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Meeting: ISA77 Fossil Power Plant Standards Committee  
Chairman: Sinming Kwong  
Recorder: Sinming Kwong  
Date/Time: November 14, 2023; 11:30 am – 12:30 pm EST  
Location: Microsoft Teams Meeting  
Distribution: ISA77 Members  
ISA77 Working Group Members  
Charley Robinson – Director, ISA Standards Administration  
Eliana Brazda – ISA Standards Administrator  
Torry Bailey – ISA Standards Administrator  
Chris Monchinski - VP, ISA S&P Board  
Kim Belinsky – ISA Manager, Conferences and Events  
Josh Long – ISA POWID Director  
Joe Weiss – ISA77 S&P Managing Director

**Attendees:**

Members

Guests

Sinming Kwong (Chair)  
Lihua Bai  
Owen Campney  
Mike Cushing  
John Mark Faurot  
Johansen Henrik  
Dan Lee  
Roger Lesaca  
Lakulish Patel  
Scott Salio  
Mohamed Sayed

## **1. Call to Order**

The ISA77 Fossil Power Plant Standards committee meeting was called to order at 11:35 am EST by ISA77 Chair, Sinming Kwong.

## **2. Introduction of Attendees**

There are no new ISA77 members admitted in the past six months.

ISA77 Chair acknowledged the presence of information members, Lihua Bai and Scott Salio.

Lihua Bai took attendance for the meeting.

## **3. Review & Approve Agenda**

The ISA77 committee meeting agenda was distributed previously with the meeting invitation. The Chair asked if there were any other comments or corrections to the agenda. With no changes, the agenda was approved as written (**Attachment A**).

## **4. Review & Approve Minutes of Last Meeting**

The May 17, 2023 ISA77 committee meeting minutes were distributed electronically for review and comment. With no reported changes, the previous minutes were approved.

## **5. Chair Opening Remarks**

ISA77 Chair welcomed all ISA77 members to the Microsoft Teams meeting and thanked everyone for their attendance and contribution.

Due to Ukraine war, fuel prices shot up to its highest point in June 2022. Since then, fuel prices came down somewhat and have stabilized in USA. Some European countries are considering moving away from coal and natural gas; and adopting renewable and nuclear energy instead. Inevitably, energy prices are affected by geopolitics and global affairs.

Canadian government wants to eliminate all coal-fired power plants by 2030. There are still some coal-fired power plants operating in Saskatchewan and Alberta.

In USA, utilities continue with coal-to-gas conversion projects and upgrading their combined cycle power plants. Investments continue to be made in renewables such as wind, solar, and hydro.

ISA77 Chair said that there is no POWID symposium planned. There is a possibility of a face-to-face meeting during the ISA Automation & Leadership Conference (ALC) in 2024. More details will follow.

## 6. Managing Director Opening Remarks

Joe Weiss was absent.

## 7. ISA77 Active Working Group Reports

Working Group	Published	Status	Chair Report
<b>ISA 77.00 General</b>			
ISA77.00.01 Definitions and Design Consideration	2019	Current Technical Report	Report not required.
<b>ISA77.10 Turbine Series</b>			
<b>ISA77.13.01</b> Turbine Steam Bypass Systems	2008	In Revision cycle	Alan Robertson resigned from Chair position. <b>Actively seeking new Chair to lead the group.</b>
<b>ISA77.14.01</b> Steam Turbine Controls	2019	Current Technical Report	Published in August 2022. Report not required.
<b>ISA77.20 Plant-wide Series</b>			
<b>ISA77.20.01</b> Fossil Power Plant Simulators	2012	In Reaffirmation cycle	<b>Actively seeking new chair and members.</b>
<b>ISA77.22.01</b> Power Plant Automation		New Standard	To be sent to S&P Board for balloting.
<b>ISA77.30 Plant Performance Series</b>			
<b>TR77.30.01</b> Dynamic Performance for Power Plant Control Systems	2015	Current Technical Report	Delayed reaffirmation.
<b>ISA77.40 Boiler Series</b>			
<b>TR77.40.01</b> Functional Diagramming	2016	Current Technical Report	Delayed reaffirmation. Dan Lee said that this document will need revision after ISA 5.1 completion.
<b>ISA77.41.01</b> Boiler Combustion Controls	2016	Current Standard	Delayed reaffirmation.
<b>ISA77.42.01</b> Feedwater Control – Drum Type	2019	Current Standard	Report not required.
<b>TR77.42.02</b> Feedwater Controls-Drum Level Measurement	2014	Current Technical Report	Delayed reaffirmation.
<b>ISA77.43.01</b> Unit Plant Demand Development	2014	Current Standard	Delayed reaffirmation.
<b>ISA77.44.01</b> Steam Temperature Controls	2013	In Revision cycle	Under public review with deadline on 11/20/2023.
<b>ISA77.60 HMI Series</b>			
<b>ISA77.60.02</b> HMI: Hard Panel Alarms	2014	Current Recommended Practice	Retired. Please refer to ISA101.
<b>ISA77.60.04 HMI:</b> Electronic Screen Displays	2013	Current Technical Report	Retired. Please refer to ISA101.

<b>Working Group</b>	<b>Published</b>	<b>Status</b>	<b>Chair Report</b>
<b>RP77.60.05</b> HMI: Task Analysis	2012	Current Recommended Practice	Delayed reaffirmation.
<b>ISA77.70</b> Instrument Series			
<b>TR77.70.01</b> Tracking and Reporting Instrument Documentation in Fossil Power Plants	2015	Current Technical Report	Report not required.
<b>ISA77.70.02</b> – Instrument Piping Standards	2014	Current Standard	Retired. Please refer to ISA5.1.
<b>ISA77.80</b> Post Combustion Series			
<b>ISA77.82.01</b> – SCR Instrumentation and Controls Standard	2019	Current Standard	Report not required.

## 8. Liaison Reports

### a) ISA5.1 Instrumentation Symbols and Identification

Dan Lee is the ISA77 liaison for ISA5.1. He reported that the ISA 5.1 working group has completed the revision draft of three documents.

- The S5.1 title has been changed to "Instrument and Control Symbol and Identification" to emphasize that symbols for control are also included. This document is 93 pages long.
- Annex A has been separated as a new technical report titled ISA-TR5.1.02 - Identification Systems Guidelines. This document is 36 pages long.
- Annex B has been separated as a new technical report titled ISA-TR5.1.3 - Graphic Symbols Guidelines. This document is 43 pages long.

R2024 revision will be published with significant changes to improve the readability of the document by organizing notes with corresponding tables, by providing definition consistency and clarification, by eliminating redundant text, by adding new symbols, notation, and identification for new automation technology, by adding new sections for Normative Reference, Abbreviation, and Bibliography, and by adding Loop Instrument Diagrams Symbol Table.

### b) ISA84.00.05 Guidance on the Identification of Safety Instrumented Functions (SIF) in Burner Management Systems (BMS)

Sinming Kwong is the ISA77 liaison for ISA84. He reported that there was a face-to-face meeting held in Houston TX on Oct 31st and Nov 1st. Many attended virtually. He said that sections was held to revise existing documents.

### c) NFPA 85

NFPA 85, 2023 Edition, has been released. The color of the book is no longer red. The PDF version has been discontinued.

d) **ISA Standards Publication**

Sinming reported that the following ISA technical report has been published in 2023:

- ISA TR5.9-2023 Proportional-Integral-Derivative (PID) Algorithms and Performance
- ANSI/ISA-106.00.01-2023, Procedure Automation for Continuous Process Operations
- ISA TR84.00.03-2023 Mechanical Integrity of Safety Instrumented Systems (SIS)

**9. Old Business**

- a) The ISA77 Vice Chair position is open. If interested, please contact ISA Chair.
- b) ISA Chair reminded members to solicit individuals within the Power Industry to join the ISA77 committee.
- c) In 2023 Spring, ISA77 voting membership reaffirmation has been completed.

**10. New Business**

- a) There is a possibility for ISA77 face-to-face meetings coincided with ISA Automation & Leadership Conference (ALC) in 2024. Exact date and location will be announced.
- b) Referring to TR77.42.02 Feedwater Controls – Drum Level Measurements, Richard von Brecht recommends an empirical equation relating steam pressure and water density. After a brief discussion, ISA77 decided to maintain the current  $f(x)$  in the document for generalization.
- c) Lakulish Patel of S&L expressed interest of joining ISA77 as voting member. The chair asked Lakulish to submit his CV for consideration.

**11. Time & Date of Next Meeting**

Sinming reported that the next ISA77 Microsoft Teams meeting will be on (Tue) May 14, 2024 at 11:30 am EDT.

**12. Adjournment**

Sinming motioned to adjourn the ISA77 committee meeting. The ISA77 committee meeting was adjourned at 12:20 pm.

SKwong

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## Meeting Agenda

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Meeting: ISA77 Fossil Fuel Power Plant Standards Committee Meeting  
Chairman: Sinming Kwong  
Recorder: Sinming Kwong  
Date/Time: November 14, 2023; 11:30 am - 12:30 pm EST  
Location: Microsoft Teams Meeting  
Distribution: ISA77 Members  
ISA77 Working Group Members  
Charley Robinson – Director, ISA Standards Administration  
Torry Bailey – ISA Standards Administration  
Chris Monchinski – VP, ISA S&P Board  
Kim Belinsky – ISA Manager, Conferences and Events  
Josh Long – ISA POWID Director  
Joe Weiss – ISA77 S&P Managing Director

Item #	Start Time	Duration	Description	Person Responsible
1	11:30	0:00	CALL TO ORDER	ISA77 Chair
2	11:30	0:00	INTRODUCTION OF MEMBERS and GUESTS	ISA77 Chair
3	11:30	0:05	REVIEW AND APPROVAL OF AGENDA	ISA77 Chair
4	11:35	0:05	CONFIRM APPROVAL OF PREVIOUS MEETING MINUTES	ISA77 Chair
5	11:40	0:05	ISA77 CHAIR OPENING REMARKS	ISA77 Chair
6	11:45	0:00	MANAGING DIRECTOR OPENING REMARKS	ISA77 Managing Director
7	11:45	0:30	ISA77 ACTIVE WORKING GROUP REPORTS	

ISA77 Working Group	Published Date	Status - (EPR Date)	Chairperson	Comments
<b>ISA77.00 General</b>				
ISA-TR77.00.01 Definitions and Design Consideration	2019	Current Technical Report	Dan Lee	Report not required.
<b>ISA77.10 Turbine Controls</b>				
ISA-77.13.01 Turbine Steam Bypass Systems	2008	In Revision	Alan Robertson (Retired)	Seeking new lead & members.
ISA-77.14.01 Steam Turbine Controls	2019/ Published 2022	Current Standard	Alan Robertson (Retired)	Report not required.
<b>ISA77.20 Plant Wide Systems</b>				
ISA-77.20.01 Fossil Power Plant Simulators	2012	In Reaffirmation Cycle	Bill Talbot/Alex Lekich	Seeking lead & members.

## Attachment A – Meeting Agenda

ISA77 Working Group	Published Date	Status - (EPR Date)	Chairperson	Comments
ISA-77.22.01 Power Plant Automation		New Technical Report	Henrik Johansen	To be sent to S&P Board for ballot.
<b>ISA77.30 Plant Performance</b>				
ISA-TR77.30.01 Dynamic Performance for Power Plant Control System	2015	Current Technical Report	Cyrus Taft	Delay reaffirmation.
<b>ISA77.40 Boiler Controls</b>				
ISA-TR77.40.01 Functional Diagramming	2016	Current Technical Report	Daniel Lee	Delay reaffirmation.
ISA-77.41.01 Boiler Combustion Controls	2015	Current Standard	Xinsheng Lou	Delay reaffirmation.
ISA-77.42.01 Feedwater Control	2019	Current Standard	Jerry Gilman/ Mike Cushing	Report not required.
ISA-TR77.42.02 Feedwater Controls-Drum Level Measurement	2014	Current Technical Report	Jerry Gilman	Delay reaffirmation
ISA-77.43.01 Unit Plant Demand Development	2014	Current Standard	Mike Cushing/ Dan Lee	Delay reaffirmation
ISA-77.44.01 Steam Temperature Controls	2013	In revision	Sinning Kwong/ Paul Hollingshead (Retired)	under public review with deadline on 11/20/23.
<b>ISA77.60 Human Machine Interface</b>				
ISA-RP77.60.02 HMI: Hard Panel Alarms	2014	Current Recommended Practice		Retired.
ISA-TR77.60.04 HMI: Electronic Screen Displays	2013	Current Technical Report		Retired.
ISA-RP77.60.05 HMI: Task Analysis	2012	Current Recommended Practice		Delay reaffirmation.
<b>ISA77.70 Instrument Piping Installation</b>				
ISA-TR77.70.01 Tracking and Reporting Instrument Documentation	2015	Current Technical Report	Jody Damron	Report not required.
ISA-77.70.02 Instrument Piping	2014	Current Standard	Gary Cobee	Retired. Refer to ISA5.1.
<b>ISA77.80 Continuous Emission Monitoring</b>				
ISA-77.82.01 SCR Instrumentation and Controls Standard	2019	Current Standard	Cyrus Taft	Report not required.

Fossil power plant industry is changing rapidly, if anyone is interested in forming new ISA77 section groups, please feel free to propose and contact ISA77 Chair.

Item #	Start Time	Duration	Description	Person Responsible
8	11:45	0:05	Liaison Reports a) ISA5.1 Instrumentation Symbols and Identification – impact to TR77.00.01 (Definitions) and TR77.40.01 (Functional Diagram Usage) b) ISA84.00.05 Guidance on the Identification of Safety Instrumented Functions (SIF) in Burner Management Systems (BMS)	a) Dan Lee  b) ISA77 Chair

## Attachment A – Meeting Agenda

Item #	Start Time	Duration	Description	Person Responsible
			c) NFPA 85, 2023 Edition d) ISA Standards Publication	c) ISA77 Chair d) ISA77 Chair
9	12:00	0:05	Old Business a) ISA77 Vice Chair b) Solicit new ISA77 members c) 2023 Membership Reaffirmation Completed	ISA77 Chair
10	12:05	0:05	New Business 1. ISA77 Face-to-Face Meeting? ISA Automation & Leadership Conference (ALC) in 2024. 2. TR77.42.02 Feedwater Controls – Drum Level Measurements Empirical equations for saturated Steam pressure vs. water density – Richard von Brecht 3. S&L (Lakulish Patel) interested to become voting member._ 4. Open	ISA77 Chair
11	12:10	0:00	NEXT MEETING (Tue) 05/14 MS Teams Meeting @ 11:30 am EDT	ISA77 Chair
12	12:15	0:00	ADJOURNMENT	ISA77 Chair

SK (11/12)