommendations, their number would obscure the requirements set out in the Rule.

33. Present Rules 11.9(b) and 11.9(e) contain special provisions for texts in the Chinese and Japanese languages. The provision allowing for certain characters in those languages to be hand drawn appears to be outdated – such characters are no longer received by the International Bureau and it would seem that the fonts now widely available are sufficient to provide any character. The derogation relating to character size and line spacing requires review, both to determine what is appropriate and whether equivalent derogations may also be required for any other languages using non-Latin character sets. It is proposed that this review be conducted in parallel with the related work which is required in relation to the development of WIPO Standard ST.22 to properly cover such languages.

Rule 11.10 – Drawings, Formulae and Tables, in Text Matter

34. It is recalled that, at the 8th session of the Working Group on Reform of the PCT, one delegation proposed that restrictions be considered to the possibilities for providing hand drawn chemical formulae under Rule 11.9(b) (see paragraph 79 of document PCT/R/WG/8/9). While this is likely to be desirable in the future, it is proposed not to make any restrictions at this time in view of the fact that OCR and subsequent markup of chemical formulae are not presently sufficiently reliable for formulae to be searched, extracted and used fully even if the text is properly printed. Given that most applicants will provide a printed formula in preference to a hand-written one if the means to do so are easily available to them, it is proposed that changes to this part of the Rule should be deferred until suitable tools for applicants are more universal and tools for Offices to recognize the results are more effective.

35. However, to assist the reliable recognition of tables and formulae within paragraph text, it is proposed to introduce the following requirements and recommendations from draft WIPO Standard ST.22:

(a) that tables must have borders (the draft standard recommends a solid black line of at least 1.5 points);

(b) that tables and formulae should preferably be separated from text paragraphs by a blank top and bottom margin of at least 1cm; and

(c) that where it is necessary to put a table sideways on the sheet, an individual sheet should preferably not contain text in both sideways and upward orientations.

Rule 11.11 – Words in Drawings

36. The requirements of current Rule 11.11(b) for placement of words within drawings such that they may be pasted over are related to the production of abstract drawings in different language versions for the international publication and PCT Gazette. They are not believed to be relevant to any national processing needs. However, this form of translation has not been used for several years in the PCT. Instead, a list of translated terms is provided next to the drawing. If no reference number is used, it is necessary to duplicate all the relevant terms, which takes additional time and is frequently more difficult for readers to use because of the difficulty in matching the relevant texts.

37. Consequently, it is proposed that the restriction on placement of permitted words within drawings be replaced by a requirement that the words be associated with a reference sign (a term chosen for consistency with Rule 11.13).

38. In this context, it is to be noted that applicants include more and more text matter in drawings, contrary to the requirements of Rule 11.11, which, if applicants are not invited by the receiving Office to correct such defect, has to be translated by the International Bureau for the purposes of publication of the drawing that accompanies the abstract, resulting in a great burden on the International Bureau in terms of efficiency/productivity and increase in cost. The Working Group may wish to consider how best to address this issue.

Rule 26.3 – Checking of Compliance With Physical Requirements

39. It is proposed that Rule 26.3 be amended to reflect the importance of the ability to capture the text of the international application accurately by OCR, not merely for international publication but also to assist making the text available to Offices and third party databases for other purposes. This change will need to be reflected by modifications to the Receiving Office Guidelines and PCT training material so that it is clear to receiving Offices which of the physical requirements need to be checked during the international phase.

Sample Page

40. The diagram below shows a sample page of text on an A4 sheet showing (approximately to scale) most of the requirements discussed above in relation to the requirements of page-based processing in combination with OCR. A letter size sheet is shown behind the A4 sheet to illustrate the issues of copying pages 1:1 between Offices whose national systems commonly use the different sizes of sheet (see Rule 11.6(d)).

PHOTOGRAPHS AND COLOR DRAWINGS

41. With regard to the issue of photographs and color drawings, it is recalled that work on this matter by the task force on physical requirements of international applications had been suspended, pending developments in relation to work in the Trademark Standards Task Force of the Standards and Documentation Working Group (SDWG) on a proposal for a new “WIPO Standard ST.67 - Recommendations for the electronic management of the figurative elements of trademarks. While, originally, it had been expected that relevant recommendations by the Trademark Standards Task Force would be available shortly and should be taken into account by the task force on physical requirements of international applications, unfortunately, to date, not much progress has been made in the Trademark Standards Task Force on this matter.

42. The Working Group may thus wish to consider whether the work of the task force on physical requirements of international applications on the matter of photographs and color drawings should continue to be suspended, pending progress on this matter in the Trademark Standards Task Force, or whether the PCT task force should be re-activated to further look into the matter from a PCT perspective.

43. Some background information and considerations to be taken into account in this regard are outlined in the following paragraphs.

44. The decision by the Working Group on Reform of the PCT, at its eighth session held in Geneva from May 8 to 12, 2006, to establish a task force with a view particularly to making recommendations providing for the inclusion of photographs and color drawings in international applications was taken on the basis of a proposal by the United States of America, outlined in document PCT/R/WG/8/6, paragraphs 11 to 16, as follows:

“11. Rule 11.13 requires that all drawings be “executed in durable, black, sufficiently dense and dark, uniformly thick and well-defined, lines and strokes without colorings”. Such a requirement was certainly sufficient for most technologies when the Treaty was first drafted.

“12. However, as technology has advanced, black and white line drawings have become insufficient in many technologies to adequately disclose the subject matter for which patent protection is being sought, and increasingly applicants require the use of photographs (both in color and in black and white) and color drawings in order to provide an adequate disclosure.

“13. In fact, while not specifically provided for in the Rules, it has already been recognized that the use of photographs is necessary in certain situations as evidenced by paragraph 174 of Volume I/A of the Applicant’s Guide, which sets forth an informal provision for accepting black and white photographs which is administered by the International Bureau. The paragraph states:

“174. *May a photograph be presented instead of a drawing?* The PCT makes no provision for photographs. Nevertheless, they are allowed where it is impossible to present in a drawing what is to be shown (for instance, crystalline structures). Where, exceptionally, photographs are submitted, they must be black and white, must be on sheets of A4 size, and must respect the minimum margins (see paragraph 148) and admit of direct reproduction. Color photographs are not accepted, nor are color drawings. Photographs are retained by the International Bureau as part of the record copy.

“14. Providing for the filing of photographs and color drawings in international applications would be a simple matter of amending Rule 11.13. However, it is recognized that there are numerous related issues which must first be addressed before any such amendment to Rule 11 is proposed.

“15. Some examples of such issues are:

“(a) Should Offices, Authorities and the International Bureau be allowed to charge additional fees in applications with photographs and/or color drawings?

“(b) Should photographs and/or color drawings be allowed only in those applications where the use of such is the only means for adequate disclosure of the invention? If so, what type of showing should be required and who should make the determination?

“(c) What technical requirements (e.g., formats, resolution, color depth, etc.) should be placed on applicants in the filing of, and on Offices and Authorities in the processing of, photographs and/or color drawings?

“(d) With respect to photographs in particular, what non-technical requirements should be placed on them (e.g., background/foreground limitations, etc.)?

“(e) What constitutes a photograph (e.g., a computer screenshot)?

“(f) How should applications filed in Offices not prepared to accept photographs and/or color drawings (if any) be handled?”

45. The International Bureau continues to consider that there is a need to allow for the effective use of photographs and color drawings in international applications. However, as stated in the proposal originally submitted by the United States of America, there are numerous related issues which must first be addressed before any such amendment to the Regulations can be proposed. In addition to the issues outlined in the proposal submitted by the United States of America and to general issues which need to be clarified, such as technical equipment needed if photographs and color drawings were to be accepted (requiring appropriate resources to be available to the International Bureau and Offices) and file formats to be used for storage and transmission of images, a number of policy and technical issues need to be considered, as outlined in the following paragraphs.

46. The principles of an invention can in most cases be shown more clearly by a diagram than by a photograph of a piece of apparatus embodying the invention. Consequently, noting that it may often be cheaper and easier for an applicant to submit a photograph of a prototype of an invention, it is not desirable to encourage the submission of photographs in cases where a diagram would be possible to produce and more clear to examiners and third parties.

47. By far the easiest and most reliable of the options for the PCT would be only to accept, at least at the outset, photographs and color drawings for international applications filed electronically. This would greatly reduce the need for Offices and the International Bureau to implement additional infrastructure to support electronic systems that process color based paper filings (including but not limited to scanning equipment and software) and ensure that there were no issues due to color matching in scanning and would eliminate the large costs and technical problems associated with scanning all pages in color even though most may contain only text, which is most efficiently and accurately scanned from a pure black and white file format. Other possible capture options for international applications include: (i) to scan all international applications filed on paper in color from the outset; (ii) to accept the submission of photographs and color drawings in respect of paper filings but to require the applications to be accompanied by a CD (or similar) with an electronic version of the figures, similar to the present “mixed-mode” filings for sequence listings; or (iii) to scan most international applications in black and white, but having a check-box on the request form indicating that the drawings contain photographs or color drawings and scanning the drawings for these applications separately (probably with an additional fee to cover the additional costs and discourage unnecessary use of such images).

48. A majority of office reprographic equipment is still black and white (though of sufficient resolution as to be able to render grayscales effectively). Even if color drawings are accepted for the international phase, some national Offices may, for the moment, need to retain the right to require black and white copies of drawings originally filed in color (whether international applications in the national phase or direct national applications) in order to permit effective processing. Similarly, Contracting States may need to consider whether there is a significant risk of loss of information to third parties who are only able to print a color drawing in black and white.

49. Accurate color matching when scanning is difficult and significantly more time-consuming and expensive than normal scanning. Inaccuracies will inevitably occur anyway at a later stage print or screen display since few monitors or printers are calibrated carefully. Applicants will need to be discouraged from filing photographs or drawings where exact colors are significant, or where it is necessary to be able to distinguish between very small differences in shades. Where exact colors are essential, the details should be properly explained in the description, reflecting the fact that the reader may not be able to view the exact colors in the drawing.

50. While scans of pure black and white drawings can be very effectively compressed without loss of detail, file sizes of color images are either very much larger, or else need to use “lossy” compression, so that the scanned file may not contain the full detail of what appeared in the original image. Assuming that the scanned images need to maintain the highest quality rendition reasonably possible of what was filed by the applicant, recording drawings in color will require significant investment in additional storage and, perhaps more significantly, capacity for transmission of documents between Offices.

51. Any proposals for amendments to the Regulations will depend on the details of how the relevant drawings are to be captured and transmitted. Noting that some international applications are presently scanned by the receiving Office and others by the International Bureau, it is possible that a mixture of these approaches may be needed.

52. To ensure transparency of procedures in the national phase and for national applications (to the extent that equivalent requirements apply), it may be preferable to amend the Regulations (modifications to Annex F of the Administrative Instructions would also be required concerning publication and transmission of documents between Offices), taking into account the following considerations:

(a) Photographs should be explicitly recognized as being a form of drawing, with clear distinctions to be made between the requirements of drawings in the form of diagrams and flow sheets and drawings in the form of photographs.

(b) Should designated Offices be allowed to require diagrams to be used in favor of photographs where it is readily possible to represent the relevant matter as a diagram? In such case, while photographs would always have to be accepted for the international phase (since neither the receiving Office nor the International Bureau would be competent to judge whether the relevant matter could readily be represented as a diagram), International Authorities could be required to comment on the matter in written opinions, and applicants would be well advised to submit diagrams where possible in view of the difficulty of submitting a diagram to replace a photograph at a later stage without adding subject matter.

(c) The use of black and white drawings should be recommended in preference to color, to the extent possible. Where colors or shades of grey are used, it should be recommended that clearly distinct colors should be used for different features and that, in the event that exact colors are significant to the invention, this should be clearly stated in the description rather than relying solely on accurate color matching.

(d) While processing of grayscale images should not cause practical difficulties in any Contracting State once IT systems have been adjusted to process appropriate file types, should designated Offices be given the option to exclude the possibility of color drawings for national processing where there are technical or policy reasons for doing so? If so, suitable safeguards would have to be included to ensure that a conversion to grayscale may be substituted either *ex-officio* by the Office, or else the applicant should be given an appropriate opportunity to file their own conversion.

53. *The Working Group is invited:*

(i) *to comment on the proposed amendments of the Regulations concerning the physical requirements for the description, the claims, drawings and the abstract set out in paragraphs 13 to 40 and in the Annex;*

(ii) to approve the recommendation that the Working Group reports any agreed PCT requirements (and any further related national requirements which are identified) back to the WIPO Standard ST.22 task force, as set out paragraph 12;

(iii) to decide whether the work of the task force on physical requirements of international applications on the matter of photographs and color drawings should continue to be suspended, pending progress on this matter in the Trademark Standards Task Force, or whether the PCT task force should be re-activated to further look into the matter from a PCT perspective.

[Annex follows]

ANNEX

PHYSICAL REQUIREMENTS OF THE INTERNATIONAL APPLICATION

PROPOSED AMENDMENTS OF THE PCT REGULATIONS:²

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Proposed additions and deletions are indicated, respectively, by underlining and striking through the text concerned. Certain provisions that are not proposed to be amended may be included for ease of reference.

Rule 11

Physical Requirements of the International Application

11.1 [No change] *Number of Copies*

(a) [No change] Subject to the provisions of paragraph (b), the international application and each of the documents referred to in the check list (Rule 3.3(a)(ii)) shall be filed in one copy.

(b) [No change] Any receiving Office may require that the international application and any of the documents referred to in the check list (Rule 3.3(a)(ii)), except the receipt for the fees paid or the check for the payment of the fees, be filed in two or three copies. In that case, the receiving Office shall be responsible for verifying the identity of the second and the third copies with the record copy.

[COMMENT: The need for multiple copies should be reduced as receiving Offices increasingly scan the international application filed and transmit copies electronically. However, no changes are required to the number of copies as a result of changes to the physical requirements.]

11.2 [No change] *Fitness for Reproduction*

(a) [No change] All elements of the international application (i.e., the request, the description, the claims, the drawings, and the abstract) shall be so presented as to admit of direct reproduction by photography, electrostatic processes, photo offset, and microfilming, in any number of copies.

(b) [No change] All sheets shall be free from creases and cracks; they shall not be folded.

(c) [No change] Only one side of each sheet shall be used.

(d) [No change] Subject to Rule 11.10(d) and Rule 11.13(j), each sheet shall be used in an upright position (i.e., the short sides at the top and bottom).

[COMMENT: These requirements are already in line with the main requirements of WIPO Standard ST.22 in this area, which are not expected to change.]

11.3 *Material to Be Used*

All elements of the international application shall be on paper which shall be flexible, strong, white, smooth, non-shiny, ~~and~~ durable, substantially free of wood cellulose and of weight between 70 and 120 g/m².

[COMMENT: See paragraph 15 in the main body of this document.]

11.4 *Separate Sheets, Etc.*

(a) [No change] Each element (request, description, claims, drawings, abstract) of the international application shall commence on a new sheet.

(b) [No change] All sheets of the international application shall ~~be so connected that they can be easily turned when consulted, and easily separated and joined again if they have been separated for reproduction purposes~~ preferably be held together by a clip which is easily removed and does not damage the paper.

[COMMENT: See paragraph 16 in the main body of this document.]

11.5 [No change] *Size of Sheets*

[No change] The size of the sheets shall be A4 (29.7 cm x 21 cm). However, any receiving Office may accept international applications on sheets of other sizes provided that the record copy, as transmitted to the International Bureau, and, if the competent International Searching Authority so desires, the search copy, shall be of A4 size.

11.6 Margins

(a) [No change] The minimum margins of the sheets containing the description, the claims, and the abstract, shall be as follows:

- top: 2 cm
- left side: 2.5 cm
- right side: 2 cm
- bottom: 2 cm.

[COMMENT: The top margin provides an area for the applicant to mark a reference number, if desired (paragraph (f)), for numbering of the pages (according to draft Rule 11.7(b)), and for the receiving Office to mark the international application number (Section 308) and date of receipt of later submitted sheets (Section 308*bis*). The bottom margin provides an area for the receiving Office or other relevant Authority to stamp indications of the nature of later submitted sheets (Sections 309, 310*bis*, 310*ter*, 325, 417, 511, 513, 602 and 607). The left hand margin provides space for line numbers, where used, though it is proposed that these should no longer be recommended (see draft Rule 11.8). Having a definite area which is free of the main text of the description allows for easier exclusion of irrelevant matter from OCR of the text and also makes automated “stamping” of text on scanned copies easier and more reliable.]

(b) [No change] The recommended maximum, for the margins provided for in paragraph (a), is as follows:

- top: 4 cm
- left side: 4 cm
- right side: 3 cm
- bottom: 3 cm.

[COMMENT: The recommended maximum margins are not functionally important, but assist in providing a relatively uniform appearance of international publication.]

[Rule 11.6, continued]

(c) [No change] On sheets containing drawings, the surface usable shall not exceed 26.2 cm x 17.0 cm. The sheets shall not contain frames around the usable or used surface.

The minimum margins shall be as follows:

- top: 2.5 cm
- left side: 2.5 cm
- right side: 1.5 cm
- bottom: 1 cm.

[COMMENT: The right and bottom margins are smaller than for the description, claims and abstracts. However, these pages do not need to meet any OCR requirements and the reduced bottom margin does not appear to cause major problems for marking replacement sheets. Consequently, it does not seem appropriate to reduce the area available for drawings by making the margin requirements consistent with text pages.]

(d) [No change] The margins referred to in paragraphs (a) to (c) apply to A4-size sheets, so that, even if the receiving Office accepts other sizes, the A4-size record copy and, when so required, the A4-size search copy shall leave the aforesaid margins.

(e) Subject to paragraph (f) and to Rules [11.7\(b\)](#) and [11.8~~\(b\)~~\(c\)](#), the margins of the international application, when submitted, must be completely blank.

[COMMENT: Consequential on proposed changes related to page, line and paragraph numbering in Rules 11.7 and 11.8.]

(f) [No change] The top margin may contain in the left-hand corner an indication of the applicant's file reference, provided that the reference appears within 1.5 cm from the top of the sheet. The number of characters in the applicant's file reference shall not exceed the maximum fixed by the Administrative Instructions.

11.7 *Numbering of Sheets*

(a) [No change] All the sheets contained in the international application shall be numbered in consecutive Arabic numerals.

(b) The numbers shall be centered at the top ~~or bottom~~ of the sheet, ~~but shall not be placed in~~ within the margin.

[COMMENT: See paragraph 26 in the main body of this document.]

11.8 *Numbering of Paragraphs ~~Lines~~*

(a) It is strongly recommended to number every ~~fifth line of each sheet of the description, and of each sheet of claims~~ paragraph in consecutive Arabic numerals.

(b) The numbers should appear ~~in the right half of the left margin~~ at the start of the paragraph, either followed by a period or surrounded by square brackets.

(c) It is recommended that lines should not be numbered. If line numbering is nevertheless used, the numbers should appear in the right half of the left margin.

11.9 *Writing of Text Matter*

(a) [No change] The request, the description, the claims and the abstract shall be typed or printed.

(b) Only graphic symbols and characters, chemical or mathematical formulae, ~~and certain characters in the Chinese or Japanese language~~ may, when necessary, be written by hand or drawn.

[COMMENT: See paragraph 33 in the main body of this document.]

(c) The typing shall be 1½-spaced with additional spacing at the end of each paragraph.

[COMMENT: Draft WIPO Standard ST.22 states that “[p]aragraphs should be separated by spacing that is at least twice as big as the intra-paragraph line spacing” but it does not appear appropriate to place so strict an equivalent statement here, since this paragraph is framed as a potentially enforceable requirement, rather than a recommendation.]

(d) All text matter shall be in single column format in a non-cursive font with characters the capital letters of which are not less than 0.28 cm high and adequate space between characters to permit effective optical character recognition, and shall be in ~~a dark, indelible color~~ indelible black on a white background, satisfying the requirements specified in Rule 11.2, provided that any text matter in the request may be in characters the capital letters of which are not less than 0.21 cm high.

[COMMENT: See paragraph 31 in the main body of this document.]

[Rule 11.9, continued]

(e) [No change] As far as the spacing of the typing and the size of the characters are concerned, paragraphs (c) and (d) shall not apply to texts in the Chinese or Japanese language.

[COMMENT: Further consideration should be given to the proper definition of requirements in languages using non-Latin character sets. It is recommended that this should be done in parallel with the development of the requirements of WIPO Standard ST.22. See paragraph 33 in the main body of this document.]

11.10 [No change] *Drawings, Formulae, and Tables, in Text Matter*

(a) [No change] The request, the description, the claims and the abstract shall not contain drawings.

(b) [No change] The description, the claims and the abstract may contain chemical or mathematical formulae.

(c) The description and the abstract may contain tables; any claim may contain tables only if the subject matter of the claim makes the use of tables desirable. [Any tables shall have borders.](#)

[\(c-bis\) Tables and chemical or mathematical formulae shall preferably be separated from text paragraphs by a top and bottom margin of at least 1cm.](#)

[Rule 11.10, continued]

(d) Tables and chemical or mathematical formulae may be placed sideways on the sheet if they cannot be presented satisfactorily in an upright position thereon; sheets on which tables or chemical or mathematical formulae are presented sideways shall be so presented that the tops of the tables or formulae are at the left side of the sheet. [Sheets shall preferably not contain both sideways tables and upright text.](#)

[COMMENT: Draft WIPO Standard ST.22 recommends that landscape (sideways) orientation should only be used for tables which cannot fit in a portrait (upright) orientation and that any page should contain only one direction of text.]

11.11 *Words in Drawings*

(a) [No change] The drawings shall not contain text matter, except a single word or words, when absolutely indispensable, such as “water,” “steam,” “open,” “closed,” “section on AB,” and, in the case of electric circuits and block schematic or flow sheet diagrams, a few short catchwords indispensable for understanding.

(b) Any words used shall be ~~so placed that, if translated, they may be pasted over without interfering with any lines of the drawings~~ [marked by a reference sign.](#)

[COMMENT: See paragraphs 36 to 38 in the main body of this document.]

11.12 [No change] *Alterations, Etc.*

[No change] Each sheet shall be reasonably free from erasures and shall be free from alterations, overwritings, and interlineations. Non-compliance with this Rule may be authorized if the authenticity of the content is not in question and the requirements for good reproduction are not in jeopardy.

[COMMENT: Noting that such alterations will rarely be compatible with accurate OCR and the amendments to Rule 26 which were adopted by the PCT Assembly in 2006 to exclude the option of requesting manuscript corrections to sheets, authorization under the second sentence of this Rule should rarely be given. Nevertheless, it is proposed not to delete that sentence in view of its potential relevance (either directly or by application of the Patent Law Treaty) to processing in national Offices when OCR may not be required.]

11.13 [No change] *Special Requirements for Drawings*

(a) [No change] Drawings shall be executed in durable, black, sufficiently dense and dark, uniformly thick and well-defined, lines and strokes without colorings.

[COMMENT: This (together with Rule 7.1) is the main item which would need to be amended to formally recognize photographs and color drawings.]

(b) [No change] Cross-sections shall be indicated by oblique hatching which should not impede the clear reading of the reference signs and leading lines.

(c) [No change] The scale of the drawings and the distinctness of their graphical execution shall be such that a photographic reproduction with a linear reduction in size to two-thirds would enable all details to be distinguished without difficulty.

[COMMENT: Paragraph (c) represents the requirement to be able to publish a figure with the abstract, legible at a reduced size so as to fit on the front page of a publication. The International Bureau is reviewing its processes for the international publication and may wish to consider this requirement further in the future.]

[Rule 11.13, continued]

(d) [No change] When, in exceptional cases, the scale is given on a drawing, it shall be represented graphically.

(e) [No change] All numbers, letters and reference lines, appearing on the drawings, shall be simple and clear. Brackets, circles or inverted commas shall not be used in association with numbers and letters.

(f) [No change] All lines in the drawings shall, ordinarily, be drawn with the aid of drafting instruments.

[COMMENT: It would appear that this requirement is clearly outdated but still expresses an important requirement for neat drawings which is not fully covered by paragraph (a). The Working Group may wish to consider how best to amend paragraph (f) so as to embrace both hand-drawn and computer-assisted drawings, perhaps along the lines of “the drawings shall, ordinarily, be drawn in accordance with standard drafting techniques”.]

(g) [No change] Each element of each figure shall be in proper proportion to each of the other elements in the figure, except where the use of a different proportion is indispensable for the clarity of the figure.

(h) [No change] The height of the numbers and letters shall not be less than 0.32 cm. For the lettering of drawings, the Latin and, where customary, the Greek alphabets shall be used.

(i) [No change] The same sheet of drawings may contain several figures. Where figures on two or more sheets form in effect a single complete figure, the figures on the several sheets shall be so arranged that the complete figure can be assembled without concealing any part of any of the figures appearing on the various sheets.

[Rule 11.13, continued]

(j) [No change] The different figures shall be arranged on a sheet or sheets without wasting space, preferably in an upright position, clearly separated from one another. Where the figures are not arranged in an upright position, they shall be presented sideways with the top of the figures at the left side of the sheet.

(k) [No change] The different figures shall be numbered in Arabic numerals consecutively and independently of the numbering of the sheets.

(l) [No change] Reference signs not mentioned in the description shall not appear in the drawings, and vice versa.

(m) [No change] The same features, when denoted by reference signs, shall, throughout the international application, be denoted by the same signs.

(n) [No change] If the drawings contain a large number of reference signs, it is strongly recommended to attach a separate sheet listing all reference signs and the features denoted by them.

11.14 [No change] *Later Documents*

[No change] Rules 10, and 11.1 to 11.13, also apply to any document—for example, replacement sheets, amended claims, translations—submitted after the filing of the international application.

Rule 26

**Checking by, and Correcting before, the Receiving Office
of Certain Elements of the International Application**

26.1 to 26.2*bis* [No change]

26.3 *Checking of Physical Requirements under Article 14(1)(a)(v)*

(a) Where the international application is filed in a language of publication, the receiving Office shall check:

(i) the international application for compliance with the physical requirements referred to in Rule 11 only to the extent that compliance therewith is necessary for the purpose of reasonably uniform international publication and, where the application is not filed in electronic form in character coded format, for the purpose of accurate optical character recognition;

[COMMENT: See paragraph 39 in the main body of this document.]

(ii) [No change] any translation furnished under Rule 12.3 for compliance with the physical requirements referred to in Rule 11 to the extent that compliance therewith is necessary for the purpose of satisfactory reproduction.

(b) Where the international application is filed in a language which is not a language of publication, the receiving Office shall check:

[Rule 26.3(b), continued]

(i) [No change] the international application for compliance with the physical requirements referred to in Rule 11 only to the extent that compliance therewith is necessary for the purpose of satisfactory reproduction;

(ii) any translation furnished under Rule 12.3 or 12.4 and the drawings for compliance with the physical requirements referred to in Rule 11 to the extent that compliance therewith is necessary for the purpose of reasonably uniform international publication and, where the translation is not furnished in electronic form in character coded format, for the purpose of accurate optical character recognition.

26.3bis [No change] *Invitation under Article 14(1)(b) to Correct Defects under Rule 11*

[No change] The receiving Office shall not be required to issue the invitation under Article 14(1)(b) to correct a defect under Rule 11 where the physical requirements referred to in that Rule are complied with to the extent required under Rule 26.3.

26.3ter to 26.5 [No change]

[End of Annex and of document]