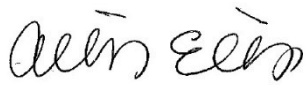
Department of Veterans Affairs

Advisory Committee on Structural Safety of VA Facilities

ANNUAL MEETING: May 16-18, 2023:
VA Caribbean Healthcare System, 10 Calle Casia (Administration Building 40, Room 2M230), San Juan, Puerto Rico 00921
Microsoft Teams

DAY 1: 9:00 A.M. to 5:00 P.M. AST/EST
DAY 2: 9:00 A.M. to 5:00 P.M. AST/EST
DAY 3: 9:00 A.M. to 5:30 P.M. AST/EST



Approved for submission Allison C. Ellis, PE, Chair July 28, 2023

Committee Members:

Allison C. Ellis, PE, **Chair**
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Jerome F. Hajjar, PhD, PE
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VA OFFICES/ACRONYMS: ACMO: Advisory Committee Management Office; ADFO: Advisory Committee Alternate Designated Federal Officer; ADUSH: Assistant Deputy Under Secretary for Health; AED: Associate Executive Director; CFM: Office Of Construction & Facilities Management; CPPS: Chief Planning & Projects Section; CSS: Consulting Support Service; DFO: Advisory Committee Designated Federal Officer; FSS: Facilities Standards Service; OCAM: Office of Capital Asset Management; ODC: Office of Design and Construction; OFP: Office Of Facilities Planning; OSHM: Office of Safety & Health Management; PM: Program Manager; PMG: Planate Management Group; SPMO: Seismic Corrections Program Management Office; SPO: Sustainability Program Office; SRE: Senior Resident Engineer; VHA: Veterans Health Administration

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Mark Thompson, Paralyzed Veterans of America, Senior Associate Director of Architecture
Sidath Panangala, Congressional Research Service

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MEETING AGENDA (DAY 1)

1. Meeting opened by Committee Chair Allison Ellis at 9:00AM

2. Federal Advisory Committee Act (FACA) 101 – Mr. Jeffrey Moragne

3. Entrance Briefing with San Juan VAMC Medical Center Senior Leadership

4. Ponce VA Clinic Tour, lunch, and observe local Ponce earthquake damage - Aristides Colon

5. Meeting Adjourned by Committee Chair around 5:00PM

MEETING AGENDA (DAY 2)

1. Meeting opened by Committee Chair Allison Ellis at 9:00AM

2. Pre-campus orientation tour briefing from San Juan VAMC Facilities staff
    a. Allison briefs about travel to new Ponce VA Clinic. It's a single-story lease building with noncombustible construction, Type II (000) Building, business occupancy and ASCE 7 Risk Category II Building.
    b. Discussion about lack of bracing observed above ceiling and locally accepted standard vs VA Standards.
    c. Don Myers mentioned the leasing projects have a completely different set of standards than VA owned and operated facilities. Room Finishes, Door & Hardware Schedule (PG-18-14) and Signage and Wayfinding (PG-18-12) are VA Standards used for lease facilities.
    d. San Juan VAMC staff provides a pre-campus orientation briefing including a brief high-level overview of campus buildings with hurricane recovery and seismic mitigation projects.
3. San Juan VAMC Tour – Eng. Carlos Cruz and Eng. Omar Colon

4. Exit Briefing with San Juan VAMC Medical Center Senior Leadership

5. Advisory Committee Planning Session
    a. Due to the benefits of this meeting at a VA Medical Center, discussed continuing that next year at a different campus. West Los Angeles was mentioned as the target due to the high seismic risk, large and historic campus/sub-campuses, Enhanced Used Lease program for seismic mitigation, etc.
    b. Mid-May was again discussed as a target timeframe but need to check conflicts with popular industry conferences.

6. Meeting Adjourned by Committee Chair around 5:00 PM

MEETING AGENDA (DAY 3)

1. Meeting opened by Committee Chair Allison Ellis at 9:00AM
    a. Roll Call conducted by Juan Archilla
    b. Overview of Meeting Protocols

c. Overview of Meeting Agenda

2. Executive briefing by CFM Executive Director – Dr. Michael D. Brennan
    a. Commends the Seismic Program being linked to Advisory Committee recommendations over the years prioritizing seismic safety of VA facilities
    b. Implementing best practices as we upgrade current infrastructure and maintain ability to tackle new challenges: climate change and new weather phenomena. Emphasized VA can be a leader among the Federal government
    c. Use San Juan as an example that VA needs to find the best practices and delivery methods to mitigate projects
    d. Gyimah Kasali– surprised by removal of top 6 floors from San Juan building. Emphasized VA needs to document unique projects like this so lessons learned can be documented and applied in future
    e. Dr. Brennan – highlighted repair options, but must consider if repair option makes good business sense; apply lessons learned to make those decisions
    f. Nathan Gould – impressed with different projects at San Juan, especially nonstructural seismic mitigation efforts. Lots of emphasis on structural seismic mitigation; good to see nonstructural is being tackled as well. The Committee is interested how delivery method (leasing, Design Build (DB)) will affect checks and balances with respect to extreme loads with new delivery methods.
    g. Steve Winkle – Echoing nonstructural importance. VA has an opportunity to lead other agencies. How can Committee facilitate? Dr. Brennan – look at what other peer organizations across the Federal government are implementing, and how we can collaborate.
    h. Dr. Castle – delicate balance between what VA can do to repair structurally w/ SPMO and what VA ought to do to mitigate (walk away, replace, etc.). Programs have changed as hospital directors have understood what they can do with Seismic Program remediations. How will we program space and operations resulting from these renovations. Leasing – is VA maintaining the same standards? Leasing allows VA to mitigate risk faster in some cases. Looking for solutions that mitigate buildings that are occupied 24/7 as soon as possible.

3. Executive briefing by Acting Deputy Secretary Guy Kiyokawa
    a. Dr. Brennan introduces Acting Deputy Secretary Kiyokawa
    b. Deputy Secretary commends CFM and the Advisory Committee
    c. What are the standards put into place to ensure that large structures can survive earthquakes; how are these incorporated into VA rules?
    d. Can point to evidence-based origin of standards – Advisory Committee can help with that.
    e. It is important to get into standards and policy to ensure our infrastructure is resilient and can withstand seismic/other events. Issues with buildings that were “grandfathered in” and exempt from code reviews
    f. Steve Winkle – Would like to see what we can do to implement practices from Army medicine into VA processes. Deputy Secretary of the VA works with DOD Undersecretary for Personnel and Readiness. Within committee, there are opportunities to align standards within DoD and VA facilities. Many opportunities to share our standards with DoD because the built environment is similar between organizations.

g. Gyimah Kasali – issue of requirements established to do VA work. Specifically, requirement that 50% of work done by veteran-owned organization. Difficult to partner with appropriate organizations. Question- Does this affect delivery or implementation? Is there a way to get around this requirement to get to implementation, but also include veterans? Is there a way to create a pool of potential partners?
    i. Guy Kiyokawa – SDVOSB is in law, so they have a purpose. Don't want to work "around" them but understand how we work "through" them. Need the right Contracting Officer and Contracting Lawyer to get the best way to work through limitations. Industry has taken note on how to meet intent and meet mission. FAR and statutes were put in place by Congress. We are using the people's money, so we must follow those rules/limitations.
    ii. Gyimah Kasali - Internships are a promising avenue, especially for small businesses. Opportunity for young engineers, or transitioning Veteran engineers to hook up with a company with experience and become exposed to actual practices.
    iii. Dr. Brennan – VA can connect SDVOSB with larger organizations that cannot compete for set-asides. Mentor-protégé program in place to access VA work that is restricted, but also build experience with SDVOSB organizations. Dr. Fox is a good POC. Mutually beneficial for larger businesses and SDVOSBs. Can start with market research to understand what organizations are out there
    iv. Nathan Gould – Design Build and Leasing are nationwide trends. How does this committee help ensure that VA standards are being met with new delivery systems without the same normal oversight
        1. The Advisory Committee can help with their experience and knowledge. How we procure space while ensuring standards are met. Is there the flexibility to meet the changing needs with healthcare?
        2. Dr. Brennan – most leases are for new builds subject to local codes. Is there a deficiency in that process? Is there something more we need to do? Why would that be different from local codes? Implement adaptive re-use. These require that we double check and update buildings to ensure that they follow current codes (may have been built with old codes). New builds require a lot of carbon, can reduce emissions by using existing builds, but need to make sure they meet VA standards.
        3. Allison Ellis – thinking about this issue and implement in recommendation. Gap between code requirements from different years. VA is gold standard with respect adopting new codes, specifically fire protection. VA is quick on adopting new codes, which allows degrees of freedom and efficiency for the use of new spaces. Will explore severity and criticality of existing gaps. San Juan Ponce clinic lease and existing CLC, deficient structures show issues with both use cases.

4. <u>Response to 2020 Committee Recommendation</u>

    <u>Response 4: Façade Inspection Program – Ian Doiron</u>

    i. **<u>Recommendation 4 (2020) –</u>** The Advisory Committee on Structural Safety of VA Facilities commends CFM for their efforts to develop a Façade Inspection

program risk assessment tool to create a rational process to develop a risk assessment for various building facades of VA facilities.

1. The Advisory Committee recommends that CFM continue to refine this assessment tool based in part on the Advisory Committee's comments and discussions and then test its viability by applying it to a significant sample of buildings with various façade types, heights, and locations. The Advisory Committee further recommends that a review be made of the data to determine if the assessment mechanism as developed will provide the required information to be able to categorize the façade risk to the building and to any collateral damage caused by a façade failure during various categories of hazards.

ii. **VA Response:** Concur (signed by SECVA on September 7, 2021). OALC CFM will study potential refinements to its façade risk assessment tool and validate by examining application to various types of buildings in different locations to assess whether it enhances the prioritization of facilities, enables the capture of at-risk facilities not currently captured, and determine its viability for use to prioritize facilities for façade inspection studies.

b. CFM is continuing to conduct façade inspections. Originates from 2007 recommendation, restarted in 2018. Issue racking and stacking buildings. Current approach is Age + Height. Worried methodology does not cover other missing factors.
c. Building location has seismic, wind, freeze thaw cycles that impact building failure.
d. Seismic uses seismicity. Very High is highest priority, Low is lowest.
e. Wind uses ASCE/SEI wind speed maps and FEMA tornado risk. Hurricane prone regions or tornado alley are high priorities.
f. Freeze thaw – IBC or ACI concrete exposure maps. Concrete/masonry is a high priority, metal panel is a low priority in low exposure regions
g. Height – 80ft and above highest, 2 stories or lower are a low priority
h. Population – severity is tied to population, façade ordinances in metropolitan areas. Difficulty finding population data for VA facilities….unique patient information is by campus, not building. Largest building is probably largest population, but no way of knowing that for sure.
i. Materials – failure more common with masonry or concrete. Metal panel/curtain wall systems present a lower risk.
j. Filter list by FCA exterior wall condition grade, then weigh scores to develop priority list.
k. FCA scores conducted every 3 years. Grade F is highest, A/B/C lowest. F=2, D=1, can use a multiplier
l. Façade age is captured through Capital Asset Inventory (CAI) database. Large projects will be captured, but not maintenance or small repairs.
m. Wind – consider wind importance relative to façade type, only affects some building types. Want to link wind risk to façade type.
n. Height – based on CAI. Some questionable data and don't have data for all buildings in CAI.
o. Materials – façade materials extracted from FCA comments. Not always clear, façade type may not be explicitly stated.
p. FCA score – fundamentally subjective, lots of "C" grades – may not provide level of detailed required.

q. Freeze-thaw – ACI exposure map is good at explaining material relationships but has wide ranges in severe/moderate categories.
r. Does VA have the proper data to answer these questions properly? Lots of information needs to be verified by facility.
s. Nathan Gould – how much data are we talking about? Hundreds/thousands of buildings? Height is a big issue (not always known). Are there other databases with this information? Do other agencies/cities collect this information? Getting false positives with this issue. Is there a secondary screening we can do to eliminate false positives?
t. Benefit from structural safety is limited, but analysis of façade does have benefits (maintenance, moisture etc.). Not getting direct impact, but still getting good alternative data.
u. Steve Winkle – is this data gathered by site? Façade hazard is related to site plan.
v. Allison Ellis – is there local training done on how to analyze and present this information? Would that help gain more accurate data?
w. Would be challenging. Most VISNs want to assess some buildings, but they are not necessarily the ones we need to be analyzing. How does VA push that data to the medical centers, but still get the information needed.
x. There is training on how to input data to CAI. But it is a secondary duty for medical center personnel. CAI is secondary priority for site personnel
y. Nathan Gould - Any buildings specifically identified that were not before? Ian – range of buildings between 40-80ft that were picked up, depending on location.
z. Steve Winkle – Façade age should have a higher weight, was not built with same standards and deferred maintenance incurs greater hazards. Should VA do away with a linear score, or try an exponential one?
aa. Nathan Gould – many localities focus on masonry facades. Many newer materials are not even covered. Consider weighing materials higher for masonry, and much lower for modern materials.
bb. Jerome Hajjar - How to prioritize which facades need repair/replacement over time. Do we consider thermal break strategies as a part of that? There are a variety of products that provide solutions. Keep in mind seismic consideration when using these products.
cc. Present list to Medical Centers and ask for photos of façade (google maps also an option). Hire contractors to take drone photos. Algorithms for assessing risk of facades from drone photos are not quite perfected yet.
dd. Jerome Hajjar– Are sustainability and energy efficiency in play for new retrofits? Thermal imaging is good for assessing energy efficiency. Facilities can take thermal imaging and identify where there is energy loss in the façade. Can compare existing structural detail and identify a solution. VA is looking at sustainability and resiliency Executive Order. Several subcommittees looking at that.

5. <u>Response to 2022 Committee recommendations</u>

<u>Response 1: ASCE 7-22 – Juan Archilla</u>

a. **<u>Recommendation (2022):</u>** The Advisory Committee on Structural Safety of VA Facilities commends the Department of Veterans Affairs for reintroducing the issues of facility resiliency due to climate change effects (e.g., high winds, tornados, and flooding).
    i. **Long Term Recommendation:** The Advisory Committee strongly recommends that the Department of Veterans Affairs adopt ASCE 7-22 for use on new

building projects as soon as it is voted upon for adoption at the end of the 2023 administrative code change cycle for inclusion into 2024 International Building Code. The adoption of ASCE 7-22 by the VA would therefore occur prior to the publication of the 2024 IBC.

ii. **Short Term Recommendation:** The Advisory Committee strongly recommends that the Department of Veterans Affairs incorporate Chapter 32 (Tornado Loads) from ASCE 7-22 into the design requirements for the design of new buildings in the St. Louis John Cochrane Major project and should be considered for other buildings as appropriate. For each impacted building, the A/E should be required to submit a comprehensive plan to the VA detailing the method by which they will integrate the ASCE 7-22 Chapter 32 loads with the ASCE 7-16 requirements.

b. **VA Response:** Concur (signed by SECVA on May 19, 2023). OALC CFM will incorporate Chapter 32 (Tornado Loads) from American Society of Civil Engineers (ASCE) 7-22 into the design requirements of new buildings in the St. Louis John Cochrane Major project and consider it for other buildings as appropriate. The tornado design requirement has been coordinated and confirmed with the St. Louis John Cochrane Major Project Delivery Team. Additionally, OALC CFM will incorporate ASCE 7-22 into the overall structural design requirements for all new buildings after it is voted upon for inclusion into International Building Code (IBC) 2024, but prior to the publication of IBC 2024.
c. Short term – St. Louis AE incorporated ASCE 7-22 Ch 32 into design. No major impacts on design. CFM considered Tulsa and El Paso but did not pursue for them. The tornado provisions only apply to new buildings; Tulsa is an existing building. Tulsa public/private partnership was already under design when standard published, and façade replacement is already in progress. El Paso was Ancillary when considered, and tornado design requirements don't apply for Ancillary buildings.
d. Long term recommendation to adopt ASCE 7-22 in its entirety. Have a draft update to VA structural Design Manual adopting code. Addressees all loads except seismic. Future projects including Dallas will include tornado design.
e. Update clarifies and aligns ASCE 7 Risk categories with Critical, Essential, Ancillary facility designations into H-18-8 for all ASCE 7 loads
f. Draft update is ready to adopt ASCE 7-22 in H-18-8 for seismic loads, includes other updates including Advisory Committee recommendations to update Facility Criticality Designations.
g. Reviewed point by point through H-18-8 updates
h. Gyimah Kasali – Shear wave velocity is the best metric for Site Class determination. Need quantitative metrics for Section 5.2, currently it is mostly subjective/qualitative.
i. Medical centers need to put critical locations (i.e., tornado shelter) within critical facilities. Can't put a shelter in an ancillary facility for example. Need to add tornado shelter to facility list. Need a caveat that says if not a VA facility, follow normal procedures. Can have a shelter in an ancillary, but the shelter needs to be built to life safety standards (designed as a safe room). Building can be severely damaged, but people in safe room must have life-safety protection.
j. Temporary trailers are a problem. Essential or Critical functions such as imaging can be held in trailers for long periods of time. But trailers cannot be built to VA standards. VHA OCAM is drafting guidance for sites to differentiate between temporary uses of trailers (swing space/portable services) and permanent use of trailers. VHA OCAM position is

that use of trailers for permanent space solutions is not acceptable and does not meet VA guidelines.

k. Any future occupancy issue will be directed from the Structural Design Manual to H-18-8, as that is where facility criticality designations have always been defined. VA has coordinated Seismic Design and Physical Security Design Manual facility criticality designations and already using the same terminology. Nathan - Concerned there is the perception that these classifications are only for Seismic. Is the appropriate place in Structural Design Manual instead for facility criticality designations for all categories (seismic, physical security, wind, etc.)?

l. ***Recommendation #2 (2023):*** The Advisory Committee on Structural Safety of VA facilities commends Department of Veterans Affairs (VA) on their revisions and updates to H-18-8. The Advisory Committee recommends that CFM investigate relocating the Facility Criticality Designation tables from H-18-8 Seismic Design Requirements and the Physical Security and Resiliency Design Manual to the overarching Structural Design Manual.

Response 2: Update on VA Climate Resilience Efforts – James Symanski

m. **Recommendation 2 (2022) VA Climate Resilience Efforts:** The Advisory Committee on Structural Safety of VA Facilities commends the Department of Veterans Affairs (VA) for initiating implementation of VA climate resilience efforts. The Advisory Committee recommends that VA evaluate the goals set forth by the White House in Executive Order 14057, OMB Memo M-22-06, and the implementing instructions for EO 14057, and develop a strategy to achieve those goals, including evaluation of existing codes and standards, or development of new codes and standards to support those goals. The Advisory Committee suggests reviewing the following resources:
    i. The Structural Engineering Institute's SE 2050
    ii. Utilization of materials, methods, and operations with low embodied carbon
    iii. The US Resiliency Council's rating system
    iv. The 2026 National Institute of Building Sciences' Provision Update Committee's functional recovery efforts
    v. The California Green Building Standards Code
    vi. ASHRAE 189.1 and 189.3

n. **VA Response:** Concur (signed by SECVA on May 19, 2023). VA appreciates the Advisory Committee's commendation and recommendations. In continuance of the Department's efforts, VA's Sustainable Buildings Working Group has established various sub-groups, which are investigating alternatives for compliance with the numerous requirements with Executive Order 14057, OMB Memo M-22-06, and the EO 14057 Implementing Instructions. The Working Group's activities will include reviewing available codes, standards, and third-party rating systems to support implementation, as recommended by the Advisory Committee.

o. Based on recommendations, James reached out to US Resilience Council, particularly wind rating system. Also has a fire (wild fire) rating system in development. Discussed partnership opportunities, sharing structural design data to validate USRC models. Opportunity to fund fire rating system.

p. VA launched climate adaptation working group. Includes facilities and health operations. Wide ranging, high level. Intent is to integrate climate resilience into all design and construction processes.

q. Stood up VA sustainable buildings working group – now sub group.
r. Partnered with US Military Academy (USMA) to develop "strategic decision tool" incorporating climate risk. Early project implementation planning can look at risks and considers other options such as different sites.
s. Launched Sustainability Program Office for all climate resilience
t. Draft sustainable site selection process that takes climate factors into consideration. Not active but will investigate if useful to CFM.
u. OAEM initiated facilities risk analysis. Leads into CFM effort.
v. Initial hiring activities for "Climate Resilience Specialist" in OCFM.
w. In future will continue USMA partnership. Completion of OAEM desktop risk study; results handoff to CFM. Develop framework for site level climate risk evaluations. USMA strategic decision tool refinement continues. CFM hires climate resilience specialist, execute prioritized site level climate risk evaluations, execute standalone projects, or integrate into upcoming projects.
x. CFM hire Sustainability Criteria Specialist which will review codes/standards to adopt for climate resilience. Add Climate resilience criteria to VA criteria documents (site design manual, etc.).
y. CFM integrating climate resilience into project implementation planning, validate risks from climate risk assessment, determine work needed for climate readiness, provide for opportunity for strategic retreat decision and determine costs for budgeting purposes.
z. Steve Winkle – Functional recovery, how to incorporate after next provisions update occurs. Key aspect going from prescriptive to performance-based recovery with specific outcome criteria.

Response 3: Risk assessment screening of Ancillary buildings – Juan Archilla

aa. **Recommendation 3 (2022):** Evaluation of FEMA P-154 for initial seismic assessment of Ancillary Buildings: The Advisory Committee on Structural Safety of VA Facilities commends the Department of Veterans Affairs (VA) for the preliminary investigation of use of FEMA P-154 in the seismic evaluation and ranking of Ancillary buildings. The Advisory Committee recommends that the VA continues investigating the use of FEMA P-154 through detailed P-154 assessments of a variety of subsets of building types, followed by confirmation studies using ASCE 41. These assessments by FEMA P-154, once validated, can be used as input to a ranking procedure to prioritize further action. The Committee further recommends that VA continue to establish a seismic ranking procedure for Ancillary buildings.
bb. **VA Response:** Concur (signed by SECVA on May 19, 2023). OALC CFM will continue to investigate the use of FEMA P-154, Rapid Visual Screening of Buildings for Potential Seismic Hazards, for the assessment and potential ranking of Ancillary buildings and compare FEMA P-154 evaluation results to ASCE 41 evaluations for validation.
cc. Seismic PMO structural engineers Juan and Jacob visited San Francisco VAMC to evaluate the utility of using FEMA P-154 on real buildings.
dd. The assessments were validated against ASCE 41-17 Tier 1 limited assessments.
ee. FEMA P-154 Level 1 follows an equation based on a basic score (building type). There are then subtractions for pre-seismic code era buildings and seismic deficiencies from that score.

ff. Level 2 score is incorporated if the building fails the Level 1 score; it applies more data from a detailed investigation (plan/vertical irregularities, pounding factors, lateral force resisting systems, etc.).
gg. Results from P-154 have been consistent with ASCE 41 Tier 1 studies. Many of the same failure checkpoints (irregularities, pounding, redundancy, etc.)
hh. A score is provided. Can VA use this for ranking?
ii. Potentially, but not much granularity. Scoring does not quantify risk.
jj. Level 2 assessment are quick visual screening, but still require personnel with an understanding of structural engineering concepts, which is not available at most VAMCs
kk. Would be a valuable tool to add to FCA scope so the AE structural engineer could easily visually assess Ancillary Buildings.
ll. FCA scope is currently limited to Critical and Essential buildings
mm. Adding onsite visual screening would fill a big gap for missing seismic inventory data on Ancillary buildings and align with RP10 screening procedures
nn. Could also add Critical and Essential buildings not studied in Moderate Low/Low Seismic zones with SDC C, D, E, F (moderate high and above is already covered by seismic studies).
oo. Collected data could feed future other possible risk assessment tools such as HAZUS.
pp. Can use P-154 situationally, cut off scores are useful information and data can give credit to buildings with some sort of lateral force resisting system (even if not necessarily code compliant).
qq. Nathan Gould – do we have a program in place to inspect our facilities in the aftermath of a large earthquake?
    i. Yes, VA works with USGS to utilize sensors for structural health monitoring and ShakeCast to understand inspection priorities after an earthquake.
rr. Nathan Gould - VA has Damage Assessment Teams. Some CFM personnel have received ATC post-earthquake inspection training years ago. But it is not easy to come across trainings. Initial training followed every 2-3 years should be the standard (-Nathan).
ss. ***Recommendation #1 (2023):*** The Advisory Committee on Structural Safety of VA facilities commends Department of Veterans Affairs (VA) on their voluntary training related to post disaster (earthquake and windstorm) damage assessment training. It is recognized that the current Disaster Assessment Team approach is voluntary. The Advisory Committee recommends the implementation of a Post Disaster Team be a funded program that funds recurring training for qualified staff and develops an implementation program for post disaster assessments. Members of this team should be among the first responders to a facility after a damaging event.
tt. ***Recommendation #4 (2023):*** The Advisory Committee on Structural Safety of VA facilities commends Department of Veterans Affairs (VA) on their use of FEMA P-154 for the seismic assessment of existing buildings. The Advisory Committee recommends that CFM continue the FEMA P-154 seismic assessments and work to implement these seismic assessments into the FCA program by end of FY24 Q1.

6. New Business Item - Seismic Risk and Inventory Prioritization – Juan Archilla and Jacob Yoder
    a. Starting in 1999-2006 Degenkolb seismic inventory, prioritized Critical and Essential buildings. Simple usage, severity of deficiency, size and seismicity screening
    b. Challenge: quantify risk rigorously regardless of criticality or seismicity

c. HAZUS approach in 2010, tabled upon recommendation by the Advisory Committee to improve existing simple screening method
d. New tools available now, new approach may be useful. Degenkolb Engineers provided market research presentation 17 April 2023. Updated HAZUS approach and modern risk assessment tools, detailed FEMA P-58 building analyses and proprietary artificial intelligence (AI) based approach. Seismic PMO engineers preferred resuming and refining the advanced HAZUS approach for VA use, due to the advantage of being able to use a tool without a consultant and not a proprietary "black box" tool. Discuss with the Advisory Committee for their recommendation.
e. Planned FY24 award, proposes updates to VA HAZUS modeling tool, latest seismic ground motions and modeling data, can include VA buildings with varying degrees of input data (e.g., seismic studies, FEMA P-154, or minimal data, etc.) for varying degrees of uncertainty in all seismic zones (including lower seismic areas).
f. Expected Results
    i. Quantify building risk for life safety, repair costs and downtime. Facilitates better future funding decisions, and evaluates buildings below Moderate High Seismicity
    ii. Want to be able to defend with an evidence-based methodology why VA selected one project over another.
    iii. Need to identify which criteria (damage cost, down time, life-safety, etc.) are most important to VA.
g. Advanced risk analysis for buildings with seismic study results data. Basic risk analysis for others. Creates tool for VA SME future use (new buildings, or new data on old buildings.) Recommend updates to EHR/HR criteria for Critical/Essential buildings. Create identification criteria for new RP10 "unacceptable risk exposure" (URE) to include ancillary buildings. Allows VA to adopt RP10 by Jan 2025 in compliance with EO 13717.
h. Potentially add an "elevated risk" category covering other at-risk buildings (i.e., ancillary in MH/H/VH zones, or critical/essential in lower zones) in addition to EHR/HR.
i. Are other tools out there besides FEMA P-58? May want to evaluate which tools provide the best results for VA. Which tools meet VA requirements?
j. May want to focus on a return period (i.e., 50 yrs.) and assess for various hazards to get a better prediction of which damage events are most likely/impactful. Potentially give each site a grade based on the aggregate hazard score. Also helps identify which hazards should be addressed over others. Continuity of operations is a huge priority. Would like a tool that CFM can use and would not rely on an AE to conduct.
k. Different levels of concern. Collapse risk, major structural damage, structural damage, cosmetic damage. URE would be geared to identify occupied ancillary buildings that are a collapse hazard. An ancillary collapse risk may need to be prioritized above a critical building that is not at risk of collapse.
l. How to prioritize an ancillary collapse risk over a critical/essential building that is on EHR/HR but not at risk of collapse?
m. In fire protection, NFPA categories that quantify life-safety issues. Possibility to extrapolate to seismic risk?
n. Difficult because continuity of operations in something like a boiler plant can have negligible life safety collapse effects on the building itself but may have enormous impacts on the campus.

o. Can VA extrapolate the P-58 or HAZUS data on deaths, dollars, and downtime to collateral impact on the campus?
p. Would VA consider adding climate concerns? Some utility in a combined and seismic only score for funding source reasons. A multi-hazard approach for project funding prioritization.
q. ***Recommendation #3 (2023):*** The Advisory Committee on Structural Safety of Facilities commends the Department of Veterans Affairs (VA) for beginning the process of using the HAZUS model for evaluating seismic risks to buildings. This work was done in the past as a demonstration project using an older version of HAZUS. The Advisory Committee recommends that CFM implement a seismic safety evaluation process for VA buildings by applying an updated version of the VA-specific HAZUS program. It is the Advisory Committee's opinion that this information would be valuable for project prioritization and potential recategorization of seismic risk.
r. Propose immediately prior to awards: add Critical/Essential ML seismicity buildings with major structural deficiencies or collapse risk to HR list
    i. The 2017 Advisory Committee recommended to continue focus on higher seismicity due to limited funding. The Seismic Program has since accelerated progress where all EHR/HR buildings have project plans, so seems like a good time to reconsider at-risk buildings in Moderate Low seismic zones.
    ii. Concern about low frequency, high impact events in low seismic zones. Earthquakes are still possible, and buildings are not as resilient, potentially causing catastrophic consequences. Specifically concerned with buildings in east coast cities like Boston and New York.
s. ***Recommendation #6 (2023)***: The Advisory Committee on Structural Safety of VA facilities commends the Department of Veterans Affairs (VA) on their current seismic assessment program for existing buildings. The current program only addresses EHR and HR buildings. The Advisory Committee recommends that CFM extend the seismic assessment program to reclassify those critical and essential buildings deemed to be at risk of collapse as HR or EHR buildings.

7. New Business Item - VA Owned versus Leased Buildings – Chair Allison Ellis
    a. VA is the gold standard with code compliance, because VA rapidly adopts new codes as they are published. Certain localities are not as rigorous.
    b. Leasing is advantageous because they are quicker than CFM builds but may not adhere to codes as rigorously as VA owned structures.
    c. Propose recommendation that there be an internal investigation or study of these alternate delivery methods (DB or leasing) to give CFM an opportunity to review design to determine if it complies with VA requirements.
    d. Was not clear from tour of Ponce clinic that seismic bracing was included. Where was this step missed? Did the VA have an opportunity to review this?
    e. Standards for leasing projects are very different than for CFM owned projects. What risk is VA accepting when not following VA standards?
    f. Nathan Gould - Two issues for leasing – opportunity for CFM to have a review role to determine if facility meets basic VA safety criteria. Second point, for DB, does CFM have an opportunity to provide oversight and review of design process, and oversight of construction portion.
    g. Resiliency is a critical aspect of this issue.

h. Difference between leased and CFM owned from physical security POV. Leased facility just follow Interagency Security Criteria (ISC), not the VA Physical Security and Resiliency Design Manual (PSRDM). The ISC only addresses physical security and not resiliency. Therefore, Critical and Essential leased facilities do not have critical infrastructure redundancies required of VA-owned critical/essential facilities.
i. Allison Ellis - Formally recommend more VA oversight. Would it be as simple to put into original contract "must adhere to XXX VA standard"?
j. VA does have a list of standards for leasing projects (PG-18-15), but they are not the life-safety criteria. Would want to ensure structural/seismic/PSRDM Resiliency aspects apply to essential/critical leases.
k. Steve Winkle - Second leg is QA/QC. Needs to include VA review at permit stage. Minimum component would be a punch list for quality assurance. Most significant for essential or higher buildings. Ancillary is not as important as they are approved by GSA.
l. Can impose requirements on green-field leasing projects. For existing leases, would recommend VA seismic certifications, like GSA's that are designed for ancillary buildings, but more appropriate for Critical/Essential buildings.
m. ***Recommendation #5 (2023):*** The Advisory Committee on Structural Safety of VA Facilities commends the Department of Veterans Affairs (VA) for expediting facilities to address local veteran needs, such as Community Living Centers, clinics, and ambulatory care facilities, through the use of leased properties. The Advisory Committee recommends that, by FY24 Q1, the VA develop specific procedures for new construction leased spaces and existing-building leased spaces to uphold applicable VA Seismic and Life Safety Building Standards. Specific procedures should address:
    i. *Structural Safety requirements*
    ii. *Fire and Life Safety requirements*
    iii. *Continuity of operation, specifically relating to utility/ building system redundancy and structural resiliency*
    iv. *Design drawing review and third-party inspections*

8. Meeting Adjourned by Committee Chair Ellis around 5:30 PM