## CIGRE 2023 Sendai Colloquium, Japan, 3-7 October 2023

Recent Overhead Transmission Line Technology and Environmental Measures

## INSTRUCTIONS FOR THE PRESENTATION OF PAPERS AT CIGRE COLLOQUIUM

This document gives general instructions to be followed for the preparation of Papers at CIGRE Colloquia. We kindly ask you to read them carefully and comply with them so that publication of your Paper may be smoothly processed. For your information, the Sendai Colloquium Organizing Committee is considering the possibility of having multiple oral sessions and a poster session in order to accept more presenters. In both cases, paper contributors are required to present their papers on site, and one presenter will be selected from among the main author or other coauthor(s). The presenter will be required to register for the participation application, which will be opened after April 2023. If payment is not received by the registration deadline, the acceptance may be cancelled.

Further to these instructions, CIGRE will provide for each Colloquium 3 sample pages specific to the coming Colloquium. The 3 pages are: Title page with the Colloquium header included, page 1 where the text starts, and last page where the Bibliography appears. Authors are required to use these sample pages. The sample pages will be available for downloading on the Colloquium website.

## **IMPORTANT POINTS:**

- **Papers will not be proof-read by the CIGRE. No changes or additions will be accepted.**
- **❖** The deadline of 26<sup>th</sup> May 2023, for receipt of full papers must be strictly observed.
- **❖** Final notification will be delivered to authors on 21<sup>st</sup> July 2023.
- **❖** The electronic file is essential for publication. The maximum file size for uploading shall be 2 M byte. (PDF format only)

## 1. GENERAL

## 1.1 Nature of Papers

Papers presented at CIGRE Colloquia must be unpublished material of strictly scientific or technical character, and not carry any advertising connotation. Consequently, names of manufacturers must not appear in the body of the text, nor in tables or figures. Names of Companies or Universities should only appear at the top of the first page (title page), under the authors' names. (See paragraph 3.2) In case a product name is unavoidably used because the description would be complicated if the product name is not mentioned, the product name may be mentioned only once.

## 1.2 Languages used

Papers are issued in English only.

## 2. STRUCTURE OF PAPERS

For homogeneity, the Paper structure with heading, "SUMMARY", "KEYWORDS" and "BIBLIOGRAPHY" must be duly kept. The titles "SUMMARY", "KEYWORDS" and "BIBLIOGRAPHY" also must be kept as they stand.

## 2.1 Heading

The heading comprises the Colloquium header, the paper number, the Study Committee, Preferential Subject\*, the title of the paper and the authors' identification.

\*PS should be determined from the three PSs listed in the Call for Papers and on the website. The keywords are examples only; they are not necessarily indicators of PS categorization.

## 2.2 Summary

The paper starts with an extensive summary, of about **500 words**, intended to provide readers with a thorough overview of the paper.

Summary and title give the first impression of a paper; hence great care should be taken in their formulation.

## 2.3 Keywords

A list of keywords follows the summary, as specified in **Appendix 1.** They are part of the title page.

## 2.4 Main text.

To come after the keywords, and start at top of next page.

## 2.5 Bibliography

Included at the end of the paper, it gives the details of the references mentioned in the paper.

## 3. PRESENTATION OF PAPERS

Papers are to be posted on the Cigre website.

## 3.1 Typing: General

Texts should be typed in single spacing, and normal layout should be used (no 2-column layout).

- See sample: Appendix 3. There is no need for an extra left-hand margin, unnecessary waste of

space. The text should be justified on both sides.

The fonts "Arial" 'Times' or 'Helvetica' are recommended, size 11 or 12 only. Narrower typing will be illegible. Do not use fancy characters.

In order to simplify and speed up the editing of the Papers, CIGRE kindly requests the authors to effect the lay-out of their Papers on a PC (with figures and tables inserted) on a ISO 21x29.7cm / DIN A4-format (final size).Please do not use other formats.

## 3.2 Title page, Summary and keywords

The authors are requested to use the provided sample page of the Title page. Its layout must be very carefully observed. (spacing, fonts...).

The heading comprises three parts:

- the header, CIGRE details and Colloquium title -provided by CIGRE on the sample page
- the paper number in seven digits, which has been attributed to the paper **to be typed by the author.**
- the title of the Paper. For the authors: first names start with a capital letter and continue in lower case, last names are written in CAPITAL letters only, **company, country, and email address for the main author**. The main author must be indicated by an asterisk immediately following his name. The maximum number of authors per paper is six.

Paper title should be typed 2" (5cm) from the top of the page with **Helvetica or Arial bold characters, size 12**. Authors can change the title of the full paper from the synopsis in order to accurately represent the content. The authors' names should be typed with **Times Roman, bold characters, size 12**. They should be **centred** under the title. The main author should be marked with an "\*". If there are multiple authors with the same affiliation, please list them together by affiliation, separated by commas. The country should be written in one place only.

"SUMMARY" should be written ideally 4.8" (12cm) from the top of the page, under the "heading".

#### 3.3 Other pages

Pages other than title page must be typed starting 2.5 cm (1") from the top of the page. Pages other than the title page must be numbered at the bottom page (right hand side).

## 3.4 Bibliography

References should be mentioned following the order in which they appear in the text. Each reference should be set as follows:

- Reference number (in the text) in square brackets []
- First name(s) or initial(s), name(s) of the author(s)
- Title of the article and in brackets the name of the publication, reference number, date, page (or first and last page numbers),

or

- Title of the Paper, and in brackets the name of the relevant Conference, date, reference number and page (or first and last page numbers)

or

- Title of the book, editor, year of publication and page (or first and last page numbers).
- Authors should not refer to internal company documents and more generally to unpublished.

## 3.5 Figures and Images

Electronic versions of the figures should be inserted directly in the text. They should be carefully prepared.

Figure numbers and captions should appear under each figure. For better understanding, avoid cramming information on figures and only use graphic symbols recommended by the International Electrotechnical Commission (IEC) Recommended Graphics Symbols – database No 60617: 'Graphical Symbols for Diagrams' -.

All comments relevant to the figures should appear in the caption. Typing characters have to be carefully selected to ensure legibility. Images should be check as well to ensure a good resolution while maintaining a reasonable size of the full Paper PDF file.

#### 3.6 Tables

Typing characters should be chosen such as to be clearly legible. Table's number and title should appear just above the table.

## 3.7 Conformity requirements

All Papers must be prepared in keeping with the present instructions.

## 3.8 Length of Papers

The recommended maximum length for Papers is 10 pages (title and figures included).

## 4. ADVICE FOR LAY-OUT OF PAPERS

- For greater clarity, texts should be divided under headings and subheadings. Decimals should be used as reference numbers to identify chapters, sections, paragraphs.
- Authors are kindly requested to use the decimal metric system referred to as International System SI (See IEC Publication No 60027 "<u>Technical International standards for letter symbols</u> in 6 parts). Some indications concerning symbols are given in **Appendix 2.**
- Authors should avoid giving mathematical developments. If these are necessary, the longer part should be given in an appendix.
- For formulae, authors should use mathematical software. Equations should be centred on the page and numbered. The number is to appear in brackets on the right hand side of the formula.

## 5. COPYRIGHT

The Papers are copyrighted to protect the interests of CIGRE as well as their authors'. Authors who submit a paper for publication agree to assign to CIGRE the copyright in the paper, in accordance with the "copyright provisions" exposed in **Appendix 4.** 

## 6. PUBLICATION OF PAPERS

As Colloquium Papers will be available for downloading through the Cigre website, authors are kindly requested to upload the electronic file in PDF format to AMARYS.

[URL] <a href="https://amarys-jtb.jp/cigre2023/">https://amarys-jtb.jp/cigre2023/</a>

## CHOICE OF THE KEYWORDS

## A.1. Number of keywords

Authors have full latitude as regards choice and number of keywords. As an indication, 3 to 10 words or groups of words are usually sufficient to characterise a technical document.

## A.2. Choice of keywords

**1.** Each keyword should correspond to a single and precise notion. Certain compound words or groups of words designating one sole notion will constitute keywords.

Examples: High Voltage - Reactive Power - Power Factor

On the other hand, many compound words which are in fact an association of two independent notions will have to appear as two separate keywords.

## **Examples**

Interconnection systems -> Interconnection - System Anchor tower -> Anchor - Tower

**2.** Words, which do not convey precise information, such as: product, matter, agent, effect, process, device, phenomenon, etc...must not be used as keywords.

<u>Examples</u>: Breaking device -> Breaking

Corona effect -> Corona

However, with 'Switching Overvoltage' the keywords will be :'Switching' and 'Overvoltage'.

**3.** For the purpose of indexation, wherever possible, the noun in the singular should be used, rather than the adjective.

Examples: Guyed tower -> Tower - Guy Inhibited oil -> Oil - Inhibitor

**4.** A well-defined chemical substance is a single keyword.

Example: Sulphur Hexafluoride

However, chemical substance types should be coded with the help of independent keywords.

Example: Alcaline Chloride -> Chloride - Alcaline

## A.3. Final comments

Keywords should always be written **in singular**, start with a capital letter, and a dash between each word.

Authors are advised to use as keywords the terms which appear in the lEC's International Electrotechnical Vocabulary (IEC Publication No 50).

## RECOMMENDATIONS ON THE SYMBOLS WHICH SHOULD BE USED TO REPRESENT UNITS

The SI symbols for units are typed with vertical characters, whatever the kind of characters used in the text. They are written in small letters, except when the name of the unit comes from a name, in which case the first letter of the symbol is a capital one.

Examples: metre: m volt: V hertz: Hz

The products of two units are expressed by combining their symbols with a full stop.

Example: Newton metre: N.m

The symbols for single units can however be joined together without a full stop when there is no risk of confusion:

Examples: Watt-hour: Wh Volt ampere: VA

kilovolt: kV Megavar: Mvar

Write: HV or h.v. HVDC or h.v.d.c.

AC or a.c. DC or d.c.

The quotient of two units is expressed by putting a stroke between their symbols or by using negative exponents, preferably when there are several symbols in the denominator.

<u>Examples</u>: metre per second: m/s or m.s<sup>-1</sup> metre per second squared: m/s<sup>2</sup> or m.s<sup>-2</sup>

The multiples and sub-multiples of SI units are linked to the basic units by standardised symbols

Examples: T for Tera  $(10^{12})$  k for kilo  $(10^3)$  n for nano  $(10^{-9})$ 

The prefix should not be separated from the name of the unit either by a space or any typographical sign.

Thus, one should write:

 $\begin{array}{lll} GW:~10^9~watts & mA:~10^{-3}~amperes\\ MHz:~10^6~hertz & \mu F:~10^{-6}~farads\\ kV:~10^3~volts & ns:~10^{-9}~seconds \end{array}$ 

cm: 10<sup>-2</sup> metres

Symbols are written without a full stop (except when the full stop is a punctuation mark at the end of a sentence which finishes with a symbol) and must not bear the indication that they are plural because 's' stands for 'second'.

Examples: 100 kilometres: 100 km

1 metre per second: 1 m/s 1 lumen second: 1 lm.s

Symbols with decimal figures should appear at the right of the whole number, which indicates the numerical value:

One should write:  $24.5 \text{ m} - 25.4 ^{\circ}\text{C}$ 

One should not write: 24 m.5 – 25°.4C nor °C25.4

Symbols for units should not be used after a number written out in full.

One should write: Five kilometres

5 kilometres

5 km

One should not write: five km.

Generally speaking, it is not advisable to use a symbol for a unit in a text without it being associated with a numerical value written in figures.

One should write: 'Length is expressed in metres'
One should not write: 'Length is expressed in m'

Type here your Paper number (e.g. 530####) and Study Committee (e.g. B2), and Preferential Subject (e.g. PS1)

(to be centred)

# Type here the title of your Paper (Helvetica or Arial Bold size 12 and 5cm (2") from the top

Type here the authors' name (Up to 6 authors)
Type here the Company
Type here the Country
Type here the email address of the main author
(Times Roman, bold, size 12)

First name start with a capital letter and continue in lower case, last name are written in CAPITAL letters only. You may use numbers if some authors are from the same companies. Main author must be indicated by an asterisk immediately following the name.

- delete before publication

## **SUMMARY**

Start typing here with the summary (about 500 words; Times or Helvetica, size 11 or 12 only, from 4.8" / 12 cm from the top). Do not remove or shift the title "SUMMARY".

## **KEYWORDS**

3 to 10 words or phrases (Times or Helvetica, size 11 or 12 only). As for "SUMMARY", please keep the title "KEYWORDS".

All pages after title page must start from this line, i.e. 1" (2.5 cm) margin from the top (Times or Helvetica, size 11 or 12). Pages will be automatically numbered.

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## **BIBLIOGRAPHY**

Type here the bibliography at the end of your text, according to this presentation (see sample references below). Font to be used is always Times or Helvetica 11 or 12.

- [1] Working Group SC 22-12 CIGRE. "The thermal behaviour of overhead conductors Section 1 and 2 Mathematical model for evaluation of conductor temperature in the steady state and the application thereof" (Electra number 144 October 1992 pages 107-125)
- [2] T. Seppa "Fried Wire?" (Public Utilities Fortnightly, December 2003, pages 39-41)
- [3] Prospectiva del Sector Eléctrico 2002-2011. (Secretaría de Energía. Mexico, 2002).
- [4] Resolución sobre las Modificaciones a la Metodología para la Determinación de los Cargos por Servicio de Transmisión de Energía Eléctrica. (Diario Oficial de la Federación. Jueves 23 de Diciembre de 1999).



## CIGRE 2023 Sendai Colloquium, Japan, 3-7 October 2023



Recent Overhead Transmission Line Technology and Environmental Measures

Write the paper number, SC, and PS

5309999 (B2) (PS2)



## **Applications and developments of the Corrosion Diagnosis System**

If the authors have the same affiliation, combine them into one.

Taro TOHOKU\*, Jiro SENDAI Tohoku Electric Power Co.

First name with first letter only capitalized, last name with all capitals.

Hanako YAMADA XYZ Corp.

The main author is indicated by
"\*". No numbers are used, but the
author's name and affiliation
should be written above and
below the author's name to make
the correspondence between the
author's name and affiliation clear.

Japan taro.tohoku.ab@tohoku-epco.co.jp

Email addresses are written for one main author only.

Don't put parentheses or underlines in your email address.

The author's country is united as one.
(No need to write the name of the country for each co-author)

Don't put parentheses around the affiliation or country

**SUMMARY** 

No need for an extra left-hand margin

No more than 6 authors

Normally, we check the corrosion state of steel tower members through visual inspection by workers, and manage the location and level of the corrosion for each steel tower. As a result, there are individual differences in judgments of the corrosion state, and a lot of time and labor are required for prioritizing repair areas when formulating repair plans such as painting and replacement of members.

To solve these problems, we developed a "Corrosion Diagnosis System." The system consists of an application for smart devices that allows users to take pictures and send data on-site, and a web cloud database that we can you justified on both sides fice.

We plan to improve the accuracy data for the AI, and to update the database to make it easier for browsing by improving the system. In the future, we aim to achieve more efficient and effective planning of repair work and to maximize the life of facilities by implementing repair work at the appropriate time.

Don't use togerther with "Figure" and "Fig.". No period is needed after "Table". Put a space between the number and the unit.  $\times 500 \text{kV} \rightarrow 0.500 \text{ kV}$ 

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Figure 2 ...

## **KEYWORDS**

AI – corrosion – tower

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