

# IMPLEMENTING AN XML WORKFLOW IN A STANDARDS ENVIRONMENT

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COMPLEX CONTENT  
2019 EXTYPES USER GROUP MEETING  
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7 NOVEMBER 2019



# IEEE-SA PUBLISHING

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- Over 1,100 active standards
  - Publish about 120 standards/year
  - 5 – 5000+ pages; typically about 100 pages
  - Support 500 active working groups
  - Knowledge of standards developing process (consensus, risk, legal)
  - Standards professionals who do publishing vs. publishing professionals who do standards
- 
- NOT a part of IEEE Publishing (journals, transactions, etc.); coordination between the two groups.
  - Compatibility with IEEE Xplore.
  - A very small part of IEEE published content, but vitally important.

# INSTITUTE-WIDE COMMITMENT TO XML

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Business/product reasons:

IEEE-wide commitment to XML; legacy conversion; simultaneous delivery of PDF and XML for display in HTML in IEEE Xplore (same day availability).

Provide the infrastructure on which future SA products and services can be developed, built, and provided (apps, epub, etc.).

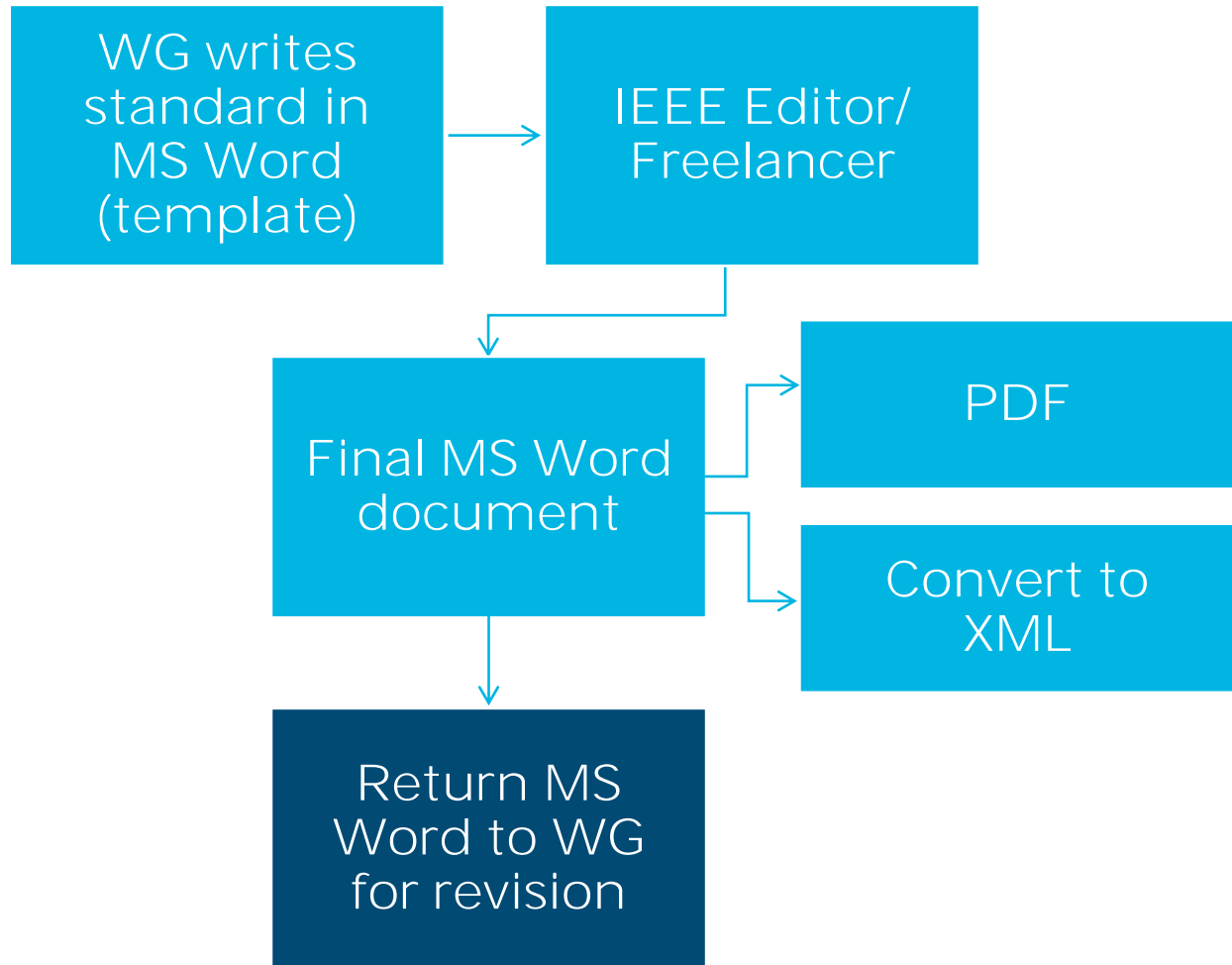
Data mining of content for IEEE use and potential sale of IP.

## **And, while we're at it...**

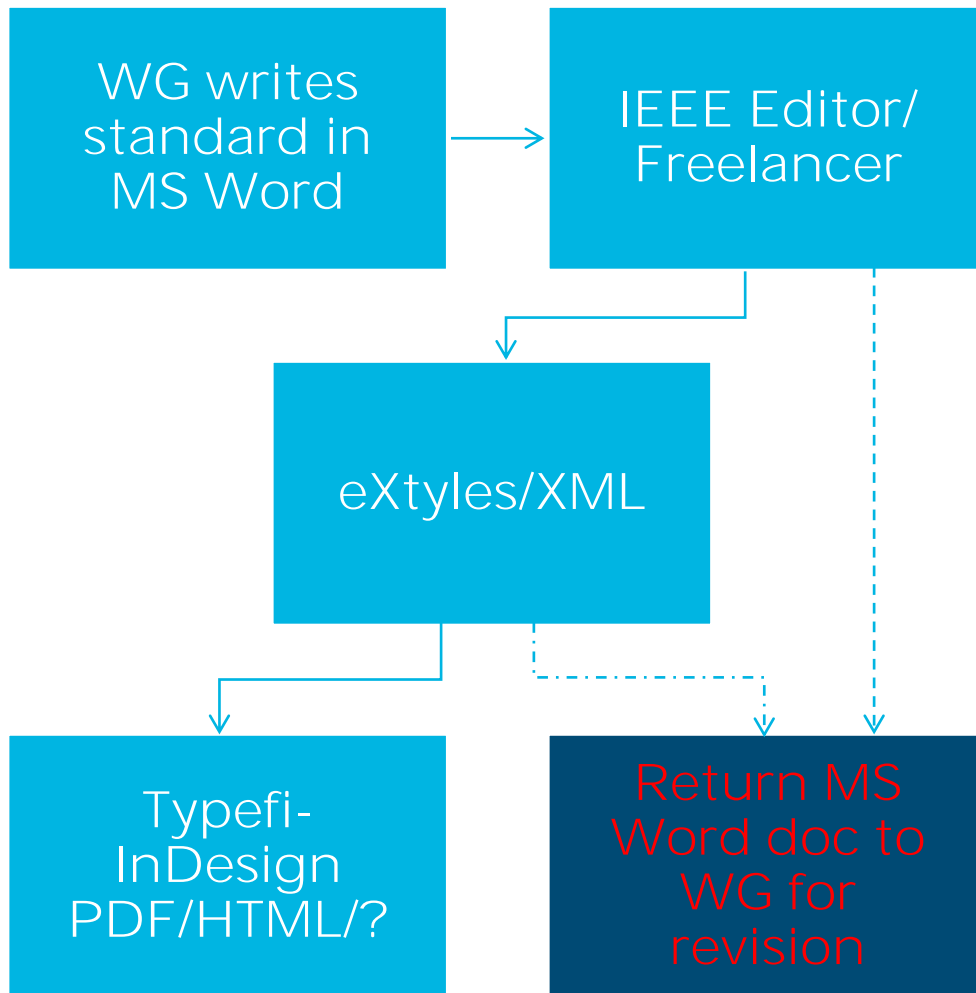
Reduce inefficiency—quicker time-to-market standards development cycle.

Streamline IEEE-**SA's production and publishing processes and improve level** of service provided to standards writers and participants.

# PRE EXTYLES WORKFLOW



# EXTYLES WORKFLOW



## PROBLEMS

Processed output file does not include internal cross references

Field updating macros disabled.

# “TURNAROUND” DOCUMENT SOLUTION

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Worked with Inera to get an additional plug-in for Word that would allow us to convert an eXtyle-processed Word file back into a macro-enabled \*.doc.

It is a 7-step process:

- 1) Update Document Variables
- 2) Visual Format Changes
- 3) Update Text from Doc Variables
- 4) Insert TOC
- 5) Unlink Images
- 6) Restyle Paragraphs
- 7) Link Citations

# TURNAROUND MACRO STEPS 1 - 4

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## STEP 1: Update Document Variables

Turns specific text items (standard designation, title, date, etc.) into fielded data for future updating with our macros.

## STEP 2: Visual Format Changes

Makes visual changes to the document like removing colored fields (with the exception of cross references – needed for future steps) and converting CR Text back into Word footnotes.

## STEP 3: Update Text from Doc Variables

Resets version-specific data with placeholder data for next revision.

## STEP 4: Insert TOC

Replaces plain text TOC in document with a Word TOC based on headings.

# TURNAROUND MACRO STEPS 5 - 7

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## STEP 5: Unlink Images

Imbeds images from linked location.

## STEP 6: Restyle paragraphs

Reapplies the many “creative” paragraph styles and numbering schemes native to the IEEE SA custom template.

## STEP 7: Link Citations

Converts all eXtyles cross-reference character styles into Word cross-reference fields.

It is possible to run all seven steps with one click.



# QUESTIONS?

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# IEEE Recommended Practice for the Implementation of Inductive Coordination Mitigation Techniques and Application

Sponsor  
Power Systems Communications and Cybersecurity Committee  
of the  
IEEE Power and Energy Society

Approved 5 December 2018

IEEE-SA Standards Board

Section Break (Next Page)

## 2. Normative references

The following referenced documents are indispensable for the application of this document (i.e., they must be understood and used, so each referenced document is cited in text and its relationship to this document is explained). For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments or corrigenda) applies.

IEEE Std 367™, IEEE Recommended Practice for Determining the Electric Power Station Ground Potential Rise and Induced Voltage from a Power Fault.

IEEE Std 487™, IEEE Standard for the Electrical Protection of Communications Facilities Serving Electric Supply Locations—General Considerations.

IEEE Std 776™, IEEE Recommended Practice for Inductive Coordination of Electric Supply and Communication Lines.

IEEE Std 820™, IEEE Standard Telephone Loop Performance Characteristics.

# P1137™/D8 Draft Recommended Practice for the Implementation of Inductive Coordination Mitigation Techniques and Application

Sponsor  
Power Systems Communications and Cybersecurity Committee  
of the  
IEEE Power and Energy Society

Approved <Date Approved>

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IEEE Std 776™, IEEE Recommended Practice for Inductive Coordination of Electric Supply and Communication Lines.

IEEE Std 820™, IEEE Standard Telephone Loop Performance Characteristics.

**Abstract:** Guidance for controlling or modifying the inductive environment and the susceptibility of affected wire-line telecommunications facilities in order to operate within the acceptable levels of steady-state or surge-induced voltages of the environmental interface (probe wire) defined by IEEE Std 776™ is provided in this Recommended Practice. Procedures for determining the source of the problem are given. Mitigation theory and philosophy are discussed, and mitigation devices are described. The application of typical mitigation apparatus are addressed. Advice for determining the best engineering solution is offered, and general safety considerations are discussed.

**Keywords:** coordination, coupling, harmonic, ICEP, IEEE 1137™, impedance, inductive, influence, mitigation, mutual, noise, power, susceptibility

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IEEEStd Level 1 Header

IEEEStd Level 2 Header

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IEEEStd Image

IEEEStd Regular Figure Caption

IEEEStd Level 3 Header

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IEEEStd Level 3 Header

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## 4. → Determining the source of the problem

### 4.1 → General introduction

Power interference in a communication system results from a threefold interaction between the power and communication circuits, as depicted in Figure 1.

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Figure 1—Interaction: Influence-coupling-susceptiveness

#### 4.1.1 → Influence

Influence refers to the capability of a power circuit to cause interference in a nearby communication circuit. Unbalanced phase currents, excessive earth return currents, and distorted voltage or current wave shapes contribute to high influence. The power utility and its users jointly control or affect influence. A measure of the influence of a power line is obtained by either utility, through measurements on a probe wire interface placed near and parallel to the power line. Refer to IEEE Std 776.

NOTE—The term power influence (PI) introduced in 4.2.1 has a completely different meaning from this traditional concept of the influence of a power system.

#### 4.1.2 → Coupling

Coupling refers to the mutual impedance between the power and communication lines (see Sunde [B5] and Carson [B2]). Magnetic (inductive) coupling and electric (capacitive) coupling depend upon length of exposure, earth resistivity, frequency, separation, and shielding. Mutual impedance is computed by using equations as found in IEEE Std 367™.

### 4.1. General introduction

Power interference in a communication system results from a threefold interaction between the power and communication circuits, as depicted in Figure 1.

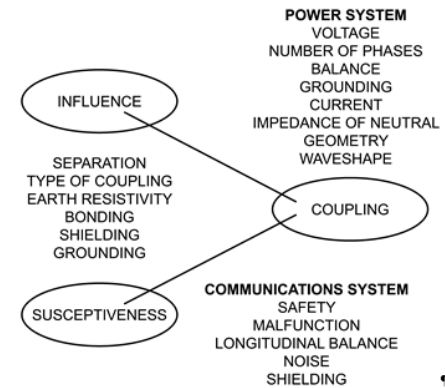


Figure 1—Interaction: Influence-coupling-susceptiveness

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