

**MINUTES OF THE  
COUNCIL MEETING  
(September 14, 2015)**

Subject to the approval of the ION Council, the following minutes are submitted. The Council Meeting was called to order on September 14, 2015 at the Tampa Convention Center at 5:30 p.m. Those present were:

**VOTING COUNCIL MEMBERS:**

<u>Name</u>	<u>Office Held</u>
Dorota Brzezinska	President
John Raquet	Executive VP
Mike Veth	Eastern Region VP
John Betz	Satellite Division Chair
Jan Anszperger	Military Division Chair
Jason Rife	Eastern Council M-at-L
John Nielson	Western Council M-at-L
Neil Gerein	Western Council M-at-L
Thomas Pany	Air Representative
Michael Meurer	Air Representative
Alan Grant	Marine Representative
Dana Goward	Marine Representative
Oliver Montenbruck	Space Representative
Zainab Syed	Land Representative
Paul Benshoof	NM Section Chair
Steve Rounds	Southern CA Section Chair
Doug Taggart	Meetings Chair and DC Section Chair
John Clark	Finance Chair
Gary McGraw	Bylaws Chair
Terry Moore	Awards Chair
Chris Hegarty	Past President
Larry Hothem	Past President
John Lavrakas	Past President
Karen Van Dyke	Past President
Todd Walter	Past President

**NON-VOTING PARTICIPANTS:**

<u>Name</u>	<u>Position</u>
Lisa Beaty	Executive Director
Francine Vannicola	ION PTTI General Chair
Mitch Narrins	

It was determined that a quorum was achieved.

**AGENDA**

See Attached File: [Agenda – September 2015](#)

Approval January 25, 2015 Council Meeting Minutes: D. Brzezinska

**MOTION: Council approves the January 25, 2015 Council Meeting Minutes that were posted online in February 2015.** Motion made by Dorota Brzezinska, seconded Steve Rounds and passed by Council.

President's Update: D. Brzezinska

See Attached File: [Presidents Report 9-14-15](#)

It was suggested that the *ION Newsletter* highlight journal papers, or provide a short version of a journal paper for the newsletter.

Vote to Amend the Bylaws: G. McGraw

Gary McGraw, Bylaws Chair, reported that during the January 2015 Council meeting, Council agreed that:

- The current designations of air, land, marine and space representatives do not reflect the ION's current membership.
- The current designations of air, land, marine and space have made the nominations process difficult for both the Nominating Committee and the nominated individuals. Those nominated do not always feel comfortable representing a specific discipline with which they may not self-identify, as most Technical Representatives self-identify in a specific capacity.
- There was not a need to change the total number of Technical Representatives' Council seats; eight total Technical Representatives was affirmed as a good number.
- Council voted that future Technical Representatives should be nominated without any pre-determined technical designations.

Actions assigned the Technical Committee by Council during the January 2015 Council meeting:

- Propose a method whereby nominees are allowed to self-identify their technical interests on the ballot.
- Propose a method the Nominating Committee would use in structuring the election of technical representatives.
- Present recommendations to Council in September 2015 with the required bylaws changes.

It was reported that the Bylaws Committee circulated an official notice to Council on May 20, 2015 with a proposed change to the ION's bylaws that would implement changes to the technical representation on the ION Council as follows (quoted directly from the May 20, 2015 memo to Council):

See Attached Files: [Tech Comm Report Council Tech Reps Sept 2015 Council Meeting](#)  
[Bylaws Proposed Changes Council September 14 2015](#)  
[PA-15-05-26 Objection to Proposed Motion to Amend the Bylaws](#)

**PROPOSED METHOD FOR  
TECHNICAL REPRESENTATIVE NOMINEES  
TO SELF-IDENTIFY**

The current bylaws determine winning nominees by “*a majority of all valid votes cast ... If no candidate receives a majority, the winning candidate shall be determined by the outgoing Council from among the least number of candidates who received the most votes and whose total vote represents a majority.*” If there are more than two candidates running for an office it would be difficult receive a “majority” based on the ION’s historical definition of a majority being greater than 50%.

Thus the Technical Committee has proposed that:

1. The Nominating Committee nominate a total 16 individuals as Technical Representative Nominees for the eight Technical Representative Council positions.
2. The Nominating Committee shall strive to nominate individuals:
  - a. from various positioning, navigation, or timing backgrounds
  - b. provide variety of candidates from industry (commercial/consumer oriented), academia and government (including the military and DoD contractors)
  - c. represent diversity in candidates both male and females; at various stages in their careers; and incorporate international representation
3. Technical Representative Nominees would formulate a short statement about the topics and areas for which he or she stands (similar to what is already done, but more explicit with respect to the fields of interest, background, etc.). This statement would be included as part of the ballot.
4. The Nominating Chair will review the nominated Technical Representative Nominees’ supplied statements of interest, and group the nominees on the ballot into eight pairs of two (16 total nominees), instructing the membership to vote for one candidate from each pairing (selecting eight of 16 total candidates). The Nominating Chair shall be given the responsibility of pairing the nominees in such a way as to ensure a distribution between technical interests, organizations and backgrounds. For example, an academic could run against another academic, industry could run against industry etc.

**PROPOSED MOTION TO AMMEND THE BYLAWS**

Council will be ask to vote on the following motion during the September 14, 2015 Council meeting, and approve the amended bylaws attached (proposed changes have been tracked in the attached document to facilitate review):

It was noted that after the official notice of the proposed bylaws change was circulated one formal objection was received and is noted as follows:

*June 28, 2015*

*Dear Members of the ION Council,*

*I respectfully submit my objection to the proposed motion to amend the bylaws, distributed by email on May 20, 2015. I recognize that the 30 day deadline for formal comments has passed, but I ask that these concerns be at least informally considered by the council members.*

*Having served on the nominating committee for ION in the past, I understand the very well intentioned motivation for the proposed changes. However, I believe that the ION could run into serious unintended discrimination issues by including gender and career advancement (which may be seen as basically a proxy for age) as potential criteria for the selection of head-to-head candidates. I would rather see members asked to vote for 8 representatives out of 16, or perhaps one of two full slates that the nominating committee puts together, that each include the balance of industry/academia/commercial/military/experience/gender/international diversity that would best serve the institute.*

*Sincerely,  
Penina Axelrad  
ION President 2004-2005*

There was review of actions taken over the past eighteen months and comments made by past Nominating Chairs and Technical Representatives on their experiences with the current nominating process. Following discussion the issue was called to vote:

**MOTION: Council approves the amended bylaws as circulated to Council in May 2015.**  
See Attached Files: [Bylaws Proposed Changes Council September 14 2015](#).  
Motion made by Doug Taggart, seconded by Dana Goward and passed by Council.

The following policy change shall be made to the Nominating Process:

**MOTION: The following policy change shall be made to the nominating process: 1) Technical Representatives shall no longer be designated as air, land, marine and space representatives; 2) Technical Representative Nominees shall self-identify their technical interests on the ballot; and 3) the Nominating Chair is authorized to conduct the nomination process for future Technical Representatives as follows:**

1. The Nominating Committee nominate a total 16 individuals as Technical Representatives Nominees for the eight Technical Representative Council positions.
2. The Nominating Committee shall strive to nominate individuals:
  - a. from various positioning, navigation, or timing backgrounds
  - b. provide variety of candidates from industry (commercial/consumer oriented), academia and government (including the military and DoD contractors)
  - c. represent diversity in candidates both male and females; at various stages in their careers; and incorporate international representation
3. Technical Representative Nominees shall formulate a short statement about the topics and areas for which he or she stands (similar to what is already done, but more explicit with respect to the fields of interest, background, etc.). This statement shall be included as part of the ballot.

The Nominating Chair shall review the nominated Technical Representative Nominees' supplied statements of interest, and group the nominees on the ballot into eight pairs of two (16 total nominees), instructing the membership to vote for one candidate from each pairing (selecting eight of 16 total candidates). The Nominating Committee shall be given the responsibility of pairing the nominees in such a way as to ensure a distribution between technical interests, organizations and backgrounds. For example, an academic could run against another academic, industry could run against industry etc.

Motion made by Todd Walter, seconded by Alan Grant and passed by Council.

Annual Awards Committee: T. Moore

Terry Moore, Annual Awards Chair, reported that members of the prior year's Annual Awards Committee had recommended simplifying the written description of the purpose of the Tycho Brahe Award in Section 6.4 of the Annual Awards Policy and Procedures document as follows:

**6.4 TYCHO BRAHE Award**

- A. The purpose of this award is to recognize an individual who has made an outstanding contribution to the science of space navigation, guidance and control and whose actions have benefited civilization in any form. Contributions may include scientific advances, novel instrument development, experiments, and applications to deep space, interplanetary, and near-Earth spacecraft navigation.

See Attached File: [Award Policies & Procedures Changes Tycho Brahe September 2015](#)

**MOTION:** The purpose of the Tycho Brahe Award in Section 6.4 of the Annual Awards Policy and Procedures document be amended to include only the following: "The purpose of this award is to recognize an individual who has made an outstanding contribution to the science of space navigation, guidance and control and whose actions have benefited civilization in any form such as scientific, technical, engineering or theoretical writing. Contributions may include scientific advances, novel instrument development, experiments, and applications to deep space, interplanetary, and near-Earth spacecraft navigation."

Motion made by Karen Van Dyke, seconded by Larry Hothem and approved by the Council.

Report on AUVSI: N. Gerein

See Attached File: [AUVSI 2015 – Presentation to ION Council](#)

It was suggested that that ION host a navigation tutorial or a navigation session at AUVSI in the form of a *Beyond the Booth* presentation in the exhibit hall.

There was significant discussion that followed on the potential for autonomy as the next new technology and the role ION could play in autonomy and the overlap/synergy between autonomy and PNT.

**ACTION:** Mike Veth accepted the action to research the potential of an ION division related to UAV's and/or autonomy, the role ION could play in this emerging market and how ION would connect our membership to this new audience.

SDR Metadata Standard Report: T. Pany

See Attached File: [SDRWG-Report-2015\\_09\\_14](#)

Strategic Planning Report – Council Discussion: J. Raquet

John Raquet, Strategic Planning Chair, reported that the Strategic Planning Committee had met in January 2015, during which several initiatives were discussed. Since that time it was reported that the Lisa Beaty had made initial updates and revisions to the ION's Strategic Planning document that the Strategic Planning Committee would be reviewing at a meeting later this week. It was

reported that the goal was to have an updated version of the Strategic Plan document to distribute at the January 2016 Council meeting.

However, Dr. Raquet reported that during the committee's January meeting it quickly became apparent that the committee desired to use Council's resources for strategic advice and idea generation. To facilitate this objective the Strategic Planning Committee had generated the following questions as a baseline for Council discussion:

**1. What new technologies/topics would become the next advancement/new thing in PNT in the coming years?**

- Quantum technology, cold atom IMU's and clocks
- Sensor fusion
- Marine technology – subsurface navigation – gliders go out into the ocean
- UAV's
- Autonomy and unmanned systems (underlying autonomy is knowing where you are)
- Navigation challenges in unmanned systems in cities, unmanned vehicles etc.
- Safety and certification for autonomous navigation – especially when you have sensor fusion (using integrated sensors)
- How do people interact with the systems? Legal implications of this.
- Resilience (authentication, verification, security)
- Privacy, who has the rights to data collected?
- Location and time as components of cyber security and identify
- Space navigation (moon, Mars)
- Indoor Navigation (standards when we do not have GNSS)
- Application areas for all of these – not any new technology but new applications
- Autonomy
- Magnetic
- Resurgence in celestial
- Signals of opportunity

**2. Are there other related PNT organizations/events the ION should reach out to; to work with and/or absorb?**

- MOU with ASPRS: ASPRS are sensor people and ION is navigation – the two collaborate to operate sensors from navigation platforms. Help people know what to choose and how to exploit the data you collect.
- AUVSI
- ITS (doing autonomy)
- Marine Technology Society (DC) – offshore oil
- IPIN: Indoor Position Indoor Navigation - IEEE one of the sponsors (Petovello working on this conference which started as a European conference and is now more global.)
- Automated Vehicle Symposium (Ann Arbor)
- Mobile Mapping Symposium (every two years): Mapping sensors, navigation component, multi-sensors and integrated systems
- Old Crows: Radar groups, jamming, electronic environment trying to navigation through.
- Geographic diversity of meetings. Should ION get involved in European conferences?

### **3. How does ION best engage people new to the PNT field and young professionals to ensure the ION's future vitality?**

- Try to get local people involved in conferences at local level.
- Use local media advertise second year in city.
- Get young people involved sections and involve them in real world applications of problems in local area.
- Look at emerging markets and navigation problems they need to solve; ION does not always reach into these markets. How do we reach into these markets? We are an enabling technology but not a final product. How do we draw this group in?
- Identify ION with new markets.
- Need sections to interact with local universities and local colleges. Reach into academia and universities and colleges.
- Offer professional chartered navigator status. Certification process. Professional engineer licensing.
- Need to find groups who do not consider navigation to be a commercial commodity.
- Ask for bachelor level navigation courses for university students. Ask for more workshops and engagement at beginning of university.
- Would like video on PNT engineering careers.
- Come up with senior design concepts in various PNT fields that ION people supervise.
- Suggest Kepler Award winner receiver stipend to travel and give lectures to student body, or alternatively video tape lecture host on website.

### **4. Making ION an organization that PNT professionals must be involved with.**

- Offer professional chartered navigator status. Certification process. Professional engineer licensing.
- How to become involved in ION is not very transparent. Need to make involvement and how you become involved public. ION needs a visible application process where people can communicate their interest.
- Suggested advertising different publications. Change the way we think about advertising and what we advertise.
- Look other ways attract PNT people besides GNSS.

## **NEW BUSINESS**

Council ratified the following actions taken by the ION Executive Committee since the last Council meeting in January:

### **Government Fellow/Fellow Funding Approved for 2015-'16 Congressional Fellow:**

The ION Government Fellows Committee (chaired by Clark Cohen with committee members including Jim Doherty, Larry Hothem, Doug Taggart and Karen Van Dyke) has strongly recommended that applicant Dr. Gerald Mader (from NGS) be offered an ION sponsored AAAS (American Association for the Advancement of Science) Congressional Fellowship for the upcoming annual term September 2015-2016. The Committee's recommendation was unanimous.

There were four total applicants this year, two of which were interviewed and two of which

withdrew their names prior to the interview process. The Committee performed due diligence on all candidates regarding potential conflicts of interest, a representative sampling of the candidates' references, the conducting of live interviews, and applying guidance from the five assessment criteria posted on the AAAS umbrella program website:

<http://www.aaas.org/page/become-fellow-evaluation-criteria-scoring-guidelines>

**MOTION:** The ION Executive Committee authorizes an expenditure of up to \$80,000 from the ION's excess reserve funds to cover funding for an ION sponsored 2015-2016 AAAS Government Fellow. Funds authorized will cover the invited Fellow's monthly stipend, AAAS training/registration costs and travel for the proposed Fellow to report to Council as requested. Motion approved by Executive Committee email vote May 2015.

### **Technical Co-Sponsorship of RIN's INC Conference, November 2016:**

Dr. Terry Moore, The Royal Institute of Navigation's (RIN) vice president and current member of ION Council, has requested that ION continue our cooperation with the RIN as a perpetual technical co-sponsor of the International Navigation Conference (INC), next scheduled for November 21-24, 2016 in Glasgow.

INC meets the terms of the ION's existing co-sponsorship policy in that the RIN is a non-profit organization/an internationally affiliated Institute of Navigation; ION would have no contractual, management or financial responsibility or liability for the meeting; and Dr. Terry Moore, as a member of ION Council, will act as an appropriate liaison between ION and RIN. But perhaps most importantly, the cooperation was highly beneficial to both organizations during the RIN's INC 2015 (February 2015) event.

The terms of the collaboration would include:

- Reciprocal links between RIN INC meeting website and ION meeting websites
- Reciprocal advertisements in the ION Newsletter and Navigation News
- Exchange of exhibition space as requested
- Reciprocal distribution of conference announcements

**REVISED MOTION:** ION agrees to be a technical co-sponsor of RIN's International Navigation Conference (INC) 2016 (November 8-10, 2016) with Terry Moore acting as liaison between ION and RIN. Terms of the collaboration shall include reciprocal link between RIN INC meeting website and ION meeting websites; reciprocal advertisements in the ION Newsletter and Navigation News; exchange of exhibition space as requested; and reciprocal distribution of conference announcements. ION assumes no contractual, management or financial responsibility or liability for the meeting. RIN shall be given permission to use the ION logo in publicizing the meeting when logo is used to represent the cooperative relationship in the organization of the meeting's technical program. The ION logo shall not be used to endorse (implied or otherwise) the sponsoring organization, or any of the sponsoring organization's events or programs, other than the specific technical meeting for which it was authorized. ION co-sponsorship shall not imply the use of any ION services, use of ION mailing lists, advertising in publications, administrative services, etc. ION makes no commitment to provide these services. Motion approved by Executive Committee email vote July 2015.

The meeting was adjourned at 8:05 p.m.

Additional Documents Included with these Minutes:

Maritime Councilors' Rpt 9-15 v2

Awards Policies & Procedures Approved Council September 14 2015

Bylaws Approved Council September 14 2015