

The Lahaina Wildfires

A lesson for Chief Dam Safety Officers.

Recently, the importance of public safety measures in place has been underscored by a series of disasters that could have been averted or mitigated. The devastating wildfire in Lahaina, Hawaii, provides a poignant case study of the tragic consequences when utilities fail to adopt and implement safety protocols. A similar concern arises with dam owners and operators who need to have adequate safety measures in place for recreational users around dams. This paper explores the parallels between these two scenarios, examining the potential liabilities that utilities and dam operators face.

1. Introduction

The Lahaina wildfire incident in Hawaii, allegedly attributed to the negligence of Hawaiian Electric Co. and the potential dangers posed by dams to unsuspecting boaters and recreational users, highlight a growing concern: the necessity for proactive safety measures by utility and infrastructure operators. The absence of such measures can result in tragic loss of life and expose these entities to significant liabilities.

2. The Lahaina Wildfire and the Absence of a PSPS Plan

The wildfire in Lahaina, attributed to fallen power lines exacerbated by strong winds, was catastrophic. The lawsuit filed by Maui County alleges that Hawaiian Electric failed in two key areas: not maintaining the electrical system adequately and neglecting to de-energize their equipment despite a Red Flag Warning. The Western United States, particularly California, has adopted Public Safety Power Shutoff (PSPS) plans, recognizing the link between energized power lines and wildfire risks during extreme conditions. As highlighted by the Maui County lawsuit, the absence of such a protocol in Hawaii suggests a significant oversight and potential liability.

3. The Risk to Recreational Users Around Dams

Dams, while essential for various purposes, including hydroelectric power, water storage, and flood control, also pose severe risks. Turbulent waters near dams can trap and drown boaters and swimmers. Proper Public Safety Around Dam plans are crucial for dam owners and operators. These plans can include:

- Signage warning of the dangers of approaching too close to the dam.
- Physical barriers preventing access to dangerous areas.
- Public education campaigns about the risks associated with dams.

A failure to implement such measures can be likened to the negligence seen in the Lahaina case. Just as power utilities can be held responsible for not de-energizing power lines under certain conditions, dam operators can be liable for not warning or protecting the public from dam-related hazards.

4. The Liability Perspective

Both scenarios — utilities in wildfire-prone areas and dam operators — deal with potential risks to the public. Negligence, whether through action or inaction, can lead to significant liabilities:

- Direct economic costs due to damages and potential lawsuits.
- Reputational damage that can impact future operations and stakeholder trust.
- Potential regulatory fines and sanctions.

5. The Moral Imperative

Beyond the legal and financial implications, there is a moral duty for utility and infrastructure operators to prioritize public safety around dams. As seen in the Lahaina incident, a lack of preparedness can lead to loss of life, immeasurable grief, and community devastation. Similarly, the unsuspecting boater or swimmer who loses their life near a dam presents a heart-wrenching reminder of the consequences of oversight.

6. Conclusion

The Lahaina wildfire and the potential dangers around dams underscore a shared theme: the critical need for robust safety protocols in the form of a Public Safety Plan. Proactive measures can save lives and mitigate legal and financial repercussions, whether a power utility in a wildfire-prone region or a dam operator where recreational activities are prevalent. As our infrastructure grows and the world becomes more interconnected, the responsibility to ensure public safety remains paramount.

Next Steps

Best Practices for Ensuring Public Safety Around Dams

Dams and hydroelectric generating facilities, while critical for multiple functionalities, present inherent risks to the public if not managed and operated with an eye toward public safety. The tragic consequences seen in places like Lahaina provide sobering reminders of the importance of proactive measures. Here are the refined best practices emphasizing public safety around dams:

- **Risk Assessment Focused on Dams:** Dams should undergo frequent risk assessments to identify potential hazards. This involves understanding each dam's unique threats, considering factors like its location, age, construction type, and surrounding recreational activities. For a public safety around dams program, areas prone to strong water currents, for instance, should be highlighted. Identifying locations where people interact with the sites around the dam is also crucial. Identifying downstream areas where people can become stranded if water levels suddenly rise is essential.
- **Regular Dam Maintenance:** To prevent accidents and malfunctions, dams require regular checks and maintenance. This includes ensuring spillways, gates, barriers, and other structures are in optimal working condition. Proper care can prevent accidental

water releases or structural failures that might endanger the public. For public safety around dams, warning sirens, fencing, signage, buoys, and boom lines should be periodically checked to ensure they are in working order, not obstructed by growth, not worn or broken, clearly visible, and not discolored. Fencing should be inspected for tearing, vandalism, overgrowth, and wear. Signage should be visible, not obstructed by overgrowth, not faded, and free from graffiti or holes.

- **Community Engagement and Awareness:** Communities living around dams or those visiting for recreational purposes should be well-informed about the inherent risks. Engaging with these groups can promote safe behavior and provide valuable feedback to enhance safety measures. An excellent annual practice is for the dam supervisor to meet with local groups such as fishing clubs, scouting groups, marina operators, and homeowner associations to explain the benefits they enjoy from the dam and to inform them of how to enjoy those benefits safely.
- **Emergency Preparedness Specific to Dams:** Dams should have emergency response plans tailored to their unique risks. These plans must include evacuation protocols for areas downstream, strategies to communicate dangers in real-time, and drills to test the readiness of emergency response teams. Dams should have a Public Safety Plan specific to the risks above and below each facility. These plans should be reviewed and reassessed periodically based on changing conditions around the dam. For instance, as development occurs around a body of water, the risk of incidents rises as more people interact with the dam. Public safety around dams plans should be based on current usage patterns, which may differ from when the public safety plan was first developed and there was little recreational use occurring at the facility.
- **Clear Signage and Physical Barriers:** Clear and visible signs warning of the dangers of approaching the dam, especially during high water levels or when gates are open, are essential. Physical barriers, such as fences or buoys, should be placed to prevent public access to the most hazardous zones. The hazardous zones are not limited to above the dam but also below the dam. Sometimes, dam operation creates hazardous conditions far downstream of the dam. The dam owner needs to address these relationships between the operation of the dam and risk.
- **Collaboration with Rescue and First Responders:** Building solid relationships with local first responders ensures swift emergency action. Regular joint drills, sharing of dam-specific challenges, and emergency protocols can enhance the preparedness of these teams. First responders must be educated in the hazards and trained in swift water rescues.
- **Integration of Technological Tools:** Modern technology offers sensors that can monitor water levels in real-time or predictive modeling that can forecast potential hazards. For exceptionally high-risk areas, standard technology enables detection, tracking and alerting, recording, and audible warning from dam operators. Integrating these into dam operations can provide early warnings and ensure public safety.

The emphasis on dam safety and public safety around dams is not just a regulatory requirement but a moral duty. By implementing these best practices and continuously striving

for improvement, dam operators can significantly reduce risks, ensuring the public enjoys the benefits of dams without compromising their safety.

Worthington Products can help you to lower your public safety risk. Our experts are versed in leading best practices – from pinpointing danger zones to creating impactful signage and strategically placing booms, buoys, and signs. Contact a Worthington specialist to get your safety program moving forward.

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