

IEEE P1159.3 PQDIF Task Force Meeting

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Meeting Agenda

- Introductions
- Patent Notice
- Task Force Overview
- PQDIF News
- Planned Task Force Activities
- Updates to PQDIF Values
 - New Web Site
- 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 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:
 - 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.
 - Don't discuss the interpretation, validity, or essentiality of patents/patent claims.
 - Don't 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
 - Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.
 - Don't discuss the status or substance of ongoing or threatened litigation.
 - Don't 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 Std 1159.3 Task Force

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

Secretary: Rich Bingham

What is IEEE 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 file format with a file usually ending in the file extension PQD
- PQDIF contains the following types of records
 - A single container record
 - One or more data source records
 - Channel and series definitions
 - One or more optional monitor settings records
 - One or more observation records
 - Waveforms, rms samples, data logs, histograms, magnitude-duration tables.

Task Force Meeting in July 2012

- Fourteen people attended the meeting in San Diego.
- Meeting Action Items
 1. Rich Bingham to produce minutes from meeting.
 2. Dan Sabin to develop and submit PAR based on scope and purpose of previous version.
 3. Theo Laughner to contact IEEE on blog site.

Review of July 2012 Task Force Meeting Action Items

1. Rich Bingham to produce minutes from meeting.
 - Submitted by secretary in July 2012. Posted to web site in January 2013
2. Dan Sabin to develop and submit PAR based on scope and purpose of previous version
 - No action taken
3. Theo Laughner to contact IEEE on blog site.
 - Dan Sabin contacted IEEE and created an initial blog site in August 2012.

PQDIF Application News

- China Southern Power Grid
 - Operates and oversees transmission and distribution grids in Guangdong, Guangxi, Yunnan, Guizhou, and Hainan Provinces
 - In January 2012, CSG began to integrate power quality monitoring data from the individual PQMS databases maintained by each province into a central database in Guangzhou.
 - Each province is required to provide data to CSG in IEEE PQDIF files monthly.
- Norwegian Water Resources and Energy Directorate (NVE)
 - Regulates Electricity in Norway
 - Requires utilities must continuously record power quality statistics for at least one measuring point in the MV network
 - The 2013 revision to NVE 1557 requires IEEE PQDIF files to be provided to the regulator once per year

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.
 - 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

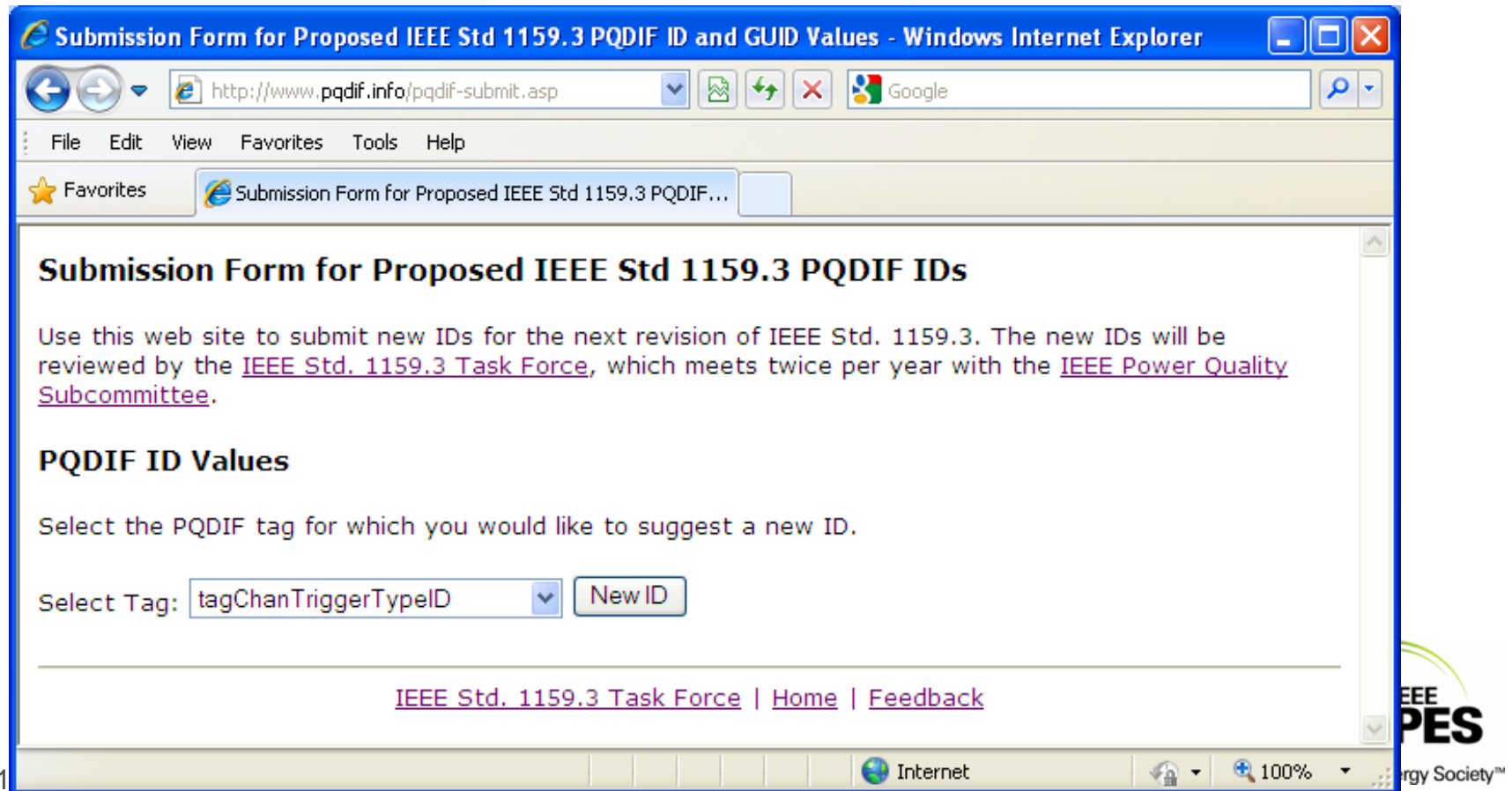
Recent P1159.3 Task Force Activities

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

- PQDCOM4.DLL
 - An ActiveX/COM Library for reading and writing PQDIF files maintained by task force member Bill Dabbs
 - 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.

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



The screenshot shows a Windows Internet Explorer browser window titled "Submission Form for Proposed IEEE Std 1159.3 PQDIF ID and GUID Values". The address bar shows the URL "http://www.pqdif.info/pqdif-submit.asp". The page content includes the following text:

Submission Form for Proposed IEEE Std 1159.3 PQDIF IDs

Use this web site to submit new IDs for the next revision of IEEE Std. 1159.3. The new IDs will be reviewed by the [IEEE Std. 1159.3 Task Force](#), which meets twice per year with the [IEEE Power Quality Subcommittee](#).

PQDIF ID Values

Select the PQDIF tag for which you would like to suggest a new ID.

Select Tag:

At the bottom of the page, there are links for [IEEE Std. 1159.3 Task Force](#), [Home](#), and [Feedback](#). The browser's taskbar at the bottom shows the system tray with the Internet icon, a search icon, and a 100% zoom level. The IEEE PES logo is visible in the bottom right corner of the browser window.

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

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](#)

Recent P1159.3 Task Force Activities

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

- PQDIFNet.DLL
 - A .NET Component for reading and writing PQDIF files written by new task force member Bill Wyatt
 - Source Code downloadable from <http://grouper.ieee.org/groups/1159/3/docs.html> with a password.

Recent P1159.3 Task Force Activities

IEEE P1159.3 Central Desktop

- Created in August 2012
- <https://ieeesa.centraldesktop.com/1159-3/>.
- Allows people other than chair to post documents to an IEEE web site for IEEE P1159
- As of now, just minutes to meetings were posted while we experiment with site's features.

Planned Task Force Activities during 2013-2014

- 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 annex on PQDIF and its relationship to IEC 61850
- Add annex on PQDIF and its relationship to IEEE/IEC COMTRADE
- Add new ID values for existing tags
- Add new tags and ID values
- Add new quantity types
- Promote new IDs to software developers using PQDIF and solicit input and more active participation

Proposed New Quantity Characteristic Needed?

- Asked by Alex McEachern
 - How should we go about adding to PQDIF the new IEC 61000-4-30 measurements of 2kHz-150kHz conducted emissions?
- Current values for tagQuantityCharacteristicID related to harmonics:
 - ID_QC_SPECTRA
 - ID_QC_SPECTRA_HGROUP
 - ID_QC_SPECTRA_IGROUP

Revision Requested by 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

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?

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 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

- Should we 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

Task Force Action Items

- Coordination with Correspondence Liaisons
 - Known third parties should be notified that there is a new draft of the standard and source code available for review.
 - Nick Smith will schedule a web meeting in April 2013 using mailing lists provided by Dan Sabin
- Dan Sabin to review PAR for IEEE Std 1159.3 2003 and write a new one for a PAR to revise IEEE 1159.3
- Dan Sabin to work with Alex McEachern to add IEC terminology for RVC events into PQDIF 1.6.1.
- State Tatum to review lists of IDs from 2003 standard with Dan Sabin to quickly identify missing power systems or power quality terms
- Dan Sabin to post new PQDIF 1.6.1 documents to task force web site in June 2013.

Next Task Force Meeting

- 2013 IEEE PES General Meeting
 - Monday, July 22, 2013
 - Vancouver, British Columbia, Canada