



# HEAD OF DELEGATION (HoD) REPORT

U.S. Member Body of the  
International Organization for  
Standardization (ISO)



U.S. National Committee of the  
International Electrotechnical  
Commission (IEC)

Please return this report within one month of the completion of the international meeting and submit it to the appropriate ANSI Department as follows:

ISO

USNC

[ISOT@ansi.org](mailto:ISOT@ansi.org)

[USNC@ansi.org](mailto:USNC@ansi.org)

HoD reports can be used for a variety of purposes. For example:

- ❖ To report results of a TC/SC meeting to the related TAG
- ❖ To publicize the work of the TC/SC to the related US constituency via ANSI On-line, USNC News and Notes, or other media
- ❖ To suggest areas for possible development of featured articles
- ❖ To address specific challenges and concerns that the HoD may bring to the attention of related ANSI and/or USNC/IEC management

**PLEASE REMEMBER:** Your HoD report is NOT filed as a confidential, password protected document and, therefore, may have broad, unintended distribution. Keep this in mind when preparing the report and, if appropriate, use a more secure form of correspondence to call attention to any sensitive issues.

Completed by:

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<b>Email:</b>	stephen.spain@hdrinc.com
<b>Date Rev:</b>	November 9, 2016

<b>Meeting:</b> IEC TC 4 Hydraulic Turbines Plenary
<b>Date:</b> October 16 – 22, 2016
<b>Location:</b> Chengdu, China

<p><b>1. MEETING ATTENDANCE</b></p>
<p>Please indicate, if available, both the number of delegates and the countries represented at the Meeting:</p> <p>Over 50 delegates participated in the Plenary meeting, and more in Working Groups and as observers, representing Austria, Britain, Canada, China, France, Germany, Italy, Japan, Norway, Russia, Sweden, Switzerland and the United States of America. The Plenary meeting attendance roster is attached.</p> <p>Please comment on significant or unusual attendance issues (e.g., new member bodies, regular members not in attendance, new Chairman or Secretariat, non-accredited U.S. persons, etc.):</p> <p>The TC4 Chairman and leader of this Plenary was Jean-Paul Rigg from Canada, assisted by the TC4 Secretary Robert Arsenault also from Canada, the Plenary host at the head table was Dr. Jiang Dai of Three Gorges Corporation of China, and the guest speaker was Dr. Christophe Nicolet of IEC headquarters in Switzerland.</p>
<p><b>MEETING OBSERVATIONS</b></p>
<p><b>2. Overall, how well did the U.S. meet its objectives on policy or technical matters?</b></p>
<p>X      <b>Very Successful -- U.S. positions were accepted in whole</b>  <b>Successful</b> -- <b>Compromises were reached which are acceptable to the U.S.</b>  <b>Not Successful -- U.S. positions were not accepted</b></p>
<p><b>3. Please comment on any issues of significance which might have an impact upon materially affected or interested U.S. parties.</b></p>
<p>The guest from IEC headquarters, Dr. Nicolet, led a strategic business planning brainstorming session, in which pairs of country delegates were asked to extemporaneously draft ideas to promote TC hydropower for the IEC. The team of USA and Switzerland drafted and delivered several well received concepts, along with contributions from a half dozen other country teams. The main idea promoted by the US was to increase IEC presence at the next international hydro power hydro vision conference already hosted in the US, with an additional booth and public session, in addition to private meetings, similar to other national and international organizations. That and other ideas which we presented are as follows:</p> <p>1) <b>Promotion aspect:</b> Increase visibility of IEC/TC4 by:</p> <ul style="list-style-type: none"> <li>a. Presentation of new Standards at international conferences (Hydrovision, Hydro, etc)</li> <li>b. Presence at international conferences with a booth</li> <li>c. Videos on you tube</li> <li>d. Linkedin - IEC/TC4 group</li> </ul> <p>2) <b>Technical aspect:</b> Promote and further develop hydropower plant flexibility and quick response time to support the electrical grid stability:</p>

<ul style="list-style-type: none"> <li>a. Take better advantages of dynamic performances of new variable speed technologies such as Doubly Fed Induction Machines (DFIM) or Synchronous Machine with Full Size Frequency Converters (FSFC) with development of specific control strategies to improve dynamic response of hydro units</li> <li>b. Promote and demonstrate Hydro Unit capability for primary and secondary control services</li> <li>c. Demonstrate the capability of Pumped Storage Power Plants to compete with battery technology especially using Variable Speed technology (+/- 20% input/output power variation achievable in less than 0.5s)</li> </ul> <p>3) <b>Organization aspect:</b> Increase participation to IEC from:</p> <ul style="list-style-type: none"> <li>a. Power utilities</li> <li>b. Universities</li> <li>c. Consulting engineers</li> </ul>
<p><b>4. Was there any discussion for which the United States was unprepared? (e.g., late document distribution, addition of new items, etc.)</b></p>
<p>The US delegation was completely prepared. This included making a scheduled 10 minute presentation to the entire group, drafted prior to the plenary with input from the US TC4 chair and updated at the plenary for the audience and current topics. The plenary secretary collected the prepared remarks if electronic, will post on the IEC website and the US notes are attached. Speeches from other countries varied, some positive, some negative, long, short, vendor promoting, etc. The best in my opinion was from Canada, for whom hydropower is the major energy source, and second to China has the most active construction of new projects.</p>
<p><b>5. Did the U.S. extend an offer to assume any new TC/SC Secretariat or management positions?</b></p>
<p><input type="checkbox"/> Yes                      <input checked="" type="checkbox"/> <u>No</u>  <b>(If yes, please indicate which position and provide Officer contact information.)</b></p> <p>No new officer positions were open nor offered, as the existing chairperson and secretary were collectively agreed by the delegates to be doing a fine job and intend to continue into the next plenary period. In fact, our committee secretary Robert Arsenault was this year honored with the IEC's prestigious Thomas Edison award for outstanding service!</p>
<p><b>6. Did the U.S. extend an offer to host any future TC/SC meetings?</b></p>
<p><input type="checkbox"/> Yes                      <input checked="" type="checkbox"/> <u>No</u>  <b>If yes, please identify:</b></p> <p>No, as the US committee had briefly considered this last year before the plenary meeting, for the option of hosting in Portland Oregon. However, after the Chinese overwhelmed all the delegates with their hospitality at this year's plenary, with several large corporate sponsors, and large factory and project tours, it was unanimously agreed that this was the best plenary in history. Italy volunteered to host the next plenary in 2018, however it was mentioned that to do better the Vatican would need to perform a miracle!</p>



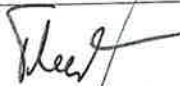
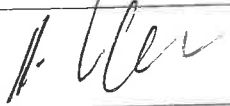














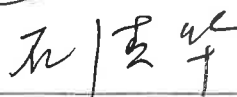




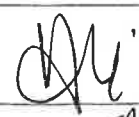







# IEC/TC4-2016 Plenary Meeting

Date:2016.10.16-22




Venue: Room 302 in CTG

No.	Name	National Committee	Company	Signature
1	Mr. Jean-Paul RIGG	Canada	Chairman	
2	Mr. Robert ARSENEAULT	Canada	Secretary	
3	Erwin Oberbichler	Austria	Andritz Hydro GmbH	
4	Hermann Paller *	Austria	Andritz Hydro GmbH	
5	Peter Grafenberger	Austria	Andritz Hydro, RD Linz	
6	Wolfgang Artner	Austria	Andritz Hydro GmbH	
7	Francis Parker	Britain	Project Engineer	
8	Ian Jonathan Martin *	Britain		
9	Brigitte Boyer *	Canada		
10	André Coutu	Canada	ANDRITZ Hydro Canada Inc	
11	Jean-Paul Rigg *	Canada	Chairman of TC4	
12	Robert Arseneault *	Canada	Secretary of TC4	
13	Danny Burggraeve	Canada	BC Hydro - Generation Projects Engineering	
14	Gilles Proulx	Canada	Hydro-Québec	

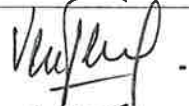
No.	Name	National Committee	Company	Signature
15	Jean-Alexandre Lemay	Canada	Andritz Hydro Canada	
16	Guillaume Dubois	Canada	Hydro-Quebec	
17	Daqing Qing WG33	China MT32	Harbin electric machinery Co.,Ltd	
18	Jiang Dai WG33	China	China Three gorges Corporation	
19	Runshi Zhang WG14	China	China Three gorges Corporation	
20	Xiaochao Meng	China	China Institute of Water Resources and Hydropower Research	
21	Qinghua Shi * MT32 WG18	China	Dongfang Electric Machinery Co.,Ltd	
22	Weiya LIU WG14	China	Tianjin Design and Research Institute of Electric Drive Co., Ltd.	
23	Liang Zhang MT34	China	Yalong River Hydropower development company. Ltd.	
24	Stéphane Herbivo	France	EDF	
25	Florent Pascal	France	Hydro GE Renewable Energy	
26	Nadine Pajeau Wassong	France	EDF	
27	Guillaume Amodeo	France	GE Renewable Energy	
28	Pierre Maruzewski	France	EDF	
29	Joël Nicolas	France	EDF	
30	Dominique Gaudron	France	EDF CENTRE D'INGENIERIE HYDRAULIQUE	
31	Pierre-Yves Lowys	France	GE Renewable Hydro	

No.	Name	National Committee	Company	Signature
32	Jiri Koutnik	Germany	Voith Hydro Holding GmbH & Co. KG	
33	Peter Nowicki	Germany	ANDRITZ HYDRO GmbH	
34	Jose Nieto Diaz	Germany	Voith Hydro Holding GmbH und CoKG	
35	Pablo Llosa	Germany	Andritz Hydro GmbH	
36	Eberhard Kopf *	Germany	Voith Hydro Holding GmbH & Co.KG	
37	Marco Maiwald	Germany	Voith Hydro Holding GmbH & Co.KG	
38	Peter Faigle	Germany	Voith Hydro Holding GmbH & Co. KG VHEC-International Turbine Development - tte	
39	Klaus Kuhn	Germany	ANDRITZ HYDRO GmbH Leiter Engineering/CEC	
40	Fabio Muciaccia *	Italy	WATER ENERGY SYSTEMS & TESTS	
41	Toshiaki Suzuki	Japan	Toshiba Corporation	
42	Masashi Yasuda *	Japan	Electric Power Development Co.,Ltd.	
43	Anders Wedmark	Norway	Rainpower Norway AS	
44	Torbjørn Nielsen *	Norway	Norwegian University of Science and Technology	
45	Aleksandr Ustimenko	Russia	PJSC "Power Machines"	
46	Alexander Zakharov *	Russia	PJSC "Power Machines"	
47	Anders Skagerstrand	Sweden	Vattenfall Vattenkraft AB	
48	Lars Ake Gösta Grahn *	Sweden	Vattenfall Vattenkraft AB	



No.	Name	National Committee	Company	Signature
49	Einar Håkan Gustafsson *	Sweden	Vattenfall Vattenkraft AB	
50	François Avellan *	Switzerland	Laboratory for Hydraulic Machines	
51	Christophe Nicolet	Switzerland	Power Vision Engineering Sàrl	
52	Stephen Spain *	USA	<del>Federal Hydropower</del> , HDR Engineering, Inc.	
53	James Volk	USA	SECURITY LLC	

Veronica Ferro US SECURITY LLC  
 Takayuki Nakamura Japan HM Hydro

  
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