

# **Minutes of the Program Committee Meeting**

**Thermal Hydraulics Division  
2009 American Nuclear Society Winter Meeting  
Omni Shoreham Hotel, Washington, DC  
3:00 – 5:00 p.m., Sunday, November 15, 2009  
Congressional A**

Attendees: Kurshad Muftuoglu (Chair), Xiaodong Sun, Brian Woods, Seth Cadell, Brian Collins, Bob Martin, John Luxat, Kune Suh, Dana Powers, Randall Gauntt, DuWayne Schubring, Elia Merzari, Hisashi Ninokata, Karen Vierow, Theron Marshall, Chang Oh, Jong Kim, Steven Arndt, Bill Cheung, Seungjin Kim, Steve Bajorek, Joy Rempe, Cheng Xu, and Yassin Hassan (same order as in Attachment A).

## **1. Opening**

Kurshad Muftuoglu called the THD Program Committee Meeting to order at 3:02 p.m. During introductions Dana Power introduced himself as the NISD liaison with the THD.

## **2. Approval of Meeting Agenda**

The meeting agenda (Attachment B) was introduced and approved.

## **3. Minutes from June 2009 Annual Meeting**

The meeting minutes from the June 2009 meeting in Atlanta, GA (Attachment C) were approved conditionally. It was agreed that committee members will notify the Program Committee Chair following this November Program Committee Meeting with any comments concerning the minutes from June.

## **4. Action Items from June 2009 Annual Meeting**

### **a. NURETH Evaluation Criteria (Muftuoglu)**

The evaluation criteria used for NURETH-13 has been sent to the Chair of the Conference Selection Committee (Jong Kim) however there was some uncertainty as to if it was received. The Program Committee Chair will resend.

*Action: Provide NURETH-13 evaluation criteria to Chair of the Conference Selection Committee. (Muftuoglu)*

b. Availability of Hochreiter Family for TAA presentation (Martin)

The Award was brought to the 2008 Winter Meeting in Reno and presented to Jack Brenizer. He has passed the award onto Susan Hochreiter.

c. Panelist Invitation Acceptances (Oh/ Muftuoglu)

Six panelists for the Next Generation Nuclear Plant Technology Challenges session have accepted the invitation and will be coming to this meeting. Invited panelists are Arkal Shenoy from GA, Lewis Lommers from AREVA, Gideon Greyvenstein from PBMR, David Petti from INL, Trevor Cook from U.S. DOE, and Stuart Rubin from U.S. NRC. The session chair/co-chair are C. Oh and X. Sun.

d. Update on tutorial on Scaling (Muftuoglu for Revankar)

Pradip Saha will be organizing the tutorial for BWR scaling. Someone for PWR scaling is still needed. The thinking is that this will be a three hour session at the June meeting in San Diego, CA. A tentative agenda has been provided to the PC Chair. There was some discussion as to the pros and cons of hosting a full day professional development seminar.

e. NUTHOS-8 Approval as a Class IV Meeting (Muftuoglu)

Since NUTHOS-8 lies within the 4 week window of a national meeting, approval had to be sought for the meeting by the National Program Committee. Thermal Hydraulic Division sponsorship of NUTHOS-8 has been approved by the NPC.

f. Update on NUTHOS-8 Conference Selection Committee (Kim)

The Conference Selection Committee currently consists of Jong Kim (Chair), Mike Podowski, Randall Gauntt, Steve Arndt and Qiao Wu. The general points of evaluation for the applicants were discussed as developed by the Conference Selection Committee. These centered around 3 major themes: (1) Organizational aspects; (2) Technical aspects including the professional stature of the technical organizing chairs, and THD involvement; and (3) Budget issues. The bottom line is the prospects of success for this conference are good. Discussion ensued concerning the desirability of selecting a host that will maintain contact with the Thermal Hydraulic Division and attend TH Program Committee meetings for a number of years before the actual conference.

g. **Rules for holding International Meetings as Class I Meetings (Muftuoglu)**

A question was raised over the ability to sponsor a Class I Meeting even if it is not held in the US. This has become an important issue since the next NURETH will be held outside of the US and financial returns from meetings such as NURETH are a vital funding mechanism for the division. It appears that there is no hard restriction on the national level that limits Class I Meetings to the US only. If we have a close relationship with a host in the future we may want to explore holding future international NURETH Meeting as Class I Meetings.

We have discussed and agreed to leave NURETH-14 alone but in the future for NURETH Meetings outside of the US, if we have a close relationship with the host, hold the NURETH meeting as a Class I meeting.

**5. Session Status of 2009 ANS Winter Meeting in Washington DC (Muftuoglu)**

Statistics for the meeting (Attachment D) were reviewed. It was mentioned that a review of a paper must be beyond a format review only—the technical review is what is important. In addition it was announced that the Awards Ceremony will be held after the Tuesday pm session. All sessions have at least one chair.

There will be a Young Professional Congress at this Meeting. The division had proposed a Young Professional Thermal Hydraulic Competition but it was not picked up. Such competitions have been successful in the past. The sense is that ANS did not want a competition during the Young Professional Congress and thus the Thermal Hydraulic session was changed to “Innovations in Thermal Hydraulics”. This session has only two submitted papers which will make it a rather weak session. In addition, there was a feeling expressed by some that the topic of this Young Professional Congress session detracts somewhat from the TH sessions in the ANS Winter Meeting proper. This situation highlights the importance of improving our dialogue with the Young Members Group. The consensus is that the division is fully in support of the Young Members Group but sponsoring a session that takes away from the division’s winter meeting sessions is probably not acceptable in the long term.

**6. 2010 ANS Annual Meeting Program in San Diego, CA (Muftuoglu)**

a. **Announced Sessions/Organizers**

Kurshad will be the technical program chair of the San Diego Meeting. The following are the sessions that have been proposed for the 2010 Annual Meeting (one session each):

1. General Thermal Hydraulics
2. General Computational Thermal Hydraulics
3. Computational Two Phase Flow
4. Scaling Analysis Techniques Tutorial
5. Regulatory Guide 1.167 Revision Panel
6. Thermal Hydraulics of VHTR
7. Thermal Aspects of Nuclear Material Process Handling and Storage

It is anticipated that this will be a busy meeting for the Thermal Hydraulic Division.

ANS IT personnel will be replacing the COS meeting abstract submittal and review system starting with the June Annual Meeting. A number of demo sessions (six) will be held during this meeting (Winter Meeting in DC) for this new system. A question was asked if this is the same system as the new journal review system. There was no firm answer for this question. In addition, there was some discussion concerning whether or not each reviewer's current information will port over to the new system if we are already registered in the COS system. Kurshad reported that if one is an ANS member their information will port over to the new system. If one is not a member of ANS, additional information may be required by the new system. Kurshad will also push to use this system at topical meetings.

#### **7. 2010 ANS Winter Meeting in Las Vegas, NV (Muftuoglu)**

The 2010 ANS Winter Meeting will be held in Las Vegas. This venue has been changed from New Orleans. The following are the agreed upon tentative sessions for the 2010 ANS Winter Meeting along with the session organizers. Note that 100 word summaries for new sessions are required for any new sessions that are proposed.

1. Young Professional Thermal Hydraulic Research Competition (Vierow)
2. Interfacial Area Transport (Bajorek/Seungjin Kim)  
There was discussion about possibly running this session as a tutorial/panel which would be more in depth than the regular technical session.
3. Severe Accident Management (Gauntt)
4. General Thermal Hydraulics (Schubring/Arndt)
5. Computational Thermal Hydraulics (Muftuoglu/Martin)
6. Experimental/CFD Analysis of Generation IV Reactors (Oh/Woods)
7. Two phase flow and heat transfer fundamentals (Cheung/Sun)

*Action: For proposed technical sessions which are new, provide 100 word abstracts to Program Committee Chair by 12/15/09. (Session Organizers)*

## **8. NURETH-13 Report (Ninokata)**

Hisashi expressed his thanks to everyone that helped to make NURETH-13 a tremendous success. All in all, there were 430 people from 28 countries—350 papers and 420 reviewers which lead to approximately 3 reviews per paper. There were only 36 papers from the US. More than half of the papers from the US and Europe combined. The cost of the conference was around \$300K which will not result in any appreciable surplus.

## **9. NUTHOS -8 Status (Xu)**

Dr. Xu announced that the abstract deadline is at the end of November. A second call for abstracts will go out two days prior to the first deadline and will extend the deadline 4 to 6 weeks (to mid January). Note that it is not required that one wait until the second deadline to submit an abstract and early submissions are always appreciated.

The NUTHOS-8 webpage is up and running and the hotels have been booked. The NUTHOS-8 staff is in place. 81 people have accepted invitations to serve on the NUTHOS-8 Technical Program Committee. So far, the good news is that there is strong support from China and its industry. The bad news is that there are only 40 abstracts submitted yet of which zero are from the US. Dr. Xu discussed the potential conference schedule including plenary sessions, technical sessions, lectures and special sessions. It appears that the NUTHOS-8 fee schedule is comparable to that of NUTHOS-7. It was mentioned that Shanghai (the host city) is expensive and thus the NUTHOS-8 organizers are approaching additional industrial partners for further funding. It was recommended that hotel rates be published on the website.

## **10. NURETH-14 Update (Luxat)**

John reported that the core organizational committee is in place and that Professor Ishii has been selected as the honorary chair. The call for papers is included in these minutes as Attachment E. Currently, the NURETH-14 organization is at the stage of soliciting sponsorship and putting together budgets. So far NURETH-14 has secured approximately \$80K in sponsorship. NURETH-14 is preparing to make a donation to ANS under a revenue sharing agreement which can be used for funding of endowed THD scholarships and awards. There was discussion about potentially providing a list of attendees from NURETH-13 and NUTHOS-8 to the organizers of NURETH-14—however; questions were raised about the legality of such an action. In addition, Joy Rempe suggested that the NURETH-14 organizers get the list of letters to external organizations (ASME, etc.) that have been developed for NURETH-13.

## **11. Old Business**

The following are a few reminders:

1. The Honors and Awards Luncheon will be held Tuesday at lunch. Both Mujid Kazimi and Hisashi Ninokata will be honored at this ceremony. Please consider attending and gathering with all THD members. Session chairs are asked to make announcements during all sessions.
2. The Tuesday morning technical session is the Larry Hochreiter Memorial Session. Please plan on attending.
3. The Technical Achievement Award presentation will be made following the Tuesday afternoon technical session. Mujid Kazimi will be honored as the winner of the 2009 THD TAA. This will be followed by a lecture by Dr. Kazimi. The best paper award will also be made during this session.

## **12. New Business**

The Thermal Hydraulic Division is looking to co-sponsor a session and/or meeting with other divisions. The NSID has a proposal to sponsor a standalone topical meeting on the Severe Accident Analysis and Safety Analysis of advanced reactor concepts in May 2011. There is a strong thermal-hydraulic component to this topic and NSID felt that the Thermal Hydraulic Division would be a good partner. Albuquerque has volunteered to host the topical. There was a positive response from the group. Kurshad welcomes the idea and recommended that they contact the National Program Committee as soon as possible. NSID looked at the idea of doing this topic during an imbedded topical but the feeling was that there would be too many people interested in it and the financials were better if it were completed as a standalone meeting.

*Action: Work with NSID in the preparation of a proposal to the National Program Committee. (Muftuoglu)*

The need to identify a Thermal Hydraulic Division representative to the ANS Young Members Group was discussed. This representative should be someone active in both groups and is tasked with facilitating technical sessions which crosscut both the THD and the YMG. Further discussion is table until the THD Executive Committee Meeting.

The meeting was adjourned at 5:07 p.m.

*Minutes prepared by Brian Woods*

## ATTACHMENT A

**Thermal Hydraulics Division Program Committee**  
**American Nuclear Society 2009 Winter Meeting**  
**Omni Shoreham Hotel, Washington DC**  
**3:00 – 5:00 p.m., Sunday, November 15, 2009**  
**Location: Congressional A**

### Attendance Signup Sheet

Name	Affiliation	Email	Phone
Kurshad Muftuoglu	GE Hitachi Nuclear Energy	kurshad.muftuoglu@ge.com	910-819-4556
Xiaodong Sun	Ohio State Univ.	Sun.2@osu.edu	614-247-7646
Brian Woods	Oregon State Univ.	brian.woods@oregonstate.edu	541-737-6775
Seth Cadell	Oregon State University	codells@onid.orst.edu	503-559-7799
Brian Collins	Battelle/PNNL	Brian.Collins@pnl.gov	509-372-6189
Bob Martin	AREVA NP	Robert.Martin@areva.com	434-832-2399
Johns Luxat	McMASTER Univ	luxatj@mcmaster.ca	905-525-9140 x29670
Kinesuh	Seoul National Univ	kyshk@snu.ac.kr	82-2-880-6324
DANA POWERS	NISD Liaison to TH	dapower@sandia.gov	505-8459878
RANDALL GAUNT	Sandia Natl. Labs	rogaunt@sandia.gov	505 284 3989
DuWayne Schubring	University of Florida	dlschubring@ufl.edu	352-392-1401 x314
Elia Merzari	Argonne National Laboratory	emerzari@anl.gov	630-991-8813
Hisashi NINOKATA	Tokyo Inst. Tech.	hinnokat@n.titech.ac.jp	+81-3-5734-3056
Karen Vierow	Texas A&M Univ.	vierow@ne.tamu.edu	979-488-0600
Theron Marshall	GE Hitachi	theron_marshall@ge.com	9108192026
chang oh	INL	chang.oh@inl.gov	208 526-7716
Jong Kim	KAIST/EPRI	jkim@epri.com	650 855-2671
Steven Arndt	NRC	steven.arndt@nrc.gov	301-415-6502



## ATTACHMENT B

### PROPOSED AGENDA

American Nuclear Society – Thermal Hydraulics Division  
Executive Committee Meeting  
Omni Shoreham Hotel, Washington DC  
3:00 – 5:00 PM, Sunday, November 15, 2009  
Location: Congressional A

1. Opening (Kurshad)
2. Approval of Meeting Agenda (All)
3. Minutes from June 2009 Annual Meeting (Brian)
4. Action Items from June 2009 Annual Meeting
  - a. NURETH evaluation criteria list to be given to J. Kim (Kurshad)
  - b. Checking availability of Larry's family for TAA presentation (Bob)
  - c. Status of panelist invitation acceptances (Chang/Kurshad)
  - d. Update on tutorial on Scaling (Shripad)
  - e. NUTHOS-8 approval as Class IV (Kurshad)
  - f. Update of Conference Selection Committee on NUTHOS-8 (Jong)
  - g. Rules on holding international meetings as Class I (Kurshad)
5. Session Status of 2009 ANS Winter Meeting in Washington DC (Kurshad)
  - a. Submittal Statistics
  - b. Reviews
  - c. Session Assignments
  - d. YPC2009 THD Session
6. 2010 ANS Annual Meeting Program in San Diego, CA (Kurshad)
  - a. Announced Sessions/Organizers
  - b. New paper submission/review system replacing COS
7. 2010 ANS Winter Meeting Program in Las Vegas, NV (Kurshad)
8. NURETH-13 Report (Hisashi)
9. NUTHOS-8 Status (Dr. Xu)
10. NURETH-14 Update (John)
11. Old Business (All)
  - a. Reminders: H&A Luncheon, Hochreiter memorial session, TAA presentation
12. New Business (All)
  - a. Nomination of THD representative for ANS Young Member Group

**ATTACHMENT C**

**Minutes from 2009 Annual Meeting THD PC Meeting (Atlanta)**

## ATTACHMENT D

### ANS 2009 Winter Meeting, Washington DC

There were again a high number of summaries submitted for THD sessions. We have received total of 45 summaries.

Eleven of these summaries were accepted (A) without further comments, 29 were accepted with revisions (A/R), 4 were rejected unless revised (R/R), and one was rejected (REJ). The rejected summary had to be combined with one of the reject unless revised summaries. The author of these two summaries unsuccessfully contested the rejection. Ultimately, both of the summaries from the same author were rejected. Another reject-unless-revised summary was withdrawn. In total, 42 summaries made to the conference. Reconciled review recommendations for the summaries are as follows:

11	Accepted (A)
29	Accept with Revisions (A/R)
4	Reject Unless Revised (R/R)
1	Rejected (REJ)

Overall, the review participation was sufficient but can be improved. All the papers received adequate review on a timely basis. The distribution is as follows:

33	2-3 reviews
12	4+ reviews

There were 135 review recommendations that needed to be coordinated from 22 reviewers. Large reviewer participation is positive, however half of our reviewer pool did not participate. Most recent reviewer participations were as follows:

D.C.	135 reviews from	22 reviewers
Atlanta	191 reviews from	25 reviewers
Reno	73 reviews from	11 reviewers
Anaheim	89 reviews from	19 reviewers.

Following individuals contributed to the reviews of the summaries:

K. Muftuoglu	22
X. Sun	15
D. Schubring	13
S. Arndt	11
S. Bajorek	9
K. Vierow	8
M. El-Genk	7
R. Martin	7
S. Revankar	6
J. Yan	5
C. Tzanos	4
J. Watson	4
D. Aumiller	3
J. LeCorre	3
J. Rempe	3
D. Todd	3
B. Woods	3
B. Cheung	2
S. Kim	2
S. Lee	2
B. Sarikaya	2
H. Ninokata	1

Important to note: some of the reviews were not useful since they only commented on format or style and not a technical critique. There still remain some PC and EC members who are not actively participating in the reviews.

There are total of 8 sessions, including a half-length session, in the meeting. These are:

Session	# of speakers	Time Slot	Chairs
Next Generation Nuclear Plant Challenges and Status – Panel	6	Mon. p.m.	C. Oh X. Sun
Special Session on Research Contributions of Professor Larry Hochreiter	7	Tues. a.m.	R. Martin C. Frepoli
10CFR50.46 Loss-of-Coolant Accident Criteria Revision – Panel	5	Tues. p.m.	K. Muftuoglu K. Yueh
Fundamentals of Multiphase Flow	7	Wed. a.m.	H. Ninokata M. Podowski
Computational Thermal Hydraulics	8	Wed. p.m.	C. Tzanos
Thermal Hydraulics Experiments, Data, and Measurement Techniques	7	Thurs. a.m.	D. Schubring S. Kim
Thermal Hydraulics of Advanced Reactors	6	Thurs. a.m.	D. Aumiller
General Thermal Hydraulics	8	Thurs. p.m.	S. Bajorek

All the sessions will be held in “Hampton Ballroom”, except for the advanced reactors session, which will be held in “Blue Room”. At the *paper auction* in Chicago, having the highest number of sessions, our division got the first cut in room and time slot assignments. After we have filled Hampton across the board, the remaining session had to be assigned after all divisions got their chances. Unfortunately, we were not able to secure a time slot earlier in the week and ended up with having 3 sessions on Thursday, due to severe room restrictions at this conference.

During the reviews, I have asked for participant confirmation to serve as a session chair. Only five people responded. As in the past, I have relied on review participations, panel support, and past assignments in proposing the chairs.

K. Muftuoglu  
PC Chair



## Preliminary Call for Papers



### **“Helping the Environment with Advances in Thermalhydraulics”**

### **14<sup>th</sup> International Topical Meeting on Nuclear Reactor Thermalhydraulics (NURETH-14)**

September 25-29, 2011

Hilton Toronto Hotel, Toronto, Ontario, Canada

#### **Objective**

Canada is the hosting country for the 14<sup>th</sup> International Topical Meeting on Nuclear Reactor Thermalhydraulics (NURETH-14). Continuing the tradition of the highly successful series of thirteen conferences, NURETH-14 will gather an international group of leading academic and industry researchers and practitioners engaged in engineering and scientific work focused on nuclear reactor thermalhydraulics. This is the only major conference series devoted solely to the advancement of knowledge in the nuclear reactor thermalhydraulics field. NURETH-14 is a unique opportunity for researchers and practitioners in the field to present results of their work and discuss challenges and new ideas.

The conference website will be launched in October 2009 to provide full details. This Preliminary Call for Papers is being issued to potential contributors and attendees for planning purpose.

#### **Key Deadlines**

Abstract submission ..... Oct. 11, 2010  
 Acceptance/author notification ..... Jan. 10, 2011  
 Draft paper submission ..... Mar. 07, 2011  
 Comments to authors ..... May 23, 2011  
 Final paper submission ..... June 20, 2011

#### **Initiating Conference Organizers**

**Honorary Chair:** ..... M. Ishii (Purdue U.)  
**General Chair:** ..... J. Luxat (McMaster U.)  
**General Co-Chair:** ..... F.B. Cheung (Penn. State U.)  
**Technical Program Chair:** ..... J. Riznic (CNSC)  
**Technical Program Co-Chair:** ..... C. Oh (INL)  
**Steering Committee Chair:** ..... L.K.H. Leung (AECL)  
**Technical Program Committee:** To be announced

#### **Abstract and Full-Paper Submission**

Abstracts and full papers must be submitted via an on-line submission link, which will be posted on the Conference website via the CNS webpage at

<http://www.cns-snc.ca>

#### **Topics of Interest**

Papers related to the following topics are of interest to this conference:

- Two-Phase Flow and Heat-Transfer Fundamentals
- Boiling and Condensation Phenomena
- Rod Bundle Thermalhydraulics
- Subchannel Analysis
- Thermalhydraulics and Safety for Nuclear Reactor Plant and Core
- Computational Methods, Modelling, Verification/Validation
- Applications of Computational Methods to Nuclear Systems
- Advanced Code Development and Validation/Verification/Applications
- Experimental Methods and Instrumentation
- Severe Accidents, Phenomena, Modelling and Experiments
- Thermalhydraulics in Accident Management
- Thermalhydraulics in Power Upgrading/Life Extension
- Neutronics/Thermalhydraulics Coupling
- Fluid-Structures and Materials Interactions
- Next Generation Reactor Thermalhydraulics
- Generation IV and Future Innovative Nuclear Reactors Thermalhydraulics
- Nano-Fluid Science and Technology Applications to Nuclear Systems
- Micro-Channel Flow and Heat Transfer Phenomena
- Thermalhydraulics of Non-Electricity Generating Nuclear Equipment
- Thermalhydraulics of Waste Management
- Thermalhydraulics and Materials Degradation Issues
- Others

#### **Further Information**

Additional information may be obtained by contacting the Technical Program Chair: Jovica Riznic, Canadian Nuclear Safety Commission, 280 Slater, Ottawa, Ontario K1P 5S9, CANADA, Tel: (613) 943-0132; Fax: (613) 943-1292, E-mail: [jovica.riznic@cnsccsn.gc.ca](mailto:jovica.riznic@cnsccsn.gc.ca).