

From: [Mike Annon](#)
To: [Holonich, Joseph](#)
Cc: [Morey, Dennis](#); [Taneja, Dinesh](#); iceng2008@aol.com
Subject: [External_Sender] Additional Comments on the 8/21/19 Meeting To Discuss the EPRI research report on SIL, NEI 17-06 and NUPIC
Date: Monday, August 26, 2019 7:12:29 PM

Joe,

I appreciate you facilitating NEI responses to my 8/21/19 comments. Please see my feedback (in this *blue italic font* below) on the NEI provided responses to my previous 8/21/19 comments.

In addition, to my comments below, I offer the following new comments for the NRC to consider:

Additional Comment 1. I'd suggest that NEI 17-06 or whatever NRC document uses to endorse the final approaches being proposed by NEI 17-06 include a Table of which of the EPRI TR 106439 requirements are still be invoked; or alternatively, which of the EPRI TR 106439 requirements are being voided. Whatever list would be the shorten list would be preferred.

Bases for my Additional Comment 1:

(1a) My reviews of NEI 17-06 do not provide me a clear understanding of which portions of EPRI TR 106439 are being retained versus eliminated.

(1b) Up to this point, it's my understanding that EPRI TR-106439 would be an integral part the new process(es). For example,

(1b-1) The NEI 2017 MP3 Scope document (ML17044A027) stated (in Part): "It's with respect to demonstrating "dependability" related critical characteristics that the nuclear industry seeks to leverage independent, third-party SIL 3 certification of digital equipment, **within the NRC-endorsed EPRI TR-106439 process.**" [NOTE: I added the yellow highlighting for emphasis]

(1b-2) An NRC Presentation 0611-15 2017 (ML17160A188) Slide 10 stated (in part): "IEC 61508 / 61511: – Acceptance process for most digital CGI comprise of a variety of technical activities conducted in significant details per guidance in EPRI TR-106439"

(1b-3) The NRC's 1997 acceptance of EPRI TR-106439 (as documented in ML092190664) states in part "While the staff finds TR-106439 acceptable, it is a generic proposal and therefore, licensees referencing TR-106439 will need to document the details regarding the dedication process and specific critical characteristics including the verification information described in Standard Review Plan Chapter 7 such as qualification reports, system description and software and hardware design and quality assurance documentation."

Additional Comment 2. Are the requirements of Section 6 of the Draft NEI 17-06 consistent with the NRC Meeting Minutes 021617 (ML17045A416) which stated (in part) "The NRC staff noted that applying a process similar to that found in the NEI 14-

05, Revision 1, could be a viable option should NEI and other industry representatives form a group to perform periodic oversight of the third party certification process, and the NRC technical staff finds IEC 61508 acceptable."

Bases for my Additional Comment 2: I did not find any references to NEI 14-05 Rev 1 in the August draft of NEI 17-06.

Additional Comment 3. If IEC 61508 is ADAMS, could you please provide me the Accession Number? If IEC 61508 is not in ADAMS, shouldn't it be added so that members of the Public can see what are the requirements actually stated in IEC 61508?

Bases for my Additional Comment 2: As I noted below, I could not locate a copy of IEC 61508 in ADAMS. In ADAMS, I was able to locate documents that reference IEC 61508; but, not IEC 61508 itself.

Also, for you information, I wanted to provide you a brief summary of my background so as to help you understand the bases for my concerns about the current version of NEI 17-06 and my desire to provide constructive comments to support NEI 17-06 stated purpose: "The purpose of this supplemental guidance is to provide an acceptable approach for procuring and accepting commercial grade digital equipment for nuclear safety applications that have a safety integrity level (SIL) certification by an accredited third party SIL certification body." My background includes:

- Over 45 years of experience at ~50 Nuclear & Fossil Fueled Power Plants, and several Department of Energy (DOE) facilities with the substantial portions of my technical experiences involved with the design and implementation of I&C and Electrical systems.
- Past ISA Member/Senior Member for over 20 years; Past Secretary/Vice Chairman of SP67.04 & SP67.15 Committees, on Setpoints for Nuclear Safety-Related Instrumentation for 6 years; Past Member SP67 Nuclear Standards Committee, and Standards & Practices Liaison to IEEE SC-2 Committee (for 4 years)
- Past Member of IEEE where I had memberships that included: Power Engineering Society for 16 years; SC-2 Committee, "Qualification" for 4 years
- B.S Degree in Electrical Engineering

If any of the NRC or NEI Staff wish to get clarification of any of my comments, please don't hesitate to contact me directly.

Thank you, in advance, for taking your time to consider my comments.

Mike Annon, PMP 860.460.3911
Owner, I&C Engineering Associates

-----Original Message-----

From: Holonich, Joseph <Joseph.Holonich@nrc.gov>

To: 'Mike Annon' <iceng2008@aol.com>

Cc: Morey, Dennis <Dennis.Morey@nrc.gov>; Taneja, Dinesh <Dinesh.Taneja@nrc.gov>

Sent: Thu, Aug 22, 2019 10:15 am

Subject: FW: Re: Today's Meeting To Discuss the EPRI research report on SIL, NEI 17-06 and NUPIC

Mike,

Please see the NEI responses. Note I plan to put this email chain in ADAMS and the meeting package.

joe

From: ASSARD, Maria <mea@nei.org>
Sent: Thursday, August 22, 2019 9:55 AM
To: Holonich, Joseph <Joseph.Holonich@nrc.gov>
Cc: Morey, Dennis <Dennis.Morey@nrc.gov>; Taneja, Dinesh <Dinesh.Taneja@nrc.gov>; ODESS-GILLET, Warren <wog@nei.org>; GEIER, Stephen <seg@nei.org>; VAUGHN, Stephen <sjv@nei.org>
Subject: [External_Sender] Re: Today's Meeting To Discuss the EPRI research report on SIL, NEI 17-06 and NUPIC

Joe

Here is a response to the questions:

"The bases for my question are:

- Page 2 of the current Draft Rev A of NEI 17-06 states (in part) – “Accordingly, a survey team may need to include specialists who understand the device design, the software, and the system in which it will be applied, in addition to quality assurance and programmatic issues.” **NEI: This is a quote from EPRI TR 106439 on guidance for the survey team to conduct a commercial grade survey to evaluate dependability critical characteristics.** *MCA: So if it's being proposed by NEI to remove this survey team requirement of EPRI TR 106439, why is wording being retained? From my perspective, retaining this wording related to the survey team requirements appears to be a conflict.*
- I could not find anywhere in the document that delineates who has the responsibility to make that decision or what criteria is to be used to make that decision of a specialist being involved (or not). **NEI: The purpose of NEI 17-06 is to justify why it is acceptable to credit appropriate SIL certification as a replacement for the EPRI TR 106439 commercial grade survey to evaluate dependability critical characteristics. As a result, there would be no survey team to be formed in this case.**
- The only other text related to the use of specialists, that I could locate, was on Page 12 where the mention was made of an EPRI TR 106439 **suggestion** to include such specialists. **NEI: Because NEI 17-06 is justifying replacing the need for a licensee to form a commercial grade survey team, to evaluate dependability critical characteristics, with SIL certification by an accredited certifying body, the licensee no long needs these specialists. The accredited certifying body has the specialists to evaluate the design process and design attributes of the commercial grade item to the requirements of IEC 61508. The requirements for the certifying body to have such specialists is part of the certifier's accreditation.** *MCA: I could not locate a copy of IEC 61508 in ADAMS; therefore I could not review IEC 61508 to see what are the specific requirements as to any specialists being part of a certifier's accreditation.*

It would appear to me that such specialists should be an integral part of the survey team, especially since other parts of 17-06 are using "reasonable assurance" approaches to ensure quality is provided. **NEI: NEI 17-06 is justifying that a survey team is not required when an accredited certifying body has performed an evaluation of the commercial grade item as part of the SIL certification process."** *MCA: If IEC 61508 does contain specific requirements for specialists being part of a certifier's accreditation, then that requirement should provide the basis for a solid "reasonable.assurance" process.*

Maria Assard

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From: Holonich, Joseph <Joseph.Holonich@nrc.gov>
Sent: Wednesday, August 21, 2019 3:01 PM
To: ASSARD, Maria; ODESS-GILLETT, Warren; VAUGHN, Stephen; GEIER, Stephen
Cc: Morey, Dennis; Taneja, Dinesh
Subject: [EXTERNAL] FW: Today's Meeting To Discuss the EPRI research report on SIL, NEI 17-06 and NUPIC

NEI Folks,

Can you answer Mike's question? Note I will put the response in ADAMS.

Joe

From: Mike Annon <iceng2008@aol.com>
Sent: Wednesday, August 21, 2019 2:59 PM
To: Holonich, Joseph <Joseph.Holonich@nrc.gov>
Cc: iceng2008@aol.com
Subject: [External_Sender] Today's Meeting To Discuss the EPRI research report on SIL, NEI 17-06 and NUPIC

Joe,

Unfortunately, I was unable to participate in this morning's call. I had an unforeseen client issue arise this morning that I had to address.

There is one question that I would have liked to ask during the call (if I had been able to participate). - **My question is** "Does 17-06 include any requirement(s) as to who has the responsibility to make the decision to include (or exclude) the use of specialists) on the survey team) or what criteria is to be used to make that decision of a specialist being involved (or not)?"

The bases for my question are:

- Page 2 of the current Draft Rev A of NEI 17-06 states (in part) – "Accordingly, a survey team may need to include specialists who understand the device design,

the software, and the system in which it will be applied, in addition to quality assurance and programmatic issues.”

- I could not find anywhere in the document that delineates who has the responsibility to make that decision or what criteria is to be used to make that decision of a specialist being involved (or not).
- The only other text related to the use of specialists, that I could locate, was on Page 12 where the mention was made of an EPRI TR 106439 **suggestion** to include such specialists.

It would appear to me that such specialists should be an integral part of the survey team, especially since other parts of 17-06 are using "reasonable assurance" approaches to ensure quality is provided.

I look forward to being able to participate in the next meeting

Mike Annon, PMP 860.460.3911
Owner, I&C Engineering Associates

-----Original Message-----

From: Holonich, Joseph <Joseph.Holonich@nrc.gov>
To: Taneja, Dinesh <Dinesh.Taneja@nrc.gov>; ASSARD, Maria <mea@nei.org>; ODESS-GILLET, Warren <wog@nei.org>; Ortega-Luciano, Jonathan <Jonathan.Ortega-Luciano@nrc.gov>; Rahn, David <David.Rahn@nrc.gov>; Warner, Dan <Daniel.Warner@nrc.gov>; Prescott, Paul <Paul.Prescott@nrc.gov>; Galletti, Greg <Greg.Galletti@nrc.gov>; Yang, Yaguang <Yaguang.Yang@nrc.gov>; Salgado, Nancy <Nancy.Salgado@nrc.gov>; Waters, Michael <Michael.Waters@nrc.gov>; Paige, Jason <Jason.Paige@nrc.gov>; Koshy, Thomas <Thomas.Koshy@nrc.gov>; Kallan, Paul <Paul.Kallan@nrc.gov>; Alvarado, Rossnyev <Rossnyev.Alvarado@nrc.gov>; Darbali, Samir <Samir.Darbali@nrc.gov>; GEIER, Stephen <seg@nei.org>; 'VAUGHN, Stephen' <svj@nei.org>; 'Jana Bergman' <janalb@comcast.net>; 'iceng2008@aol.com' <iceng2008@aol.com>
Sent: Tue, Aug 20, 2019 12:35 pm
Subject: Attached is the Industry Presentation for tomorrow. It is in the ADAMS package and the meeting notice once it is public. Joe (EOM)
Please join my meeting from your computer, tablet or smartphone.
<https://global.gotomeeting.com/join/204103045>

Join the conference call:
Conference Line: 888-609-9306
Passcode: 10022

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