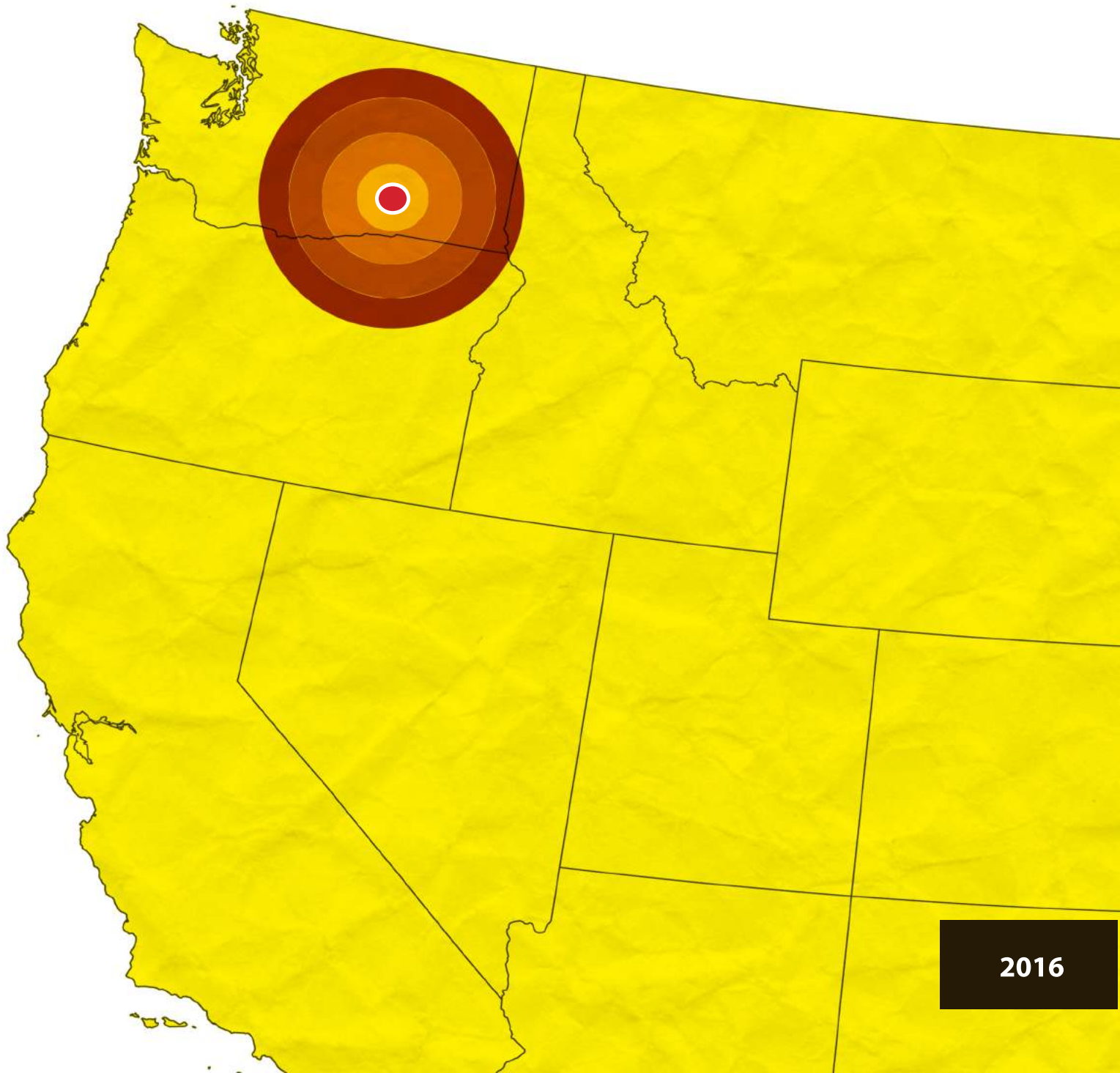


# Disaster Accountability Project



## Report On Emergency Evacuation Planning for Columbia Generating Station

Richland, Washington



2016

## Table of Contents

<u>About Disaster Accountability Project</u>	<b>2</b>
<u>Acknowledgements</u>	<b>2</b>
<u>The U.S. Government Accountability Office’s Report Recommending Improved Emergency Preparedness Surrounding Nuclear Power Stations</u>	<b>3-5</b>
<u>Columbia Generating Station and the Population within 50 Miles</u>	<b>5</b>
<u>Fig. 1 - 10-mile radius from Columbia Generating Station - Emergency Planning Zone (shaded area)</u>	<b>6</b>
<u>Fig. 2 - 50-mile radius from Columbia Generating Station (shaded area)</u>	<b>7</b>
<u>DAP Survey of Jurisdictions within 50 miles of Columbia Generating Station</u>	<b>8</b>
<u>Table 1. Responses to DAP’s Document Requests</u>	<b>9-10</b>
<u>Jurisdictions Located within 10 Miles: One Provided a Shadow Evacuation Plan</u>	<b>11</b>
<u>Jurisdictions Located Between the 10-Mile and 50-Mile Radius: None Provided a Shadow Evacuation Plan</u>	<b>11-12</b>
<u>Conclusion: Public Education and Shadow Evacuation Planning are Inadequate within the 50-mile radius of Columbia Generating Station</u>	<b>12-13</b>
<u>Appendix A: Index of Documents Received from Jurisdictions within 50 miles of Columbia Generating Station</u>	<b>14-19</b>
<u>Appendix B: Disaster Accountability Project History and Projects</u>	<b>20-21</b>

## **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 Alison Shih, Jana Wilson, Roxanne Lin, Lisa Charles, Veronica Bailey, Adam Kirschner, Nicholas Boland - Cairney, 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*.<sup>1</sup> 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.<sup>2</sup> As a consequence of radiation release, Japanese authorities evacuated nearly 150,000 people located within 19 miles of the stricken plant.<sup>3</sup>

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.<sup>4</sup> 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.**”<sup>5</sup> The NRC recommendation was also broadcasted to U.S. citizens in Japan via a travel warning on the U.S. Embassy website in Japan.<sup>6</sup> 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.<sup>7</sup> NRC regulations have established 10-mile emergency planning zones around domestic nuclear power plants.<sup>8</sup> 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.<sup>9</sup> Local and state authorities also must provide information on radiation and protective actions to residents of the 10-mile zone on an annual basis.<sup>10</sup>

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.<sup>11</sup> The NRC concluded that a 1979 policy statement provides basis for the 10-mile emergency planning zone, including an

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<sup>1</sup> 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>).

<sup>2</sup> *Id.* at 1.

<sup>3</sup> *Id.*

<sup>4</sup> 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>).

<sup>5</sup> *Id.* (emphasis added).

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

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

<sup>8</sup> See 10 CFR 50.47(c)(2).

<sup>9</sup> United States Government Accountability Office, *supra* note 1, at 5.

<sup>10</sup> See 10 CFR 50 Appendix E Section IV.D.2.

<sup>11</sup> 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.<sup>12</sup> 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-petitioners in an effort to modify the NRC's emergency planning rules.<sup>13</sup> 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."<sup>14</sup>

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.<sup>15</sup> Further, the NRC emphasized that "[s]tate and local authorities have a **robust capability** to effectively evacuate the public in response to life-threatening emergencies."<sup>16</sup> 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.<sup>17</sup> 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 on the public outside the emergency planning zone.**<sup>18</sup>

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<sup>12</sup> *Id.*; see also 44 FR 61123, Oct. 23, 1979.

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

<sup>14</sup> See *id.* at 19506-07.

<sup>15</sup> *Id.*

<sup>16</sup> *Id.* at 19505 (emphasis added).

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

<sup>18</sup> *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 Columbia Generating Station (hereinafter "Columbia"), a nuclear power station located near Richland, WA, and approximately 200 miles east of Seattle WA, the 25th largest city in the United States.<sup>19</sup>

## Columbia Generating Station and the Population within 50 Miles

Columbia is located 10 miles from Richland, WA. The power station is capable of generating about 1,190 megawatts of electricity, or about 10% of the electricity generated in Washington state. The plant is owned and operated by Energy Northwest, a Washington state not-for-profit joint operating agency. 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.<sup>20</sup>

Energy Northwest's ETE report filed with the NRC contemplates shadow evacuations from within the 10-mile emergency planning 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 Columbia.<sup>21</sup>

The Energy Northwest report estimates that 55,700 people live within the shadow zone and assumes that 20% of those people would evacuate in a radiological emergency.<sup>22</sup> 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 471,000 people.<sup>23</sup>

Figures 1 and 2 show the stark geographic variation between the established 10-mile emergency planning zone for Columbia and a larger 50-mile geographic radius, which corresponds to the recommended NRC evacuation area for the Fukushima Dai-ichi plant in 2011.<sup>24</sup>

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<sup>19</sup> DAP determined Seattle's rank from a list of the 100 most populous cities in the U.S. See <http://www.city-data.com/top1.html>.

<sup>20</sup> See 10 CFR 50 Appendix E Section IV.5.

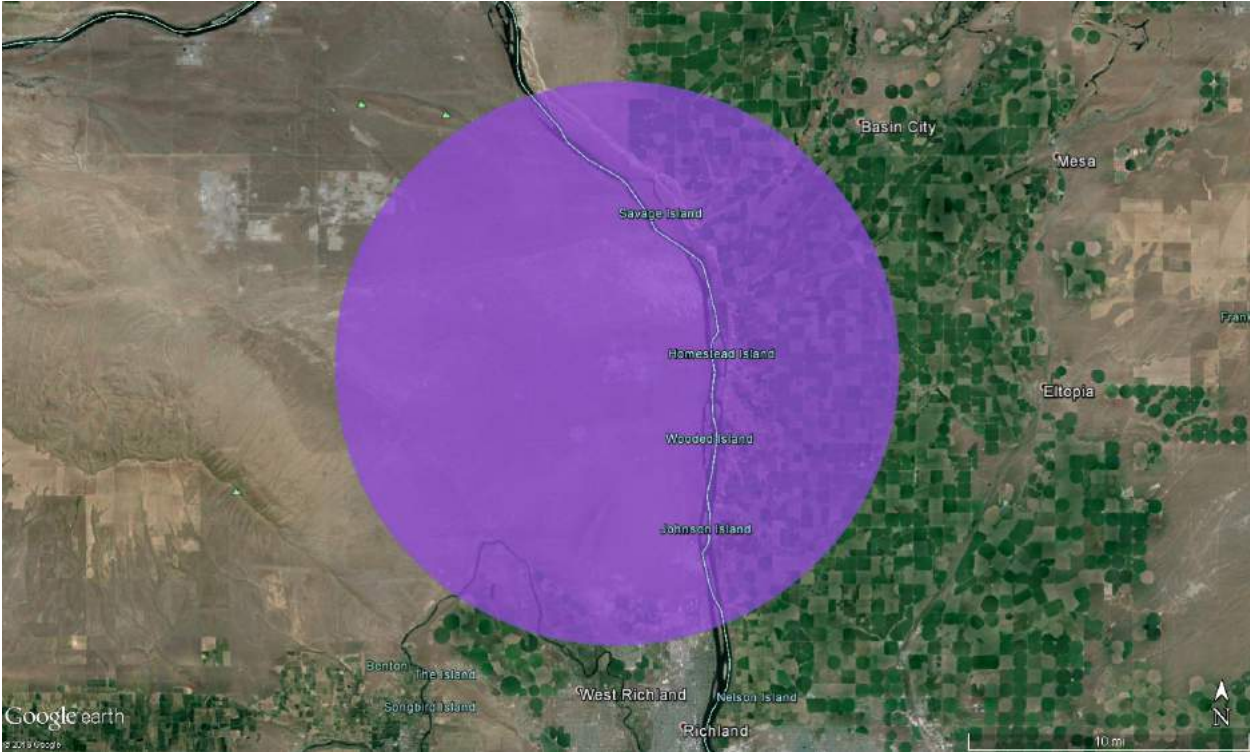
<sup>21</sup> See Energy Northwest's evacuation plan at <http://pbadupws.nrc.gov/docs/ML1235/ML12356A205.pdf>.

<sup>22</sup> *Id.*

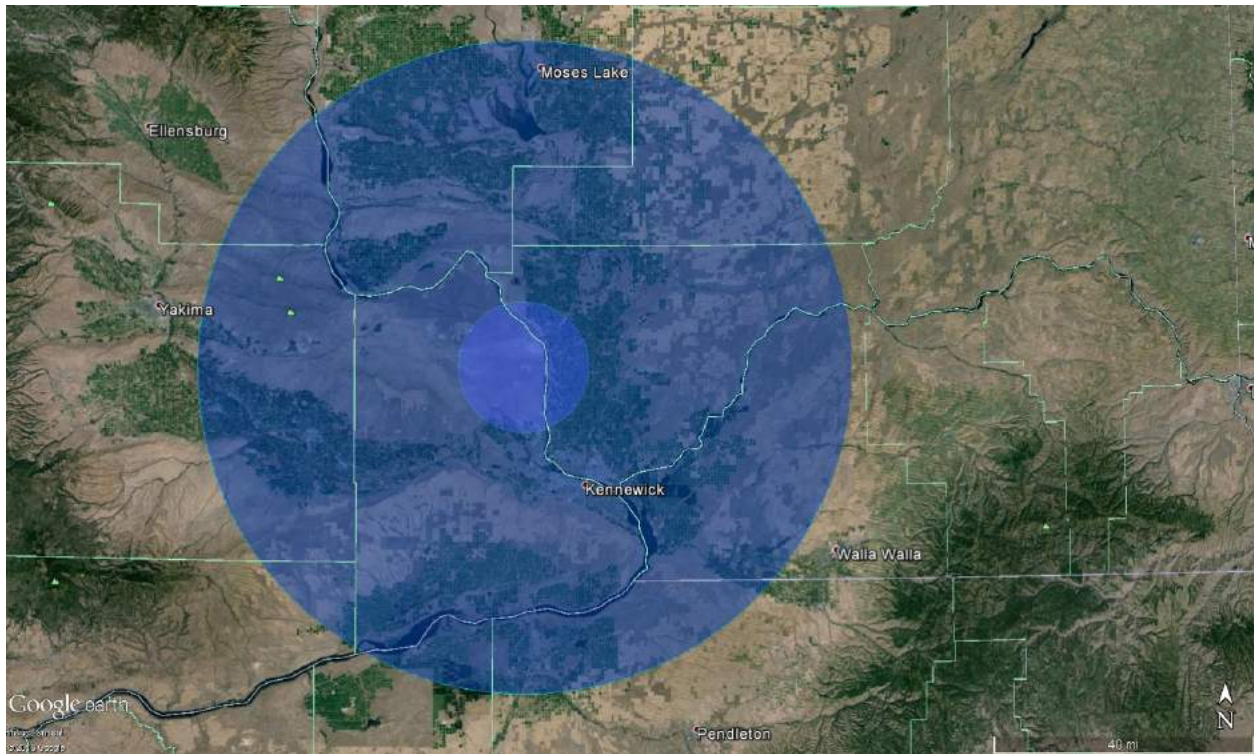
<sup>23</sup> See Natural Resources Defense Council at <http://www.nrdc.org/nuclear/fallout/>.

<sup>24</sup> 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 Columbia 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 Columbia Generating Station - Emergency Planning Zone (shaded area)**



**Fig. 2 - 50-mile radius from Columbia Generating Station (shaded area).**



The 10-mile emergency planning zone, the shadow zone and the 50-mile radius are all within Washington state. The nearest population centers (Seattle (200 miles), Yakima (72 miles), Tacoma (220 miles) and Spokane (160 miles) are all outside of the 50-mile zone of Columbia. The 10-mile emergency planning zone encompasses Benton County, Franklin County and City of Richmond, whereas the 50-mile radius includes six jurisdictions. Further, according to the Natural Resources Defense Council's 10-mile Evacuation Zone, the 2010 population total was 13,000 people, and for the 50-mile Potential Contamination Zone, the 2010 population total was 471,000 people.<sup>25</sup>

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



## **DAP Survey of Jurisdictions within 50 miles of Columbia Generating Station**

Between October 2015 and January 2016, DAP sent 9 information requests to local jurisdictions<sup>26</sup> within the 50-mile radius of Columbia seeking the following four categories of documents and information:

1. Educational materials or plans provided to residents up to 50 miles away from Columbia 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 Columbia; and
4. All studies conducted on the likely rate of “shadow evacuations” related to Columbia, which are defined by the GAO 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.

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<sup>26</sup> DAP canvassed the entire geographic area within a 50-mile radius around Columbia 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 Columbia (miles) <sup>27</sup>	Population <sup>28</sup>	Req. 1	Req. 2	Req. 3	Req. 4
WA	Benton County	0	175,177	P	P	P	N <sup>29</sup>
WA	Franklin County	4	78,163	P	P	P	P
WA	City of Richland	8	53,019	P <sup>30</sup>	P	P	N <sup>31</sup>
WA	Grant County	14	89,120	P	P	P	NR
WA	City of Kennewick	17	77,421	P <sup>32</sup>	P	P	N

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

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

<sup>29</sup> A Columbia Generating Station 2015 Population Update Analysis was provided to DAP.

<sup>30</sup> An interlocal agreement with Benton County was provided. Benton County handles emergency preparation for the City of Richland.

<sup>31</sup> A Columbia Generating Station 2015 Population Update Analysis was provided to DAP.

<sup>32</sup> An interlocal agreement with Benton County was provided. Benton County handles emergency preparation for the City of Kennewick.

WA	Adams County	19	18,728	N <sup>33</sup>	P	N <sup>34</sup>	N
WA	Walla Walla County	24	58,781	N <sup>35</sup>	P	P	N <sup>36</sup>
WA	Yakima County	25	243,231	NR/O <sup>37</sup>	P	P	NR/O
WA	Kittitas County	36	40,115	N	P	N	N

**Summary of Responses: Overall**

- 9 out of 9 (100%) of the jurisdictions provided responses to the information requests.
- All 3 jurisdictions within 10 miles of Columbia and 2 out of 6 jurisdictions between 10-50 miles of Columbia reported providing educational materials or plans to residents regarding how to respond to a radiological incident at that plant.
- 9 out of 9 (100%) of the jurisdictions provided all-hazard emergency plans and/or evacuation plans.
- 7 out of 9 (78%) of the jurisdictions provided emergency plans specific to radiological incidents at Columbia.
- Only 1 jurisdiction (Franklin County) furnished a shadow evacuation plan or study.

**Summary of Responses: Within the 10-mile zone**

- 3 jurisdictions within 10 miles of the plant shared emergency plans specific to radiological incidents at Columbia.

**Summary of Responses: Outside the 10-mile zone**

- 4 of the 6 jurisdictions outside the 10-mile zone provided emergency plans specific to radiological incidents at Columbia.

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<sup>33</sup> From ESF10B REP Plan: "As an ingestion county, Adams County is not required to distribute public education documents annually. However, Adams County makes available the above public education document at public events and in the EM office lobby."

<sup>34</sup> Adams County provided an Ingestion Plan specific to the Columbia Plant.

<sup>35</sup> "Walla Walla County provides residents with public information specific to Columbia Generating Station. When we present disaster preparedness and response information, the Radiological Hazard is included in our presentation. We review a summary of the Walla Walla County hazards identified in our county Hazard Vulnerability Identification Analysis (HIVA), and the Radiological Hazard is included in the summary. The HIVA is located on our website at: <http://www.co.walla-walla.wa.us/departments/emd/docs/FINALWallaWallaCountyHIVA2010.pdf>.

<sup>36</sup> "Walla Walla County is not in the 10 mile Plume Emergency Planning Zone (EPZ) where the Evacuation Time Estimates (ETEs) are used. As an Ingestion County we don't do evacuations related to Columbia Generating Station. Therefore the ETEs are not a part of our radiological response planning. Should the need arise for us to have the information, we can easily access it."

<sup>37</sup> The county sent a DVD via U.S. mail and DAP has been unable to open its contents.

## **Jurisdictions Located within 10 Miles: One Provided a Shadow Evacuation Plan**

Of the three jurisdictions (City of Richland, Benton County, and Franklin County) that constitute the 10-mile emergency planning zone, only Franklin County provided documents for all four of DAP's information requests.

Request 1: All three jurisdictions provided educational materials and/or plans as mandated by the NRC in the Code of Federal Regulations. However, the Benton County plan covers the City of Richland per an interlocal agreement.

Request 2: All three jurisdictions (City of Richland, Benton County, and Franklin County) provided their all-hazard emergency plans and/or evacuation plans.

Request 3: All three jurisdictions (City of Richland, Benton County, and Franklin County) provided emergency plans specific to incidents at Columbia.

Request 4: Only one of the three jurisdictions (Franklin County) provided documents on shadow evacuations. The other two jurisdictions provided only a Columbia Generating Station 2015 Population Update Analysis.

It is unsettling that only one of the 10-mile emergency zone jurisdictions had any documents on shadow evacuations because unplanned shadow evacuations could hinder planned evacuations of residents and put 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**

All six of the jurisdictions within the 10-mile to 50-mile geographic area surrounding Columbia (Yakima County, Kittitas County, Walla Walla County, Grant County, and City of Kennewick) provided some type of response.

Request 1: Two jurisdictions outside the 10-mile emergency planning zone indicated that they provided residents with educational materials and/or plans regarding how to respond to a radiological incident at Columbia. Three jurisdictions stated that no such documents exist or are in its possession, and one failed to provide requested documents or a written response to the request.

Request 2: All six jurisdictions outside the 10-mile emergency planning zone furnished plans: None of the jurisdictions located between 10 to 50 miles from Columbia failed to share all-hazard emergency plans.

The City of Kennewick is governed by an interlocal agreement where Benton County is responsible for all emergency planning. Walla Walla County provided residents with public information specific to Columbia. The Kittitas County plan is available at <https://www.co.kittitas.wa.us/sheriff/emergency.aspx>.

Request 3: Four jurisdictions (Grant County, Walla Walla County, Yakima County, and the City of Kennewick), between the 10-mile and 50-mile emergency planning zone submitted responsive radiological information. Two jurisdictions (Kittitas County and Adams County) claimed that no information exist or is in its possession.

Request 4: None of the jurisdictions between 10 and 50 miles from Columbia provided any documents on shadow evacuations, claiming that no such documents exist or are in its possession, or no response made to the request.

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.<sup>38</sup>

Consequently, real gaps in emergency planning may occur without valid shadow evacuation estimates.<sup>39</sup>

### **Conclusion: Public Education and Shadow Evacuation Planning are Inadequate within the 50-mile radius of Columbia Generating Station**

**Washington State should not wait for the federal government to act. The states, counties, and cities within 50 miles of Columbia 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 Columbia. 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.<sup>40</sup>

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 Energy Center) expressed that neither the company nor the NRC had sufficient information to draw up

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<sup>38</sup> See NRC, *Criteria for Development of Evacuation Time Estimate Studies*, NUREG/CR-7002 (Albuquerque, New Mexico: Nov. 2011) at 26 (available at <http://pbadupws.nrc.gov/docs/ML1130/ML113010515.pdf>).

<sup>39</sup> *Id.*

<sup>40</sup> 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).

plans to evacuate New York City<sup>41</sup> (located 38 miles from the Indian Point Energy Center) which has a population of 8,336,697 people.<sup>42</sup>

**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 websites discussing 50-mile evacuations.<sup>43</sup> 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.<sup>44</sup> 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.

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<sup>41</sup> See "Operators of Indian Point Say Changes are Likely" at [http://www.nytimes.com/2011/03/22/nyregion/22indian.html?\\_r=0](http://www.nytimes.com/2011/03/22/nyregion/22indian.html?_r=0).

<sup>42</sup> Most recent estimate by U.S. Census Bureau as of June 2014. See <http://quickfacts.census.gov>.

<sup>43</sup> 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>.

<sup>44</sup> See <http://www.wsj.com/articles/SB10001424052748703362904576219031025249872>.

## Appendix A: Index of Documents Received From Local Emergency Planning Authorities within 50 Miles of Columbia Generating Station

State	Local Jurisdiction	Documents
Washington	Adams County	<ul style="list-style-type: none"> <li><input type="checkbox"/> Communication from Jay Weise, Director of Emergency Management in Adams County (December 2015);</li> <li><input type="checkbox"/> Educational Materials for Washington State Department of Agriculture (available at <a href="http://agr.wa.gov/FoodSecurity/Attachments/Trifold09.pdf">http://agr.wa.gov/FoodSecurity/Attachments/Trifold09.pdf</a>) (December 2015);</li> <li><input type="checkbox"/> Adams County Comprehensive Emergency Management Plan Section I (June 2012);</li> <li><input type="checkbox"/> Adams County Comprehensive Emergency Management Plan Section II - Basic Plan (August 2009);</li> <li><input type="checkbox"/> Adams County Comprehensive Emergency Management Plan Section III - Emergency Support Functions (June 2012);</li> <li><input type="checkbox"/> Adams County Comprehensive Emergency Management Plan (March 2015).</li> </ul>
	Benton County	<ul style="list-style-type: none"> <li><input type="checkbox"/> Benton County documents were sent by other jurisdictions in Benton County. Email Received from Debby Barham, Deputy City Clerk, City of Richland on October 30, 2015: "The Benton County Emergency Services has a centralized process for receiving public records requests through the City of Richland."</li> </ul>
	City of Kennewick	<ul style="list-style-type: none"> <li><input type="checkbox"/> Communication from Krystal Roe, Public Records Officer in the City of Kennewick (November 2015 and February 2016);</li> <li><input type="checkbox"/> Acknowledgment of Public Records Request for the City of Kennewick (November 2015).</li> <li><input type="checkbox"/> Public Works Department and Parks &amp; Facilities Department Emergency Response Program and Plans (August 2015)</li> <li><input type="checkbox"/> City's Fire Department Standard Operating Guidelines, Emergency Operations: Chapter 3 - Command Operations; Chapter 5 - Medical Emergencies; Chapter 9 - Hazardous Materials Incidents (General Guidelines and Action Plans, Emergency Response to Radiological Incidents, Decontamination, (2009)</li> <li><input type="checkbox"/> Benton County Command, Columbia Generating Station, Emergency Response Guide, Emergency Worker Kit Instructions</li> <li><input type="checkbox"/> Radiation Emergency Worker Dosimetry Briefing</li> <li><input type="checkbox"/> Radiological Emergency Checklist for Ambulance Crews</li> </ul>

		<ul style="list-style-type: none"> <li><input type="checkbox"/> Module 6, Ludlum Model 12, Performing an Operational Check</li> <li><input type="checkbox"/> Kennewick Fire Department, Radiological Testing Equipment</li> <li><input type="checkbox"/> Benton County Comprehensive Emergency Management Plan: Basic Plan (2015), Incident Finance Annex, Resource Management Annex, ESF 4 - Firefighting, ESF 10 - Hazardous Materials</li> <li><input type="checkbox"/> First of its kind app warns emergency responders, Washington Department of Ecology – NEWS (Oct 12, 2015)</li> <li><input type="checkbox"/> Washington State Archives: Local Government General Records Retention Schedule</li> <li><input type="checkbox"/> Tri-County Fire Mutual Aid Plans</li> <li><input type="checkbox"/> DRAFT #2, Personal Services Contract Scope of Work, River Monitoring at Leslie Groves Park during a Columbia Generating Station emergency, Provided by: The Tri-County Hazardous Materials Team</li> </ul>
	Franklin County	<ul style="list-style-type: none"> <li><input type="checkbox"/> Communication from Sean T. Davis, Director Emergency Management in Franklin County (November 2015 and January 2016);</li> <li><input type="checkbox"/> Columbia Generating Station Population Update Analysis (September 2015);</li> <li><input type="checkbox"/> Emergency Calendar and Emergency Information for Our Hanford Site Neighbors (January 2015);</li> <li><input type="checkbox"/> Franklin County Comprehensive Emergency Management Plan (CEMP) (December 2011); <ul style="list-style-type: none"> <li><input type="checkbox"/> Appendix 1 - Direction and Control Appendix;</li> <li><input type="checkbox"/> Appendix 2 - Public Information Appendix;</li> <li><input type="checkbox"/> Appendix 3 - References Appendix;</li> <li><input type="checkbox"/> Appendix 4 - Definitions and Acronyms;</li> <li><input type="checkbox"/> Appendix 5 - Administration Appendix;</li> <li><input type="checkbox"/> Appendix 6 - Training and Exercises;</li> <li><input type="checkbox"/> Appendix 7 - Hazard Vulnerability Analysis;</li> </ul> </li> <li><input type="checkbox"/> Annex 1 - Pasco;</li> <li><input type="checkbox"/> Annex 2 - Connell;</li> <li><input type="checkbox"/> Annex 3 - Mesa;</li> <li><input type="checkbox"/> Annex 4 - Kahlotus;</li> <li><input type="checkbox"/> Annex 5 - Unincorporated Franklin County;</li> <li><input type="checkbox"/> Emergency Support Functions 1-15 and 20;</li> <li><input type="checkbox"/> ESF 1 - Transportation;</li> <li><input type="checkbox"/> ESF 2 - Communications, Information Systems, and Warning;</li> <li><input type="checkbox"/> ESF 3 - Public Works and Engineering;</li> <li><input type="checkbox"/> ESF 4 - Firefighting;</li> <li><input type="checkbox"/> ESF 5 - Emergency Management;</li> <li><input type="checkbox"/> ESF 6 - Mass Care, Housing and Human Services;</li> <li><input type="checkbox"/> ESF 7 - Resource Support;</li> </ul>



		<ul style="list-style-type: none"> <li><input type="checkbox"/> ESF 8 - Public Health and Medical Services;</li> <li><input type="checkbox"/> ESF 9 - Search and Rescue;</li> <li><input type="checkbox"/> ESF 10A - Hazardous Materials Response;</li> <li><input type="checkbox"/> ESF - 10B United States Department of Energy – RL;</li> <li><input type="checkbox"/> ESF 10C - Radiological Emergency Response: Energy Northwest (Beginning Documents, Sections, Appendix A-E, Support Documents);</li> <li><input type="checkbox"/> ESF 11 - Agriculture and Natural Resources;</li> <li><input type="checkbox"/> ESF 12 - Energy;</li> <li><input type="checkbox"/> ESF 13 - Public Safety, Law Enforcement, and Security;</li> <li><input type="checkbox"/> ESF 14 - Long Term Community Recovery;</li> <li><input type="checkbox"/> ESF 15 - Public Affairs;</li> <li><input type="checkbox"/> ESF 20 - Military Support to Civil Authorities;</li> <li><input type="checkbox"/> Evacuation Time Estimate (2015);</li> <li><input type="checkbox"/> Site Neighbors Calendar (2015);</li> <li><input type="checkbox"/> Agriculture Brochure in English and Spanish (June 2007);</li> <li><input type="checkbox"/> Agriculture Tri-Fold Brochure: <ul style="list-style-type: none"> <li><input type="checkbox"/> English (August 2009);</li> <li><input type="checkbox"/> Spanish (December 2007);</li> </ul> </li> <li><input type="checkbox"/> Consolidated Emergency Information Brochure in English and Spanish (December 2012);</li> <li><input type="checkbox"/> Letter to Residents 10 Mile EPZ Residents for Tone Alert Radio Tests and Sirens (March 2015);</li> <li><input type="checkbox"/> Semi Annual Postcard to 10 Mile EPZ residents (undated);</li> <li><input type="checkbox"/> Siren Test News Release News Media (April 2015);</li> <li><input type="checkbox"/> Franklin County Emergency Management Inter-local Agreement (January 2013);</li> <li><input type="checkbox"/> Franklin County Radiological Emergency Response: Energy Northwest (April 2014); <ul style="list-style-type: none"> <li><input type="checkbox"/> Table of Contents and Appendices (April 2014);</li> <li><input type="checkbox"/> Franklin County Radiological Emergency Response Plan Distribution List and Record of Revisions (February 2015);</li> <li><input type="checkbox"/> Plan Overview (April, 2014);</li> <li><input type="checkbox"/> Sections (April 2014);</li> <li><input type="checkbox"/> Appendix A - Tables (April 2014);</li> <li><input type="checkbox"/> Appendix B - Appendix (April 2014);</li> <li><input type="checkbox"/> Appendix C - Graphics (April 2014);</li> <li><input type="checkbox"/> Appendix D - Implementing Procedures (April 2014);</li> <li><input type="checkbox"/> Appendix E - Hostile Action Based Operations (April 2014);</li> <li><input type="checkbox"/> Support Documents (2014);</li> </ul> </li> <li><input type="checkbox"/> Columbia Generating Station Development of Evacuation Time Estimates Final Report - Rev. 1 (October 2012).</li> </ul>
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Grant County	<ul style="list-style-type: none"> <li><input type="checkbox"/> Communication from Jodi Zimbelman, Public Records Officer, Grant County (November 2016).</li> <li><input type="checkbox"/> 2015 Emergency Calendar and Letter.</li> <li><input type="checkbox"/> Radiological Emergency Information for Farmers, Food Processors and Distributors (Spanish and English).</li> <li><input type="checkbox"/> Emergency Preparedness for Nuclear Facilities in Washington State (Spanish and English).</li> <li><input type="checkbox"/> Benton, Franklin &amp; Grant County Emergency Management EAS Message and Supplemental Information Text English and Spanish.</li> <li><input type="checkbox"/> Emergency Evacuation Levels document</li> <li><input type="checkbox"/> Shelter in Place Brochure, Local Emergency Planning Committee</li> <li><input type="checkbox"/> Grant County Alert: Telephone Notification System</li> <li><input type="checkbox"/> Tri-Fold Brochure: Emergency Information, Hanford Emergency Planning Zones</li> <li><input type="checkbox"/> Grant County Emergency Management Website Page: Radiological Emergency</li> <li><input type="checkbox"/> Comprehensive Emergency Management Plan: Basic Plan, ESF 1-9, 11-13, 13 A&amp;C, 14-15, 20, Appendix 1, 3, 4. <ul style="list-style-type: none"> <li><input type="checkbox"/> ESF 10B: Fixed Facility Chemical and Radiological Protection Basic Plan and Implementing Guidelines</li> </ul> </li> </ul>
Kittitas County	<ul style="list-style-type: none"> <li><input type="checkbox"/> Communication from Darren Higashiyama, Emergency Management Coordinator (November 2015);</li> <li><input type="checkbox"/> Comprehensive Emergency Management Plan (CEMP) (available at <a href="http://www.co.kittitas.wa.us/sheriff/emergency.aspx">http://www.co.kittitas.wa.us/sheriff/emergency.aspx</a>) (November 2015).</li> </ul>
City of Richland	<ul style="list-style-type: none"> <li><input type="checkbox"/> Communication from Debby Barham, CMC, Deputy City Clerk in the City of Richland (November 2015).</li> <li><input type="checkbox"/> Brochure: Preparing Yourself for a Nuclear Facility Emergency in Washington State. Washington State Department of Agriculture.</li> <li><input type="checkbox"/> 2015 Emergency Calendar and Letter.</li> <li><input type="checkbox"/> Amended and Restated Interlocal Agreement for Benton County Emergency Services.</li> <li><input type="checkbox"/> Benton County Comprehensive Emergency Management Plan (March 2015).</li> <li><input type="checkbox"/> Code Red Brochure</li> <li><input type="checkbox"/> Benton County Columbia Generating Station Emergency Response Plan</li> <li><input type="checkbox"/> Tri-Fold Brochure: Emergency Information, Hanford Emergency Planning Zones (English and Spanish)</li> </ul>

		<ul style="list-style-type: none"> <li><input type="checkbox"/> 2015 Population Update Analysis, Columbia Generating Station, KLD Engineering (September 2015 - Final).</li> <li><input type="checkbox"/> Document: Other ways we would communicate an emergency to the public.</li> <li><input type="checkbox"/> Radiological Emergency Information for Farmers, Food Processors, and Distributors (July 2015)</li> <li><input type="checkbox"/> Letter to residents regarding conducting tests of outdoor emergency notification sirens and return postcard.</li> </ul>
	<p>Walla Walla County</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Communication from Liz Jessee, Director of Emergency Management Department in Walla Walla County (November and December 2015);</li> <li><input type="checkbox"/> Walla Walla County Comprehensive Emergency Management Plan: <ul style="list-style-type: none"> <li><input type="checkbox"/> Letter of Promulgation (April 2013);</li> <li><input type="checkbox"/> State of Washington Emergency Management Department Acceptance Letter (January 2013);</li> <li><input type="checkbox"/> Basic Plan (April 2013);</li> <li><input type="checkbox"/> Appendix 1 - Definitions (April 2013);</li> <li><input type="checkbox"/> Appendix 2 - Acronyms (April 2013);</li> <li><input type="checkbox"/> Appendix 3 - References (April 2013);</li> <li><input type="checkbox"/> Appendix 4 - Training Exercises (April 2013);</li> <li><input type="checkbox"/> Appendix 5 - Distribution Lists;</li> <li><input type="checkbox"/> ESF 1 - Transportation (April 2013);</li> <li><input type="checkbox"/> ESF 2 - Telecommunication Information System and Warning (April 2013);</li> <li><input type="checkbox"/> ESF 3 - Public Works and Engineering (April 2013);</li> <li><input type="checkbox"/> ESF 4 - Firefighter (April 2013);</li> <li><input type="checkbox"/> ESF 5 - Emergency Management (April 2013);</li> <li><input type="checkbox"/> ESF 6 - Mass Care Housing and Human Services (April 2013);</li> <li><input type="checkbox"/> ESF 7 - Resource Support (April 2013);</li> <li><input type="checkbox"/> ESF 8 - Health and Medical Services (April 2013);</li> <li><input type="checkbox"/> ESF 9 - Search and Rescue (April 2013);</li> <li><input type="checkbox"/> ESF 10 - Hazardous Material Response (April 2013);</li> <li><input type="checkbox"/> ESF 11 - Agriculture and Natural Resources (April 2013);</li> <li><input type="checkbox"/> ESF 12 - Energy (April 2013);</li> <li><input type="checkbox"/> ESF 13 - Public Law enforcement and Security (April 2013);</li> <li><input type="checkbox"/> ESF 14 - Long Term Community Recovery and Mitigation (April 2013);</li> <li><input type="checkbox"/> ESF 15 - Public Affairs (April 2013);</li> </ul> </li> <li><input type="checkbox"/> Walla Walla Emergency Management Citizen Alert Sign-Up Instructions (undated);</li> <li><input type="checkbox"/> Annex A: Terrorism (April 2013);</li> <li><input type="checkbox"/> Annex B: Fixed Nuclear Facility Radiological Emergency Response Plan (July 2015);</li> </ul>

		<ul style="list-style-type: none"> <li>❑ Annex B: FEMA Acceptance Letter (May 2015);</li> <li>❑ Walla Walla Emergency Management Citizen Alert Sign-Up Instructions (undated);</li> <li>❑ Walla Walla County Hazard Identification and Vulnerability Analysis ANALYSIS (HIVA) (available at <a href="http://www.co.walla-walla.wa.us/departments/emd/docs/FINALWallaWallaCountyHIVA2010.pdf">http://www.co.walla-walla.wa.us/departments/emd/docs/FINALWallaWallaCountyHIVA2010.pdf</a>) (December 2010).</li> </ul>
	Yakima County	<ul style="list-style-type: none"> <li>❑ Comprehensive Emergency Management Plan: Basic Plan, Executive Summary, Intro, Table of Contents, Sections 1-6 (2014).</li> <li>❑ DVD marked “plans and flyers” unreadable.</li> </ul>

## **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.