

Commission on the Weather, Water, and Climate Enterprise (CWWCE) Report 26 August 2016

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Introduction

Section A of this report provides highlights of current CWWCE activities and others planned for the rest of 2016. Section B includes information that supports requests for Council action.

Additional information about the CWWCE can be found on the [Commission](#) web site.

Section A – CWWCE Highlights

Commission Membership

Membership across the CWWCE boards and committees continues to evolve and changes are being reflected in updates to the CWWCE web pages and the corresponding AMS membership database. A 2016 CWWCE organization chart is provided in Attachment A for reference.

New Position Established – The Board on Enterprise Economic Development (BEED) working with the Commissioner, formalized a new position titled, “Chair, AMS Washington Forum Planning Committee”, which reports to the BEED Chair. A position description was prepared and Tom Fahy graciously accepted this role in August 2016. Tom will now take the lead in planning the AWF with strong support of the BEED.

2016 to January 2017 Forums and Symposia

The following major activities have already been conducted or are planned for 2016. Additional activities are described on the CWWCE Board and Committee webpages.

- **Forum on Observing the Environment from the Ground Up**. March 8-9, 2016, Washington D.C. The [Forum](#) built on efforts over the past decade to develop an integrated, multi-purpose observing system focused on the conditions from the surface through the atmospheric boundary layer. Approximately 105 persons representing all sectors attended the Forum. It was organized by the BEST’s Nationwide Networks of Networks (NNoN) Committee (Chair, John Horel). A BAMS article summarizing the meeting is planned.
- **AMS Washington Forum (AWF)**. April 12-14, 2016, Washington, D.C. The [Forum](#) theme was “Leveraging Environmental Intelligence to Enhance Risk Management”. It was organized by the BEED (Chair, Shawn Miller) with several CWWCE members and

committees supporting the event. The CWWCE Steering Committee met on 11 April, the evening before the AWF. Additional information is provided in the BEED report below.

- **Summer Community Meeting (SCM)**. July 19-21, 2016, Tuscaloosa, Alabama. The theme was “[Water is Life: Societal Challenges & Enterprise Opportunities](#)”. Organized by the BEC (Chair, Doug Hilderbrand) with several CWWCE members and committees supporting the event. The SCM highlighted the National Water Center and new National Water Model as national resources and enterprise opportunities, and a panel session on the RF allocation with Ligado was organized by the [Ad Hoc Committee on RF Allocations](#). The SCM followed the [NWS Partnership Meeting](#), which was held on Monday, 18 July.
- **The Intersection of Weather & Water in Preventing Public Water Crises**. The BEC sponsored an enterprise [webinar](#) (recorded) on this topic on 8 June. It was co-sponsored by the American Academy of Water Resource Engineers ([AAWRE](#)) and about 100 persons participated. Civil Engineers today are aware of changing climate and the need to go beyond traditional engineering practices to ensure projects designed today are robust and resilient for tomorrow. Connecting with the weather and climate community will enable engineers to deliver better water services to the public now and into the future.
- **Fifth Symposium on the Weather, Water, and Climate Enterprise**, January 24-26, 2017, Seattle, Washington. The Symposium is organized by the BEST (Chair, Sheldon Drobot). The 2017 event planning is well underway; the next Symposium will consist of several panel discussions focused on the following topics: (a) The smart cities revolution: What you need to know; (b) Why energy and water are connected challenges; (c) The coming revolution in satellite data; (d) Enterprise opportunities in ecological prediction services; (e) Innovative international partnerships across the weather, water and climate enterprise; (f) Effective communication of weather and climate information; (g) International collaborations; (h) Exploring the public-private sector partnership value chain; and (i) Nationwide Network of Networks follow-up to summer conference.
- **Eighth Conference on Weather, Climate, Water and the New Energy Economy**, January 23-27, 2017, Seattle, Washington. This conference is organized by the Energy Committee (Co-Chairs Brian D’Agostino and Lawrence Gloeckler), and Renewable Energy Committee (Chair, Justin Sharp), which are under the BGS (Chair, Stephen Zebiak). There are also discussions occurring about supporting energy sessions within the [2017 Student Conference](#).
- **Renewable Energy & Meteorology Summit**. A meeting focused on identifying the current knowledge gaps in meteorological capability to support renewable energy is being planned by Matt Parker, the Commissioner, and the Renewable Energy Committee for 2017.
- **Commission Town Halls at Annual Meeting**. At the time of writing, two Town Hall meetings are being considered for Seattle. The general topics are:
 - Radio Frequency Sharing Challenges for the Weather, Water, and Climate Enterprise
 - Development of a National Strategy Around Sharing Data from Connected Vehicles

Special Committees

- **Ad Hoc Committee on Radio Frequency Allocations.** This committee (Chair, Jon Porter), is charged with discussing and exploring the necessity of and, if needed, path forward for updating the [AMS Statement on Radio Frequency Allocations](#), which was adopted by the AMS Council on 1 October 2009. The précis was approved by Council in April and call to participate on the Statement Drafting Committee was posted. As background, the Obama Administration tasked the [NTIA](#) to free up 500 MHz of spectrum to support wireless communications by 2020, so there is a lot of momentum to make this happen. At the request of [Ligado](#), the FCC is currently planning a frequency auction for the 1675-1680 MHz band that will likely have a negative impact on the enterprise.

The committee prepared an information [flyer](#) for the community and prepared an updated AMS/NWA joint [letter](#) to the FCC and policy makers (sent 1 March 2016) describing the use of the RF spectrum in hydro-meteorological applications and services. An AMS/NWA joint [letter](#) was also sent to selected policy makers on 17 July 2015. Commission leadership had a telecom with Ligado in May to discuss the issue and Ligado expressed its desire to reach out to the enterprise to better understand this issue and its impacts on the enterprise and particularly the private sector. An AMS response letter to the Petition for Rule Making ([RM11681](#)) was submitted to the FCC on 20 June 2016. There was also an important enterprise focused session on this topic at the Summer Community Meeting as noted above and a Town Hall is being planned for Seattle.

The AMS Policy Program also supported this activity by creating an “AMS Soundings” article on this topic, posting a blog on “The Front Page”, and organizing a [Capitol Hill Science Briefing](#) on the RF topic on 25 May 2016. As mentioned above, A Town Hall on this topic is being planned for Seattle.

- **Committee on Climate and Climate Change Consulting Certification (“C6”).** Per the discussion at the January Council meeting, a committee is now being formed to explore the merits and potential impacts of creating an AMS certification program for climate change (mitigation and adaptation) consulting. This initiative is being coordinated with the EC, CWWCE, and Commission on Professional Affairs. The Board of Certified Consulting Meteorologists (BCCM) has identified a co-chair (Joe Chang) and a co-chair representing the American Association of State Climatologists (AASC) is on-board (John Nielsen-Gammon). On 19 May a “kick-off” meeting was held with the co-chairs who quickly began recruiting committee members. At the time of writing, nine volunteers have accepted committee membership. An initial [web page](#) was created for the committee and the membership list will be added in early September.

Other Board and Committee Activities

The items below are committee and board updates and highlights, but do not cover the full complement of activities occurring within the CWWCE.

Board on Enterprise Communication (BEC) – Chair, Doug Hilderbrand

- **Summer Community Meeting (SCM).** The BEC planned and ran a successful water themed SCM which was held July 19-21 2016 in Tuscaloosa, Alabama (see information above).
- **Committee on Effective Communication of Weather & Climate Information (CECWCI).** The CECWCI (Co-chairs, Bob Ryan and Gina Eosco) are in the process of identifying a specific weather topic and climate topic to focus on and may co-plan a session at the upcoming NWA fall meeting. Of particular interest is the process by which NWS experimental products are introduced and how feedback from the community is gathered and utilized. Bob Ryan and Roger Pielke Jr. also participated on the new Flash Flood Statement Drafting Committee. The CECWI is also working with Matt Parker to plan a communications themed workshop and/or Short Course at the 2018 Annual Meeting.
- **Press Event Team (PET).** The PET (Co-Chaired by Jacob Wycoff and Jason Samenow) supported the AWF and is supporting the July SCM. Given the creation and successful ramp up in capability of AMS Communications (led by Tom Champoux), the necessity of the Press Event Team as a separate entity supporting the CWWCE has waned; therefore the CWWCE-Executive Committee is proposing to the Council that the PET be dissolved (see section below on requests for Council action). Both Jacob Wycoff and Jason Samenow will remain active members of the BEC.
- **Forecast Improvement Group (FIG).** The FIG Chair, Neil Jacobs, is actively working on the FIG Executive Committee membership rotation plan since the FIG is now 3-years old. The FIG Chair is also gathering information from stakeholders and policy makers about the current state of weather prediction and needs. Topics that the FIG could take up include, but are not limited to:
 - Cost-benefit analysis on observations (enterprise wide). This is broader than the [NOSIA-II](#) NWS project, but may end up either integrating it or verifying it.
 - Alternative business models for public-private partnership (and the WMO's impact on them).
 - Learning more about the [NKGPS](#) process. This is just a general interesting issue, as many people are curious as to how the tests were conducted and verified. Others wanted to know how this changes the overall national global modeling strategy. Under this topic, the FIG may also have interest in discussing ocean model coupling and a [DTC](#) like framework for global models.
 - Private investment versus federal funds (like NSF) for both basic and applied research (i.e., should NSF focus on funding things industry won't fund versus being redundant because industry doesn't fund "basic research" without a clear path to ROI).
 - Revisiting "The Fair Weather Report" to see if it still represents the current state of the enterprise. The original FWR mainly presented private industry as users of NWS output/content and sector roles were discussed related to who does what (with NWS output). However, now private and academic sectors are also

actively creating input/content that can be used by NWS. This is a rapidly changing role reversal, so the idea that maybe we consider making the FWR a decadal survey was floated. Perhaps the FIG could support this proposed initiative.

Board on Global Strategies (BGS) – Chair, Stephen Zebiak

- **Energy Committee (EC).** The EC (Co-chairs, Brian D’Agostino and Lawrence Gloeckler) and the Renewable Energy Committee are actively co-planning the “Eighth Conference on Weather, Climate, Water and the New Energy Economy” which is scheduled for January 23-27, 2017 in Seattle, Washington. There are also discussions occurring about supporting energy sessions within the 2017 Student Conference and having multiple joint sessions with the STAC. A Town Hall on operations for energy is being conceived.
- **Renewable Energy Committee (REC).** The REC (Chaired by Justin Sharp) is actively co-planning the “New Energy Economy Conference. It is also discussing the preparation of a “white paper” describing the current state of energy and meteorology and ongoing user needs. This activity may dovetail well with the proposed Renewable Energy & Meteorology Summit described above.
- **Committee on Environmental Security (CES).** The CES (Chaired by John Lanicci) is discussing the idea of preparing a BAMS article on environmental security and creating a Short Course titled “Climate Change and National Security: Exploring the Links”, which would be part of the 2017 Annual Meeting.
- **International Committee on Weather, Water, and Climate Strategies (ICWWCS).** The ICWWCS (Chaired by Renee Laduc Clark) is exploring proactive strategies to expand the participating of foreign nationals in the AMS Annual Meeting and is looking into ways to focus educational efforts that could lead to improvements in WW&C services in disadvantages countries.
- **Water Resources Committee (WRC).** The WRC (Chaired by Kathleen Miller) is supporting the drafting of the “Policy Statement on Water Resources: Water Resources in the 21st Century”. The drafting committee (Chair, Miguel Medina) worked with Council to refine the text prior to the open comments period. Dennis Lettenmaier is the Council liaison for this Statement. In addition, WRC members contributed to planning for the AMS Washington Forum and the Summer Community Meeting.

Board on Enterprise Strategic Topics (BEST) – Chair, Sheldon Drobot

- **Committee on Ecological Forecasting (CEF).** The CEF (Co-chaired by Juli Trtanj and Allison Allen) wants to bring the enterprise into a broader discussion on ecological service needs and opportunities. Sessions are being considered for the upcoming CWWCE Symposium.
- **Committee on Emergency Management (CEM).** The CEM (Co-chaired by Bob Goldhammer and Tanja Fransen) are supporting the RF Allocations Committee and also supporting the development of storm siren best practices being developed by emergency management associations and other stakeholders.

- **Networks of Networks Committee (NNoN).** The NNoN Committee (Chaired by John Horel) successfully held the “Forum on Observing the Environment from the Ground Up” on March 8-9, 2016 in Washington D.C. The committee is now developing session content for the Fifth Symposium on the Weather, Water, and Climate Enterprise. The committee will also support the Seattle Town Hall on sharing connected vehicle data.
- **Climate Services Committee (CSC).** The CSC (chair, Stephanie Herring) worked with AMS staff to launch a professional services directory. This new capability is an outstanding resource for the Society. The CSC is currently working to identify ways to support the Fifth Symposium on the Weather, Water, and Climate Enterprise.

Board on Enterprise Economic Development (BEED)- Chair Shawn Miller

- **AMS Washington Forum (AWF).** The BEED successfully held the AWF from April 12-14, 2016 in Washington, D.C. The BEED is now actively discussing the planning for the 2017 event, which is scheduled for 2-4 May 2017 at the AAAS building. A kickoff call for the 2017 event was conducted on June 21, 2016. The theme is expected to center on aspects of how the enterprise is changing and moving into the AMS’ second century (and will therefore need to align with the latest plans and themes of the Centennial Committee). In August 2016, Tom Fahy agreed to Chair of the AWF Planning Committee and will lead the AWF planning effort for the next three years.
- **Committee on Open Environmental Information Systems (COEIS).** Chair Ricky Rood contacted Johnny Lin, who runs the AMS Short Course on Using Python in Climate and Meteorology and they discussed connecting this with student coding events focused on data access and applications. The committee proposes to engage more directly with [Unidata](#) and formalize student activities with [MetPy](#). They are also considering the possibility of advocating for micro-grants to write specific tools for inclusion into open source communities and libraries. There is a need to take on the issues and a possible position paper on open (versus proprietary) weather and climate data. This includes both data for input into forecast models as well as access to forecast and analysis products. The paper would explore the role of efforts like Panasonic and IBM’s Deep Thunder. The committee is also looking at evolving international policies on open data, open source code, access and licenses. Finally, NOAA has undertaken a multi-year strategic approach to modernize and improve all aspects of its forecast product portfolio. This is an opportunity for NOAA to work with the enterprise to address issues of data access and public-private roles.
- **Weather Enterprise Economic Evaluation Team (WEEET).** Last fall, the WEEET (Chair, Scott Rayder) discussed two options for updating the AMS membership on work performed to date. These options included a BAMS article and/or a Statement. A WEEET Committee meeting was held on 14 April following the AMS Washington Forum to discuss next steps and a briefing was given by Zdenka Willis, sponsor of the [Ocean Enterprise Industry Study](#). The committee still believes that an enterprise economic assessment similar to the scope of the Ocean Enterprise Report would be beneficial to the weather enterprise, but study sponsorship is still problematic. Options for public and

private sponsorship are still being explored, albeit not aggressively due to volunteer time constraints.

- **Financial Weather and Climate Risk Management (FWCRM) Committee.** The FWCRM committee (Chair, Tom Duncan) is engaged in providing communication and education of weather risk in the community. To this end the FWCRM is pursuing an active involvement in the 2017 AMS Annual Meeting. Specifically, the committee requested and hopes to be involved in two programs in the student conference as well as a joint session in the 8Energy Conference. Longer term, the committee is looking to broaden its efforts to communicate and educate smaller entities on weather risk management.
- **Intelligent Transportation & Surface Transportation (ITS/ST) Committee.** The Committee hosted two sessions at the 2016 AMS Annual Meeting and conducted an in-person meeting. In April, Bill Mahoney Commissioner, Weather, Water, and Climate Enterprise Commission and Brenda Boyce, Chair of the ITS/ST Committee met with the US Department of Transportation to discuss road weather needs for the traveling public, connected vehicles, and automated vehicles. They met with Ken Leonard, Director, ITS Joint Program Office; Ariel Gold, Data Program Manager, ITS Joint Program Office; and Paul Pisano, Team Lead for Road Weather Management and Work Zone Management. Currently, the committee is planning for the next AMS Annual Meeting and in the near future, the committee and the subcommittee will be reviewing a white paper on weather and automated vehicles. The committee will also support a Town Hall Meeting in Seattle on “Development of a National Strategy Around Sharing Data from Connected Vehicles”.

Policy Statement Refresh

- The Policy Statement titled “[*On the Infrastructure Supporting Weather, Water, Environmental, and Climate Sciences, Services, and Assessments*](#)” was adopted by AMS Council on 1 October 2009 and expired on October 2012. At the request of President Fred Carr, the CWWCE will facilitate the process to refresh this statement.

Section B – Requests for Council Action

AMS Organization Procedures

The following changes related to the CWWCE organizational structure are requested to the AMS Organizational Procedures.

1) **Dissolution of the Press Event Team.** The Press Event Team, a “committee” under the Board on Enterprise Communication, was established to serve as a public relations coordinator for Commission activities. I am happy to report that the augmentation of the AMS Communications Department and technical capabilities under the leadership of Tom Champoux has provided excellent support to the CWWCE. Therefore we no longer need a separate group focused on public relations and outreach for commission activities. We are

seeking Council approval to dissolve the Press Event Team. The current co-chairs (Jason Samenow and Jacob Wycoff) will remain members of the Board on Enterprise Communications and will support the CWWCE in that capacity. Other members of the Team will be encouraged to volunteer for other committees and boards.

2) **Dissolution of the Forecast Improvement Group Advisory Committee.** The Forecast Improvement Group (FIG) is an open group of community members. A FIG Executive Committee was established to plan and provide insight and feedback on FIG activities, therefore we now believe the Advisory Committee, which was created, but never populated, would be redundant with the role of the FIG Executive Committee.

3) **Remove requirement for the Water Resources Committee (WRC) Integrated Water Resources Subcommittee.** The requirement for an Integrated Water Resources Subcommittee is a left over requirement from when the WRC was formed after the Commission reorganization moving away from the Annual Partnership Topic process. The current WRC already includes integrated water resources as a key ongoing topic.

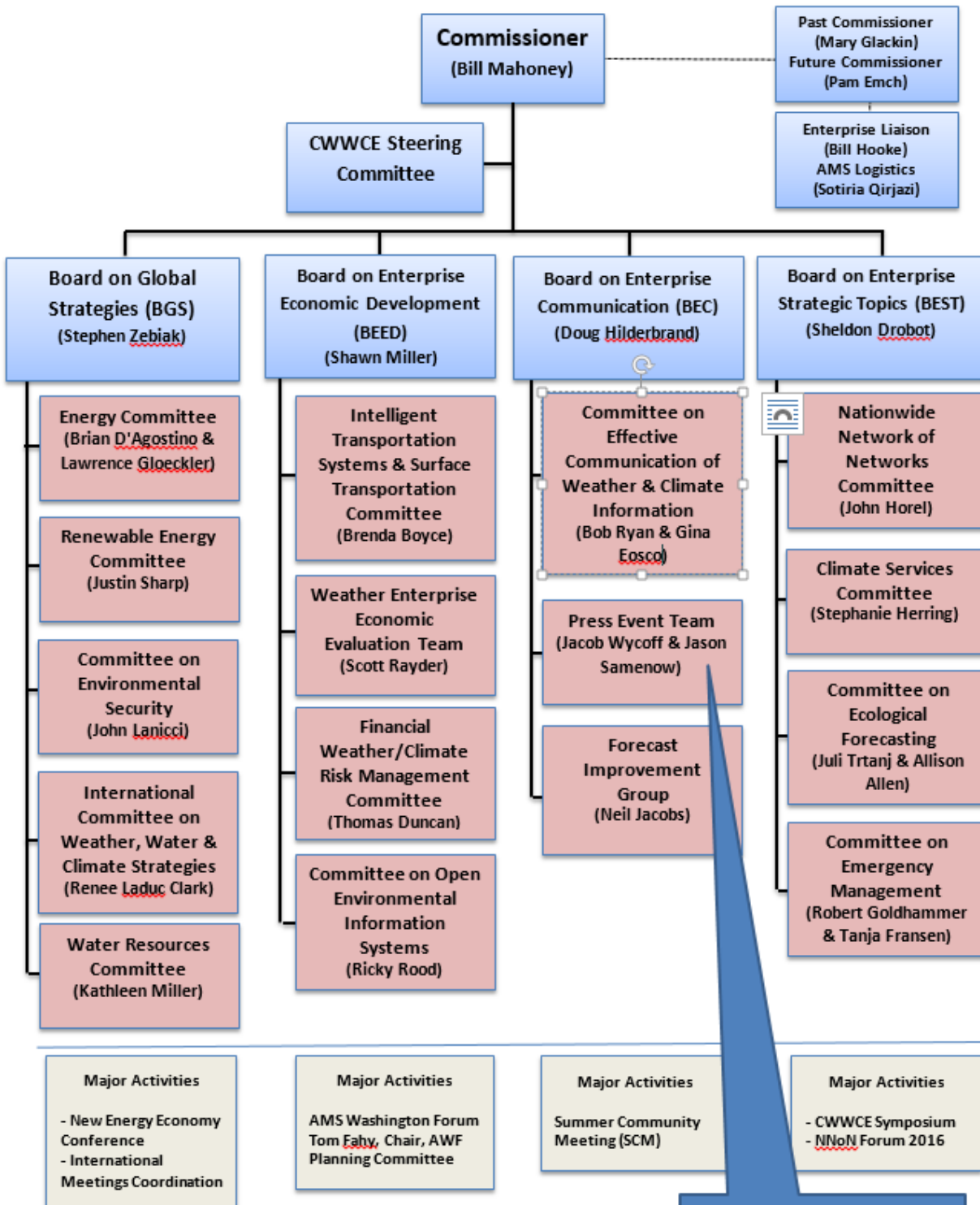
CWWCE Steering Committee Membership

Four Steering Committee positions are opening in January 2017. As this time, we have identified two candidates for Council approval. We will identify the other two candidates prior to the January Council meeting. Resume information for the two candidates is attached to this report.

In January 2017, Steve Ackerman, representing the “provider” community, term expires. The Commissioner is nominating **Dr. Michael Farrar**, Director, Environmental Modeling Center (EMC), NOAA to fill this slot with a term of 2017-2020.

Two “at large” positions are expiring in January 2017. Joel Widder, Federal Science Partners, term was already extended one year. The Commissioner is nominating **Julie Campbell**, President at the Campbell Marketing Group, Inc. to fill this slot with a term of 2017-2020. Julie Campbell, an active AMS Member, is President of the Campbell Marketing Group in Kensington, Maryland. Prior to starting CMG, Ms Campbell was employed in increasingly responsible positions at the United States Department of Commerce. Most notably, she acted as Deputy Director of Congressional Affairs for NOAA and as the Communications Manager for the Modernization of NOAA's National Weather Service.

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The CWWCE is proposing to dissolve the Press Event Team