



Concrete evidence of energy savings.

“Avista helped us save energy by providing \$25,790 in incentives to fix a critical insulation problem.”

Darrin Cary
Chief of Operations
Wilbert Precast Concrete

Carlos Limón
Commercial Industrial Engineer
Avista



Ending the condensation problem saved time formerly spent protecting product finishes.

Successfully running a precast concrete business is hard enough without having to deal with energy-related issues. It's why Wilbert Precast has cemented a long-term working relationship with Avista for expert energy assistance.

Wilbert Precast began in Spokane in 1906, primarily manufacturing concrete burial vaults. During the more than a century that has since followed, its product lines have greatly expanded and so did the company, adding two more manufacturing facilities in Lewiston, Idaho, and Yakima, Washington. Now a top regional supplier, Wilbert Precast pours everything from septic tanks and retaining walls to buildings and bridges. It has even poured nuclear storage containers for the Hanford Site in the Tri-Cities. If it's made of concrete, it's probably on the company's list of custom products.

“If you need a concrete pterodactyl, give us a call,” jokes Darrin Cary, Chief of Operations at Wilbert. “Our state-of-the-art facilities let us do just about anything.”

According to Cary, Wilbert Precast products are known for consistency and reliability, much of which is owed to close monitoring of desired moisture during the curing process once the concrete is poured. That's when strength and durability are developed. Temperature is key. So when ceiling insulation at the Spokane plant began to fall on workers' heads, it caused quite a headache.

“The vapor barrier failed,” explained Cary. “Industries like ours put a lot of moisture in the air. If we pour 60 yards of concrete, hydration as the concrete cures puts about 300 gallons of water into the air. When all that condensation rose to the ceiling, it was wicked up by the insulation.”

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continued

It wasn't long before everything started falling out piece by piece."

The problem stemmed from the way the plant's earlier insulation was installed. Wilbert elected to apply sag-and-bag insulation, typically used in metal buildings; however, local building codes required an insulation layer that was too thick to be screwed in, and so it had to be strapped to the ceiling. Seams were taped along the roof's main frames and purlins to keep the insulation dry, but the strap-and-tape system wasn't designed to endure the high moisture of concrete production.

"When soggy bats of insulation started falling, it became a major safety concern," affirmed Cary, "so management decided to just remove the rest of it."

Their decision, however, led to other problems that consumed valuable production time. In summer the lack of insulation created higher indoor temperatures that would make the poured concrete release moisture too rapidly. Workers had to employ extra measures to slow down the curing process.

In winter the building would get colder and so curing blankets had to be placed over the concrete to maintain proper curing temperatures. Worse, production condensation would accumulate on the bottom of the cold metal ceiling and start dripping, forcing workers to cover and protect the newly painted finishes on precast buildings.

The company had to continue enduring production hassles because fixing the

problem was prohibitively costly. They found the cost of installing new insulation was about \$150,000, as it would require adding another layer of sheet metal to the roof to avoid the same problem later. Wilbert seemed caught between a rock and a hard place, at least until Avista stepped in.

As part of a program to better manage the region's growing energy needs, Avista provides rebates and incentives to help its large customers make energy-efficiency upgrades. Upon learning of the problem, Avista sent its engineers to inspect the plant and research options. They came back to Wilbert with a recommendation to use a new advanced closed-cell insulation technology better at blocking moisture. Avista also offered \$25,790 in incentives to complete the project. For Wilbert, it was an easy decision.

"All the problems ended when we sprayed in the new rigid insulation," said Cary. "The raining stopped, and now it's nice and comfortable for everyone out there. We also saved quite a bit on natural gas over the last year [7,369 therms]."

Along with replacing the insulation, Wilbert chose to install new lighting at the plant as well. Taking advantage of an additional \$21,983 in Avista rebates, the company replaced 36 halides with double that number of T-5 fluorescents throughout the manufacturing floor and mechanic shop. It also swapped T-12s with T-8s in the company office, and replaced exterior lights with LEDs. Despite adding a greater number of lights, the plant is now saving 141,249 kWh of electricity annually.



Improved lighting throughout the facility has boosted worker safety and morale.

"It's way brighter than the halides, which always yellowed with age," said Cary. "Now we have more usable light, even around our large crane hooks where the lights are 36 feet off the floor. It's also better for safety and employee morale."

Cary expressed that he is pretty happy with all of the changes. Avista is happy, too. Because helping its customers save energy is always a solid undertaking.

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