

## Minutes of Meeting

IEEE PSCCC- F0 Meeting - Charlotte, NC.

Date: March 20 – 21, 2019

Items discussed:

January 13-19, 2019, Joint JTCM PSRCC/PSCC Power Systems Communications Committee meetings:

There was no representation from our subcommittee. There are changes happening within IEEE organization. We provided a presentation to Craig Preuss and Ken Fedoro (Chair) on standards coordination effort. There are no comments back from the meeting and whether they had a chance to present in the Tech Council. Since it is not a priority item, an update will be provided in the summer conference call.

Our Fiber Optic subcommittee under PSCC is now named: PSCCC-F0.

CIGRE Working Group on Submarine Cable:

CIGRE is interested in having representation on a new working group dealing with Submarine fiber optic cables. (The email was sent by Bill Byrd. The due date is March 25,2019!).

Liaison Activities:

IEEE D2 525 Working Group, IEEE PSCCC-E0 (formerly Wireline) subcommittee:

A presentation on liaison activities with these two groups will be attached. IEEE 525 is due for publication in 2021.

IEEE 524:

Bob Kluge has compiled a word document (attached) covering all the areas in standard 524 dealing with special conductors (e.g. OPGW, ADSS, Wrap) which overlap our group's work. There are concerns with recommended sheave sizes,...

Would like subcommittee members to comment or make editorial changes in this word document and send comments back to Denise Fry. The consolidated document will be sent to IEEE 524 as our comments to the standard. The comments will be discussed in the June conference call. We may communicate an outline to IEEE 524 in August 2019 so that they can ask for a PAR extension if needed. The comments will be finalized in the September 2019 meeting and sent to IEEE 524.

Going forward and with respect to OPPC installation, would it be beneficial if our subcommittee (as subject matter experts) provide a complete package on installation of specialty cables to IEEE 524? Perhaps need to discuss and make decision in the conference call.

IEC liaison: IEEE Creep Tests and IEC Methods

IEEE 1222 creep test is an optional test. It allows the use of one of two test methods: IEC 61395 (Overhead Electrical Conductors—Creep Test Procedures for Stranded Conductors) or IEC 60794-1-21 Method E32.

The IEC ADSS standard (IEC 60794-4-20) specifies the new IEC 60794-1-21 E32 test method but allow the use of the previous IEC 61395 test method if agreed between the purchaser and supplier.

Josep Martin (PEP) will join Jim Ryan on liaison activities with IEC and will circulate the minutes from the last IEC meeting.

IEEE 1222 Standard – Completed: Jim Ryan:

PAR approved two weeks. Voted out and IEEE wouldn't accept it without the changes in the PAR. PAR is done and approved. Re-submit for ballot after the meeting.

IEEE 1591.1: OPGW Hardware Revision: John Jones & Bob Kluge: Status Report

PAR Approved until December 31, 2022.

John and Bob will discuss comments on the proposal off-line and present at a future meeting. Not prepared to discuss in this meeting.

IEEE 1138: OPGW Revision:

Outstanding issues, tension test, lightning and others...

The committee went through all the comments as compiled by Jacklyn Whitehead. Since there is more work to be done in resolving all the comments, it was decided that we ask for PAR extension and revise the standard in the fall meeting. Hope to get 1138 out of committee after the September meeting.

PAR two year extension request will be sent to Erin Spiewak (our IEEE liaison taking over from Michael Kipness).

The table will be attached to these notes.

Some of the issues raised (not all) are:

Water blocking compound/filling compound: Decided that we will use the definition from IEEE 1222 and put it in the glossary section. The actual definition plus some of the additional additions provided by committee will go in the 6.4.3.5 section.

As a sideline to the water blocking discussion, Jim Ryan mentioned that certain FOTPs such as the water penetration (FOTP-82-B) are coming up for ballot in TIA and members of the subcommittee may be able to cast vote on it if they have access.

Temp Cycling: Currently calling for procedure in EIA/TIA 455-3 (FOTP-3). Would it be beneficial to remove reference to this standard, last modified in 2009?

Lay length Measurement under routine tests: If there are two layers with different lay directions, both layers should be measured. The current written procedure doesn't allow for measuring multiple layer cables.

OPGW lightning performance (Jacklyn Whitehead):

Bob Kluge, Bruce, Jacklyn, Tewfik, Joseph and Mike Riddle, Corrine Dimnik (and D. Khomarlou) to meet and sort out some of the issues before the June conference call. Following the meeting, the group (minus Corrine who was absent) went through a section of lightning tests and agreed to hold a WebEx in April to go through the comments. Final revisions will be for September meeting.

1594 & 1591.3: Wrap Cable standard and hardware: Status Report

Submitted to NESCOM

1591.4 OPPC Hardware

IEC OPPC Cable Standard update: From Michael Kinard (OFS) email

“Recall that we tried to achieve a coordinated approach between IEEE and IEC on OPPC. It failed due to objections from the IEC caucus. But, we, as an Industry, do need to try to have as coordinated approach as we can so that things don't get too divergent.

The ballot of this IEC document, 86A/1851/NP, closed last week. So far, there is no CC (collection of comments), so we don't know what was put on the table. The US had no comments.

IF YOU HAVE ANY INPUT, it would be a forward step in the development of this subject. This will be discussed at the IEC SC86A WG3 meeting on 8-10 April 2019. Understand that this NP is the first ballot level in the document development, so any input may well be influential.

If you have anything, please get it to me or to your WG3 member. C.O.B. on 6 April would be a good DEADLINE.”

IEEE 1595 PAR has been approved until December 2021.

ZTT provided a presentation on the differences between IEEE 1591.1 and 1591.4 (OPPC Hardware).

A word document accompanying the presentation goes into details of each test. Changes were made at the meeting

The current word document on OPPC cable (IEEE 1595) is dated October 2017. The latest copy will be attached here.

Highlights of some of the discussions on OPPC (not all) are:

IEEE 1595 and 1591.4 standards will have a change in the Introduction section to state that “this standard and OPPC cable installation, in general, only applies to voltages below 138 kV”. The statement must be placed in the overall introduction section for both documents and not be contradicted in subsection.

OPPC installations in China are mostly on 110 kV (Transmission) and 35 kV lines (Distribution). The most common distribution lines in China are 35 kV and 10 kV. Normally installed on one phase and then electrically matched.

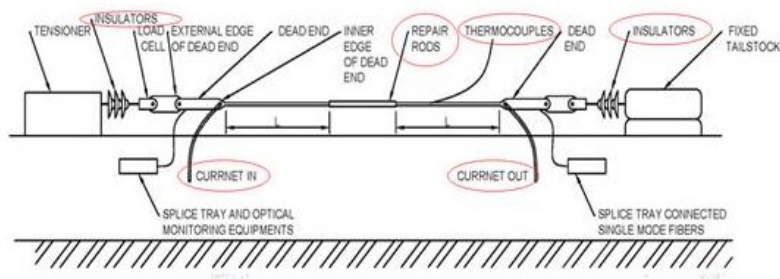
Need one test to proof the performance of deadends at the operation temperature of the OPPC. To simulate the field conditions, current injection points (in and out) shall be located on the OPPC between the isolator and the tension deadend.

A second test might be required to proof the performance of the repair rod set at high temperature. The setup for the test shall be similar to the previous one, but OPPC shall have some broken wires. The objective of the test shall be to verify that cable strength is recovered at the operation temperature of the OPPC

## 2. Different



### Clause 5.5.2.1.2 Tensile test at high temperature, table 5



Tensile test at high temperature diagram.

The pass-through Electrical-Optical Isolator is to be included in the standard for completeness.

Insulator tests in the standard are currently per IEC. Should have an equivalent ANSI C.29 suite of standards or NEMA (National Electrical Manufacturer's Association).

Next Steps (OPPC):

ZTT and Joseph Martin (PEP) to coordinate to go over the comments and work on the 1595 in meeting in Shanghai in October 2019 and have a revision for the Dec. 2019 conference call.

OPPC effort and coordination with IEC, if required, should be done through Michael Kinard (via Pete Welmann - OFS) and Joseph Martin. Joseph would coordinate the OPPC open platform effort with IEC.

Next Meeting/Conference Call:

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Conference call: June 26, 2019 at 11:00 AM EDT. Duration: 1 hr. Details and WebEx (if possible) will be sent.

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Next face-to-face meeting: Wednesday and Thursday September 18-19. Meeting starts at 12:00 AM on Wednesday. If cheaper for members, may consider Monday/Tuesday September 16/17.

Hotel: TBD.