

PUBLIC MEETING ANNOUNCEMENT

Title: Additive Manufacturing for Reactor Materials & Components

Date(s) and Time(s): November 28, 2017, 08:00 AM to 05:00 PM
November 29, 2017, 08:00 AM to 05:00 PM

Location: NRC Two White Flint North, HQ-TWFN-ACRS.T2B3
11545 Rockville Pike
Rockville, MD

Category: This is a Category 2 meeting. The public is invited to participate in this meeting by discussing regulatory issues with the Nuclear Regulatory Commission (NRC) at designated points identified on the agenda.

Purpose: The NRC has been informed that reactor components made by additive manufacturing (AM), and especially by powder bed fusion/direct metal laser melting/sintering (DMLM), are being considered for applications in the operating fleet as early as calendar year 2018. Given the anticipated level of activity, the objectives for this public meeting are to:

- (1) Engage with industry and Government counterparts to obtain information needed for anticipated licensing actions related to AM.
- (2) Address topics such as
 - a. The state-of-the-art of AM
 - b. Industry activities in AM
 - c. Reverse engineering and fabrication of reactor components
 - d. Irradiation testing & effects on AM
 - e. AM qualification
 - f. Standards for AM
 - g. Effects of process and design parameters
 - h. Nondestructive evaluation of components fabricated using AM
 - i. Corrosion behavior in AM components
 - j. American AM activity in international context

Please See Comments for External Participants.

Contact: Amy Hull
301-415-2435
Amy.Hull@nrc.gov

Participants: NRC
Brian Thomas, Office of Nuclear Regulatory Research
Rob Tregoning, Office of Nuclear Regulatory Research
Istvan Frankl, Office of Nuclear Regulatory Research
Amy Hull, Office of Nuclear Regulatory Research
Carol Moyer, Office of Nuclear Regulatory Research
John Burke, Office of New Reactors
Terry Jackson, Office of New Reactors
Thomas Herry, Office of New Reactors
Chris Hovanec, Office of Nuclear Reactor Regulation
Dave Rudland, Office of Nuclear Reactor Regulation

Comments:

External Participants:

ANSI, Jim McCabe
ASME, Steve Weinman
CTC, Scott Zimmerman
EPRI, Dave Gandy
GEH, Francis Bolger
NASA-MSPC, Doug Wells
NAVSEA, Justin Rettaliata
NIST, Paul Witherell
NSWC, Sam Pratt
NuScale Power, Scott Bailey
WEC, Paula Freyer
WEC, Bill Cleary
WEC, Zeses Karoutas

PUBLIC MEETING AGENDA

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AGENDA(11/22/2017)

Additive manufacturing for Reactor Materials & Components
PUBLIC MEETING (CATEGORY 2), NRC HEADQUARTERS, (ROOM TWFN-2B3),
11545 ROCKVILLE PIKE, NORTH BETHESDA, MD 20852

Tuesday, November 28, 2017		
Industry Activities and Perspectives		
Time	Presentation	Organization - Presenter
	(Session 1 Moderator: Amy Hull)	
0800	Introduction and Welcome	NRC/RES - Mike Wuber
0815	Objectives for Meeting	NRC - Rob Tregouing
0830	AM for RMC: Industry Perspective	NEI - Mark Richter
0900	ICME & In-situ Process Monitoring for Qualification	EPRI - Dave Gandy
0930	Strategic Road-mapping for AM in Aerospace Industry	FAA - Michael Goeftik
1015	Break	
1030	Industry Insights on CyberSecurity for AM	CTC - Scott Zimmerman
1100	Reflections on Fatigue for AM Components	EWI - Bill Mohr
1130	Industry Insights	EWI - Frank Medina
1200	Lunch	
	(Session 2 Moderator: Carol Hoyer)	
1300	Evaluation of AM Materials for NPP Components	GEH - Myles Connor
1330	The 'Big Picture' Vision for AM in Nuclear Industry	WEC - Zsuzsanna Kaross
1340	WEC Activities (reverse engineering, manufacturing)	WEC - Bill Cleary
1410	WEC (materials properties, corrosion, irradiation tests)	WEC - Paula Freyzer
1430	AM for Nuclear Component Manufacturing Research	Novatech-4: Grunlich & G Pabis
1500	Break	
1510	NuScale Activities with AM	NuScalePower - Steve Welbert
1540	Direct Deposition Devices & NDE Techniques	AddTec - Brian Matthews
1555	Analysis of Defects in Laser AM Steel	DRDC - Shannon Farrell (remote)
1620	Summarize Day 1, Discussion, Capture Action Items	NRC & Participants
1630	Time Allowed for Public Comments	Public & NRC
1700	Adjourn for Day	NRC

Webinar Info (am@nrc.gov ; ACRS Tel: 301-415-5664)	Bridge line
Day 1 https://attendee.gotomeeting.com/join/73273230/855092905	call in 888-437-3094, passcode 6447957
Day 2 https://attendee.gotomeeting.com/join/66292926/72838081400	passcode 6447957

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Wednesday, November 29, 2017		
Government Agency Initiatives		
Time	Presentation	Organization - Presenter
	(Session 3 Moderator: Christopher Hovanec)	
0800	Summary of Day 1, Objectives & Guidance for Day 2	NRC
0815	Rolls-Royce Nuclear Developments in AM	Rolls-Royce - Dave Poole (remote)
0835	DOE Activities in Additive Manufacturing	DOE - Alison Hahn
0900	Gateway for Accelerated Innovation in Nuclear (GAIN)	ORNL - Andrew Worrall
0920	Qualification paradigm similarities for fuel & components	INL - Janelle van Rooyen (remote)
0945	Break	
1000	Metallic AM Technical Capabilities at NSWC Carderock	NSWC - Sam Pratt
1020	Qualification & Certification of Metallic Components for NAVSEA	NAVSEA - Justin Ruffiano
1100	AM Qualification: Incorporating Simulation & Analysis	NIST - Paul Witherell
1130	AM Qualification	ORNL/UTK - Suresh Babu
1200	Lunch	
	(Session 4 Moderator: Rob Tregouing)	
1300	NASA Perspective on AM Adoption	NASA-MSPC - Doug Wells
1330	NDE & Inspection Challenges for AM components	NASA-WSTF-Jess Waller (remote)
1400	Measurement Science for Metals-Based AM	NIST - Kevin Jurens
1430	Additive Manufacturing Standardization Collaborative	ANSI - Jim McCabe
1500	ASME Additive Manufacturing Standards	ASME-Rate Hyum
1520	Break	
1530	AM-related Activities	ASTM - Madsen Seiff
1600	BRPCS/BNCS Special Committee on Use of AM	NRC-NBR - Dave Ruffland
1615	Topics of Interest for AM of Reactor Materials & Components	NRC-NBR - Allen Hiser
1630	Discussion	Participants
1645	Time Allowed for Public Comments	Public and NRC
1700	Adjourn Meeting	NRC

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Day 2 https://attendee.gotomeeting.com/join/66292926/72838081400	6447957

The time of the meeting is local to the jurisdiction where the meeting is being held.

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Link to meeting details: <https://www.nrc.gov/pmns/mtg?do=details&Code=20171391>