The applicant, Lake Madrone Water District, has requested arbitration of the Federal Emergency Management Agency’s (FEMA’s) denial of public assistance (PA) funding for replacement of its potable water distribution system (system or facility) destroyed by the North Complex Fire in California (the fire). An arbitration hearing was held on February 1, 2024.
Background

The applicant, a public agency, provides potable water service to the community of Lake Madrone in eastern Butte County, California. The fire burned through the community in September 2020, destroying critical infrastructure and approximately sixty-three homes, approximately fifty percent of the applicant’s customer base. According to the applicant, the fire contaminated the system with volatile organic compounds (VOCs) and trihalomethanes (THMs).1 Since then, the applicant has supplied water by truck to tanks at each of the standing homes.

On September 26, 2020, the applicant requested PA funding from FEMA for the complete replacement of the system, for a total estimated cost of $7,803,000. From November 2, 2020, to March 1, 2021, the applicant and the Division of Drinking Water for the State of California (DDW), a division of the California State Water Control Board, tested and sampled the water in the system. FEMA’s Exhibit 4 at 4; Applicant’s Exhibit 12(01), Water Quality Testing Results at 00100. DDW conducted over forty VOC sampling events from different locations. Applicant’s Exhibits 5-8, 12(1) at 00084. In the five months of testing, the test results showed a decline in VOC and THM levels in the water samples. The final tests in March 2021 showed all VOC and THM levels below the United States Environmental Protection Agency (EPA) federal maximum contaminate levels (MCLs).2 FEMA’s Exhibit 4 at 8. In the final samples, the results varied, some detecting VOCs and THMs and some not. There was no pattern or physical explanation for these results.

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1 The applicant describes VOCs as chemicals that vaporize into air and dissolve in water and can cause adverse health effects. Some VOCs are carcinogens that can cause cancer, while others can damage the nervous and immune system, kidneys, and the liver. The EPA regulates over twenty VOCs in drinking water due to health risk. Request for Arbitration at 3 n.2. FEMA explains that there are two possible explanations as to how a water distribution system may become contaminated with VOCs during a wildfire. The first is when pipes made from plastic materials such as polyvinyl chloride, high density polyethylene, or other types of plastic degrade from heat and release contamination into the water infrastructure. The second may occur when the smoke and hot gases from burned structures and vegetation are sucked into the water lines due to a drop in pressure in the damaged water lines; this is commonly referred to as back-siphonage. FEMA’s Response to Request for Arbitration at 7.

2 The MCL goal is defined in 40 CFR 141.2 (2023) as “the maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. Maximum contaminant level goals are nonenforceable health goals.”
Applicant’s Exhibits 4 at 00032, 5 at 00043, 12(1) at 00084. The applicant asserts that these results demonstrate continued contamination in the entire facility.

On February 4, 2022, FEMA issued a determination memorandum denying the applicant’s request for $7,803,000 for replacement of the system because the information and documentation provided did not identify specific segments of the system that were damaged nor did they show that the claimed damages were incurred as a direct result of the fire. FEMA’s Exhibit 3 at 4.

On May 10, 2022, the California Governor’s Office of Emergency Services submitted the applicant’s first appeal of the determination memorandum. FEMA’s Exhibit 4 at 1. After receiving the appeal, FEMA contacted the EPA to provide subject matter expertise in determining possible contamination in the facility. EPA issued a report on August 1, 2023, (EPA report). Applicant’s Exhibit 3 (EPA Report). The EPA report indicated inconclusive results as to specific damage to applicant’s water facility infrastructure due to lack of documentation. Id. at 00019, 00021-23, 00031; FEMA’s Exhibit 4 at 6. The EPA report showed that, following the final tests done in March 2021, all detected VOC and THM levels were below the federal MCLs and therefore did “not present a significant health concern.” Applicant’s Exhibit 3 at 00023, 00031.

On August 18, 2023, FEMA denied the applicant’s first appeal and request for a full replacement of the facility. Relying on the EPA report’s findings and other documents submitted by the applicant on appeal, FEMA found that the applicant did not demonstrate the entire system was permanently contaminated with VOCs. FEMA’s Exhibit 4 at 10. FEMA concluded that the applicant did not meet FEMA’s requirements for replacement of the complete system, since the components of the system are easily segregable. In such circumstances, FEMA applies a fifty-percent damage rule to individual components of the facility, not to the entire water distribution facility. Public Assistance and Program Policy Guide (PAPPG) (June 2020) at 157-160. Therefore, FEMA denied the applicant’s request for a full replacement. However, based on photographs submitted by the applicant, FEMA granted a partial reimbursement of $497,275.93 for repairs to the facility of specific segregable segments—for 800 linear feet of PVC water pipe, sixty-eight service connection laterals, and various above-ground appurtenances. FEMA’s Exhibit 4 at 7, 10.

On October 3, 2023, the applicant filed its request for arbitration at this Board. The applicant argues that it is eligible for a full replacement of the facility based on alleged VOC contamination because the entire system was contaminated. Request for Arbitration at 3. The applicant relies upon reports issued in 2021 through 2023 by its oversight entities. The Department of Environmental Health of Butte County (BCDEH) has prohibited use of the facility until it is replaced, stating that the “distribution facility poses an unacceptable health risk.” Applicant’s Exhibit 4 at 00032. DDW concluded, “It is clear the Lake Madrone WD
[Water District] distribution facility has become contaminated by the North Complex fires more severely than any other wildfire has affected a distribution facility” and that the facility should be replaced. Applicant’s Exhibit 5 at 00034; see Applicant’s Exhibits 6, 7, 8.

After the request for arbitration was filed, FEMA, citing further review by its expert, requested that this panel “consider funding a segregable portion in the West section of the [facility] for 400 linear feet of pipeline adjacent to Hydrant 26 on Lakeside Way in the amount of $23,770.31 in accordance with regulation and FEMA policy.” FEMA’s Sur-Reply at 3-5. FEMA stated that its expert has

now fully assessed the benzene levels in a segregable portion of the West section of the Facility and determined that the levels of benzene[, a VOC,] in this segregable section to be above the State of California’s benzene MCL level, even if within EPA MCL levels. And although this segregable section’s benzene levels indicate safe drinking water under EPA requirements, the level is still above the state of California’s MCL for benzene.

Id. at 4; see FEMA’s Exhibit 15 (William Heyse Expert Report) at 10-11; Applicant’s Exhibit 3 at 00023, 00030. Since the applicant’s benzene level does not meet California state requirements, FEMA recommends that the panel consider reimbursing the repair work of that particular segregable West section.

Discussion

The applicant asserts that its regulators have determined that its system cannot be used, as the presence of VOCs in the water indicates damage to the entire system as the result of the fire, and the system therefore must be condemned. The applicant asks that FEMA fund the cost of an entire replacement to restore the drinking water to its alleged quality prior to the fire, as BCDEH has prohibited use of the system.

The applicant must meet FEMA’s requirements in order to receive PA funding. With regard to repair of water systems such as applicant’s facility,^3 FEMA’s role is not to remediate or restore water quality to its pre-disaster condition but to repair damaged systems. FEMA does not replace entire systems whose components can be segregated but applies the “fifty-percent rule” to repair individual components of the system which the applicant has proved to have been damaged by the disaster.^4 The relevant portion of the PAPPG reads:

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^3 “System” and “Facility” are used interchangeably in the PAPG.

^4 The “fifty-percent rule” is described in detail at pages 157 through 160 of the PAPPG.
For facilities that are systems composed of multiple components that are easily segregated, FEMA applies the 50% Rule to individual components of the system, rather than the entire system. The following are examples of facilities that are systems to which FEMA applies the 50% Rule calculation to individual components: . . . Water or sewer line system: a section of piping from damaged manhole to damaged manhole, a lift station, or a manhole structure.

FEMA applied the “fifty-percent rule” on August 18, 2023, when FEMA granted a partial reimbursement of $497,275.93 for repair of individual components which the applicant proved were damaged by the fire. Also, as discussed above, since the request for arbitration was filed, FEMA has reassessed another segregable component, adjacent to Hydrant 26 on Lakeside Way, and found that the level of benzene in that segment exceeds the California MCL and therefore asks that this panel find that component eligible for PA funding in the amount of $23,770.31. We accept FEMA’s recommendation and find that component eligible for funding.

Apart from these segregable components for which FEMA has approved or recommended PA funding for repair, the applicant has not met its burden to show that any other individual component of the facility is damaged because of the fire. With regard to the remainder of the facility, the applicant has not shown that the level of VOCs exceeds the EPA and California MCL standards, and EPA has determined that the facility is therefore not a health risk. To support its position that the applicant failed to demonstrate damage to the system as a result of the disaster, FEMA presented evidence that the level of potential contaminants, VOCs and THMs, were below the EPA’s federal MCLs after final flushing and water testing, i.e., the level of contaminants was below the maximum permissible level of contaminant in water which is delivered to any user of a public water system. See FEMA’s Response to the Request for Arbitration at 9-11.\(^5\)

\(^5\) FEMA asserts three additional arguments to support ineligibility for PA funding: 1) that after the fire the applicant abandoned the system, resulting in negligence and failure to protect the system; 2) that the applicant provided no maintenance documents for its approximately sixty-year-old system that suffered routine, significant damage two or three times a year; and 3) that the applicant’s system had the pre-existing condition of “minimal cover,” resulting in the applicant’s failure to separate ineligible damage repair work attributable to the system’s pre-existing condition from potentially eligible damage repair work attributable directly to the disaster. We do not address these arguments as the applicant
Decision

The applicant is entitled to an additional $23,770.31 to repair the individual component of the system reevaluated by FEMA.

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Allan H. Goodman
ALLAN H. GOODMAN
Board Judge

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Patricia J. Sheridan
PATRICIA J. SHERIDAN
Board Judge

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Jonathan L. Kang
JONATHAN L. KANG
Board Judge

has otherwise failed to prove entitlement to reimbursement for replacement of the entire system.