



# OREGON TITAN FUSION CENTER

## Oregon Department of Justice, Criminal Division (FOUO) Cybersecurity Improvements for Water and Wastewater Sector May Face Challenges Critical Infrastructure and Key Resources

**14 February 2022 | 012-22**

**(U) Scope**

(U//FOUO) Cybersecurity must be a top priority for water and wastewater systems, but with limited staffing and expertise, many smaller cities and counties may miss out on available grant funding.

**(U) Detail**

(U//FOUO) Cybersecurity has become a top priority for water and wastewater system operators with increasingly sophisticated threats and successful attacks on the rise.<sup>1</sup> The automation of technology in the Water and Wastewater Sector (Water Sector) implemented over the last twenty years was intended to both save money and increase efficiency, but it has also created an exposure risk to malicious cyber activity that could disrupt or manipulate services.<sup>2</sup>

(U//FOUO) New attack surfaces have expanded as emerging technologies are adopted by the Water Sector. While "smart water"<sup>1</sup> technology offer a host of benefits, developers and the utility end users that employ such technologies should be mindful of making their products secure.<sup>3</sup> An incident in February 2021 at the water-treatment system in Oldsmar, Florida highlighted Water Sector vulnerability when hackers attempted to raise the level of sodium hydroxide (lye) in the water more than 100-fold before an employee interrupted the attack. This incident prompted Florida Senator Marco Rubio (USPER) to call out Water Sector cybersecurity as "a matter of national security."<sup>4</sup>

(U//FOUO) On 27 January 2022, the White House announced it will extend the Industrial Control Systems (ICS) Cybersecurity Initiative to the Water Sector. The *Water and Wastewater Sector Action Plan* outlines surge actions that will take place over the next 100 days to improve the cybersecurity of the sector. The Administration has already established ICS initiatives for the electric and natural gas pipeline subsectors, and presently over 150 electricity utilities serving over 90 million residential customers and multiple critical natural gas pipelines have deployed or are in the process of deploying additional cybersecurity technologies.<sup>5</sup>

(U//FOUO) The Action Plan initially assists owners and operators in deploying technology to monitor their systems and provide near real-time situational awareness and warnings as well as enable rapid sharing of relevant cybersecurity information with the government and other stakeholders to improve the sector's ability to detect malicious activity.<sup>6</sup> In 2021, there were at least 77 successful reported

---

<sup>1</sup> (U//FOUO) **Smart Water** refers to a movement in the water industry involving emerging technology that includes hardware, software, and analytics to help water and wastewater utilities target and solve problems through automation, data gathering and data analysis (Source: Water and Wastes Digest).

(U//FOUO) For Official Use Only

Page 1 of 3



ransomware attacks on local and state governments.<sup>7</sup> Many cyber incidents go unreported by utilities. This choice denies utilities available assistance from authorities and experts and also denies the Water Sector the knowledge of active threats and identified vulnerabilities.<sup>8</sup> It is currently unclear just how impactful the new plan will be, given that the utilities' participation in the pilot program, adoption of ICS monitoring tools, and information sharing with the federal government are all voluntary.<sup>9</sup>

## (U) Oregon Water Systems

(U//FOUO) Oregon has approximately 3,300 drinking water systems, many of which service small communities of fewer than 10,000 residents.<sup>10</sup> Like many similar systems across the United States, these often operate with limited budgets and even more limited cybersecurity personnel and expertise.<sup>11</sup> In addition to cybersecurity improvements, meeting new permitting guidelines, retrofitting systems to be seismically resilient, and growing populations all contribute to a growing price tag on critical infrastructure.<sup>12</sup>

(U//FOUO) A 2021 survey conducted by the League of Oregon Cities and Portland State University's Center for Public Service Oregon found that Oregon cities will need approximately \$23 billion over the next 20 years to cover the cost of repairing, replacing, and upgrading water infrastructure.<sup>13</sup> A \$1 billion federal cybersecurity grant program included in the new \$1.2 trillion infrastructure law may be one funding mechanism to assist owners and operators. The grant program will be administered by the Federal Emergency Management Agency (FEMA) and eligible utilities will apply for grant funding via the State. While details about how the grant money can be used, many officials and cybersecurity experts think it will include things such as training and education, conducting cyber assessments, replacing hardware, and updating software.<sup>14</sup>

(U//FOUO) The executive director of the Lane Council of Governments, an intergovernmental organization in Oregon, expressed a concern commonly seen in smaller jurisdictions in that the IT person is also likely wearing multiple hats but are expected to know how at risk their community is and what software upgrades are needed to improve their systems.<sup>15</sup> Regardless of any actual or perceived limitations, utilities will have to recognize the threats and the harms which may result from compromises, taking it upon themselves to fund improvements by making cybersecurity a high priority during budget season or by augmenting those budgets through various grants.<sup>16</sup>

## (U) OTFC Contact Information

- ❖ Oregon TITAN Fusion Center: 877-620-4700
- ❖ Email: [oregonfusioncenter@doj.state.or.us](mailto:oregonfusioncenter@doj.state.or.us)

\*\*\*\*\*

**THIS BULLETIN MAY CONTAIN INFORMATION DESIGNATED AS "FOR OFFICIAL USE ONLY" (FOUO), "LAW ENFORCEMENT SENSITIVE" AND/OR CONTROLLED INFORMATION. PURSUANT TO OAR 137-090-0130. DO NOT FORWARD OR DISSEMINATE TO ANY INDIVIDUAL OR GROUP THAT DOES NOT HAVE A VALID RIGHT TO KNOW/NEED TO KNOW. ANY REQUEST FOR COPIES OF THIS BULLETIN SHOULD BE DIRECTED TO THE OREGON TITAN FUSION CENTER AT 877-620-4700.**

<sup>1</sup> (U//Open Source) Water Environment & Technology Operating & Engineering Magazine, *The State of Cybersecurity in the Water Sector*, January 2022

<sup>2</sup> (U//Open Source) The Washington Post, *Opinion: The cybersecurity risk to our water supply is real. We need to prepare*, 3 January 2022

(U//FOUO) For Official Use Only

Page 2 of 3



- <sup>3</sup> (U//Open Source) Water Environment & Technology Operating & Engineering Magazine, *The State of Cybersecurity in the Water Sector*, January 2022
- <sup>4</sup> (U//Open Source) The Washington Post, *Opinion: The cybersecurity risk to our water supply is real. We need to prepare*, 3 January 2022
- <sup>5</sup> (U//Open Source) The White House, *Fact Sheet: Biden-Harris Administration Expands Public-Private Cybersecurity Partnership to Water Sector*, 27 January 2022
- <sup>6</sup> (U//Open Source) MSSP Alert, *U.S. Critical Infrastructure and Cybersecurity: Will MSSPs Dive Into This Water?*, 30 January 2022
- <sup>7</sup> (U//Open Source) Stateline, *Small cities worry cybersecurity money won't reach them*, 20 January 2022
- <sup>8</sup> (U//Open Source) Water Environment & Technology Operating & Engineering Magazine, *The State of Cybersecurity in the Water Sector*, January 2022
- <sup>9</sup> (U//Open Source) The Hill, *Biden administration moves to boost cybersecurity of water systems*, 27 January 2022
- <sup>10</sup> (U) Oregon Health Authority, Water System Search (accessed 8 February 2022)
- <sup>11</sup> (U//Open Source) The Washington Post, *Opinion: The cybersecurity risk to our water supply is real. We need to prepare*, 3 January 2022
- <sup>12</sup> (U//Open Source) Portland Tribune, *Oregon needs billions for water projects*, 1 September 2021
- <sup>13</sup> (U//Open Source) Portland Tribune, *Oregon needs billions for water projects*, 1 September 2021
- <sup>14</sup> (U//Open Source) Stateline, *Small cities worry cybersecurity money won't reach them*, 20 January 2022
- <sup>15</sup> (U//Open Source) Stateline, *Small cities worry cybersecurity money won't reach them*, 20 January 2022
- <sup>16</sup> (U//Open Source) Water Environment & Technology Operating & Engineering Magazine, *The State of Cybersecurity in the Water Sector*, January 2022

