

## IEEE P1159.3 PQDIF Task Force Meeting

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January 8, 2018  
Jacksonville, Florida, USA

# Meeting Overview

- Overview of IEEE P1159.3 Revision Project
- Review of IEEE P1159.3 D15
- Approval of New PQDIF IDs
- Update on Software Resources
- Next Meeting

## Participants, Patents, and Duty to Inform

- All participants in this meeting have certain obligations under the IEEE-SA Patent Policy.
  - Participants [Note: Quoted text excerpted from IEEE-SA Standards Board Bylaws subclause 6.2]:
    - “Shall inform the IEEE (or cause the IEEE to be informed)” of the identity of each “holder of any potential Essential Patent Claims of which they are personally aware” if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents
      - “Personal awareness” means that the participant “is personally aware that the holder may have a potential Essential Patent Claim,” even if the participant is not personally aware of the specific patents or patent claims
    - “Should inform the IEEE (or cause the IEEE to be informed)” of the identity of “any other holders of such potential Essential Patent Claims” (that is, third parties that are not affiliated with the participant, with the participant’s employer, or with anyone else that the participant is from or otherwise represents)
  - The above does not apply if the patent claim is already the subject of an Accepted Letter of Assurance that applies to the proposed standard(s) under consideration by this group
  - Early identification of holders of potential Essential Patent Claims is strongly encouraged
  - No duty to perform a patent search



## Call for Potentially Essential Patents

- If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance (LOA):
  - Either speak up now, or
  - Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible, or
  - Cause an LOA to be submitted



## Patent Related Links

- All participants should be familiar with their obligations under the IEEE-SA Policies & Procedures for standards development.
- Patent Policy is stated in these sources:
  - IEEE-SA Standards Boards Bylaw
  - <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6>
  - IEEE-SA Standards Board Operations Manual
    - <http://standards.ieee.org/develop/policies/opman/sect6.html#6.3>
  - Material about the patent policy is available at
    - <http://standards.ieee.org/about/sasb/patcom/materials.html>

If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at [patcom@ieee.org](mailto:patcom@ieee.org) or visit <http://standards.ieee.org/about/sasb/patcom/index.html>

This slide set is available at <https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset>.



## Other Guidelines for IEEE WG Meetings

- All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.
  - Do not discuss the interpretation, validity, or essentiality of patents/patent claims.
  - Do not discuss specific license rates, terms, or conditions.
    - Relative costs, including licensing costs of essential patent claims, of different technical approaches may be discussed in standards development meetings.
      - Technical considerations remain primary focus
  - Do not discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.
  - Do not discuss the status or substance of ongoing or threatened litigation.
  - Do not be silent if inappropriate topics are discussed ... do formally object.
- See IEEE-SA Standards Board Operations Manual, clause 5.3.10 and “Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association’s Antitrust and Competition Policy” for more details.



# Introductions

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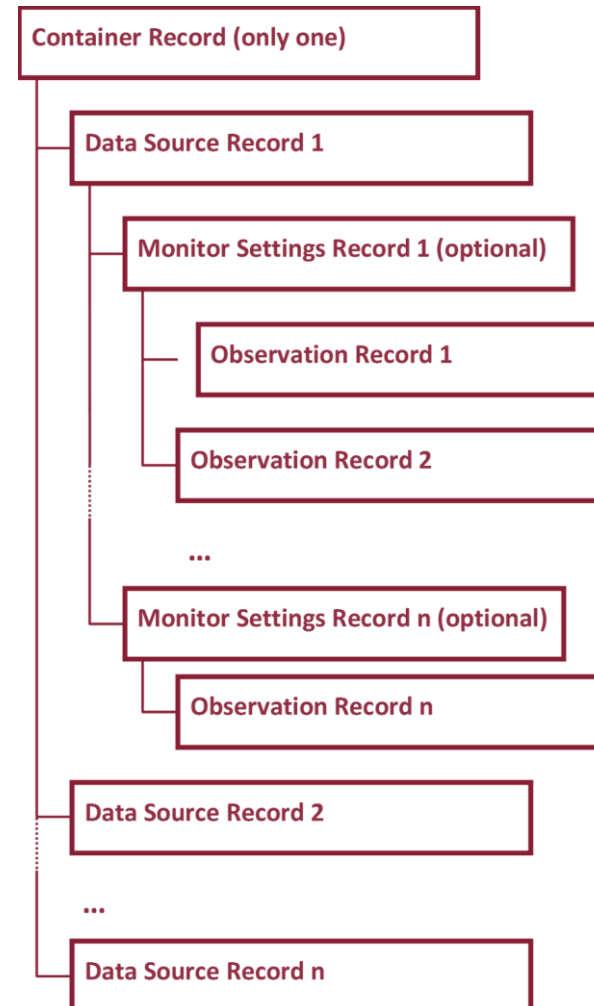
# IEEE P1159.3 Task Force

## IEEE Power & Energy Society

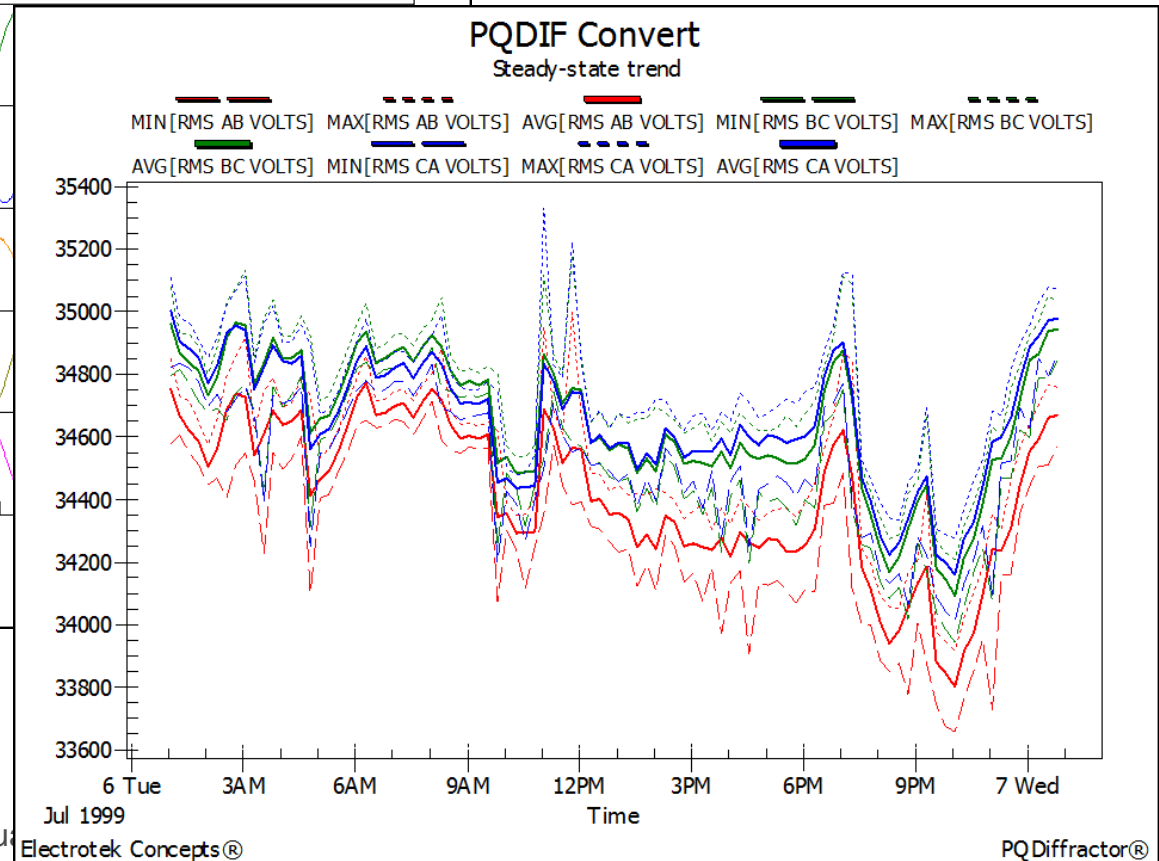
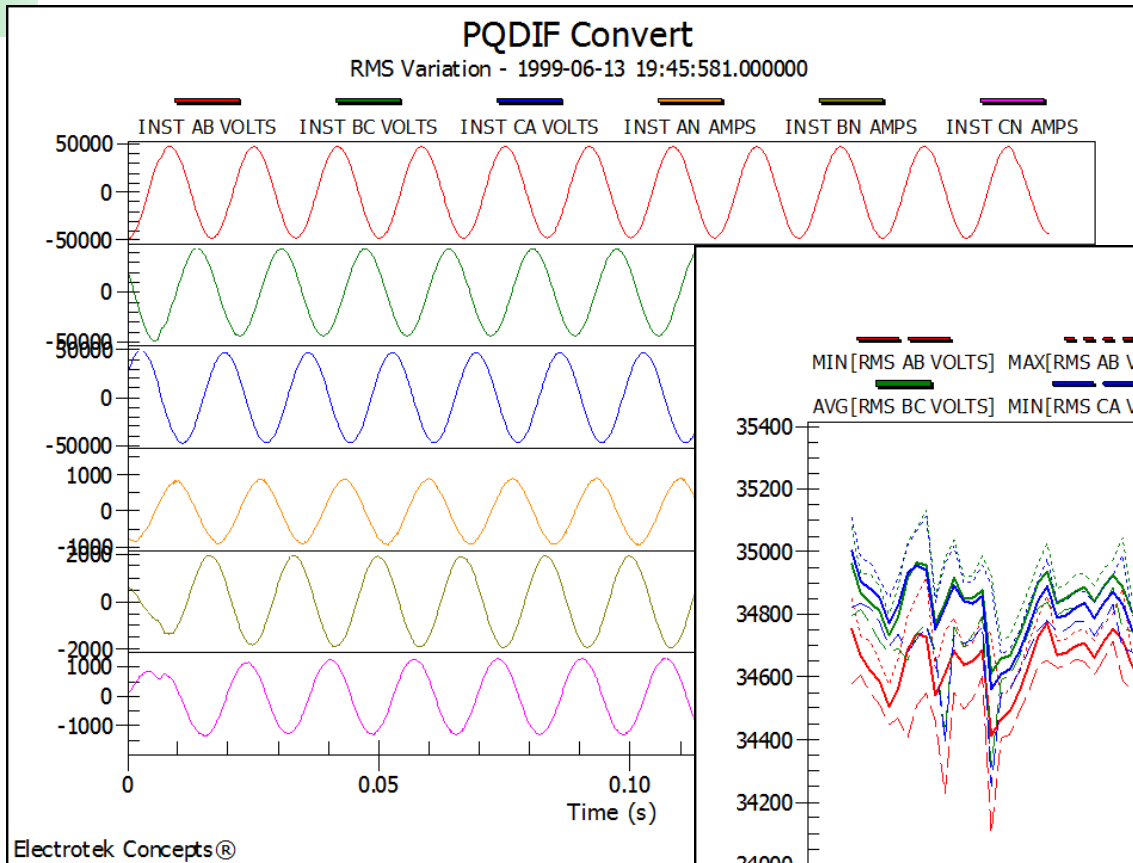
- Transmission & Distribution Committee
  - Power Quality Subcommittee
    - <http://grouper.ieee.org/groups/td/pq/>
    - P1159.3 PQDIF Task Force
      - <http://grouper.ieee.org/groups/1159/3>
      - Chair: Daniel Sabin
        - [d.sabin@ieee.org](mailto:d.sabin@ieee.org)
      - Secretary: Joe Grappé
        - [joseph.grappe@duke-energy.com](mailto:joseph.grappe@duke-energy.com)

# What is IEEE Std 1159.3 PQDIF?

- RMS Samples
- Phasors
- Mag-Dur Events
- Value Logs
- Scatter Charts
- Histograms
  
- Binary Format
- Extensible
- Lossless Compression
- Widely-Used Worldwide



# Examples of Data Stored in IEEE 1159.3 PQDIF



# P1159.3 Revision Title and Objectives Project

## Title

Recommended Practice for Power Quality Data Interchange Format (PQDIF)

## Objectives

1. To complete editorial changes and corrections to the 2003 edition of IEEE Std. 1159.3
2. To add new ID values for existing PQDIF tags
3. To add new tags and ID values
4. To add new quantity types
5. To add an annex on the representation of PQDIF in XML
6. To add an annex on PQDIF and its relationship to IEC 61850
7. To add an annex on PQDIF and its relationship to IEEE C37.111 COMTRADE

## Deadline

December 2018



# Meeting Overview

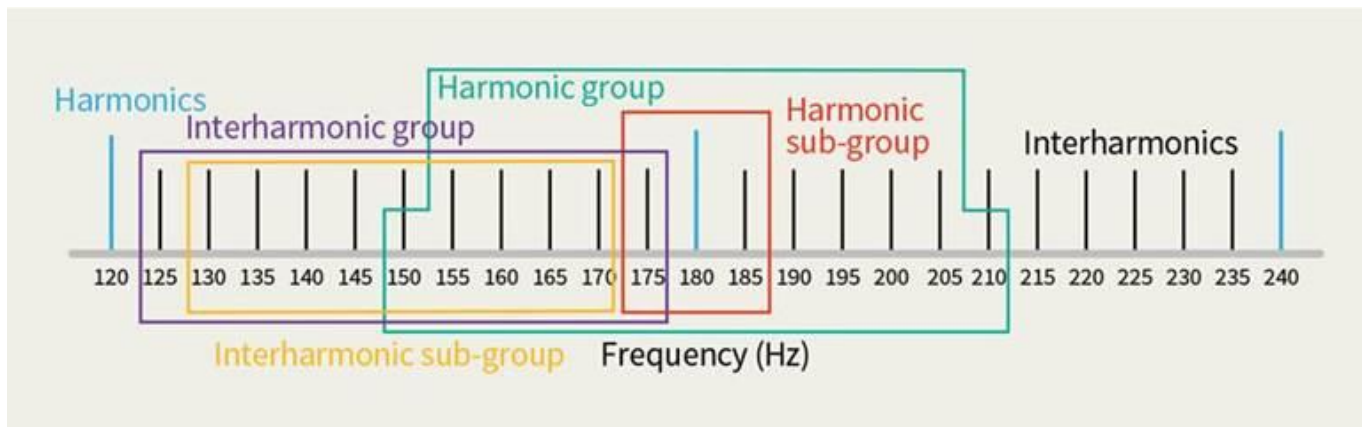
- Overview of IEEE P1159.3 Revision Project
- Review of IEEE P1159.3 D17
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# Overview of Changes in Draft 17

- Added vendor IDs for Algodue, BMR, Mikronika
- Added vendor IDs for Algodue, AMETEK, Dranetz, EDMI, BMR, Mikronika, and Socomec
- Added quantity characteristic for magnetic flux and magnetic field
- Updated or added descriptions for many vendor equipment IDs

# Draft 17: Clarification of Description of Harmonic Subgroups and Groups

Name	Current Description	Description in D17
ID_QC_SPECTRA_HGROUP	Spectra by Harmonic Group index	Spectra by Harmonic <b>Subgroup</b> Index
ID_QC_SPECTRA_IGROUP	Spectra by Interharmonic Group Index	Spectra by Interharmonic <b>Subgroup</b> Index



# Draft 17: Flagging

## 5.5.5 Flagging

- IEC 61000-4-30 allows for a concept of flagging to be created.
- Create an observation record with one or more time stamps that correspond to the flagged ten-minute periods.
  - Set tagQuantityCharacteristicID to ID\_QC\_FLAGGING\_IEC\_61000\_4\_30
- Also add general ID\_QC\_FLAGGING

# Draft 17: IEEE Special Floating Point Numbers

## 5.5.4 Use of IEEE Special Floating Point Numbers

- Special floating point numbers specified in IEEE Std 754 should not be stored in a PQDIF series instance. Specific examples of special number include positive infinity, negative infinity, not a number (NaN) values, quiet NaNs, and signaling NaNs.
- Missing data should be handled by ending a series instance and beginning a new series instance.

# Proposed File Format for XML Version of PQDIFPOF.INI

```
pqdif.xml - Notepad
File Edit Format View Help
<?xml version="1.0"?>
<monitors>

<monitor name="Monitor A" substation="Substation A" feeder="Feeder 01" NominalVoltage="12470.766">
<files>
<file type="PQDIF" startDate="2008-09-04T14:11:30"/>/Folder 01/20080924T141130.pqd</file>
<file type="PQDIF" startDate="2008-09-24T14:11:39"/>/Folder 01/20080924T141139.pqd</file>
</files>
</monitor>

<monitor name="Monitor B" substation="Substation A" feeder="Feeder 02" NominalVoltage="12470.766">
<files>
<file type="PQDIF" startDate="2008-09-24T14:12:08"/>/Folder 02/20080924T141208.pqd</file>
<file type="PQDIF" startDate="2008-09-24T14:12:26"/>/Folder 02/20080924T141226.pqd</file>
</files>
</monitor>

<monitor name="Monitor C" substation="Substation B" feeder="Feeder 01" NominalVoltage="33000">
<files>
<file type="PQDIF" startDate="2008-09-24T14:15:08"/>/Folder 03/20080924T141508.pqd</file>
<file type="PQDIF" startDate="2008-09-24T14:15:27"/>/Folder 03/20080924T141527.pqd</file>
</files>
</monitor>

</monitors>
```

# Annex E: Relationship of PQDIF to IEC 61850

- Will summarize of IEEE PQDIF from IEC TR 61850-90-17 “Using IEC 61850 to Transmit Power Quality Data” with input from Dr. Michael Schwenke.

# Meeting Overview

- Overview of IEEE P1159.3 Revision Project
- Approval of New PQDIF IDs
- Review of IEEE P1159.3 D13
- **Update on Software Resources**
- Next Meeting



# Next Steps

- Finalize input from this meeting.
- Submit version for IEEE MEC and create pool at same time – late January 2018
- Vote on standard in March/April 2018
- Review comments in May 2018 via email and web meeting (if necessary)
- Revise draft in June 2018 (if necessary)
- Recirculation Ballot in July 2018 (if necessary)
  
- Project Due Date: December 2018

# Next P1159.3 Task Force Meeting

- 2018 IEEE PES General Meeting
- August 6, 2018
- Portland, Oregon, USA

