John Day Powerhouse Roof Replacement

This project will completely replace the existing roof including removal and contraction joint repair. The original powerhouse roof at the John Day dam lasted just 15 years. It failed due extreme summer heat which was hot enough to cause the tar flood to flow and expose the felt plies. It was replaced in 1980 by removing a layer of the built-up roof and then overlaying the entire roof with a polyethylene membrane. Nearly 40 years later, the roof has degraded to the point replacement is necessary.

The roof is failing in numerous locations allowing water to enter the powerhouse. This includes leaking onto generators and electrical cabinets. Most of the leaks are from the edges of the roof down the inside walls however there have been several leaks from the middle sections of the roof that leak directly onto equipment. This could result in major damage if a short were to occur on electrical equipment. The roof will continue to deteriorate with increasing likelihood of damage to equipment. The extended snow storm of 2017 caused further damage to the roofing system, increasing the concern for more extensive water damage.

Numerous attempts have been made to try and repair the leaks. It's almost impossible to find the exact source of leaks without tearing up the existing roof and liner. Further complicating the task is 160,000 square feet of pavers installed over the roof liner which makes it an impossible task unless all the pavers are removed. Removing the pavers would risk even more damage to the roof. As a result, leaks are dealt with by putting a tarp over equipment to mitigate water intrusion and mopping the floor.