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Meeting: ISA77 Fossil Fuel Power Plant Standards Committee
Chairman: Daniel Lee
Recorder: Eliana Brazda/Daniel Lee
Date/Time: November 13, 2019; 11:00 – 11:45 am EST.
Location: Skype Meeting
Distribution: ISA77 Members
ISA77 Working Group Members
Charley Robinson – Director, ISA Standards Administration
Eliana Brazda – ISA Standards Administration
Chris Monchinski – VP, ISA S&P Board
Kim Belinsky – ISA Manager, Conferences and Events
Xinsheng Lou – ISA POWID Director
Joe Weiss – ISA77 S&P Managing Director

Attendees:

Members

Daniel Lee (Chair)
Gary Cohee
Mike Cushing
Mark Faurot
Shams Ul Islam Haleem
Henrik Johansen
Sinming Kwong
Xinsheng Lou
Alan Robertson
Dave Roney
William Talbot
Eliana Brazda (ISA Staff)

Guests

1. Call to Order

The ISA77 Fossil Fuel Power Plant standards committee meeting was called to order at 11:05 p.m. EST by ISA77 Chair, Dan Lee.

2. Introduction of Attendees

Dan welcomed Shams Ul Islam Haleem (Saudi Electricity Co.) to the ISA77 meeting. Shams is a new member to the ISA77 committee and introduced himself. Other members attending announced themselves.

3. Review & Approve Agenda

The ISA77 committee meeting agenda was previously distributed with the meeting invitation. Dan displayed a revised agenda to include a new business item from Mohamed Ibrahim. Dan asked if there were any other comments or corrections to the agenda. With no changes, Mike motioned to approve the agenda, Alan seconded the motion. Nobody declined the motion, so the agenda was approved as written (**Attachment A**).

4. Review & Approve Minutes of Last Meeting

The July 3, 2019 ISA77 committee meeting minutes were distributed electronically along with an approval ballot. With no reported changes, the previous minutes were approved via electronic ballot. The July 3rd meeting minutes are available on the ISA77 committee web site.

5. Chair Opening Remarks

Dan welcomed all ISA77 members to the Skype meeting and thanked everyone for their attendance. To the Chair's knowledge, since the July 3rd ISA77 Skype meetings, there have been no working group meetings. The purpose of this meeting is to review the status of documents in draft, in revision cycle, or in reaffirmation cycle.

As an action item from the July 3rd meeting, a call for members to the ISA77.20 (simulation) working group was posted in the *Inside ISA* online publication and included within the POWID summer newsletter. Bill reported that he has not received any interest in becoming a new member of ISA77.20. Dan will again post a call for members in the POWID fall newsletter.

Dan reported that ANSI/ISA-77.82.01-2019, *Selective Catalytic Reduction (SCR) Control Systems*, has been approved as an American National Standard by ANSI and is now available.

As noted in previous meetings, the position for ISA77 Vice Chair is vacant. It has become evident that the Chair's interest in performing the duties of ISA77 Chair wane as a result of his pending retirement. As such, Dan Lee announced his resignation as ISA77 Chair effective with the S&P approval of a new ISA77 Chair. He has solicited Sinming Kwong (Emerson) to be a nominee for the ISA77 Chair. Sinming has received management approval and is willing to assume this position. Dan would like to open the floor (Skype line) to any individual who would like to be considered a nominee for either the ISA77 Chair or ISA77 Vice Chair position. No other nominees were proposed.

Eliana explained that the procedure to approve a new committee chair requires the ISA77 Managing Director's (Joe Weiss) approval. Dan will contact Joe.

6. Managing Director Opening Remarks

Dan reported that Joe Weiss was not present and no report was submitted. Dan reported that the ISA Annual Leadership Conference was held 25-28 October 2019 in San Diego, California, USA. The S&P Board met during the conference, but the meeting minutes have yet to be distributed.

7. ISA77 Active Working Group Reports

Working Group	Published	Status	Chair Report
ISA77.00 General			
ISA77.00.01 Definitions and Design Consideration	2019	New report	Dan reported that the document was submitted to the S&P Board for approval and then will be published. Eliana will follow up.
ISA77.10 Turbine Series			
ISA77.13 Turbine Steam Bypass Systems	2008	In Revision cycle	Alan Robertson was present and reported that the working group is preparing new content for turbine bypass of a combine cycle unit. Author assignments were made, and a future Skype meeting will be scheduled.
ISA77.14.01 Steam Turbine Controls	2019	In Reaffirmation cycle	Dan reported that ANSI public review closed 5/6/2019 with no comments and now the S&P Board needs to approve the document. Afterward the document will be published. Eliana will follow-up
ISA77.20 Plant-wide Series			
ISA77.20.01 Fossil Power Plant Simulators	2012	In Reaffirmation cycle	Bill Talbot was present and reported that he would like to start a revision cycle, but committee membership is low. As such, Bill would like to solicit new members.
ISA77.22.01 Power Plant Automation		New Standard	Henrik was present and reported that not much progress has been made on the document. Henrik reported that there have been a couple new individuals who would like to contribute to the document. While Henrik plans on updating the draft for the working group to review and convene a Skype meeting, he needs first to complete some work assignments.
ISA77.30 Plant Performance Series			
TR77.30.01 Dynamic Performance for Power Plant Control Systems	2015	Current Technical Report	Report not required
ISA77.40 Boiler Series			
TR77.40.01 Functional Diagramming	2016	Current Standard	Report not required.
ISA77.41.01 Boiler Combustion Controls	2016	Current Standard	Report not required.
ISA77.42.01 Feedwater Control – Drum Type	2019	Current Standard	Report not required.
TR77.42.02 Feedwater Controls-Drum Level Measurement	2014	Current Technical Report	Dan reported that this document will not start its reaffirmation cycle until a need has been identified.
ISA77.43.01 Unit Plant Demand Development	2014	Current Standard	Dan reported that this document will not start its reaffirmation cycle until a need has been identified.
ISA77.44.01 Steam Temperature Controls	2013	In Revision cycle	Paul was not present. Dan reported that the document was approved with a few comments at the ballot. The next task is to resolve the few comments.

ISA77.60 HMI Series			
ISA77.60.02 HMI: Hard Panel Alarms	2014	Current Recommended Practice	The ISA-RP77.60.02 document is probably not relevant as HMI has mostly gone to soft control. As such, ISA77 does not plan to reaffirm this document.
ISA77.60.04 HMI: Electronic Screen Displays	2013	Current Technical Report	The ISA 101 document is more current and more extensive than the ISA-TR77.60.04 document. As such, ISA77 does not plan to reaffirm this document.
RP77.60.05 HMI: Task Analysis	2012	Current Recommended Practice	Dan reported that this document will not start its reaffirmation cycle until a need has been identified.
ISA77.70 Instrument Series			
TR77.70.01 Tracking and Controlling Instrument Documentation in Fossil Power Plants	2015	Current Technical Report	Report not required
ISA77.70.02 – Instrument Piping Standards	2014	Current Standard	Dan reported that this document will not start its reaffirmation cycle until a need has been identified.
ISA77.80 Post Combustion Series			
ISA77.82.01 – SCR Instrumentation and Controls Standard	2019	Current Standard	Report not required.

8. Liaison Reports

NFPA 85 – Dan Lee reported that NFPA 85 R2019 is now available. The NFPA 85 Code’s next revision cycle is 2023 so the NFPA 85 committee probably will not meet again until 2021.

ISA 84 – ISA-TR84.00.03, *Automatic Asset Integrity of Safety Instrumented Systems (SIS)* – balloting completed. The document was approved by the S&P Board on August 14th.

The ISA84 standards committee, Instrumented Systems to Achieve Functional Safety in the Process Industries, completed a revision of ISA-TR84.00.07, *Guidance on the Evaluation of Fire, Combustible Gas, and Toxic Gas System Effectiveness*, in 2018.

ISA 101 - The ISA101 standards committee has now published the first in a series of technical reports to provide further guidance in key areas of HMI. ISA-TR101.02, *HMI Usability and Performance*, addresses the specification, design, implementation details, and management of an HMI focused on usability and performance.

ISA75 - *Control Valve Standards*, has completed a revision of ANSI/ISA-75.05.01, *Control Valve Terminology*. The standard provides a glossary of definitions commonly used in control valve applications across industry.

ISA99 - *Industrial Automation and Control Systems (IACS) Security*, has begun work on an ISA Technical Report to be titled, *Applying ISA-62443 to the Industrial Internet of Things (IIoT)*.

9. Old Business

- a) Dan reminded members to solicit individuals within the power industry to join the ISA77 committee.
- b) Dan reminded working group chairs to schedule Skype meetings.

10. New Business

- a) In reference to his 8/4/2019 email, Mohamed Ibrahim proposed that the power industry has changed a lot in the last decade and the interest to introduce new types of power plants increases year after year, so his suggestion is to add to the scope of ISA77 new types of power plants, such as biofuel power plants, Biomass power plants, hydrogen power plants, and concentrated solar power plants; most of these plants include parts that are similar to ordinary fossil fuel power plants. This scope expansion may help to attract new members from the power industry and academia.

The committee members discussed Mohamed's proposal. The idea of expanding the ISA77 scope has been discussed before. The committee investigated hydro within the ISA77 standards but found that IEEE has already written multiple standards on this topic. The ISA S&P Board will not support a new standard if the industry already has existing standards. At one time, during Leo Staples' ISA presidency, ISA staff was looking into solar and wind but the need for a "system" standard was not an industry need. The ISA staff did find that grid stability was a current industry interest, but NERC and EPRI were the organizations better able to cover this topic. Also, the current ISA77 membership (power generation) did not have experience with wind, solar, or grid stability. ISA77 has been expanding its standards to cover combined cycle but has not specifically addressed biofuel because these fuel types have been outside the committee's normal oil, gas, and coal; and biofuel is such a small market. Remember, ISA77 standards address boilers with steaming capacity of 200,000 lbs/hr (25 KG/s) or greater which matches the NFPA 85 MBB standard. As such, NFPA 85 does not address biofuel specifically. The committee could lower the steaming capacity requirement to address smaller package, power, and biofuel boilers. However, small boilers are not a new industry and members have not found this group of boilers needing any new standards. Typically, the smaller boilers follow state required boiler codes, and the systems are basically "products".

The committee acknowledges that younger engineers, who are still working in the fossil fuel industry, are needed to retain/maintain the current ISA77 knowledge base for the future.

- b) As committee members may be aware, next year will mark the 75th anniversary of the Society. This is a major milestone for a venerable organization such as ISA, and the ISA Board is making plans to celebrate it in a manner that honors ISA's past, looks to a bright future and promotes the Society and its professions to various stakeholders in the automation industry and beyond.

- c) Mark your calendars for the 2020 Strategic Leader Meeting in Austin, Texas, USA, 6-8 March.

11. Time & Date of Next Meeting

Dan reported that the next ISA77 Skype meeting will be Wednesday, February 12, 2020 at the usual time of 11:00 am.

12. Adjournment

Dan asked for a motion to adjourn the ISA77 committee meeting. Bill made the motion and Sinming seconded the motion. Nobody declined the motion so the ISA77 committee meeting was adjourned at 11:50 p.m.

EBrazda /DJLee

File: ISA77_Minutes_11132019 Rev0.doc

Attachment A – Meeting Agenda



Setting the Standard for Automation™

Meeting Agenda

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Meeting: ISA77 Fossil Fuel Power Plant Standard Committee Meeting
 Chairman: Daniel Lee
 Recorder: Daniel Lee
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 Location: Skype Meeting

Distribution: ISA77 Members
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 Kim Belinsky – ISA Manager, Conferences and Events
 Xinsheng Lou – ISA POWID Director
 Joe Weiss – ISA77 S&P Managing Director

Item #	Start Time	Duration	Description	Person Responsible
1	11:00	0:00	CALL TO ORDER	ISA77 Chair
2	11:00	0:00	INTRODUCTION OF MEMBERS and GUESTS	ISA77 Chair
3	11:00	0:05	REVIEW AND APPROVAL OF AGENDA	ISA77 Chair
4	11:05	0:05	CONFIRM APPROVAL OF PREVIOUS MEETING MINUTES	ISA77 Chair
5	11:10	0:05	ISA77 CHAIR OPENING REMARKS	ISA77 Chair
6	11:10	0:00	MANAGING DIRECTOR OPENING REMARKS	Joe Weiss
7	11:10	0:30	ISA77 ACTIVE WORKING GROUP REPORTS	

Committee	Published Date	Status - (EPR Date)	Chair Person	Comments
ISA77.00 General				
ISA77.00.01 Definitions and Design Consideration	2019	New Technical Report	Dan Lee	Document approved but not published.
ISA77.10 Turbine Controls				
ISA77.13 Turbine Steam Bypass Systems	2008	In Revision	Alan Robertson	Working group in progress.
ISA77.14.01 Steam Turbine Controls	2019	In Reaffirmation	Alan Robertson	Document approved but not published
ISA77.20 Plant wide Systems				



Committee	Published Date	Status - (EPR Date)	Chair Person	Comments
ISA77.20.01 Fossil Power Plant Simulators	2012	Current Standard	Bill Talbot/Alex Lekich	Committee work inactive
ISA77.22.01 Power Plant Automation		New TR	Henrik Johansen	Draft in progress
ISA77.30 Plant Performance				
ISA77.30.01 Dynamic Performance for Power Plant Control System	2015	Current Technical Report	Cyrus Taft	
ISA77.40 Boiler Controls				
TR77.40.01 Functional Diagramming	2016	Current Standard	Daniel Lee	
ISA77.41.01 Boiler Combustion Controls	2015	Current Standard	Xinsheng Lou	
ISA77.42.01 Feedwater Control	2019	Current Standard	Jerry Gilman/ Mike Cushing	
TR77.42.02 Feedwater Controls-Drum Level Measurement	2014	Current Standard	Jerry Gilman	Delay reaffirmation
ISA77.43 Unit Plant Demand Development	2014	Current Standard	Mike Cushing/ Dan Lee	Delay reaffirmation
ISA77.44.01 Steam Temperature Controls	2013	In revision	Paul Hollingshead	Ballot issued 5/10/2019. Ballot closed/approved on 6/11/2019 with comments.
ISA77.60 Human Machine Interface				
RP77.60.02 HMI: Hard Panel Alarms	2014	Current Rec Practice		Delay reaffirmation
TR77.60.04 HMI: Electronic Screen Displays	2013	Current Technical Report		Delay reaffirmation
RP77.60.05 HMI: Task Analysis	2016	Current Rec Practice		
ISA77.70 Instrument Piping Installation				
TR77.70.01– Tracking and Reporting Instrument Documentation	2015	Current Technical Report	Jody Damron	
ISA77.70.02 – Instrument Piping	2014	Current Standard	Gary Cohee	Delay reaffirmation
ISA77.80 Continuous Emission Monitoring				
ISA77.82.01 – SCR Instrumentation and Controls Standard	2019	Current Standard	Cyrus Taft	Document now published.

Item #	Start Time	Duration	Description	Person Responsible
8	11:40	0:05	Liaison Reports a) NFPA b) Other	Dan Lee
9	11:45	0:05	Old Business a) ISA 77 vice chair b) Solicit new ISA77 members c) Skype meeting for standards	ISA 77 Chair
10	11:50	0:05	New Business 1. Mohamed Ibrahim's 8/4/2019 email – modify ISA 77 scope to cover new type of power plants.	ISA77 Chair
11	11:55	0:00	NEXT MEETING February 12 Skype Meeting @ 11:00 am est.	ISA77 Chair
12	11:55	0:00	ADJOURNMENT	ISA77 Chair

DL (10/29)