

16 October 2020

Majority and minority staffs —

- House Committee on Homeland Security
- House Committee on Science, Space, & Technology
- House Committee on Energy & Commerce
- House Committee on Transportation & Infrastructure
- Senate Committee on Homeland Security & Governmental Affairs
- Senate Committee on Commerce, Science, & Transportation

Subject: Strategic National Risk Assessment (SNRA), follow up

Hello –

I apologize for the delay in following up. Some parts were more difficult to write than I had expected. Of the information that I sent last year, the parts that will probably be of most interest are in the section “Is there anything else in particular in the SNRA that we might be interested in?” in the March 2019 FAQ, second attached.

1. The SNRA’s **power loss mortality model** accurately projected the number of fatalities in Puerto Rico after Maria, at the high estimate (figure 1).¹ I didn’t emphasize this in my March 2019 letter because at the time I believed the converse was true. As far as I know, nobody suppressed the SNRA because of this Maria link: I didn’t realize it myself until after I wrote you last year.

2. **Pandemic risk:** The comparison with other hazards in the unclassified SNRA (figure 2²) will probably be of more interest than the bioterrorism comparison mentioned in the FAQ.³ The overwhelming dominance of pandemic life risk relative to every other threat and hazard to which FEMA has responded in its forty year history – combined – that you see in figure 2a is not unique to the SNRA: every one of the four science-based national risk assessments which DHS analysts have made since 2011 shows the same result. But the 2015 SNRA is the one that FEMA led.

The redactions which the agency made in June 2018 created the appearance that FEMA suppressed the SNRA because of what it said about pandemic risks.⁴

¹ This model is primarily documented in the SNRA’s **space weather** and **physical attack on the power grid** analyses (SNRA 2015 Resource for Planners pp. F-7, pp. 197-198, 201, 204-205, 209-215, 365-366, 371; also [same content] SNRA Technical Appendix pp. 33-34, 40, 49-50, 54, 57-58, 63-72; SNRA 2015 Findings p. 1).

The non-public SNRA documentation referenced in this letter is attached to three or four emails titled *SNRA unclassified documentation x/3* [*work-account email x/3*] from andrew.janca@fema.dhs.gov that I most recently sent you (as cc-ed) July 27. Please let me know if you need me to send it again.

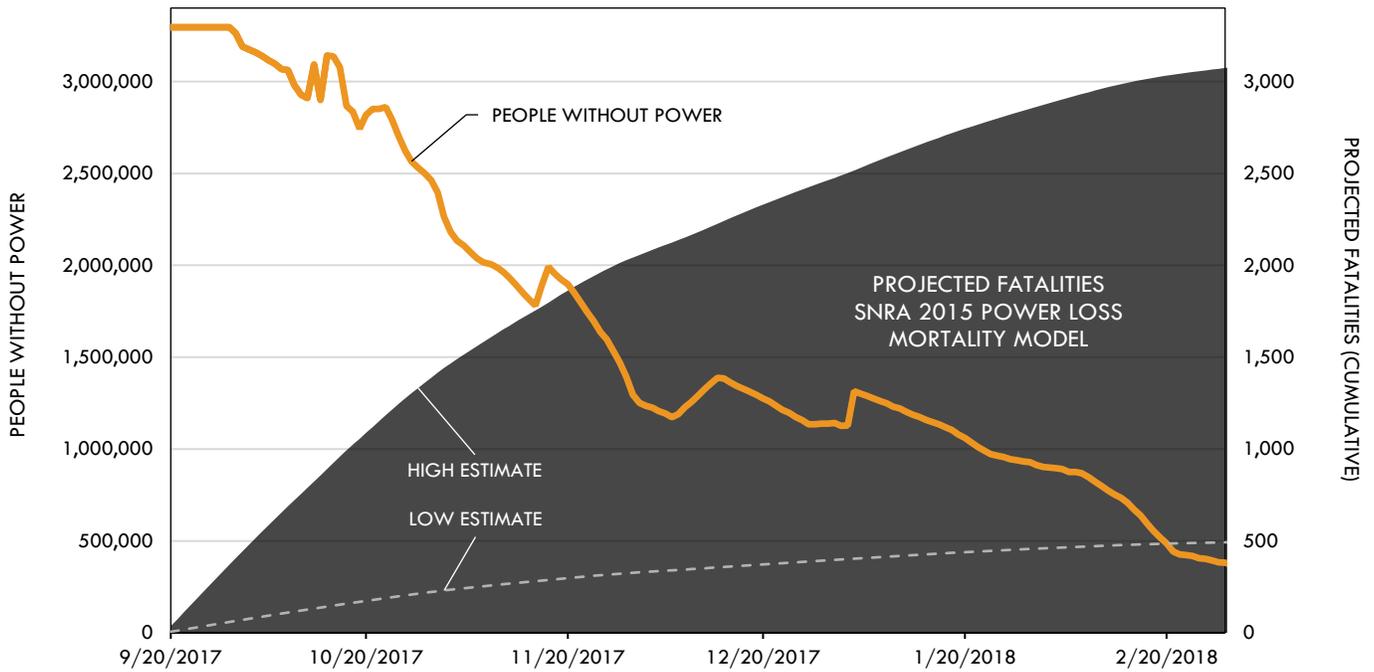
² Work account (@fema.dhs.gov) email sent today, attachment *What’s missing.pdf*, p. 6a (SNRA 2015 Technical Appendix p. 15 figure 2). [The purple font is to indicate that it’s attached to a different email than this one.]

³ The SNRA’s scenario, adjusted to the 2020 U.S. population, represents an influenza pandemic resulting in 83,000–250,000 fatalities (77,000-230,000 in the original, based on a 2010 U.S. population of 307 million) with an average recurrence of thirty years. Resource for Planners pp. 25-28, 30-31, 49-51, 173-186; Technical Appendix pp. 13-17, 145-160, 273-276.

⁴ *What’s missing?*, p. 1.

The *What’s missing.pdf* attachment is inside the *Supporting files* subfolder or at https://web.archive.org/web/20220627235756/https://5usc2302.github.io/risk/5_U.S.C._2302_justification/What’s_missing.pdf

FIGURE 1. PUERTO RICO POWER RESTORATION AND EXPECTED FATALITIES, FEMA 2015 STRATEGIC NATIONAL RISK ASSESSMENT (SNRA) POWER LOSS MORTALITY MODEL



Power loss mortality model: Linear extrapolation of best-estimate (90) excess fatalities, New York City 14-15 August, 2003 East Coast Blackout, Anderson et al (2012) (*Epidemiology* 23(2) 189-193, NIH public access <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3276729/pdf/nihms348988.pdf>) to total person-days without electric power. Low estimate (1.8 fatalities/million person-days) assumes the 90 NYC fatalities represented all fatalities from the multi-state blackout (50 million person-days without power in U.S. and Canada); high estimate (11.25 per million person-days) assumes the 90 NYC fatalities represented impacts only in NYC (8 million person-days). The SNRA used the low-estimate-assumptions for the electric-power-related hazard events which FEMA added in 2015 (space weather & physical attack on the power grid). FEMA also included indirect fatalities in other events added or revised in 2015 where defensible numbers were available, but these were not specific to electric lifeline failure.

Maria power restoration curve: Assumption 100% without power 20-21 September, remainder from figure 10, Kwasinski et al (2019) (*IEEE Power and Energy Technology Systems Journal* 6(1) 85-94; at <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8644031>). Population, GWU displacement scenario. Direct fatalities not included in totals.

FIGURE 2. PANDEMIC RISK

*See email from @dhs.fema.gov account
Attachment pg. 6a*

3. **Climate change.** The last Administration’s attempt to edit the SNRA’s climate change findings was the event that buried the 2015 SNRA in the first place.⁵ This political intervention in a Federal science product defeated its own purpose: the national risk assessment that would have permanently anchored climate change⁶ in the Nation’s emergency management planning at every level of government was buried for good.

Most of the SNRA’s problems pre-date January 2017.⁷ If they are not resolved before then, they will continue past January 2021, regardless of who wins in November. There are no safe hands for science behind closed doors – especially not in the Federal Executive Branch – no matter who is in power, or how science-friendly their narrative may appear.⁸

4. **Alternatives; caveat.** FEMA has been working for a long time on other products that may be able to replicate some of the SNRA's capabilities to direct national risk management and resource decisions in the future.⁹ These projects are very important and they are substantially closer to that goal than they were a year ago, but they’re not there yet.^{10,11} If my agency is telling you something different, they are not being truthful with you.¹²

Please keep in mind that the problems that I’m writing about in this letter are specific to FEMA’s preparedness mission and the National Preparedness System, not the agency’s response mission. FEMA saved thousands of lives in 2017 whom no chart or critic will ever count, and the same is true today. FEMA in the response is absolutely brilliant: my colleagues deserve every bit of praise that your Members have given them, and more.

⁵ White House version SNRA Findings p. 15.

⁶ SNRA Resource for Planners pp. F-21-23, pp. 472-488; SNRA Technical Appendix pp. 207-223; SNRA Findings pp. 15-17.

⁷ I wasn’t explicitly prohibited from sharing the 2015 SNRA’s unclassified documentation with other FEMA or Government users outside my immediate office until February 2017, but I believe the timing of that was coincidental.

⁸ SNRA FAQ page 4, *Why does a highly technical product that was made by experts need outside critics?*

⁹ SNRA FAQ page 6, *Is the 2015 SNRA the end of FEMA’s work in this space?*

¹⁰ Frank, Thomas (2020, April 13). Warning on killer virus was preliminary – FEMA. *E&E News*: at <https://www.eenews.net/climatewire/stories/1062857757> (paywalled). PDF attached (3rd attachment to this email).

¹¹ GAO (2020, May 4). National preparedness: additional actions needed to address gaps in the Nation's emergency management capabilities, pp. 40-41. GAO-20-297: at <https://www.gao.gov/assets/710/706612.pdf>.

¹² What we tell **you and GAO** (FEMA started working on this replacement product in 2019 and completed it in 2020, GAO-20-297 pp. 11-12, 28), is very different from what we swear to be true **in court** (FEMA has actually been using this product instead of the SNRA since 2015, <https://www.courtlistener.com/docket/6284501/28/1/public-employees-for-environmental-responsibility-v-united-states/> paragraph 8); and that is very different from what we tell **our state and local grantees** (the risk-based capabilities we make them plan to have always come from the SNRA, notes 13 and 17 below [but they still can’t see it, https://www.dhs.gov/sites/default/files/publications/HSAC%20-%20Grant%20Review%20Task%20Force%20-%20Final%20Report%20-%20FINAL%20%28accessible%29_0.pdf p. 21]).

Because my agency has made so many contradictory assertions of fact, public and otherwise, I can’t speak truthfully about the SNRA without implying that my agency is not. I put this discussion in a footnote because I don’t want to make it a main point, but you need to be aware of it.

5. **Why this is a problem.** FEMA claims my team’s work as the evidential basis for the “risk-based” prioritization of national capabilities^{13,14} which structures our plans,¹⁵ our priorities,¹⁶ the requirements we make on our state and local partners,¹⁷ and our specific conceptualization of what a prepared Nation looks like¹⁸ that we have systematically directed our resources and efforts to build for the past five years.¹⁹ But the documentation which describes what the national risk picture that supposedly justifies all this actually is, was buried, and remains buried today.

This is a problem not just in terms of basic democratic accountability (telling the public that your policies are based on science that no one can see is wrong), or FEMA as an agency planning to the wrong things (basing your policies on science that no one can see is dangerous).²⁰ It means the enterprise planning to the wrong things too.^{21,22}

The SNRA is a national risk assessment. It was designed to help decision-makers at all levels plan for and prioritize the greatest risks to the Nation, and to their own communities, in an objective, coherent, and accountable way.^{23,24} That doesn’t work if no one can see it. The consequences of FEMA’s burial of the SNRA to shield its own planning assumptions from critical scrutiny extend well beyond the agency’s own work.

¹³ U.S. Department of Homeland Security (2015, September 30). Risk and the Core Capabilities. National preparedness goal, 2nd edition, pp. 4-5. At <https://www.fema.gov/sites/default/files/2020-06/national-preparedness-goal-2nd-edition.pdf>.

¹⁴ Presidential Policy Directive (PPD)-8 (National Preparedness) implementation plan, May 2011. Bates no. 000096-108, <https://www.courtlistener.com/docket/6284501/24/3/public-employees-for-environmental-responsibility-v-united-states/>. Document pages 1-2 (*National Preparedness Goal*), esp. p. 2 paragraphs 2, 3.

¹⁵ U.S. Department of Homeland Security (2019, October 28). Core Capabilities. National response framework, 4th edition, pp. 12-13. At https://www.fema.gov/sites/default/files/2020-04/NRF_FINALApproved_2011028.pdf. ---PPD-8 implementation plan, p. 4.

¹⁶ U.S. Department of Homeland Security (2020, February 8). Core capabilities [priority or criterion], FEMA-O&S-7, 51, 68, FEMA-FA-22-23, 29, 32-33, 36, 87, 98, FEMA-REPP-13. Management measure, FEMA-7. FEMA fiscal year 2021 Congressional budget justification: at <https://www.dhs.gov/sites/default/files/publications/federal-emergency-management-agency.pdf>. ---PPD-8 implementation plan, p. 2 paragraphs 2, 5.

¹⁷ U.S. Department of Homeland Security (2020, February). Risk-based core capabilities, pp. 9, 21, 23, 31-32, A-1-3, 7-11, 15, 25, 27-28, 30, 44, B-1-3, 10-11, C-3, D-11, E-8, F-11, H-1-2, 9-11, 14, 17, 20-22, 26-27. Preparedness grants manual. At <https://www.fema.gov/sites/default/files/2020-06/fema-preparedness-grants-manual.pdf>. ---PPD-8 implementation plan, pp. 6-7 (*Federal Preparedness Assistance*).

¹⁸ U.S. Department of Homeland Security (2019, November 19). Core capabilities and the greatest risks to the Nation, Findings p. 14 note 3. Core Capabilities and the THIRA/SPR. pp. 22, 29, 38, 44, 59. National preparedness report. At <https://www.fema.gov/sites/default/files/2020-03/fema-national-preparedness-report-2019.pdf>. ---PPD-8 implementation plan, p. 2 paragraph 4.

¹⁹ Federal Emergency Management Agency (2020, June 19). Testimony, 44:55-45:18. Evaluating the Federal Government’s procurement and distribution strategies in response to the COVID-19 pandemic. Senate Homeland Security & Governmental Affairs Committee. C-SPAN: at <https://www.c-span.org/video/?472884-1/senate-hearing-procurement-distribution-strategies-response-coronavirus-pandemic>. ---PPD-8 implementation plan, p. 3.

²⁰ SNRA FAQ page 4, *Why does a highly technical product that was made by experts need outside critics?*

²¹ PPD-8 implementation plan p. 2 para. 1, 5, pp. 3-6 (*National Preparedness System*), p. 7 (*Federal Preparedness*).

²² Note 19.

²³ SNRA FAQ pp. 4-5, *How is the SNRA relevant for other agencies?* and following section (*Why is/did...*).

²⁴ SNRA Findings p. i [Bates no. 000074], SNRA benefits to whole community partners [redacted].

6. **Perspective.** The National Preparedness System was designed around the assumption that partners at all levels of government would share a common picture of risk, and collaboratively refine it over time.²⁵ The National Preparedness System failed in 2017 and 2020 because FEMA erased that risk picture, with no adequate substitute to replace it.²⁶

Big picture. National risk assessments put national risks in perspective – and *keep* them in perspective, year to year, as louder things rise and fall off the news. DHS’s science-based national risk assessments of rare but catastrophic events – based on transparent and accountable math that has the same meaning for every observer – enable national-level prioritization, planning, and resourcing decisions that can be sustained over time from one decision-maker to the next. The national preparedness failures that made this disaster many times more catastrophic than it should have been are precisely what the SNRA was designed to prevent.

Small picture. The attachment to the email from my work account (*What’s missing.pdf*) is a subset of the redactions (pp. 1, 2...) that FEMA sent me, paired with the corresponding originals (pp. 1a, 2a...). This is the side by side comparison that I wanted you to see when I wrote last year, but I didn’t know a simple way to do that then.²⁷ Please take a look at what’s on those pages.

The *What's missing.pdf* attachment is inside the *Supporting files* subfolder or at https://web.archive.org/web/20220627235756/https://5usc2302.github.io/risk/5_U.S.C._2302_justification/What's_missing.pdf.

The information on the right hand side is what the Nation’s planners and emergency managers were supposed to have gotten five years ago. The information on the left is what they got.

My agency has spent a lot of money over the last few years to keep the information on the right hand pages from our state, local, tribal, territorial, and whole community partners. I don’t know how that is consistent with the purposes for which you gave us that money, or the purposes for which you authorized it to be spent.

7. **Status.** I have exhausted the corrective routes that are available to me inside the Government, including the ones that you pointed me to last year. I have not yet connected the other government stakeholders referenced in notes 10 and 12 with each other: I’d hoped to do so at the same time I wrote you, but it’s making the writing of this letter too complicated so I’ll work on that next. I don’t know what to do about the journalist.

8. **Note:** All information is unclassified. None of the information that I am sending you from either my personal or work accounts have any security sensitivity issues whatsoever.

Thank you,

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²⁵ U.S. Department of Homeland Security (2011, November). National Preparedness System. Pages 2, 6. At <https://www.hsdl.org/?view&did=693963>.

---National Preparedness Goal 1st edition (2011) pp. 3-4, <https://www.fema.gov/pdf/prepared/npg.pdf>.

---National Preparedness Goal 2nd edition (2015) pp. 4-5, https://www.fema.gov/sites/default/files/2020-06/national_preparedness_goal_2nd_edition.pdf.

---PPD-8 implementation plan, p. 2 paragraph 1.

²⁶ Note 10.

²⁷ SNRA FAQ page 5, *Why are the FOIA-redacted versions attached?*