

# IEEE P1159.3 PQRIF Task Force Web Meeting

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Vancouver, British Columbia, Canada

# Meeting Agenda

- Patent Notice
- Task Force Overview
- Recent Task Force Activities
- Last Meetings
- Proposals for New PQDIF IDs
- Next Steps
- 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

# 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.ppt>**

# 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

# 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.

# IEEE P1159.3 Task Force Overview

IEEE Power & Energy Society

- Transmission and Distribution Committee
  - Power Quality Subcommittee
    - P1159 Working Group on Power Quality Monitoring
      - P1159.3 Task Force on Power Quality Data Interchange

Task Force Web Site

<http://grouper.ieee.org/groups/1159/3/>

Chair: Dan Sabin ([d.sabin@ieee.org](mailto:d.sabin@ieee.org))

Secretary: Rich Bingham ([r.bingham@ieee.org](mailto:r.bingham@ieee.org))

# IEEE P1159.3 Task Force Overview

## What is PQDIF?

- PQDIF is an IEEE recommend practice for power quality data interchange format that allows exchange of measurements and simulation results between computer hardware and software systems.
- PQDIF is a binary format.
- PQDIF allows you to store waveform samples, rms samples, time-series data logs, magnitude-duration tables, histograms, and more.
- PQDIF files uses the file extension “PQD”.
- PQDIF is used directly or indirectly by hundreds of companies worldwide.



# Recent P1159.3 Task Force Activities

## Updates to P1159.3 Database in January 2012

- Revised a Microsoft Access database that was first built during the development of IEEE Std. 1159.3-2003 that was used to maintain the ID values that define PQDIF itself and be used to produce source code files for C++, C#, Java, and VB6.
  - Updated to allow use with Access 2007
  - Added records to support a new “PQDIF Version 1.6”
  - Added new values for vendor IDs, equipment IDs, and phase IDs that were submitted to the task force in 2010 and 2011.
  - Built new source code using the PQDIF Version 1.6 values

# New tagVendorID Values in Draft Version of PQDIF Version 1.6

- ID\_VENDOR\_A\_EBERLE
- ID\_VENDOR\_ALPESTECHNOLOGIES
- ID\_VENDOR\_AMETEK
- ID\_VENDOR\_ARBITER
- ID\_VENDOR\_CESINEL
- ID\_VENDOR\_ELECTRO\_INDUSTRIES
- ID\_VENDOR\_ELSPEC
- ID\_VENDOR\_EMAX
- ID\_VENDOR\_ENERNEX
- ID\_VENDOR\_HIOKI
- ID\_VENDOR\_LANDIS\_GYR
- ID\_VENDOR\_METRUM
- ID\_VENDOR\_NEXANT
- ID\_VENDOR\_ORL
- ID\_VENDOR\_PSL
- ID\_VENDOR\_SST
- ID\_VENDOR\_UNIPOWER

# Recent P1159.3 Task Force Activities

## Updates to PQDiffactor in June 2013

- New versions of the PQDiffactor® software application were released in January and June 2013.
- It supports the draft PQDIF 1.6 ID values.
  - PQDiffactor is a free software application for viewing measurements within PQDIF files using interactive charts and tables.
  - It also provides a diagnostic mode for assessing noncompliance with IEEE Std 1159.3-2003.
- Available to download on the IEEE P1159.3 Web Site from <http://grouper.ieee.org/groups/1159/3/docs.html>

# Recent P1159.3 Task Force Activities

## More Web Site Updates

- Meetings notes from 2009 to 2011 were posted to the web site
- PQDIF Links section added to web site to EPRI's resource page and PQDIF Group on LinkedIn.

# Recent P1159.3 Task Force Activities

## Updates to Software on P1159.3 Web Site in January 2012

- PQDCOM4.DLL
  - Microsoft ActiveX/COM Library for reading and writing PQDIF files
  - Downloadable from <http://grouper.ieee.org/groups/1159/3/docs.html> without a password.
- PQDIF Libraries
  - Includes C++, VB6/VBA, C#, and Java header code with new the PQDIF Version 1.6 values
  - Includes source code to PQDCOM4.DLL
  - Downloadable from <http://grouper.ieee.org/groups/1159/3/docs.html> with a password.

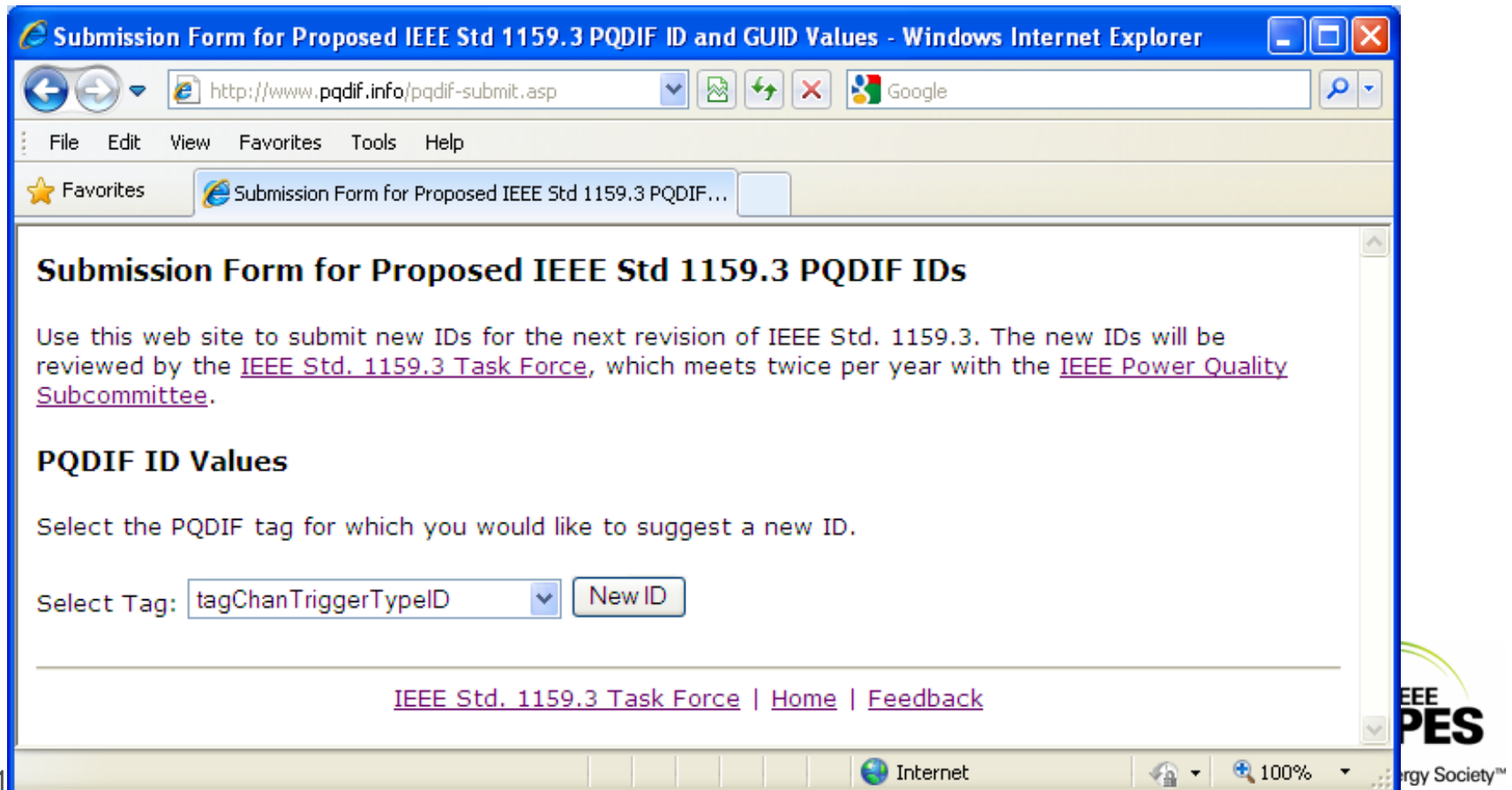
# Recent P1159.3 Task Force Activities

## Updates to Software on P1159.3 Web Site in January 2013

- PQDIF.NET
  - Microsoft .NET component library for reading and writing PQDIF files that has similar interfaces to PQDCOM4.DLL
    - Versions available for both Visual Studio 2008 and 2010
  - Source code downloadable from <http://grouper.ieee.org/groups/1159/3/docs.html> with a password.

# New Web Site in July 2012 to Assist in Collecting Information for New PQDIF IDs

- The task force has created a new web site that will allow users an easy way to submit new IDs for existing tags



# Example of Submitting a New ID for tagPhaseID

**Submission Form for New IEEE Std. 1159.3 IDs**

**PQDIF ID Values for tagPhaseID**

Name	Value	Standard	Status
ID_PHASE_AB	5	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_AN	1	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_BC	6	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_BN	2	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_CA	7	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_CN	3	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_1	19	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_10	28	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_11	29	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_12	30	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_13	31	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_14	32	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_15	33	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_16	34	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_2	20	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_3	21	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_4	22	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_5	23	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_6	24	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_7	25	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_8	26	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_GENERAL_9	27	Yes	Listed in IEEE Std. 1159.3-2003
ID_PHASE_IL_AVF	15	Yes	Listed in IEEE Std. 1159.3-2003

Please submit your suggested new ID name and value for tagPhaseID.

**Tag Name\*** tagPhaseID

**ID Name\***

**Value for ID**

**ID Description**

Please provide your contact information.

**Your Name\***

**Company Name**

**E-Mail Address\***

**Comments**

An asterisk (\*) Indicates that the field is mandatory for submission.

[IEEE Std. 1159.3 Task Force](#) | [Home](#) | [Feedback](#)



# PQDIF Group on LinkedIn

- New Group on LinkedIn
- Proposed Use: An open forum on changes to PQDIF
- Search for a group named “PQDIF Power Quality Data Interchange Format” or enter this hyperlink into a web browser: [www.linkedin.com/groups?gid=5108537](http://www.linkedin.com/groups?gid=5108537)
- Includes a discussion forum that is already being used.



# Last Meetings

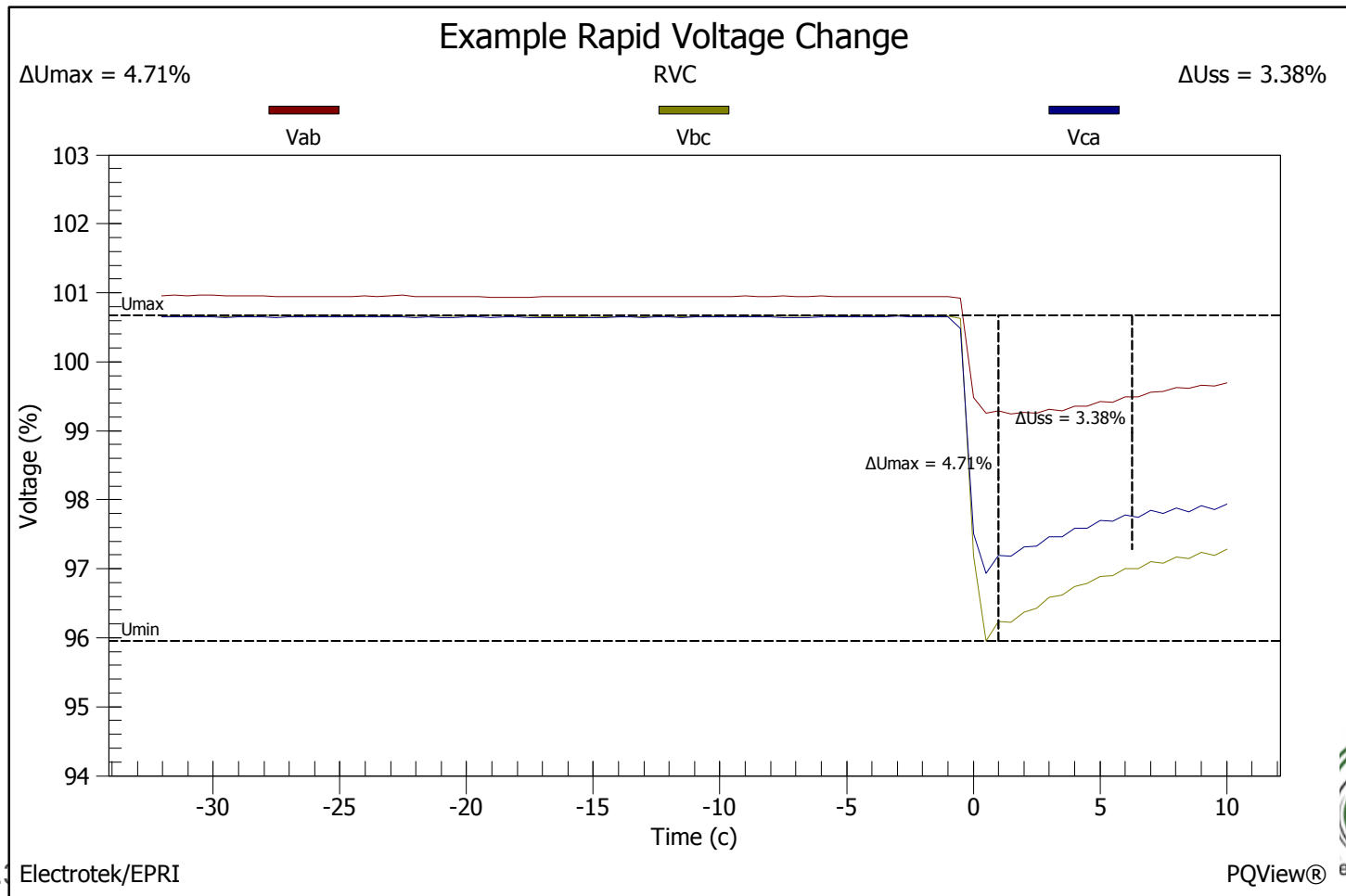
- IEEE PES Joint Technical Committee Meeting in Memphis, 14 January 2013
  - Attended by about fifteen people
  - Presented overview of updates of IEEE P1564 web site, and discussion of new tags needed
- Web Meeting, 18 July 2013
  - Attended by fifteen people, most of whom do not regularly attend IEEE PES meetings
  - Presented an overview of IEEE Std 1159.3-2003, on-line methods for submitting feedback and new PQDIF IDs, and requested participation of correspondence members
  - New task force members recruited during web meeting, including Fernando Pimenta of QEnergia, Praveen Buchupalli of Siemens, Stéphane Do of Qualitrol, and Jeffrey Wischkaemper of Texas A&M University

# Planned Task Force Activities during 2013-2015

- Apply for PAR for new version of IEEE Std 1159.3
- Complete editorial changes and corrections to 2003 edition of IEEE Std. 1159.3
- Add new ID values for existing tags
- Add new tags and ID values
- Add new quantity types
- Add annex on representation of PQDIF in XML
- Add annex on PQDIF and its relationship to IEC 61850
- Add annex on PQDIF and its relationship to IEEE/IEC COMTRADE
- Vote on new version of IEEE Std 1159.3 in 2016

# Revision Requested by Norwegian Regulator (NVE) in November 2012

- Provide quantity types of quantity characteristic ID values that could be used to store rapid voltage change (RVC) values for individual events and for RVC event lists



# July 2012 Draft of IEC 61000-4-30, Edition 3

## RVC Event Characterization

- The start time of an RVC event shall be time stamped with the time that the 'voltage-is-steady-state' logic signal became false and initiated the RVC event.
- The RVC event duration is 1 second shorter than duration of the false state of the 'voltage-is-steady-state' logic signal. If the RVC duration exceeds one minute, the RVC event may be reported with an undefined duration.
- The RVC event  $\Delta U_{max}$  is the maximum absolute difference between the  $U_{rms}(1/2)$  values during the RVC event, and the final  $U_{rms}(1/2)$  value during the preceding steady-state condition.
- The RVC event  $\Delta U_{ss}$  is the absolute difference between the final  $U_{rms}(1/2)$  value during the preceding steady-state condition and the  $U_{rms}(1/2)$  value when the steady-state logic signal goes true at the end of the RVC event.

# Proposed New Quantity Characteristic and Quantity Type IDs

- Recommendation
  - Use ID\_QT\_MAGDURTIME
    - Mag, dur, time, mag2
  - Text in 1159.3 needs to be edited to say that you must use mag, dur, and time as a minimum but could also have another magnitude, which would be defined as a new series value type.

# Proposed New Value Type ID: ID\_SERIES\_VALUE\_TYPE\_RMS

## Issue Raised by Stéphane Do and by Dan Sabin

- When storing a data log, many PQ monitors will store a minimum, average, and maximum value in regular intervals (e.g., once every ten minutes).
- When storing the data log for these values, you would set tagValueTypeID to ID\_SERIES\_VALUE\_TYPE\_MIN, ID\_SERIES\_VALUE\_TYPE\_AVG, or ID\_SERIES\_VALUE\_TYPE\_MAX
- However, IEC 61000-4-30 requires that the average be computed as the quadratic mean (not the arithmetic mean). The quadratic mean is also known as the root mean square or RMS value.
- Do we need to have an ID known as ID\_SERIES\_VALUE\_TYPE\_RMS to differentiate between the two averages?

# Existing and Proposed Quantity Characteristic IDs

ID_SERIES_VALUE_TYPE_AREA	ID_SERIES_VALUE_TYPE_P1	ID_SERIES_VALUE_TYPE_VAL
ID_SERIES_VALUE_TYPE_AVG	ID_SERIES_VALUE_TYPE_P10	ID_SERIES_VALUE_TYPE_XBINHIGH
ID_SERIES_VALUE_TYPE_BINHIGH	ID_SERIES_VALUE_TYPE_P5	ID_SERIES_VALUE_TYPE_XBINLOW
ID_SERIES_VALUE_TYPE_BINID	ID_SERIES_VALUE_TYPE_P90	ID_SERIES_VALUE_TYPE_YBINHIGH
ID_SERIES_VALUE_TYPE_BINLOW	ID_SERIES_VALUE_TYPE_P95	ID_SERIES_VALUE_TYPE_YBINLOW
ID_SERIES_VALUE_TYPE_COUNT	ID_SERIES_VALUE_TYPE_P99	
ID_SERIES_VALUE_TYPE_DURATION	ID_SERIES_VALUE_TYPE_PHASEANGLE	ID_SERIES_VALUE_TYPE_RMS
ID_SERIES_VALUE_TYPE_ELLIPSE	ID_SERIES_VALUE_TYPE_PHASEANGLE_AVG	
ID_SERIES_VALUE_TYPE_FREQUENCY	ID_SERIES_VALUE_TYPE_PHASEANGLE_MAX	
ID_SERIES_VALUE_TYPE_INST	ID_SERIES_VALUE_TYPE_PHASEANGLE_MIN	
ID_SERIES_VALUE_TYPE_INTERVAL	ID_SERIES_VALUE_TYPE_POLARITY	
ID_SERIES_VALUE_TYPE_LATITUDE	ID_SERIES_VALUE_TYPE_PROB	
ID_SERIES_VALUE_TYPE_LONGITUDE	ID_SERIES_VALUE_TYPE_STATUS	
ID_SERIES_VALUE_TYPE_MAX	ID_SERIES_VALUE_TYPE_TIME	
ID_SERIES_VALUE_TYPE_MIN	ID_SERIES_VALUE_TYPE_TRANSITION	



# Existing and Proposed Phase IDs

ID_PHASE_NONE	ID_PHASE_PLUS	ID_PHASE_GENERAL_13
ID_PHASE_AN	ID_PHASE_MINUS	ID_PHASE_GENERAL_14
ID_PHASE_BN	ID_PHASE_GENERAL_1	ID_PHASE_GENERAL_15
ID_PHASE_CN	ID_PHASE_GENERAL_2	ID_PHASE_GENERAL_16
ID_PHASE_NG	ID_PHASE_GENERAL_3	
ID_PHASE_AB	ID_PHASE_GENERAL_4	ID_PHASE_LN_MAX
ID_PHASE_BC	ID_PHASE_GENERAL_5	ID_PHASE_LN_MIN
ID_PHASE_CA	ID_PHASE_GENERAL_6	ID_PHASE_LL_MAX
ID_PHASE_RES	ID_PHASE_GENERAL_7	ID_PHASE_LL_MIN
ID_PHASE_NET	ID_PHASE_GENERAL_8	
ID_PHASE_TOTAL	ID_PHASE_GENERAL_9	
ID_PHASE_LN_AVE	ID_PHASE_GENERAL_10	
ID_PHASE_LL_AVE	ID_PHASE_GENERAL_11	
ID_PHASE_WORST	ID_PHASE_GENERAL_12	

# Disturbance IDs Discussion from PQDIF Group on LinkedIn

- We have IEEE Std 1159 disturbance categories, but what about EN 50160?

ID_DISTURB_1159_NONE	ID_DISTURB_1159_SHORTDUR_TEMP
ID_DISTURB_1159_TRANSIENT	ID_DISTURB_1159_SHORTDUR_TEMP_INTERRUPT
ID_DISTURB_1159_TRANSIENT_IMPULSIVE	ID_DISTURB_1159_SHORTDUR_TEMP_SAG
ID_DISTURB_1159_TRANSIENT_IMPULSIVE_NANO	ID_DISTURB_1159_SHORTDUR_TEMP_SWELL
ID_DISTURB_1159_TRANSIENT_IMPULSIVE_MICRO	ID_DISTURB_1159_LONGDUR
ID_DISTURB_1159_TRANSIENT_IMPULSIVE_MILLI	ID_DISTURB_1159_LONGDUR_INTERRUPT
ID_DISTURB_1159_TRANSIENT_OSCILLATORY	ID_DISTURB_1159_LONGDUR_SAG
ID_DISTURB_1159_TRANSIENT_OSCILLATORY_LOWFREQ	ID_DISTURB_1159_LONGDUR_SWELL
ID_DISTURB_1159_TRANSIENT_OSCILLATORY_MEDFREQ	ID_DISTURB_1159_IMBALANCE
ID_DISTURB_1159_TRANSIENT_OSCILLATORY_HIGHFREQ	ID_DISTURB_1159_POWERFREQVARIATION
ID_DISTURB_1159_SHORTDUR	ID_DISTURB_1159_VOLTAGEFLUCTUATION
ID_DISTURB_1159_SHORTDUR_INSTANT	ID_DISTURB_1159_WAVEDISTORT
ID_DISTURB_1159_SHORTDUR_INSTANT_SAG	ID_DISTURB_1159_WAVEDISTORT_DCOFFSET
ID_DISTURB_1159_SHORTDUR_INSTANT_SWELL	ID_DISTURB_1159_WAVEDISTORT_HARMONIC
ID_DISTURB_1159_SHORTDUR_MOMENT	ID_DISTURB_1159_WAVEDISTORT_INTERHARMONIC
ID_DISTURB_1159_SHORTDUR_MOMENT_INTERRUPT	ID_DISTURB_1159_WAVEDISTORT_NOTCHING
ID_DISTURB_1159_SHORTDUR_MOMENT_SAG	ID_DISTURB_1159_WAVEDISTORT_NOISE
ID_DISTURB_1159_SHORTDUR_MOMENT_SWELL	

# Proposed New EN 50160 Disturbance Categories

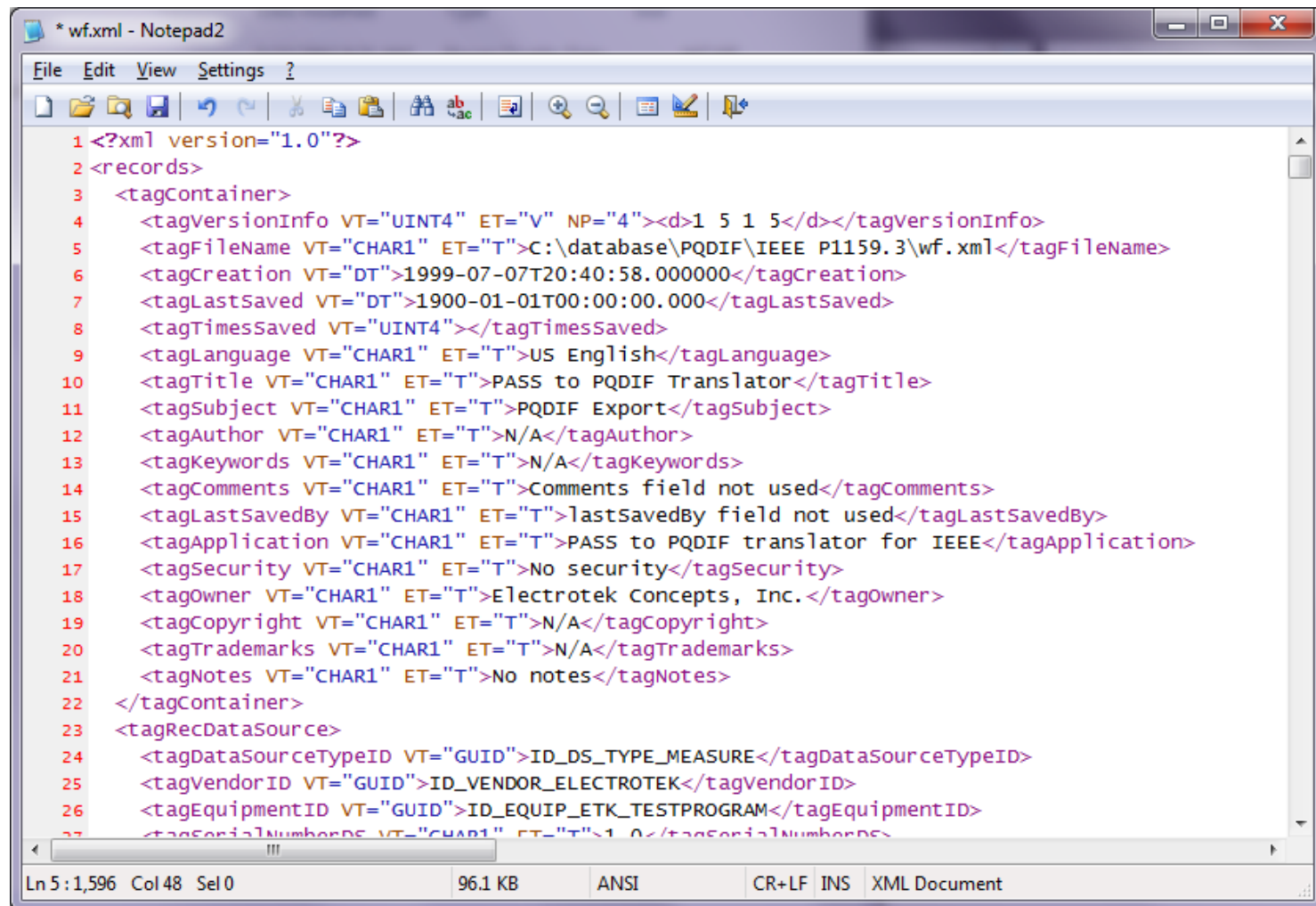
- Proposed by Fernando Pimenta and Praveen Buchupalli
  - tagEN50160DisturbanceID
    - ID\_EN50160\_DIP
    - ID\_EN50160\_SWELL
    - ID\_EN50160\_INTERRUPTIION

# Next Task Force Activities

## *Volunteers Needed Tag Review*

- tagPhaseID
  - ID\_PHASE\_AN, ID\_PHASE\_BN, and ID\_PHASE\_CN, etc.
- tagQuantityMeasuredID
  - ID\_QM\_VOLTAGE, ID\_QM\_CURRENT, etc.
- tagQuantityUnitsID
  - ID\_QU\_AMPS, ID\_QU\_PERUNIT, ID\_QU\_TESLAS
- tagQuantityCharacteristicID
  - ID\_QC\_RMS, ID\_QC\_THD, ID\_QC\_FLKR\_PST, etc.
- tagQuantityTypeID
  - ID\_QT\_WAVEFORM, ID\_QT\_PHASOR, ID\_QT\_MAGDUR, etc.

# Proposed Annex on Representation of PQDIF in XML



```
* wf.xml - Notepad2
File Edit View Settings ?
1 <?xml version="1.0"?>
2 <records>
3   <tagContainer>
4     <tagVersionInfo VT="UINT4" ET="V" NP="4"><d>1 5 1 5</d></tagVersionInfo>
5     <tagFileName VT="CHAR1" ET="T">C:\database\PQDIF\IEEE P1159.3\wf.xml</tagFileName>
6     <tagCreation VT="DT">1999-07-07T20:40:58.000000</tagCreation>
7     <tagLastSaved VT="DT">1900-01-01T00:00:00.000</tagLastSaved>
8     <tagTimesSaved VT="UINT4"></tagTimesSaved>
9     <tagLanguage VT="CHAR1" ET="T">us English</tagLanguage>
10    <tagTitle VT="CHAR1" ET="T">PASS to PQDIF Translator</tagTitle>
11    <tagSubject VT="CHAR1" ET="T">PQDIF Export</tagSubject>
12    <tagAuthor VT="CHAR1" ET="T">N/A</tagAuthor>
13    <tagKeywords VT="CHAR1" ET="T">N/A</tagKeywords>
14    <tagComments VT="CHAR1" ET="T">Comments field not used</tagComments>
15    <tagLastSavedBy VT="CHAR1" ET="T">lastSavedBy field not used</tagLastSavedBy>
16    <tagApplication VT="CHAR1" ET="T">PASS to PQDIF translator for IEEE</tagApplication>
17    <tagSecurity VT="CHAR1" ET="T">No security</tagSecurity>
18    <tagOwner VT="CHAR1" ET="T">Electrotek Concepts, Inc.</tagOwner>
19    <tagCopyright VT="CHAR1" ET="T">N/A</tagCopyright>
20    <tagTrademarks VT="CHAR1" ET="T">N/A</tagTrademarks>
21    <tagNotes VT="CHAR1" ET="T">No notes</tagNotes>
22  </tagContainer>
23  <tagRecDataSource>
24    <tagDataSourceTypeID VT="GUID">ID_DS_TYPE_MEASURE</tagDataSourceTypeID>
25    <tagVendorID VT="GUID">ID_VENDOR_ELECTROTEK</tagVendorID>
26    <tagEquipmentID VT="GUID">ID_EQUIP_ETK_TESTPROGRAM</tagEquipmentID>
27    <tagSerialNumbers VT="CHAR1" ET="T">1 0</tagSerialNumbers>

```

Ln 5:1,596 Col 48 Sel 0 96.1 KB ANSI CR+LF INS XML Document

# Proposed Annex on PQDIF's Relationship to IEC 61850

- IEC 61850-8-1 defines file classes that can be mapped to the Manufacturing Message Specification (MMS) file object.
  - PQD file
    - IEEE 1159.3 Format (Power Quality Data Interchange Format – PQDIF)
  - COMTRADE folder
    - A folder of COMTRADE files.
    - If the directory contains a file with a suffix of “zip”, that file shall convey the compressed contents of the COMTRADE hdr, cfg, and dat files of the files of the same name.
  - Other supported file types: bin, dtd, gif, htm, txt, xml, xsd, zip
- However, these file classes are not widely used in commercial software.

# Proposed Annex of PQDIF's Relationship to IEEE/IEC COMTRADE

- We plan to include an annex that compares PQDIF and COMTRADE?
- Source material for the annex could draw on the IEEE Power Systems Relaying Committee Working Group H5C report on “Common Data Format for IED Sampled Data”
  - Summarized PQDIF, COMTRADE, and 61850
  - Explained issues related to converting data between the formats

# What can you do to help?

- If you want to join the task force to receive drafts of new versions of to help in the revision, send your name, company, mailing address, telephone number, and e-mail address to [d.sabin@ieee.org](mailto:d.sabin@ieee.org) and [r.bingham@ieee.org](mailto:r.bingham@ieee.org).
- Submit Suggested New IDs for Existing Tags to [d.sabin@ieee.org](mailto:d.sabin@ieee.org) and [r.bingham@ieee.org](mailto:r.bingham@ieee.org) or to [www.pqdif.info](http://www.pqdif.info).
- Submit Structure of Proposed new Quantity Type Records to [d.sabin@ieee.org](mailto:d.sabin@ieee.org) and [r.bingham@ieee.org](mailto:r.bingham@ieee.org)



# Next P1159.3 Task Force Meeting

## Next Web Meeting

- Mid December 2013?

## IEEE PES Joint Technical Committee Meeting

- New Orleans, Louisiana, USA
- Monday, 13 January 2014