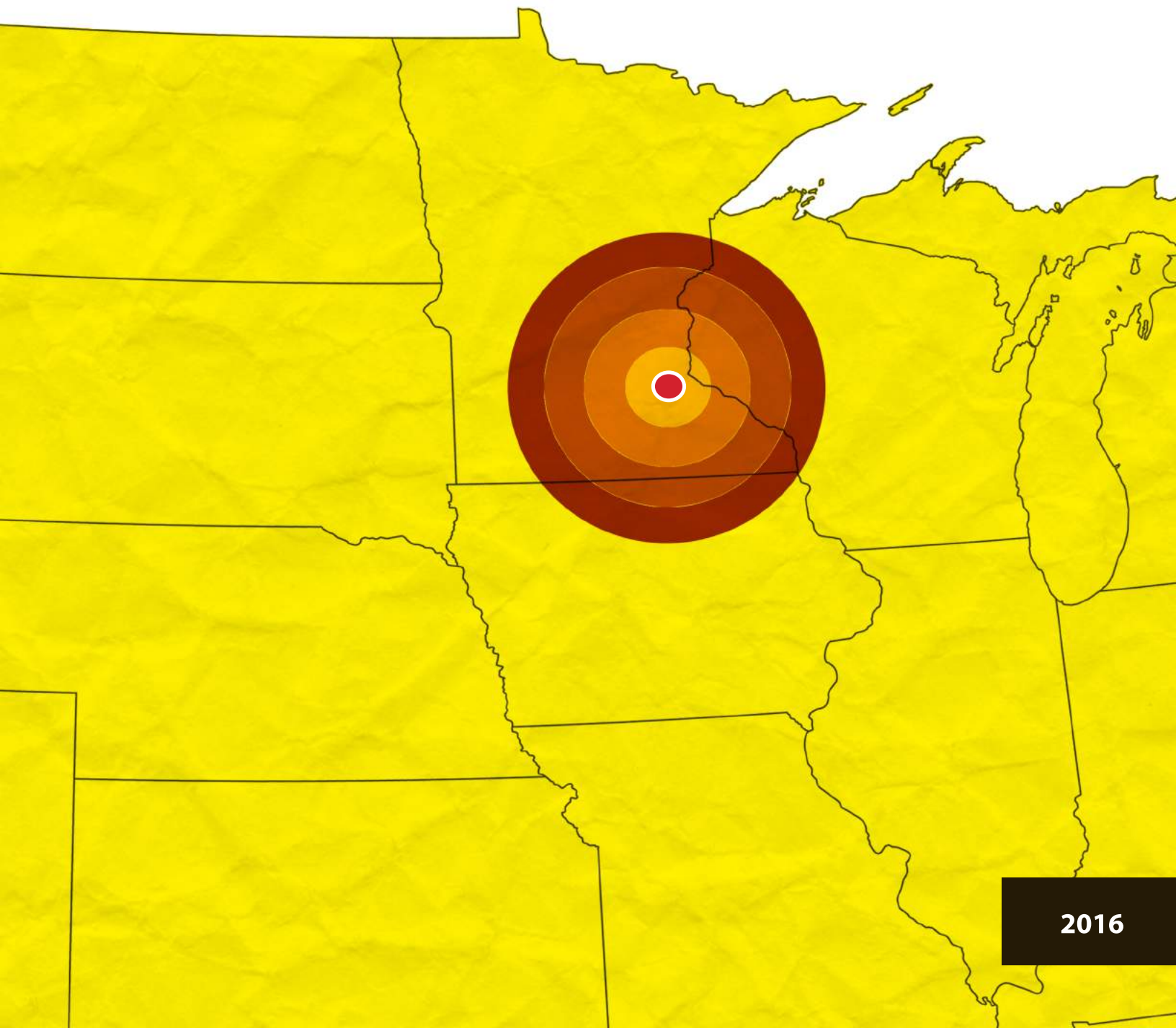


Disaster Accountability Project



Report On Emergency Evacuation Planning for Prairie Island Nuclear Generating Plant

Red Wing, Minnesota



2016

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About Disaster Accountability Project

Disaster Accountability Project (DAP) saves lives and reduces suffering after disasters by maximizing the impact of preparedness, response, and relief through citizen oversight and engagement, policy research and advocacy, and public education.

DAP is the leading nonprofit organization providing long-term independent oversight of disaster management systems.

DAP engages a dedicated community to

- advance policy research and advocacy,
- promote transparency, and
- encourage the public to participate in oversight and lead discussions about disaster preparedness and relief.

Dedicated citizen oversight is necessary to ensure that preparedness, relief, and recovery are effective, communities are sufficiently engaged and more resilient, and best practices and lessons learned are implemented so that mistakes are not repeated.

Prior to the creation of DAP, there was no organization providing independent oversight of the agencies and organizations responsible for these critical life-saving responsibilities.

Additional information concerning DAP's ongoing disaster accountability efforts can be found at the organization's website: <http://www.disasteraccountability.org/>.

Acknowledgements

Many thanks to Gary Jenkins, Jana Wilson, Roxanne Lin, Lisa Charles, David Hondowicz, Nicholas Boland-Cairney, Veronica Bailey, Russell Rollow, Arsalan Kashfi, Karishma Dudani, Nicole Corteling, Esther Choi, Chinasa Udeinya, Bryan Carey, Mark Williams, Erika Lancaster, Jehu Johnson, and many other DAP volunteers and interns for their varied efforts in producing this report.

The following report is part of a DAP initiative to investigate emergency planning and public awareness in the areas surrounding nuclear power plants operating in the United States.

The U.S. Government Accountability Office's Report Recommending Improved Emergency Preparedness Surrounding Nuclear Power Stations

In March 2013, the U.S. Government Accountability Office (GAO) released a report entitled *EMERGENCY PREPAREDNESS: NRC Needs to Better Understand Likely Public Response to Radiological Incidents at Nuclear Power Plants*.¹ GAO prepared its report in response to the nuclear emergency that resulted from the March 2011 earthquake and tsunami that severely damaged the Fukushima Dai-ichi nuclear power plant in Japan, and led to the largest release of radiation since the 1986 Chernobyl nuclear plant disaster.² As a consequence of radiation release, Japanese authorities evacuated nearly 150,000 people located within 19 miles of the stricken plant.³

At the same time, the United States Nuclear Regulatory Commission (NRC) recommended that U.S. citizens in Japan evacuate the area if they were located within 50 miles of the Fukushima Dai-ichi plant.⁴ The NRC recommendation stated that “[u]nder **the guidelines for public safety that would be used in the United States under similar circumstances, the NRC believes it is appropriate for U.S. residents within 50 miles of the Fukushima reactors to evacuate.**”⁵ The NRC recommendation was also broadcasted to U.S. citizens in Japan via a travel warning on the U.S. Embassy website in Japan.⁶ The NRC recommendation to evacuate a 50-mile zone exceeded the 10-mile emergency planning zone that is the current standard for nuclear plant emergency planning in the United States.

In the United States, the Federal Emergency Management Agency (FEMA) is responsible for overseeing preparedness by state and local authorities situated near nuclear plants.⁷ NRC regulations have established 10-mile emergency planning zones around domestic nuclear power plants.⁸ Local and state authorities within the 10-mile zone must develop protective action plans for responding to a radiological incident that include evacuations and sheltering in place.⁹ Local and state authorities also must provide information on radiation and protective actions to residents of the 10-mile zone on an annual basis.¹⁰

Subsequent to the Fukushima Dai-ichi disaster, the NRC has considered the adequacy of the 10-mile emergency planning zone size and has determined that no expansion is necessary.¹¹ The NRC concluded that a 1979 policy statement provides basis for the 10-mile emergency planning zone, including an

¹ United States Government Accountability Office. *Emergency Preparedness: NRC Needs to Better Understand Likely Public Response to Radiological Incidents at Nuclear Power Plants*. Washington, D.C.: Government Accountability Office, March 2013, GAO-13-243 (available at <http://www.gao.gov/products/GAO-13-243>).

² *Id.* at 1.

³ *Id.*

⁴ See *NRC Provides Protective Action Recommendations Based on U.S. Guidelines*, No. 11-050, March 16, 2011 (available at <http://www.nrc.gov/reading-rm/doc-collections/news/2011/11-050.pdf>).

⁵ *Id.* (emphasis added).

⁶ See U.S. Department of State Travel Warning, March 17, 2011, <http://japan.usembassy.gov/e/acs/tacs-travel20110317.html>.

⁷ United States Government Accountability Office, *supra* note 1. See also <http://www.fema.gov/radiological-emergency-preparedness-program>.

⁸ See 10 CFR 50.47(c)(2).

⁹ United States Government Accountability Office, *supra* note 1, at 5.

¹⁰ See 10 CFR 50 Appendix E Section IV.D.2.

¹¹ See *Program Plan for Basis of Emergency Planning Zone Size*, July 13, 2012 (ADAMS Accession No. ML12208A210).

assumption that the planning conducted for 10 miles provides a substantial basis for expansion of the emergency planning zone should it ever be necessary.¹² In 2014, the NRC reiterated its position when it denied a petition for rulemaking filed by the Nuclear Information and Resource Service and its co-competitors in an effort to modify the NRC's emergency planning rules.¹³ NRC's denial of the petition cited a lack of information available to government decision makers at the time of the 2011 Japanese incident and downplayed NRC's 50-mile evacuation recommendation, characterizing it as a "travel advisory."¹⁴

In support of maintaining the current 10-mile planning zone standard, NRC states that the information available to it during an incident on U.S. soil would be improved due to the presence of on-site NRC inspectors and direct communication lines from U.S. plants.¹⁵ Further, the NRC emphasized that "[s]tate and local authorities have a **robust capacity** to effectively evacuate the public in response to life-threatening emergencies."¹⁶ DAP questions the veracity of NRC's assertions regarding preparedness adequacy and effectiveness, especially given the current lack of planning outside the 10-mile zone.

GAO's report concludes that because residents beyond the 10-mile planning zone do not receive the safety and planning information that residents within the 10-mile zone do and, due to their lack of knowledge, may choose to evacuate even though they may be outside of the hazard area. Such "shadow evacuations" have the potential to delay evacuation of people most immediately in danger of exposure to radiological materials and are incorporated into evacuation time estimates.¹⁷ The GAO Report states:

[C]ommunities outside the 10-mile zone generally do not receive the same level of information as those within the 10-mile zone and therefore may not be as knowledgeable about appropriate conduct during a radiological emergency as those inside the zone and may not respond in a similar manner. If the public outside the zone evacuates unnecessarily at a greater rate than expected, these shadow evacuations would put additional traffic on roadways, possibly delaying the evacuation of the public inside the emergency planning zone and potentially increasing the risk to public health and safety. However, because neither NRC nor FEMA have examined public awareness outside of the 10-mile emergency planning zone, they do not know how the public outside this zone will respond. Specifically, they do not know if a 20-percent estimate of shadow evacuations is reasonable. Therefore, licensee evacuation time estimates may not accurately consider the impact of shadow evacuations. **Without estimates of evacuation times based on more solid understanding of public awareness, licensees and NRC and FEMA cannot be confident about the reliability of their estimates. If shadow evacuations are not correctly estimated, planning for a radiological emergency may not sufficiently consider the impact of the public outside the emergency planning zone.**¹⁸

¹² *Id.*; see also 44 FR 61123, Oct. 23, 1979.

¹³ See Petition for Rulemaking; denial, 79 FR 19501 (Apr. 9, 2014).

¹⁴ See *id.* at 19506-07.

¹⁵ *Id.*

¹⁶ *Id.* at 19505 (emphasis added).

¹⁷ See NRC, *Criteria for Development of Evacuation Time Estimate Studies*, NUREG/CR-7002 (Albuquerque, New Mexico: November 2011) at viii (available at <http://pbadupws.nrc.gov/docs/ML1130/ML113010515.pdf>).

¹⁸ *Id.* at 26 (emphasis added).

In light of the GAO's findings and conclusions, DAP surveyed current local emergency preparedness efforts and the level of information provided to the public regarding radiological emergencies within a 50-mile radius of Prairie Island Nuclear Generating Plant (hereinafter "Prairie Island"), a nuclear power station located in Red Wing, Minnesota on the banks of the Mississippi, adjacent to the Prairie Island Indian Community reservation. Prairie Island supplies the Minneapolis / St. Paul area. The City of St. Paul is 25 miles away from Prairie Island. The Minneapolis / St. Paul area, combined with surrounding areas, is the 15th largest metropolitan area in the United States.¹⁹

Prairie Island Nuclear Generating Plant and the Population within 50 Miles

Prairie Island is a nuclear power station with two Westinghouse pressurized water reactor units, together producing 1,076 megawatts of power. It is owned by Northern States Power Company (NSP), a subsidiary of Xcel Energy, which operates the facility. In 2008, Xcel requested that the NRC renew the licenses of both reactors and, in June 2011, the licenses were renewed until 2033 and 2034, respectively.

Every nuclear power plant operator is responsible for maintaining Evacuation Time Estimate (ETE) reports for NRC inspection and filing any updated reports with the NRC.²⁰ Xcel Energy's evacuation time estimate report filed with the NRC contemplates shadow evacuations from within the 10-mile emergency zone as well as a shadow region that is defined as the area between the 10-mile emergency planning zone border to a radius of approximately 15 miles from Prairie Island.²¹

The Xcel Energy report estimates that 38,035 people live within the shadow zone and assumes that 20% (7,600) of those people would evacuate in a radiological emergency.²² Any expansion of the shadow region to a 50-mile radius would significantly increase the population implicated in shadow evacuations. According to the Natural Resources Defense Council's 50-mile Potential Contamination Zone, the 2010 population total was 3,100,000 people.²³

Figures 1 and 2 show the stark geographic variation between the established 10-mile emergency planning zone for Prairie Island and a larger 50-mile geographic radius, which corresponds to the recommended NRC evacuation area for the Fukushima Dai-ichi plant in 2011.²⁴

¹⁹ See Largest Metropolitan Areas at <http://geography.about.com/od/lists/a/csa2005.htm>,

²⁰ See 10 CFR 50 Appendix E Section IV.5.

²¹ See <http://pbadupws.nrc.gov/docs/ML1236/ML12363A173.pdf> at Sec. 3-8, p. 58.

²² *Id.* at p. 72.

²³ See Natural Resources Defense Council at <http://www.nrdc.org/nuclear/fallout/>.

²⁴ The NRC also designates a 50-mile ingestion exposure pathway emergency planning zone from nuclear plants in its regulations. See 10 CFR 50.47(c)(2). The 50-mile emergency planning zone, however, is designated for the protection of food sources from radioactive fallout and the planning for the ingestion pathway does not contemplate evacuation or sheltering of the public beyond the 10-mile emergency planning zone. See United States Government Accountability Office, *supra* note 1, at 6. DAP chose to survey the local jurisdictions in the geographic area within 50 miles of Prairie Island, based on the real-world evacuation recommendation made by the U.S. government for Fukushima Dai-ichi emergency and not based on the current 50-mile ingestion exposure pathway standard.

Fig. 1 - 10-mile radius from Prairie Island Nuclear Generating Plant - Emergency Planning Zone (shaded area)

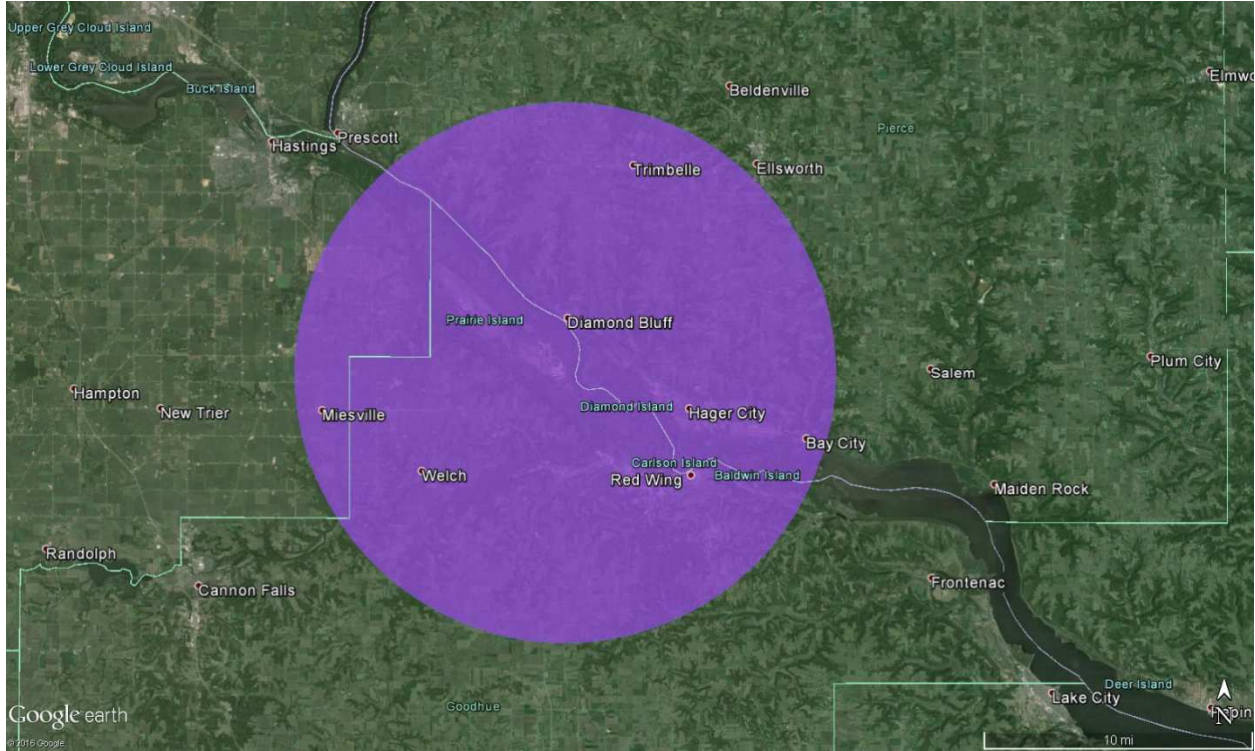
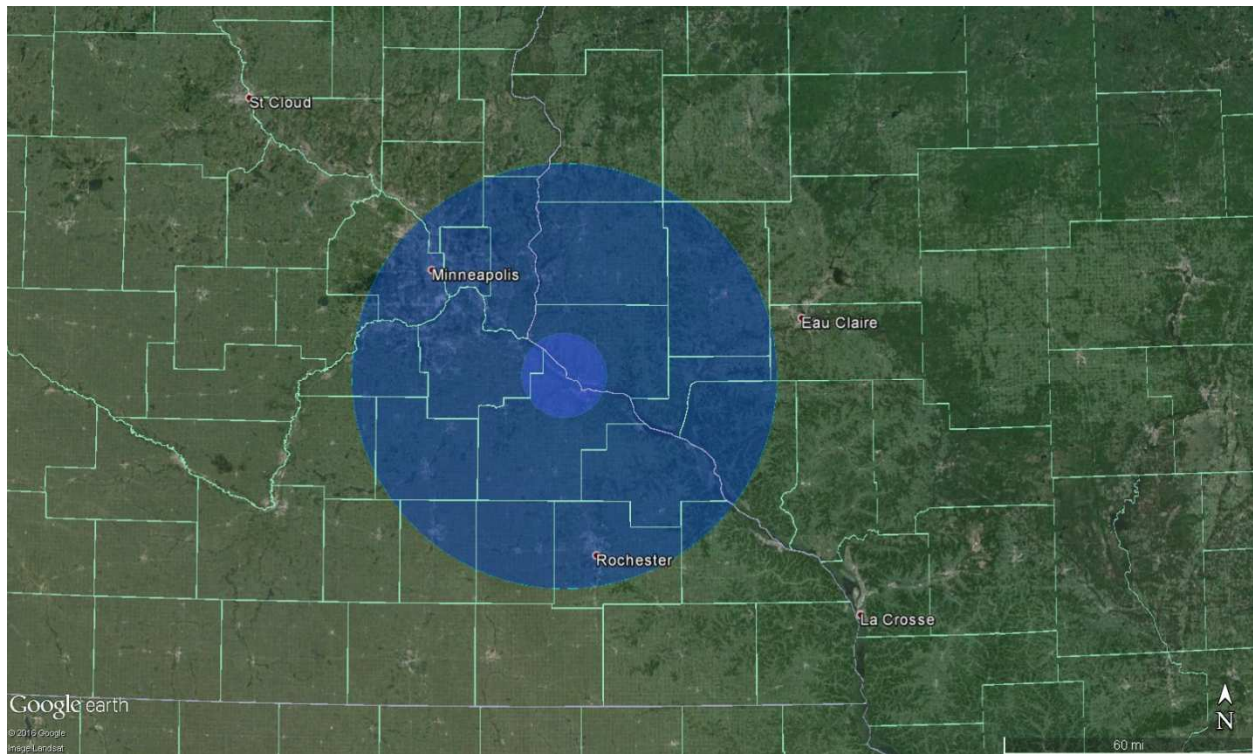


Fig. 2 - 50-mile radius from Prairie Island Nuclear Generating Plant (shaded area).



The 10-mile emergency planning zone encompasses Goodhue County and Dakota County in Minnesota, and Pierce County, Wisconsin; the 50-mile radius stretches to 16 additional jurisdictions in Minnesota and Wisconsin. Further, according to the Natural Resources Defense Council's 10-mile Evacuation Zone, the 2010 population total was 55,000 people, and for the 50-mile Potential Contamination Zone, the 2010 population total was 3,100,000 people.²⁵

²⁵ See Natural Resources Defense Council at <http://www.nrdc.org/nuclear/fallout/>.

DAP Survey of Jurisdictions within 50 miles of Prairie Island Nuclear Generating Plant

Between September 2015 and January 2016, DAP sent 19 information requests to local jurisdictions²⁶ within the 50-mile radius of Prairie Island seeking the following four categories of documents and information:

1. Educational materials or plans provided to residents up to 50 miles away from the Prairie Island regarding how to respond to a radiological incident at that plant;
2. All-hazard emergency plans and/or evacuation plans, including any materials regarding procedures to provide real-time information or instructions to residents during an emergency;
3. Emergency plans specific to radiological incidents at Prairie Island; and
4. All studies conducted on the likely rate of “shadow evacuations” related to Prairie Island, which are defined as “residents who evacuate during an emergency despite being told by authorities that evacuation is not necessary.”

Table 1 details the responses from each jurisdiction. Appendix A lists the documents received from each jurisdiction.

²⁶ DAP canvassed the entire geographic area within a 50-mile radius around Prairie Island by contacting every county government and major city within the region. Contact DAP if information is needed regarding the jurisdictional office or agency responding to DAP’s information requests.

Table 1. Responses to DAP’s Document Requests

Key

E - Jurisdiction stated that documents responsive to the request are exempt from disclosure

N - Jurisdiction stated that no documents exist or are in its possession

NR - Jurisdiction did not provide documents or written responses to the request

O - Jurisdiction did not provide responsive documents for another specified reason

P - Jurisdiction provided documents

State	Jurisdiction	Distance from Prairie Island (miles) ²⁷	Population ²⁸	Req. 1	Req. 2	Req. 3	Req. 4
MN	Goodhue County	0	46,423	NR ²⁹	NR	NR	NR
WI	Pierce County	<1	40,808	P	P	P	P ³⁰
MN	Dakota County	4	412,529	P ³¹	P	P	P ³²
MN	Washington County	11	249,283	N	E	N ³³	N
MN	Wabasha County	15	21,362	N	P	N ³⁴	N

²⁷ DAP used a web-based tool to find these distances. See <http://www.daftlogic.com/projects-google-maps-distance-calculator.htm>.

²⁸ Most recent estimate by U.S. Census Bureau as of June 2014. See <http://quickfacts.census.gov/qfd/states/12/12011.html>.

²⁹ DAP received documents from the County’s Health Department (see Appendix A) but no response from Office of Emergency Management.

³⁰ “We do not have that study electronically and the study is 300+ double-sided pages. We would need to copy that document and charge you \$.25 per page plus the cost of mailing. The alternative would be for you to request that document directly from Xcel Energy and they may be able to provide it to you electronically.” Sent a cover letter that accompanied study.

³¹ “The county produces no educational materials. The Utility (Xcel) develops and distributes all education materials or plans to residents ... Xcel has communicated to Dakota County that the Emergency Planning Guide is provided to all residents and businesses located within 10 miles of the plant by Xcel. Xcel also makes evacuation information to transient communities (motels, campgrounds, etc.) within 10 miles.”

³² “The county has conducted no studies on the likely rate of ‘shadow evacuations’. A study was completed by Xcel in 2012 and is available on the NRC website.”

³³ Provided only letters of agreement for "Establishment and Operation of a Fixed-Site Radiological Emergency Reception Center."

³⁴ “We have no plan regarding the Prairie Island Nuclear Generating Plant. Since we are within the 50 mile ingestion pathway we will inform the residents of our county to shelter in place if there is ever an incident regarding the plant.” The Radiological annex mentions Prairie Island.

WI	St. Croix County	16	86,759	N ³⁵	P	N ³⁶	N
WI	Pepin County	17	7,386	N ³⁷	P	P	N
MN	Rice County	22	65,151	NR	NR	NR	NR
WI	Dunn County	25	44,350	N	P	N ³⁸	N
MN	City of St. Paul	25	297,640	NR	NR	NR	NR
MN	Ramsey County	25	532,655	N	P	N ³⁹	N
WI	Buffalo County	29	13,188	N	NR	N ⁴⁰	N
MN	Olmsted County	29	150,287	N	E	N	N
MN	Dodge County	29	20,353	NR	NR	NR	NR
MN	Scott County	31	139,672	N ⁴¹	E	E	N
MN	Hennepin County	32	1,212,064	N	P	N ⁴²	N
MN	Steele County	35	36,573	NR	NR	NR	NR

³⁵ "We have 100 hardcopies provided to us by the State of Wisconsin of the State of Wisconsin ingestion brochure: [\[http://data.axmag.com/data/201504/20150408/U133981_F332580/FLASH/index.html\]](http://data.axmag.com/data/201504/20150408/U133981_F332580/FLASH/index.html) [w]hich are kept at the St. Croix County Agriculture Services and Education center in the publication display for residents to pick up now. In the event of an incident at the Prairie Island Plant the State of Wisconsin states they will provide additional hardcopies of the brochure to be delivered timely and would be distributed at that time by local authorities."

³⁶ Sent ingestion plan that mentions Prairie Island once. "Our county is not a 'risk' county (within 10 miles), so there are no plans for evacuation of the general public in our county related directly to the power plant."

³⁷ "The Master Ingestion Booklet is provided by the State of Wisconsin; we have both digital copies and hard copies ready to distribute in the event of a radiological disaster/emergency."

³⁸ Sent ingestion plan that mentions Prairie Island once.

³⁹ Only ingestion plans specific to Prairie Island were provided.

⁴⁰ Sent ingestion plan that mentions Prairie Island once: "To caveat, because Buffalo County does not reside in the 10 mile (NRC) evacuation ring, [t]here are no radiological target specific evacuation plans."

⁴¹ Provided only letters of agreement instead of actual plan documentation.

⁴² "Hennepin County Emergency Management does not have emergency and evacuation plans specific to radiological incidents at the Prairie Island Nuclear Generating Plant located in Goodhue County, Minnesota."

MN	Anoka County	40	341,864	N ⁴³	P	N ⁴⁴	N
MN	Carver County	45	97,338	N	O ⁴⁵	N ⁴⁶	N

Summary of Responses: Overall

- 14 out of 19 (74%) of the jurisdictions provided responses to the information requests.
- 5 out of 19 (26%) of the jurisdictions (Goodhue County, City of St. Paul, Rice County, Dodge County, and Steele County) did not respond at all.
- 2 out of 3 (67%) of the jurisdictions (Pierce County and Dakota County) within 10 miles of Prairie Island and 0 out of 16 jurisdictions between 10-50 miles of Prairie Island reported providing educational materials or plans to residents regarding how to respond to a radiological incident at that plant.
- 9 out of 19 (47%) of the jurisdictions provided all-hazard emergency plans and/or evacuation plans.
- 3 out of 19 (16%) of the jurisdictions provided emergency plans specific to radiological incidents at Prairie Island.
- 2 out of 19 (11%) of the jurisdictions (Pierce County and Dakota County) furnished a shadow evacuation plan or study.

Summary of Responses: Within the 10-mile zone

- 2 jurisdictions (Pierce County and Dakota County) within 10 miles of Prairie Island shared emergency plans specific to radiological incidents at Prairie Island.

⁴³ County provided public information calendar but wrote: "The calendar is provided by Xcel Energy and I believe it is distributed to residents in the EPZ [Emergency Planning Zone], not the IPZ [Ingestion Pathway Zone]. So Anoka County residents do not receive it from Xcel Energy. . . . We will be adding the links to our website for future reference of our residents. However, it is intended to EPZ residents primarily, but there is still value in the information for IPZ residents."

⁴⁴ "We are in the process of specifically updating our current emergency operations plan with the new plan requirements identified on page 4 of the fact sheets. However, as part of the Base Plan for our EOP [Emergency Operations Plan] you will see many elements are already generally covered (responsibilities for traffic control, agriculture, etc) as we have an all hazards type of plan."

⁴⁵ DAP has not yet sent payment to receive the county's response. From the county: "The 24 pages would include portions of our EOP that would include information regarding evacuation plans, including any materials regarding procedures to provide real-time information or instructions to residents during an emergency. It is not the full EOP, only the information relative to your request."

⁴⁶ "Carver County does not have emergency/evacuation plans specific to radiological incidents at the Prairie Island Nuclear Generating Plant. Carver County will be writing an 'Ingestion County Plan Supplement' within the next year. This document will identify and define the primary issues, actions, responsibilities and the necessary county-state coordination that must take place following a nuclear plant incident in the 50-mile 'Ingestion Pathway Zone'. Counties within a 50-mile radius of a nuclear generating plant are considered Ingestion Counties and would be asked to support the response actions necessary to protect the food supply from low level radiological material contamination and to protect population from long term exposure of low levels of radioactive contamination if necessary. Ingestion Counties may also be asked to support relocation activities for populations exposed to low level long term contamination should it become necessary. We will be sending county emergency management staff to a training session regarding this planning effort when offered by the Minnesota Division of Homeland Security and Emergency Management (HSEM)."

Summary of Responses: Outside the 10-mile zone

- Only 1 out of 16 of the jurisdictions (Pepin County) outside the 10-mile zone provided emergency plans specific to radiological incidents at Prairie Island.

Jurisdictions Located within 10 Miles: Two Provided a Shadow Evacuation Plan

Of the three counties in Minnesota and Wisconsin (Goodhue County, Dakota County, and Pierce County) that constitute the 10-mile emergency planning zone, only Dakota County and Pierce County provided documents for all four of DAP's information requests. To date, Goodhue County officials have not responded to DAP's requests for information.

Request 1: Only Dakota County and Pierce County provided a response concerning educational materials and/or plans as mandated by the NRC in the Code of Federal Regulations. Dakota County partners with Xcel to develop and distribute materials to residents. Goodhue County failed to furnish any educational materials or plans.

Request 2: Dakota County and Pierce County provided their all-hazard emergency plans and/or evacuation plans.

Request 3: Dakota County and Pierce County provided emergency plans specific to incidents at Prairie Island.

Request 4: Dakota County and Pierce County provided documentation on shadow evacuations.

Given the proximity of Goodhue County to Prairie Island, its failure to provide any information is unsettling, as an uncoordinated response to a radiological event or unplanned shadow evacuations could hinder evacuation of the nearly 50,000 residents living in this jurisdiction, placing them at significant risk. The GAO report discussed at length the shadow evacuation issue as cited earlier in this report.

Jurisdictions Located Between the 10-Mile and 50-Mile Radius: None Provided a Shadow Evacuation Plan

Of the sixteen jurisdictions within the 10-mile to 50-mile geographic area surrounding Prairie Island (Washington County, Wabasha County, St. Croix County, Pepin County, Rice County, Dunn County, City of St. Paul, Ramsey County, Buffalo County, Olmsted County, Dodge County, Scott County, Hennepin County, Steele County, Anoka County and Carver County), only twelve jurisdictions provided some type of response.

Request 1: None of the jurisdictions beyond the 10-mile emergency planning zone indicated that it provided its residents with educational materials and/or plans regarding how to respond to a radiological incident at Prairie Island. Twelve jurisdictions stated that no such documents exist or are in its possession, while four jurisdictions failed to provide any documents or written responses to the requests.

Request 2: Seven jurisdictions furnished plans (Wabasha County, St. Croix County, Pepin County, Dunn County, Ramsey County, Hennepin County and Anoka County). Nine out of sixteen jurisdictions located between 10 to 50 miles from Prairie Island failed to share all-hazard emergency plans.

Request 3: One jurisdiction (Pepin County) between the 10-mile and 50-mile emergency planning zone submitted responsive radiological information. Ten jurisdictions claimed that no information exists or is in its possession. Scott County claimed an exemption from providing this information.

Request 4: None of the responding jurisdictions between 10 and 50 miles from Prairie Island provided any documents on shadow evacuations, either claiming that no such documents exist or are in its possession, or not responding at all.⁴⁷

As the GAO pointed out in its previously referenced report:

Without estimates of evacuation times based on more solid understanding of public awareness, licensees and NRC and FEMA cannot be confident about the reliability of their estimates. If shadow evacuations are not correctly estimated, planning for a radiological emergency may not sufficiently consider the impact of the public outside the emergency planning zone.⁴⁸

Consequently, real gaps in emergency planning may occur without valid shadow evacuation estimates.⁴⁹

Conclusion: Public Education and Shadow Evacuation Planning are Inadequate within the 50-mile radius of Prairie Island Nuclear Power Plant

Minnesota and Wisconsin should not wait for the federal government to act. The states, counties, and cities within 50 miles of Prairie Island can and should voluntarily plan for emergencies beyond what is mandated by the federal government.

DAP agrees with the GAO Report's conclusion that further study is required to understand the level of public knowledge and the likely public reaction to a nuclear plant emergency, especially beyond the current 10-mile emergency planning zone.

The NRC only mandates an emergency planning zone of 10-miles for the areas surrounding Prairie Island. In contrast, the NRC's public guidance for the actual major nuclear plant disaster at the Fukushima Dai-ichi nuclear power plant recommended that U.S. citizens evacuate if they were located within 50 miles of the damaged Japanese nuclear plant. The NRC and FEMA have not satisfactorily reconciled this disparity between current planning and real-world guidance.⁵⁰

Days after the Fukushima Dai-ichi incident when Americans were encouraged to evacuate 50 miles away from the troubled plant, the Director of Emergency Planning at Entergy Energy (owner of Indian Point

⁴⁷ The following jurisdictions did not provide any response to information requests: Goodhue County, Rice County, City of St. Paul, Dodge County, and Steele County.

⁴⁸ See NRC, *Criteria for Development of Evacuation Time Estimate Studies*, NUREG/CR-7002 (Albuquerque, New Mexico: November 2011) at 26 (available at <http://pbadupws.nrc.gov/docs/ML1130/ML113010515.pdf>).

⁴⁹ *Id.*

⁵⁰ NRC recently stated that it "plans long-term action involving [emergency planning zones]" that will rely on a forthcoming Probabilistic Risk Assessment, the United Nations Scientific Committee on the Effects of Atomic Radiation's forthcoming report assessing radiation doses and associated effects on health and the environment, and from Fukushima Prefecture's Health Management Survey and that it will commence rulemaking efforts to make changes if those research efforts warrant changes. See Petition for Rulemaking; denial, 79 FR 19501, 19504 (Apr. 9, 2014).

Energy Center) expressed that neither the company nor the NRC had sufficient information to draw up plans to evacuate New York City⁵¹ (located 38 miles from the Indian Point Energy Center) which has a population of 8,336,697 people.⁵²

Shadow evacuations from populated areas beyond the current 10-mile emergency planning zones could result from a public informed and influenced by readily-available guidance even if local authorities instruct certain members of the public that no evacuation is necessary from their location.

Members of an uninformed public, who have not received the annual emergency preparedness information, likely will turn to other convenient sources of information in order to respond to an actual emergency. A search of the internet easily turns up several recommendations and suggestions for evacuation to points more than 50 miles away from a stricken nuclear plant, including the NRC's own press release about Fukushima Dai-ichi. In addition, other credible organizations such as Physicians for Social Responsibility and the Smithsonian Institution have web sites discussing 50-mile evacuations.⁵³ Also, reliable, well-known media sources reiterate the NRC's 2011 Fukushima Dai-ichi evacuation recommendation and display maps showing the 50-mile radius for every U.S. nuclear plant.⁵⁴ This readily available, web-based information is a likely source to which the public will turn for guidance, especially in a moment of crisis and in the absence of other information from state and local governments.

State and local authorities should not wait for the imposition of federal regulatory mandates in order to implement this planning into state and local preparedness efforts.

In light of its findings, DAP believes that planning and dissemination of information to increase public awareness of the potential for radiological emergencies beyond the current 10-mile emergency planning zones is warranted. At a minimum, emergency planning authorities from jurisdictions beyond the 10-mile mandatory planning zones should provide better emergency response guidance to the public, conduct shadow evacuation studies and plan accordingly, even if the federal government does not require it.

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Upon request, DAP will provide copies of correspondence with local governments in response to its information requests. A high-level index of the documents received from the survey effort is attached to this report in Appendix A.

⁵¹ See "Operators of Indian Point Say Changes are Likely" at http://www.nytimes.com/2011/03/22/nyregion/22indian.html?_r=0.

⁵² Most recent estimate by U.S. Census Bureau as of June 2014. See <http://quickfacts.census.gov>.

⁵³ See <http://www.psr.org/resources/evacuation-zone-nuclear-reactors.html> and <http://www.smithsonianmag.com/science-nature/do-you-live-within-50-miles-nuclear-power-plant-180950072/?no-ist>.

⁵⁴ See <http://www.wsj.com/articles/SB10001424052748703362904576219031025249872>.

Appendix A

Index of Documents Received From Local Emergency Planning Authorities within 50 Miles of Prairie Island Nuclear Power Plant

State	Local Jurisdiction	Documents
Minnesota	Anoka County	<ul style="list-style-type: none"> <input type="checkbox"/> Communication from Terry Stoltzman, Director of Anoka County Emergency Management (January 2016); <input type="checkbox"/> Emergency Operations Plan: Basic Plan (undated); <input type="checkbox"/> Ingestion County Activities by Emergency Classification Level (2015).
	Carver County	<ul style="list-style-type: none"> <input type="checkbox"/> None
	City of St. Paul	<ul style="list-style-type: none"> <input type="checkbox"/> None
	Dakota County	<ul style="list-style-type: none"> <input type="checkbox"/> Communication from B.J. Battig, Risk and Homeland Security Manager (December 2015); <input type="checkbox"/> Emergency Operations Plan (December 2014); <input type="checkbox"/> Emergency Response Plan (September 2015); <input type="checkbox"/> Prairie Island Emergency Action Plan For Visitors in the Prairie Island Nuclear Generating Plant Area (2015).
	Dodge County	<ul style="list-style-type: none"> <input type="checkbox"/> None
	Goodhue County	<ul style="list-style-type: none"> <input type="checkbox"/> Communication from Heather Arndt, Emergency Preparedness Coordinator for Goodhue County Health & Human Services (October 2015); <input type="checkbox"/> Emergency Response Plan Annex M: Health & Medical (April 2015); <input type="checkbox"/> Emergency Response Plan Annex N: Evacuee Services (October 2014); <input type="checkbox"/> Blank Calling Script (undated); <input type="checkbox"/> Human Services SOG (January 2014); <input type="checkbox"/> Public Health SOG (July 2014).
	Hennepin County	<ul style="list-style-type: none"> <input type="checkbox"/> Communication from Kristi Lahti-Johnson, Hennepin County Data Governance Officer (January 2015); <input type="checkbox"/> Prairie Island Emergency Planning Guide and Calendar (2013); <input type="checkbox"/> Emergency Operations Plan (December 2015); <input type="checkbox"/> Emergency Planning Guide for Minnesota Neighbors of Prairie Island Nuclear Generating

		Plant (2016).
	Olmsted County	<input type="checkbox"/> None
	Ramsey County	<input type="checkbox"/> Communication from Judson M. Freed, CEM, Director of Emergency Management and Homeland Security (September 2015); <input type="checkbox"/> Appendix G: Radiological Emergency Ingestion Pathway Supplement (undated).
	Rice County	<input type="checkbox"/> None
	Scott County	<input type="checkbox"/> Communication from Ron Holbeck, Deputy Emergency Management Director (October 2015)
	Steele County	<input type="checkbox"/> None
	Wabasha County	<input type="checkbox"/> Emergency Operations Plan (August 2015); <input type="checkbox"/> Emergency Operations Plan Appendix A: Notification and Warning (May 2008); <input type="checkbox"/> Emergency Operations Plan Appendix B: Direction and Control (May 2008); <input type="checkbox"/> Emergency Operations Plan Appendix C: Emergency Public Information (April 2015); <input type="checkbox"/> Emergency Operations Plan Appendix D: Search and Rescue (August 2015); <input type="checkbox"/> Emergency Operations Plan Annex E: Health and Medical (August 2006); <input type="checkbox"/> Emergency Operations Plan Annex F: Evacuation, Traffic Control, and Security (August 2013); <input type="checkbox"/> Emergency Operations Plan Annex G: Fire Protection Plan (June 2009); <input type="checkbox"/> Emergency Operations Plan Annex H: Damage Assessment (July 2012); <input type="checkbox"/> Emergency Operations Plan Annex I: Congregate Care (August 2013); <input type="checkbox"/> Emergency Operations Plan Annex J: Debris Management Operations (August 2015); <input type="checkbox"/> Emergency Operations Plan Annex K: Utilities Restoration (August 2013); <input type="checkbox"/> Emergency Operations Plan Annex L: Radiological/Hazardous Materials Protection (June 2009); <input type="checkbox"/> Emergency Operations Plan Annex M: Terrorism/Bioterrorism (July 2005); <input type="checkbox"/> Emergency Operations Plan Annex N: Pandemic Influenza (June 2009);

		<input type="checkbox"/> Emergency Operations Plan Annex O: Volunteer Donations/Donations Management (March 2014); <input type="checkbox"/> Emergency Operations Plan Annex P: Agricultural Plan (April 2014).
	Washington County	<input type="checkbox"/> Communication from Doug Berglund, Director of Emergency Management for the Washington County Sheriff's Office (October 2015); <input type="checkbox"/> City of Cottage Grove Letter of Agreement (April 2014); <input type="checkbox"/> Department of Human Services Letter of Agreement (undated); <input type="checkbox"/> South Washington County School District #833 Letter of Agreement (undated).
Wisconsin	Buffalo County	<input type="checkbox"/> Emergency Operations Plan Annex I: Radiological Incidents (December 2015); <input type="checkbox"/> Emergency Operations Plan Annex J: Public Information (January 2015); <input type="checkbox"/> Prairie Island Emergency Plan Drawing: Ingestion Pathways (November 2009).
	Dunn County	<input type="checkbox"/> Emergency Operations Plan Annex I: Radiological Incidents (July 2015); <input type="checkbox"/> Wisconsin Radiological Emergency Information for Farmers, Food Processors, and Distributors (available at http://data.axmag.com/data/201504/20150408/U133981_F332580/FLASH/index.html); <input type="checkbox"/> Emergency Operations Plan: Basic Plan (February 2015).
	Pepin County	<input type="checkbox"/> Communication from Maria Holl, Director of Pepin County Land Management (September 2015); <input type="checkbox"/> Emergency Operations Plan Annex I: Radiological Incidents (December 2014); <input type="checkbox"/> Emergency Operations Plan Annex E: Public Protection Plan (February 2015); <input type="checkbox"/> Wisconsin Radiological Emergency Information for Farmers, Food Processors, and Distributors (February 2013).
	Pierce County	<input type="checkbox"/> Communication from Gary Brown, Director of Pierce County Emergency Management (November 2015); <input type="checkbox"/> Pierce County Reception Center Plan (July 2014);

		<ul style="list-style-type: none"> <input type="checkbox"/> Emergency Operations Plan Annex A - C (March - August 2015); <input type="checkbox"/> Emergency Operations Plan Annex D - F (August 2015); <input type="checkbox"/> Emergency Operations Plan Annex G - H (August 2015); <input type="checkbox"/> Emergency Operations Plan Annex I: Radiological Incidents (August 2015); <input type="checkbox"/> Emergency Operations Plan Annex J - L (August 2015); <input type="checkbox"/> Prairie Island Emergency Planning Guide (2015); <input type="checkbox"/> Prairie Island Emergency Action Plan for Visitors in the Prairie Island Nuclear Generating Plant Area (2015); <input type="checkbox"/> Letter from Xcel Energy (December 2012).
	St. Croix County	<ul style="list-style-type: none"> <input type="checkbox"/> Communication from Kristen Sailer, Emergency Management Coordination for St. Croix County Emergency Support Services (October - December 2015); <input type="checkbox"/> Emergency Operations Plan (January 2014); <input type="checkbox"/> The State of Minnesota Homeland Security and Emergency Management Outreach Materials (available at https://dps.mn.gov/divisions/hsem/radiological-emergency-preparedness/Pages/default.aspx); <input type="checkbox"/> Xcel Energy Outreach Materials (available at https://dps.mn.gov/divisions/hsem/radiological-emergency-preparedness/Documents/14-07-045_PI_Nuclear_MN_web.pdf); <input type="checkbox"/> The State of Minnesota Homeland Security and Emergency Management Evacuation Route Maps (available at https://dps.mn.gov/divisions/hsem/radiological-emergency-preparedness/prairie-island/Pages/default.aspx).

Appendix B: Disaster Accountability Project History and Projects

2007

- DAP incorporated and filed for tax-exempt status.
- Compiled hundreds of post-Katrina policy recommendations in what later became a “Disaster Policy Wiki” to track the implementation status of “lessons learned.”

2008

- Successfully campaigned to compel FEMA to comply with federal law and elevate the position of FEMA Disability Coordinator.
- DAP's hotline served as a real-time listening device during Hurricane Ike and assisted numerous callers and countless others by directing details of gaps in critical services to responsible government agencies and nonprofit organizations.

2009

- Investigated and authored a report on the accessibility and modernity of emergency plans in twenty-two hurricane-vulnerable Louisiana parishes; this report prompted many parishes to update and improve public access to their emergency plans.

2010

- DAP's reports after the 2010 Haiti earthquake improved the transparency of over 1.2 billion U.S. Dollars (USD) and offered a first comprehensive look at how organizations were operating in Haiti at six months and one year after the earthquake.

2011

- DAP's report released in Port au Prince, Haiti on the first anniversary of the Haiti earthquake generated global media coverage.
- DAP returned to Haiti to conduct site visits of disaster relief centers in coordination with Haiti Aid Watchdog, a Haitian civil society organization.

2012

- DAP collected data from organizations immediately following the response to Superstorm Sandy in an effort to hold organizations accountable for the donations they raised.

2013

- DAP's successful complaint to the New York Attorney General after Superstorm Sandy compelled the American Red Cross to release 4 million USD to families that lost homes and were impacted by gross mismanagement of an American Red Cross recovery program.

In addition to the complaint, DAP engaged a bipartisan group of members of Congress, attracted media attention in the Wall Street Journal, USA Today, Al Jazeera America, among others, and directly engaged the donors behind nearly 100 million USD in American Red Cross donations.

2014

- DAP completed two investigations on the state-level standards of care for public health emergencies in Florida and Louisiana resulting in a commitment by Louisiana public health officials to make specific improvements to state public health emergency planning.
- DAP continued advocacy to improve accountability of major disaster relief organizations following Superstorm Sandy and expanded its oversight to include organizations operating after other disasters, such as the Joplin, Missouri tornado, West, Texas explosion, and Colorado floods.
- DAP partnered with the Center for High Impact Philanthropy to conduct an independent review to identify possible philanthropic and ‘impact investment’ solutions to address New Jersey’s housing crisis following Superstorm Sandy for The Jon Bon Jovi Soul Foundation.

2015

- DAP released five reports detailing a lack of emergency and evacuation planning within 50 miles of five U.S. nuclear power plants in New York, New Jersey, Virginia, Florida, and Illinois, including cities and counties in Connecticut, Pennsylvania, Delaware, Maryland, North Carolina, and Indiana.
- DAP’s work was cited numerous times in a GAO report on American Red Cross transparency and oversight, resulting in the introduction of the “American Red Cross Sunshine Act,” federal legislation to improve oversight of the organization.
- DAP released a major report one month after the Nepal earthquake assessing consistency and transparency of organizations’ online solicitations and surveyed nearly 100 organizations to assess the extent of their current activities and plans for future involvement in Nepal.