Johnson Screens

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Aqseptence Group

After 40 Years of Service, the J.H. Campbell Plant Upgrades to the Johnson Screens Max-Flow™

The Max-Flow™ Allows for 40% Greater Capacity on the Same Sized Screen vs. Competing Passive Intake Screening Solutions

Background

Currently owned and operated by CMS Energy, the J.H. Campbell Power Generating Plant in West Olive, Michigan has been active since 1962.

Power plants typically require water to keep their generators from overheating, and in 1979 the plant sought to accomplish this with the purchase of 28 Johnson Screens T-54 Passive Intake Screens that, collectively, were capable of delivering upwards of 375,000 GPM of cooling water to the plant's generators.

Challenge

For 40 years the T-54 passive intakes served their purpose for the J.H Campbell plant. At the end of that window, however, and underwater inspection team found signs of fatigue in the original installation.

Having exceeded expectations with the initial installation in 1979, Johnson Screens was once again contacted by the J.H. Campbell plant, this time with the intention of increasing the flow rate of cooling water.

Solution

The J.H. Campbell plant's project planner, Amy Nicholas, chose to use the new Johnson Screens' Max-Flow™ Intake Screen design. The Max-Flow dimensions matched the existing screens in size and outlet dimensions, making it an ideal solution for the project.

Additionally, the construction of the Max-Flow is such that it can achieve 40% greater flow capacity on the same size of screen as competitive passive intake screening solutions, meaning fewer screens are required to achieve the same level of filtration.

Results

The original installed T-54 intakes had a flow rating of 13,200 GPM per screen, while the newly specified Max-Flow design screen is rated at 25,000 GPM. The plant initially purchased and installed ten new Max-Flow screens to replace the damaged T54 intake screens, with plans to swap the remaining T-54's out with additional Max-Flow's as the need arose.

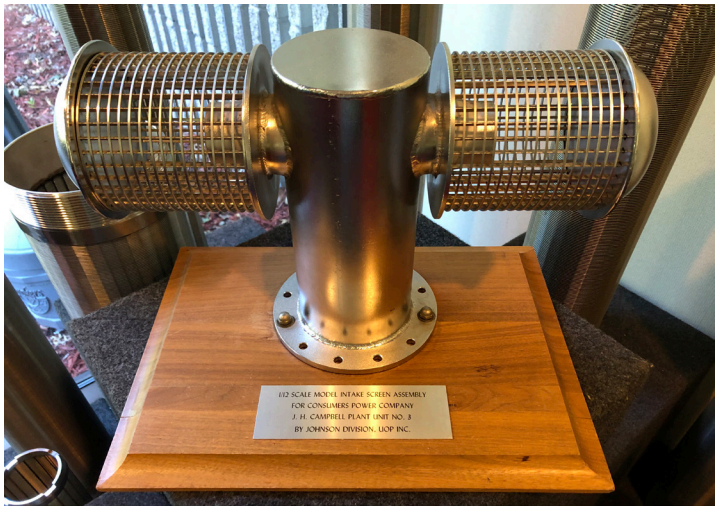
By upgrading the fatigued screens with a more efficient model, the J.H. Campbell plant has been able to achieve significant capital savings.

An Innovation Nearly 60 Years in the Making

Many years after inventing Vee-Wire®, we at Johnson Screens leveraged this technology to introduce a new innovation in 1968: our passive intake screen. 50+ years and over 4,000 installations later, we continue to lead the way in static intake screening equipment.

The combination of our non-plugging Vee-Wire design and our patented internal flow modifiers provide a high open area while maintaining the lowest entrance velocity and pressure drop on the market. Additionally, our passive intakes have no submerged moving parts that could break down or wear out and incorporate the use of the Hydroburst™ air backwash cleaning system, guaranteeing minimal maintenance.

Available in stainless steel, super duplex, and NSF-certified Z-Alloy, every system is fully compliant with Section 316(b) of the Clean Water Act, reducing impingement while protecting aquatic life.



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