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January 10, 2020

Texas General Land Office Community Development and Revitalization
P.O. Box 12873
Austin, TX 78711-2873
Via email to cdr@recovery.texas.gov.

Re: Comments by Public Citizen on the draft State of Texas CDBG Mitigation Action Plan

The undersigned organizations appreciate the opportunity to provide these comments. If you would like to discuss our recommendations further, please contact Adrian Shelley at ashelley@citizen.org, 512-477-1155.

I. The plan must acknowledge the role of climate change in the frequency and severity of natural disasters.

Climate change is increasing the frequency and severity of natural disasters. Severe storms, floods, droughts, and heat waves are all worsened by climate change. In the draft plan, the GLO does not acknowledge the role of climate change in natural disasters (or, in fact, the very existence of climate change). Failure to do so will lead to an underestimation of the risk of future disasters.

Several examples follow in which the draft plan should have considered the role of climate change.

Section 2.6.3 Hurricanes, Tropical Storms, and Depressions, p. 32.

This section discusses the mechanism for storm formation and the history of storms in Texas without acknowledging the role of climate change in worsening severe storms. The draft even points out that, “Since 2000, over 15 hurricanes, tropical storms or depressions have hit Texas.” Draft Action Plan at 34.

In order to properly evaluate the risk to Texas of severe storms, there must be a complete understanding of their underlying causes. If the Action Plan does not consider climate change’s role in making such storms more likely, it will underestimate the likelihood of such storms in the future.

Section 2.6.5. Severe Coastal and Riverine Flooding, p. 54.



In identifying the risk of “compound flooding,” the draft action plan cites a report by Thomas Wahl, Shaleen Jain, Jens Bender, and Steven Meyers, “Increasing risk of compound flooding from storm surge and rainfall for major US cities.” This report states quite plainly that, “Long-term sea-level rise is the main driver for accelerated flooding along the US coastline[.]” *See* Thomas Wahl, Shaleen Jain, Jens Bender, Steven Meyers, “Increasing risk of compound flooding from storm surge and rainfall for major US cities,” ResearchGate (July 2015) *available at* https://www.researchgate.net/publication/282535631_Increasing_risk_of_compound_flooding_from_storm_surge_and_rainfall_for_major_US_cities. Long-term sea-level rise is caused by climate change. The report also asserts that, “changes in the joint distributions of storm surge and precipitation associated with climate variability and change also augment flood potential.” *Id.*

Section 2.6.24.1 Extreme Heat - Safety and Security, p. 132.

“Extreme heat itself poses risks to first responders.” Draft plan at 132. In fact extreme heat exposes all outdoor laborers to serious health and safety risks. Public Citizen has worked extensively to provide additional protections from workers against extreme heat--provisions such as mandatory rest breaks and access to water and shade. For more information, visit: <https://www.citizen.org/article/heat-exposure/>.

This vulnerability of our workforce to extreme heat should be evaluated more broadly, but also within the context of this plan. The GLO should consider whether standard protections for workers exposed to extreme heat would reduce the vulnerability of first responders.

This is another instance where the GLO seems to have taken pains to avoid mentioning climate change. Some of the draft plan’s citations (for example, note 376) acknowledge the role of climate change in extreme heat, but this link is conspicuously absent from the draft plan itself. Again, if the GLO refuses to acknowledge the role of climate change in extreme weather it risks underestimating the actual risk.

II. Clean energy and energy storage can increase resiliency and improve disaster recovery.

Clean energy sources such as wind and solar and energy storage should be part of a comprehensive strategy to provide energy during and after disasters. Rooftop solar plus storage installations can generate energy even if the electricity grid is down. Essential services such as



community shelters and hospitals should look at the role that solar plus storage can play in ensuring power is available during disasters.

Section 2.6, State Risks and Hazards Assessment, identifies seven critical service areas, including “Energy (Power & Fuel).” Three considerations are listed for each of these critical service areas:

- (1) reliably function during and after future disasters;
- (2) reduce the risk of loss of life, injury, and property damage, and;
- (3) accelerate recovery following a disaster.

Draft plan at 28. The GLO should use these considerations to compare the performance of fossil sources such as coal and natural gas with renewable energy sources such as wind and solar. We have evaluated each below:

(1) reliably function during and after future disasters

There are several examples of clean energy sources outperforming fossil fuel sources during and after disasters. After Hurricane Harvey in August 2017, NRG had to switch two of the coal-fired units at its WA Parish plant to natural gas for the first time since 2009 because coal piles were too saturated with rainwater. *See* <https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/092717-harveys-rain-caused-coal-to-gas-switching-nrg-energy>.

“Extreme cold” is identified as one of 18 top natural hazards in Texas. *See* Draft Action Plan at Table 2-2, p. 29. Coal piles froze and became unusable during the polar vortex of 2014. *See* <https://news.bloombergenvironment.com/environment-and-energy/too-cold-for-coal-utilities-learning-lesson-of-polar-vortex>.

In 2011, Texas imposed rolling blackouts statewide because freezing temperatures caused dozens of generators (representing 8% of state capacity) to go offline. *See* <https://www.reuters.com/article/us-ercot-rollingblackouts/texas-weather-rolling-blackouts-as-mercury-drops-idUSTRE7116ZH20110202>; <https://www.masterresource.org/texas/texas-winter-power-outages-ercot/>; <https://stateimpact.npr.org/texas/tag/2011-blackouts/>; https://www.weather.gov/media/epz/Storm_Reports/Cold11/Feb2011ColdWx.pdf.

Section 2.6.14.7 Energy (Power & Fuel), p. 99, identifies the vulnerability of utility infrastructure and the energy grid to severe winds. Utility poles, transmission towers, and transformers are all identified as vulnerable to damage by severe winds. The draft plan should consider the role of clean energy and microgrids in ameliorating this risk. Rooftop solar installations with onsite battery storage can operate independently of and are not vulnerable to



grid impacts. Larger clean energy installations with microgrids can similarly operate independently and avoid outages during more widespread outages. The GLO should consider the potential of onsite generation by clean energy sources to reduce this vulnerability. For example, sites that are intended to serve as shelters or gathering points during disasters can be equipped with onsite solar and storage for the purpose of generating electricity during disasters when those sites are used as rally points by the impacted community.

(2) reduce the risk of loss of life, injury, and property damage

Use of fossil fuels causes injury to human health through the release of air pollution. Diesel generators used for backup power are a safety hazard. As stated in Section 2.6.22.5 of the draft plan, “The use of generators, or other gasoline-powered tools, to supplement the heating of a home, business, or other structure needs to be closely monitored and ventilated properly during use as these machines produce carbon monoxide.” Draft plan at 130. Clean energy sources do not carry the same risks as fossil sources including air pollution, fires, and explosions.

Section 2.6.18.5, Winter weather - Health and Medical, points out that hospitals and medical provider facilities are vulnerable to power outages or blackouts during winter storms. Draft plan at 115. The GLO should evaluate the potential for onsite solar and battery storage to reduce this vulnerability at these facilities.

(3) accelerate recovery following a disaster

Evidence from past storms shows that wind and solar sources can resume operation faster than fossil sources after natural disasters. After Hurricane Florence in 2018, power customers in North and South Carolina who got power from coal-fired utilities were without power nearly two weeks after the storm. Solar energy sources, by contrast, were available the following day. [See https://www.cbsnews.com/news/hurricane-florence-crippled-electricity-and-coal-solar-and-wind-were-back-the-next-day/](https://www.cbsnews.com/news/hurricane-florence-crippled-electricity-and-coal-solar-and-wind-were-back-the-next-day/).

Section 2.6.6.7 identifies the risk associated with electrical power outages that can last as many as several weeks after a flood. The draft states that, “energy providers may be inclined to come up with unique ways to restore service to their customers.” Draft plan at 66. Again, as the citation above shows, wind and solar resources may allow power generation to return to a community faster than fossil sources.

The draft also points out that power outages along the Trinity River during flooding led to a situation in which, “Due to high floodwaters, restoration of power was nearly impossible from



the ground.” Draft plan at 66. Rooftop solar installations with on-site battery storage would not face this difficulty. The GLO should consider whether rooftop solar plus storage installations would have helped in the Trinity River situation.

III. Fossil fuel generators are dangerous and vulnerable to fuel shortages, as are internal combustion engine vehicles. Solar panels and electric vehicles are not.

The list of infrastructure resiliency solutions at Section 2.3, Resiliency Solutions and Mitigation Priorities, includes “Installing backup power generators for critical systems (water, sewer, etc.)” Draft plan at 23. As the criteria above show, wind and solar power are potential sources of backup power that should be evaluated for the advantages they offer with respect to operation outside of the energy grid and the lack of fuel requirements.

The GLO should evaluate solar plus storage as an alternative form of backup power and consider factors including cost, lack of fuel requirements, and the benefits of clean energy generation.

A major disadvantage of generators is their vulnerability to fuel shortages. In the “State Risks and Hazards Assessment,” Section 2.6.4.7, “Energy (Power & Fuel),” acknowledges that, “If fuel capacity is limited due to gas stations risk running low on fuel for personal and response vehicles, along with generators, evacuation and recovery for individuals is made much more difficult.” Draft plan at 52.

Experience has shown this to be the case. After Hurricane Maria, Puerto Ricans had trouble getting delivery of the fuel oil they needed to run backup generators. *See* <https://blog.ucsusa.org/mike-jacobs/harvey-maria-electric-grid>.

Unlike generators that require gasoline or diesel fuel, or fossil fuel power plants that require coal or natural gas, solar panels and wind farms do not need fuel to generate power.

The GLO should also consider the role electric vehicles can play in reducing the vulnerability to fuel shortages. Wider adoption of EV technology will reduce the demand for fuel by the transportation sector. Electric vehicles used by first responders will rely on the electric grid rather than fuel availability. This reduces the vulnerability of first responders to limited fuel capacity. EVs will not function if grid power is not available, but a combination of transportation fuel options will increase resiliency of a transportation fleet.

IV. Clean energy sources can mitigate water shortages.



Section 2.6.8.2 discusses vulnerabilities due to drought, including the potential for “substantial economic losses” in the agricultural sector. Draft plan at 69. The draft doesn’t discuss water conservation as a mitigation tactic, although it does cite the Texas Water Development Board’s role in water conservation.

When water conservation is considered, the role of clean energy sources in reducing water demand must be evaluated. Wind and solar energy do not use water for power production, coal, natural gas, and nuclear do. The potential for clean energy to reduce water demand by the power generation sector must be considered in any water conservation plan, within this mitigation plan or elsewhere.

Section 2.6.8.7 discusses the risks associated with drought and states that, “Droughts can impact *all forms of energy production*, as water is required throughout the production process, from cooling to cleaning, to generating steam.” Draft plan at 75 (emphasis added).

This is simply not true for solar and wind energy production. Although there is water used in the manufacture of wind turbines and solar panels, there is virtually no water used in the generation of energy by these sources. The GLO must correct this error in the draft.

The GLO should evaluate the water savings achieved by clean energy use in Texas and the potential for additional water savings with more clean energy generation. The current plan overlooks or ignores the role that clean energy plays in reducing water demand across the state.

V. Air pollution and air quality monitoring.

Section 2.6.4.1 Safety and Security, p. 37, should evaluate gaps in air monitoring for dangerous conditions of air pollution near industrial facilities. The Texas Commission on Environmental Quality (TCEQ) does not have first responders and has historically not deployed air monitoring resources for several days after a storm. Furthermore, TCEQ turns off existing stationary monitoring equipment in order to protect it from storm damage.

The lack of air monitoring resources is a safety risk that has led to serious injuries in past events. After Hurricane Harvey, first responders to the fire at the Arkema, Inc. chemical facility were seriously injured by exposure to toxic air pollutants. *See* <https://www.texastribune.org/2017/09/07/first-responders-file-suit-against-crosby-chemical-plant-alleging-seve/>. The lack of air monitoring capacity is a gap that creates additional safety risk for first responders. Although the TCEQ recently received additional funding for mobile air monitoring resources--resources which the agency asserts will be used for disaster response--the



agency's policy of not having first responders limits when protections are available from the potentially dangerous hazard of air pollution. See <https://www.tceq.texas.gov/news/releases/tceq-to-deploy-new-air-monitoring-equipment>.

This comment is somewhat outside the scope of this plan, but the claiming of exceptional events by TCEQ affects how accurately the state assesses the risk to public health of wildfires and other particulate matter pollution events. In Section 2.6.16.5 Health and Medical, wildfire smoke is identified as a public health issue that produces air pollution including, "carbon dioxide, water vapor, carbon monoxide, particulate matter, hydrocarbons, nitrogen oxides, and trace elements." Draft plan at 108. The extent of this health impact will be understated if regulators continue to claim exceptional event status for particulate matter events caused by wildfires. Historically, the Texas Commission on Environmental Quality (TCEQ) has asked--and the Governor has approved--for days with high particular matter levels due to wildfire to be removed from the particulate matter data used for determination of compliance with the National Ambient Air Quality Standards.

The public still breathes in air pollution on days that have been excepted from the compliance data. Maintaining an artificial status of attainment of PM standards by excepting data only hurts public health by exposing the public to higher levels of particulate matter. The TCEQ should include wildfire events in its PM data and allow for nonattainment designations when PM levels are in fact above federal standards. This in turn will allow the GLO and other entities preparing for the impacts of disasters such as wildfires to accurately judge the potential public health effects.

VI. Miscellaneous comments by section.

Section 2.6.4.2 Communications, p. 39.

There is an impulse among government officials involved in emergency response to blame social media for a torrent of miscommunication and bad information that impedes disaster response. There is no question that misinformation is rampant on social media and the internet generally. But the present instinct by officials to retreat from social media in the hours and days after a disaster is dangerous.

The public will continue to use social media as a means of communication, particularly when up-to-the-minute information is crucial to survival. During Hurricane Harvey, for example, social media platforms such as Facebook and Twitter facilitated many rescues. See <https://money.cnn.com/2017/08/28/media/harvey-rescues-social-media-facebook->



[twitter/index.html](https://twitter.com/index.html). A comprehensive disaster response plan must use social media effectively--combating misinformation with timely, accurate, and available information.

Section 2.6.4.6 Hazardous Material (Management), p. 51.

The “Impacts” subsection does not discuss the systemic failure of floating roof tanks during Hurricane Harvey. Eleven petrochemical facilities experienced one or more tank failures, resulting in air pollution releases in excess of three million pounds. See Attachment. In many cases the tank failures were due to the high volume of rain overwhelming the roof tank. A number of solutions to this problem have been suggested, including requiring geodesic dome roofs for all vulnerable tanks, increasing the size of roof drains, or simply directing the TCEQ to develop best practices for tank performance during heavy rain events.

Section 2.6.6.6. Hazardous Material (Management), p. 64.

First responders and flood response crews are at risk from exposure to hazardous materials. This risk is compounded by Texas’ refusal to share with the public Tier II reports of chemical stockpiles required under the Emergency Planning and Community Right to Know Act (EPCRA). This refusal dates to a 2014 opinion from then Attorney General Greg Abbott.

The GLO should revisit this decision and determine whether the state’s frustration of the purpose of EPCRA increases the risk of exposure to hazardous materials after a disaster. Clearly the risk is greater if there is less information available about where and in what quantities chemicals are stored.

2.6.10.7 Energy (Power & Fuel), p. 81.

In the section about hailstorms, evidence is given that solar panels can be damaged by hail. As far as we can tell, this is the only mention of solar energy in the entire report. The GLO ignores solar’s potential to generate energy immediately after a storm that has damaged the energy grid, ignore solar’s ability to generate energy without using water, and ignores solar’s role in providing clean energy free of associated problems such as air pollution and fuel requirements. But the GLO is quick to point out that hail can damage solar panels. The draft almost reads as if the GLO has a bias against solar energy, as the only mention of solar is a rather obvious vulnerability to giant stones falling from the sky.

2.10.6 Additional Hurricane Harvey Studies, p. 174.



This list of ongoing or soon-to-begin studies should include the Texas Flood Registry (formerly the Hurricane Harvey Registry). The registry is led by Rice University and is funded by the Cullen Trust for Healthcare, the Environmental Defense Fund, and the National Institutes of Health. The Texas Flood Registry, “is a project that collects health, location, and exposure information from people affected by major storms.”

3 General Requirements, p. 189.

The U.S. Department of Housing and Urban Development (HUD) required that, “At least 50 percent of CDBG-MIT funds must be used to support activities that benefit LMI [low-to-moderate income] persons, and all programs will have an LMI priority.” Draft plan at 2.

The general application requirements require each application to describe how the proposed project will: “(a) Advance long-term resilience; (b) align with other planned capital improvements; and (c) promote community-level and regional (e.g., multiple local jurisdictions) planning for current and future disaster recovery efforts and additional mitigation investments.” Draft plan at 189.

The GLO should consider adding another application requirement for proposals to state how projects will contribute to HUD’s LMI goals.

3.8 Elevation Standards, p. 192.

Many of the construction standards outlined in the plan (not just in this section) apply only within the “100-year floodplain” based on Federal Emergency Management Agency (FEMA) data. Many regions in Texas have out of date floodplain maps or maps that are currently being updated. It is imperative that all areas in Texas vulnerable to flood keep their FEMA maps up to date. Revisions of floodplain maps are likely to increase the size of the 100-year floodplain and cover additional structures. Revisions are necessary to ensure inclusion of all areas to which new construction standards should apply.



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Conclusion

We appreciate the opportunity to provide these comments. If you wish to discuss the issues raised, please contact Adrian Shelley at ashelley@citizen.org, 512-477-1155.

Respectfully,

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