

## Community Resilience Panel: Data, Metrics, & Tools (DMT) Standing Committee Meeting

**MEETING DATE:** Thursday, June 02, 2016  
**TIME:** 3:00 – 5:00 PM EDT  
**ISSUE DATE:** July 29, 2016

**ATTENDEES:**

<b>Attendee</b>	<b>Affiliation</b>
Megan Clifford [Chair]	Argonne National Laboratory
Paolo Bocchini [Vice-Chair]	Lehigh University
Ting Lin [Secretary]	Marquette University
Duane Verner	Argonne National Laboratory
Eleanore Hajian	DHS S&T Office of University Programs
Frank Lavelle	Applied Research Association
Frederic Petit	Argonne National Laboratory
Jay Raskin	Jay Raskin Architect
Jeff Rubin	Tualatin Valley Fire & Rescue
Jesse Keenan	Columbia University
Keely Maxwell	US Environmental Protection Agency
Larry Altenburg	SC&A Inc
Leanne Aaby	LMI
Louis Conway	Architectural Institute of BC (AIBC) Post Disaster Response Committee
Mari Tye	National Center for Atmospheric Research
Mat Heyman	Impresa Management Solution
Nathan Smith	Cadmus
Richard (Dick) Wright	American Society of Civil Engineers
Sunil Sinha	Virginia Tech

**DISTRIBUTION:** Attendees and Data, Metrics, & Tools Standing Committee  
**NOTES BY:** Ting Lin, Marquette University

### 1. Welcome

Megan Clifford (Chair) called the meeting to order. Megan welcomed and thanked attendees for participating.

### 2. Meeting Logistics

Megan proposed a motion to approve the April 4<sup>th</sup> Meeting Minutes (moved by Jeff, seconded by Richard). The committee unanimously approved.

Megan reviewed the June 2<sup>nd</sup> Meeting Agenda and proposed a motion (moved by Jeff, seconded by Paolo). The committee unanimously approved.

### 3. Update on Coordinating Committee (CRPCC) Discussions - Megan

We have held several CRPCC meetings (meeting minutes available at [https://www.crppanel.org/?page\\_id=935](https://www.crppanel.org/?page_id=935)), covered by Megan, Paolo, and Ting. We will hold more meetings.

**Cross-Collaboration:** As a committee, we discussed ensuring we are integrated with the activities of other committees. Megan thanked DMT committee members who volunteered to serve on other committees. We are almost fully covered on this aspect. We currently have members from other committees who have asked to join our committee. Thus far, good cross-pollination has occurred to ensure integration. This is a good development since the last time the committee met.

Standing Committee	DMT Representatives
Transportation	Paolo Bocchini
Water and wastewater	Frederic Petit
Buildings and facilities	Ting Lin, Louis Conway
Social & economic	Jeff Rubin, James Arnott, Keely Maxwell

**Action Item:** Megan suggested that each committee member who serves dual roles on another committee provide a 5-minute update at the next DMT committee meeting. This update will allow the full committee to hear what other committees are doing, helping ensure there is no duplication of effort and that the activities that we are undertaking complement, rather than conflict, with other committees.

**Resilience Knowledge Base (RKB):** Following our Portland meeting and CRPCC discussions, Megan volunteered to kick-off the RKB working group. The first teleconference is scheduled for June 21. Megan thanked volunteers from the DMT committee for contributing to this instrumental effort. Jesse drafted the mission: RKB as Living Resource Repository. Megan stressed the Panel's important role to examine the design, structure, and functionality of the RKB, as well as potential mechanisms for the Panel and others to share data, metrics, tools, best practices, and points of contact on this web-based platform, a key component and major output of the Panel.

Megan shared that Josh Barnes from the White House National Security Council shared with the CRPCC a federal inter-agency effort that examines and categorizes existing federal programs based on resilience indicators. These documents will be made available for the DMT and Panel to review. Jay led some of the RKB discussion, including consideration of the White House National Security Council Resilience Indicators as a potential RKB architecture. A significant point of discussion, especially for the RKB working group, will be how these indicators can be incorporated, what value they bring, and recommendation for use or modification.

Jay Raskin is working on scheduling a full panel meeting (or recorded session) with Josh Barnes so the committee/panel is aware of how these materials were developed by the White House and provided to the committee.

**Panel Mission:** Current panel mission (since January /February discussion) covers a broad scope. Jay and Jesse thought hard about how to get the focus of each committee and the overall Panel mission. This will be a discussion topic for the upcoming CRPCC meeting.

***Questions and Comments:***

Jeff's key points:

- Make sure what we are doing is not redundant with what research consortia or others are doing with their resources.
- What is the best use of the panel volunteers' time?

Jay's response: Jeff is correct – we should address the best use of volunteers' time.

Mat's additional comment: We should also include what the NIST Disaster Resilience Fellows are doing.

Jay's response: NIST Disaster Resilience Fellows' documents about current projects should arrive shortly.

Megan's remarks: The Panel's effort would ultimately drive the research agenda, so academic and research institutions can fill in the gaps. The NIST Center of Excellence (COE) led by Colorado State University is one center among many that deal with the topic of resilience. In addition to taking what they produced to determine what would go into RKB, there is still a need for more research.

**Charter Amendment:** The CRPCC proposed a charter amendment (see summary below) to facilitate voting and decision-making to achieve the required quorum. When we tried to have the *NIST Community Resilience Planning Guide*, Volumes 1 & 2, approved for inclusion in the RKB, a 67% approval vote from the panel was required. However, we did not achieve the percentage of votes, primarily because Panel members did not respond to the email request that they vote. We need to think differently about how to approve documents for inclusion in the RKB. One idea is to have committees vote for approval to go to CRPCC, and then the CRPCC voting for adoption into the RKB. More discussions on the charter amendment will occur at the upcoming CRPCC meeting led by Jay and Jesse.

**Summary from the Panel Administrator:**

“Please go to [https://www.crppanel.org/?page\\_id=1785](https://www.crppanel.org/?page_id=1785) to vote on whether you support the proposed amendment to the Charter and Bylaws. Voting closes at 11:59 pm EDT on Monday July 25, 2016.

The proposed amendment to the Charter and Bylaws will result in the following operational changes of the Panel process:

- The Coordinating Committee (CRPCC) will vote on external documents (i.e., those developed outside the Panel) proposed for addition to the Resilience Knowledge Base (RKB). External documents will not require the entire Panel's review since many of the documents have already been reviewed through other processes (e.g., journal articles, government agency documents, etc.)
- Documents developed by the Panel will still require an affirmative vote of the Panel to be included in the RKB.

This change was proposed to (1) remove current Charter requirement that the Panel approve products developed by other organizations, (2) focus Panel voting on Panel products, and (3) reduce the number of votes in which all Panel members are required to participate. For example, the last Panel vote did not pass because the minimum requirement of 67% affirmative votes of the Panel was not achieved.”

*Questions and Comments:*

Paolo's question: Most of the discussion at the CRPCC meeting Paolo attended was about the White House resilience indicators. Would such discussions on the RKB-related White House resilience indicators be addressed to the entire panel?

Megan: It would be a virtual meeting with the panel or a recorded session with Josh Barnes for the panel to learn about what the resilience indicators are and what they are not, to inform our thinking and future directions.

Jay: Regarding whether Josh's presentation should be addressed to the full panel or DMT or RKB committee, it may be a more productive discussion with a more focused group.

Paolo: Would the RKB committee be a sub-committee of DMT or would it be a standalone committee once it is formed?

Jay: RKB will be a sub-committee of DMT.

Paolo: RKB membership is from all committees.

Megan: RKB membership is not limited to DMT; the RKB sub-committee will be a cross-committee group to advise the CRPCC. Megan reached out to all committee chairs to ask for volunteers from each committee. The current RKB working group almost has full representation from all the committees that are part of the Community Resilience Panel. Whether the RKB eventually goes through DMT or goes directly to CRPCC can be decided once the sub-committee is formed. Once running, the RKB group will focus on how to design structure and think about functionality of the web-based knowledge repository.

Paolo: Whether Josh's presentation is addressed to the full panel or not, we return to the original question of who has the responsibility for RKB. Will the DMT play a coordinating role? If the responsibility is shared, perhaps such important decisions should be presented to the entire panel. Whether to use a model as a template or to build everything from scratch for the RKB would be an important decision going forward.

Megan: We will see where Jesse and Jay would like to take this. Megan recommended addressing the full panel, so the full panel would be aware of what is happening at the White House level with this federal inter-agency effort to collect indicators. The specific form and venue of presentation is to be determined.

**4. Review of Working Group Progress in Portland & Discussion of Next Steps**

Megan provided an **overview** of Portland DMT meeting progress (see materials from all Panel committees at [www.crpanel.org](http://www.crpanel.org)):

- Short presentations of worthy data, metrics, and tools links/documents (see DMT meeting minutes at [https://www.crpanel.org/?page\\_id=710](https://www.crpanel.org/?page_id=710)).
- Working groups with smaller group discussions and report-out presentations to the full panel (see Table 1 summarizing working group members in Portland and new members).

**Table 1: Working group membership. \* indicates working group members present in Portland.**

GROUP A – DATA (Steps 1&2)	GROUP B – METRICS (Steps 3&4)	GROUP C – TOOLS (Steps 5&6)
Eleanore Hajian* Mat Heyman* Ting Lin* Joe O’Keefe* Sunil Sinha	James Arnott* Paolo Bocchini* Donald Byrne Roy Emanuel Aaron Marks* Jeff Rubin* Duane Verner*	Leanne Aaby Jerry Brashear Bruce Ellingwood* Frank Lavelle* Emily Wasley Seyller* Richard Wright

**Action Item:** Working groups need active participation from more DMT members. Also, the committee needs to identify a coordinator for each group and conduct smaller group meetings to work on priority items prior to our next committee meeting.

Megan led the discussions to review Portland report-out slides ([https://www.crpnel.org/wp-content/uploads/2016/04/DataMetricsTools\\_Report\\_Out\\_Slides\\_April4th.pdf](https://www.crpnel.org/wp-content/uploads/2016/04/DataMetricsTools_Report_Out_Slides_April4th.pdf)) for each group, with working group members on the call providing summaries, followed by DMT discussions on what is achievable and how RKB can reach communities:

**Group A: Data Working Group**

Ting: We began with the NIST Guide and aligned the Data Working Group with the first two steps. Joe, who is working to implement Steps 1-2 of the Guide in Fort Collins, shared key tables and helpful case studies in the Guide with us for communities to look at in the planning phase. Our group recommended a one-stop shop, matching communities with informative documents and directories. For instance, examples of what a specific community did with a specific organization, such as the National Oceanic and Atmospheric Administration (NOAA), would inform other communities of relevant organizations, expertise, and experience. We could also identify gaps in the Guide and provide additional resources for stakeholders. Other success stories from different communities could be helpful for communities to adapt for their local contexts. Everything we discussed in the Data Working Group and perhaps at the later stages of metrics & tools should be coordinated with the RKB.

Mat: Mat indicated Ting did a good job summarizing. He shared a lot of insights he developed working on the NIST Guide as a project. One key point from our Data Working Group conversations is to make sure we determine the actual needs of the community and understand the gaps, which could be addressed either by providing existing resources or putting new resources on the RKB that would complement the Guide. Such efforts need to be coordinated. The bottom line, especially from Joe’s experience in Fort Collins at Step 2, is to understand the situation and make a quick one-stop shop available for community leadership. This one-stop-shop would not be a laundry list of documents. To be useful, it would be short, concise, and easy to sort through. Examples do not need to be comprehensive, but need to emphasize usability for community participants.

Megan: Great point, Mat. Do those quick aids already exist or do they need to be developed?

Mat: We would imagine some existed, e.g., several NOAA-developed documents, and NIST resilience fellows are working on several short documents. We agree there is no single place for a community to access quickly. Instead of doing a Google search, is there a resource that a community can use that is a

compilation or a *Reader's Digest*®-type version? There is a need for very good indexing and cataloging. The handiness is more important than the comprehensiveness, and that does not exist now.

Eleanore: Another thought from our Data Working Group is that each community looking to assess effectiveness of resilience within their community will have their own dataset, and needs to determine which of their local data is applicable and can be plugged into their analyses. Beyond that, what datasets are available online and through government agencies, etc. Having some kind of map or examples that can point people in the appropriate direction for the type of analyses they conduct would be a useful tool.

Megan opened the discussions to the DMT committee.

Dick: 30-40 years ago, Dick worked on the National Earthquake Hazards Reduction Program (NEHRP) with lots of interactions with emergency managers. He was surprised that he was not hearing about more of those. What would be the role of emergency managers who are concerned about preparedness, response, and recovery that are very much focused on resilience?

Jeff: Jeff is an emergency manager. There is ample information on what Dick mentioned. Regarding the issue of resilience, emergency managers are in the same boat as everyone else, trying to plan, to prepare, and to generate more resilient communities. Pieces that we rarely engaged in, which are mostly outside our spheres, would be what goes into the definition and how well communities access healthcare services, etc. We may be part of such discussions, but are not setting the policies. The overarching resilience goal and guide could be more comprehensive and holistic if they included emergency management.

Leanne: Struck by the challenge by the Data Working Group in that much of the data recommendation also depends on metrics and tools such as decision support tools. This seems to be an iterative process. Instead of striking for a comprehensive solution, we could come up with recommendations that would help people focus on those ways too.

Megan: Good point, Leanne. Your point coincides with what Mat highlighted in the Data Working Group. How can this working group take it forward and help make sure that we are meeting the needs of the communities?

Louis: Concur with Eleanore's reference to the map. Providing a knowledge map is essential to meeting the needs of communities, something almost like a Google map that shows the routes from the starting point to the end point, referencing the knowledge base in some form. Beginning to think about what form the map takes and how people interact with the map is an important part of the whole process.

Megan: This came up before in our meeting regarding the RKB: map as a main interface. This is to be determined; even if not as a main interface, how do we incorporate maps to show data or analytics? That could be a potential product.

Louis: Besides geographical referencing, a map could establish goals for a community such as recovery time or restoration in terms of getting supplies through. The map can take many formats.

Paolo: Considering possible duplications, the NIST COE has three main thrusts, one of which is developing data architecture/ontology, similar to the map we are talking about: a way to organize data and make it accessible to queries. This is one of the big things they are doing. At some point, the committee should look into that – perhaps that is all we need.

Megan: Bruce Ellingwood, Director of the COE, is on our committee but could not make it today. Their center is making progress, and we could perhaps look at what works for our needs, what changes we need, and what gaps still exist. We have not seen those products yet.

Mat: Emphasized that it is very important for the panel to bear in mind different audiences. The planning guide is targeting community-level officials, whereas the COE is geared towards a more technically oriented research community. Currently, our panel has little representation from actual communities: very few county/city community officials weigh in. We need to remember our primary audience would be community officials, a much less technical audience.

Megan: Great point, Mat.

Paolo: Not sure if the COE is tailored to the community officials. The tools they develop are meant to be used by community officials.

Mat: The COE technical tools would eventually be used by communities, with a lot of assistance. We need to remember a variety of stakeholders who will be using these tools, who are not technical specialists.

Megan: Valid point. We really will not know until we see the COE outputs and NIST Disaster Resilience Fellow products. It is hard to evaluate until we have something in our hands.

Megan: Referencing Mat's "reader's digest", what would the quick aid look like, e.g., what would go into the top 10 list? Do the materials exist or not? Did the Working Group discuss it or think about it as the next step?

Mat: We only had brief conversations with four people in Portland. Mat proposed that the working group should be expanded to 6/8/10 people.

Eleanore: The next step would be coming up with an implementation plan, crystalizing goals to achieve. How data, metrics, and tools are connected and can help one another is a very important point. We would need mechanisms of not only communication across different efforts but also having these efforts as part of an implementation plan.

Megan: That is an important point. We need working group plans defining an implementation plan, which is an objective of Portland that we did not have enough time to get to. We need to make sure that things are in sync and there is no duplicated effort. We could then use our committee meetings to reconcile the efforts from different working groups.

Sunil Sinha (Water & Wastewater Committee): Sunil is joining the DMT from Water & Wastewater Committee (dual role). The Water & Wastewater Committee is also looking at data, metrics, and analyses, mainly at the domain level, i.e., water and wastewater infrastructure. They also looked at interdependencies, e.g., transportation and energy, but only as an input to water and wastewater infrastructure. Their group recently submitted a proposal on domain-related needs. Sunil is interested in learning about what other things our DMT committee is doing to ensure no duplicated effort in their domain-specific committee.

Megan: We need working groups to spend more time together. Dual committee members can make sure efforts are not being duplicated across committees. For instance, in terms of data collection, the domain-

specific data related to water & wastewater infrastructure can be done by the Water & Wastewater Committee, not DMT committee.

Sunil: The Water & Wastewater Committee is not yet collecting data. They are currently struggling to understand what kind of data would be needed at network/project levels.

Megan: Similarly, the Data Working Group would examine the need for data at Steps 1-2 – this may be linked to census data or other types of data that could be very expansive. For infrastructure studies, we need to pull on efforts from other committees in a comprehensive manner to sort this out.

Sunil: Is multi-hazard part of the analysis?

Megan: We take an all-hazards approach. Aging infrastructure does not come up as much. We need to convene the working groups outside of the committee to ensure enough time to outline specifics.

Eleanore: We need to pull out best practices at the beginning.

Megan: The working groups need to define action plans for the committee to discuss. Sunil can see where the Water & Wastewater Committee can fit in or where there may be any disconnect in order to align data better.

As a result of this discussion, Sunil Sinha from the Water & Wastewater Committee will join the Data Working Group of our DMT committee.

Eleanore: We had similar conversations in Portland regarding DMT representation in specific sectors.

Megan: That has been achieved at the DMT committee level. We have our members serve on other committees to help integration, and to share what other committees are doing. We have almost full coverage in all committees. In the case of Sunil, he reached out to us from the Water & Wastewater Committee. We agree this cross-pollination is valuable.

### **Group B: Metrics Working Group**

Megan: The group started with the Department of Homeland Security (DHS) risk lexicon.

Jeff: There are already a lot of definitions out there, but no single source with everything yet. We want to ensure consistency.

Paolo: Regarding definitions of resilience, Paolo proposed the DHS lexicon as a good starting point – look at well-established definitions of resilience, and integrate with anything else that is needed but not there yet.

Jeff: One key question to focus on is what does a community need to sustain the social fabric? It is relatively easy to come up with standards for the built environment. The built environment is better suited to objective and quantitative standards, whereas the non-built environment (social) is much harder to define and perhaps better suited for not necessarily subjective but maybe qualitative standards. We often need to consider either or both: how fast you can restore a service (e.g., fire) to a certain level, and whether we are directly measuring the service. For instance, “service would be reestablished in 2 weeks at 30% level and 4 weeks at 60% level” – is that what we are actually measuring as important or are we using it as an indicator to say if a service can be restored at a certain level within a certain period of time

that means we would meet the needs of a community? Maybe this is an indicator we are using as opposed to a direct measure. Which direction are we coming from in terms of vulnerability or success? Are we trying to reduce levels of vulnerability or are we trying to demonstrate this is an improvement? Are we trying to either assess development/improvement of processes or simply focus on their outcomes? What is already being used with what kind of data behind it? If we are using indicators, how do we validate them? If we actually adopt them, who is actually going to monitor them going forward? The purpose of the Resilience Panel is to establish these metrics, but what's next: are we turning to communities to share with them some guidelines on how to monitor once they implement it, or are we trying to develop monitoring tools as well?

Megan: Important point. Did you talk about a starting point, e.g., sources of metrics to look through?

Jeff: The NIST Guide does a good job summarizing different systems they look at. Although nothing is perfect in every area, a bunch of metrics are already established, either tools or processes that may do **A** better but they may not do **B** better. We did not have much time in our meeting, so no discussions beyond that.

Megan: Maybe that would be a good first discussion topic for this working group.

Jeff: There have been previous attempts. If there is something perfect out there, then everyone would be using it. It is a harder issue—recognizing where they fall short and how much we have to set up to assess them. As a benchmark, access to healthcare: how do you assess that, are there specific indicators, and at what point are you assessing it? Our assumption is if it is not great before a disaster, it is certainly not going to get better during or immediately after a disaster. That has a great deal to do with survivability and quality of life. There is good research in terms of impact. There is not a lot that really substantiates why we are looking at anything beyond the first **X** number of days to restore **S** services.

Megan: To the broader committee, any thoughts on what have been shared and suggestions in terms of moving forward?

Louis: Each community has its own performance goal in terms of its recovery process. Those performance goals would reflect the current state of various services (e.g., healthcare and fire). Those performance goals would generate specific needs in terms of the support they need through our RKB.

Jeff: Good point. Every community sets its own goal. The tools we are trying to create may help provide useful guidelines of assessing it. For instance, in the fire services, we commonly use response time to an incident, e.g., the 90<sup>th</sup> percentile for response time. There is not a lot of compelling evidence for response time as a meaningful indicator of the service we want to provide. When we are trying to assess a service, we are not limited to each community having its own objective/goal, but also trying to validate commonly used indicators.

Megan: Thanks. Collecting a sample of what already exists and determining how to validate it could be one of the actions. We will let this group decide the direction.

### **Group C: Tools Working Group**

Frank: The Tools Working Group went back and forth a lot between metrics and tools. Since the working groups are currently a bit understaffed, it may be good to merge the Metrics and Tools groups in the near term until we get further along. We were looking at Steps 5-6, and there was not a lot there. A lot of the effort in Colorado is trying to get started on setting goals. There are not too many examples, maybe in

Oregon and SPUR. A lot of our discussions revolved around the RKB and how we thought it should be organized and linked to the 6 steps. Our discussion from an implementation perspective, perhaps one thing this group could do, is help identify funding opportunities to support each step. One main request from this group is to identify a leading organization to develop a voluntary consensus standard for plan preparation, review, approval, implementation, and maintenance of plans related to Steps 5-6. Once the metrics are identified, it becomes clear what tools are needed to evaluate or quantify those metrics. We need to work with Group B on that. As Mat alluded earlier on, rather than trying to be comprehensive, we could try to focus on a core set of metrics that all communities should consider. Although metrics and tools that each community needs are going to be unique, identifying a core set is going to be a good way to get started.

Megan: Any discussions post-Portland?

Frank: Not aware of any discussions post-Portland.

Megan: Bruce is in this working group but could not join today. There may have been discussions with the COE as a result of this working group. Great summary, Frank.

Megan: Next steps?

Louis: The ISO is drafting city guides to be potentially used as standards. The implementation issue is of common interest globally.

Megan: The working group could consider that. Megan liked Frank's suggestion of merging Groups B & C depending on group size.

Frank: Data is a bit different from Metrics & Tools. A lot of basic information needs to be gathered. One possible way to think about it is: what data would be needed across different sectors or at least many of the sectors? For example, demographics, employment, and housing, etc. could be common data needed by all sectors. There would also be data unique to individual sector, which the DMT committee could reach out to other committees for. DMT should focus only on data relevant to all sectors.

Megan: Agreed. We need to create a list of what those common ones are and the sources to get them, e.g., NOAA and U.S. Census Bureau. We could have other committees point us to other sources for the infrastructure systems. Does anyone think otherwise or have a strong feeling one way or the other?

Sunil: Agreed that committees such as Water & Wastewater should focus on their domain, and not worry about the interdependency data.

Megan: Data on interdependencies do not really exist. Taking disparate data sources and trying to link them is an ongoing issue. NSF and some others have been discussing how to create those datasets that may be needed.

Sunil: It is also important for the DMT committee to do analysis at the network/global level that would help other sectors. For instance, of particular interest to the Water & Wastewater committee, there are 50,000 water utilities, some of which are so small that they are never going to collect data necessary for a good analysis. They just rely on other bigger utilities and adopt their analysis results in the water sector.

Megan: We are going to leave the water data to the Water & Wastewater committee to sort through and make recommendations on what would be ideal to put in the RKB. It may be identified as a need or action

plan that we have. We would be coordinating with your (Water & Wastewater) committee in terms of recommendations.

Sunil: In the water sector at the global level, the World Bank funds a range of projects related to resilience, which could be one starting point.

Louis: Would that be open source data?

Sunil: The World Bank data become more and more open now.

Megan: Group C may get merged with Group B (to be determined). Please send a note to Ting if you are interested in joining any of the working groups and/or becoming a group coordinator. We would need to compile a finite list of actions for working groups to work on at a more granular level. It is great to hear everybody agrees that we do not need to be everything to everyone—here is our focus, how we would do it initially, and we would see if it is in sync with other working groups or not. This could be the action item for working groups before our next committee meeting.

Louis Conway is interested in joining the RKB subcommittee as a result of this discussion.

Mat: It would be useful for committee members to understand exactly what the other committees are doing. The upcoming CRPCC meeting would hopefully clarify that. Outcomes of the CRPCC meetings could be shared with our DMT committee.

Megan: For the CRPCC meetings, we could include items of discussion. Ting and/or Paolo will join the CRPCC meeting next Monday (see CRPCC meeting minutes at [https://www.crppanel.org/?page\\_id=935](https://www.crppanel.org/?page_id=935)). Feel free to review those to get insights of others' work. Everyone is still in initial starting mode. We will make sure that at our next committee meeting we set aside time for those DMT committee members who are serving on another committee to give us a 5-min update on what that committee is doing. For instance, Ting is serving not only on this committee but also on another committee, Buildings & Facilities, so she could share with us issue areas, plans, and relevant materials from that committee so that we can stay connected and not duplicate efforts.

Mat: That is very helpful.

Megan: The panel is so large. It is a big communication challenge. Reading the meeting minutes is instrumental.

## 5. New Business

Megan thanked all for the discussions. She looks forward to the short list of actions from each working group, which could potentially contribute to the RKB. The requested link to meeting minutes is <http://www.CRPanel.org/>. The NIST COE and Disaster Resilience Fellow outputs may be available online or shared via Dropbox before the project coordination software is ready. For the time being, we are still using Dropbox; Ting is the coordinator. We will set up our next committee meeting after the working groups meet.