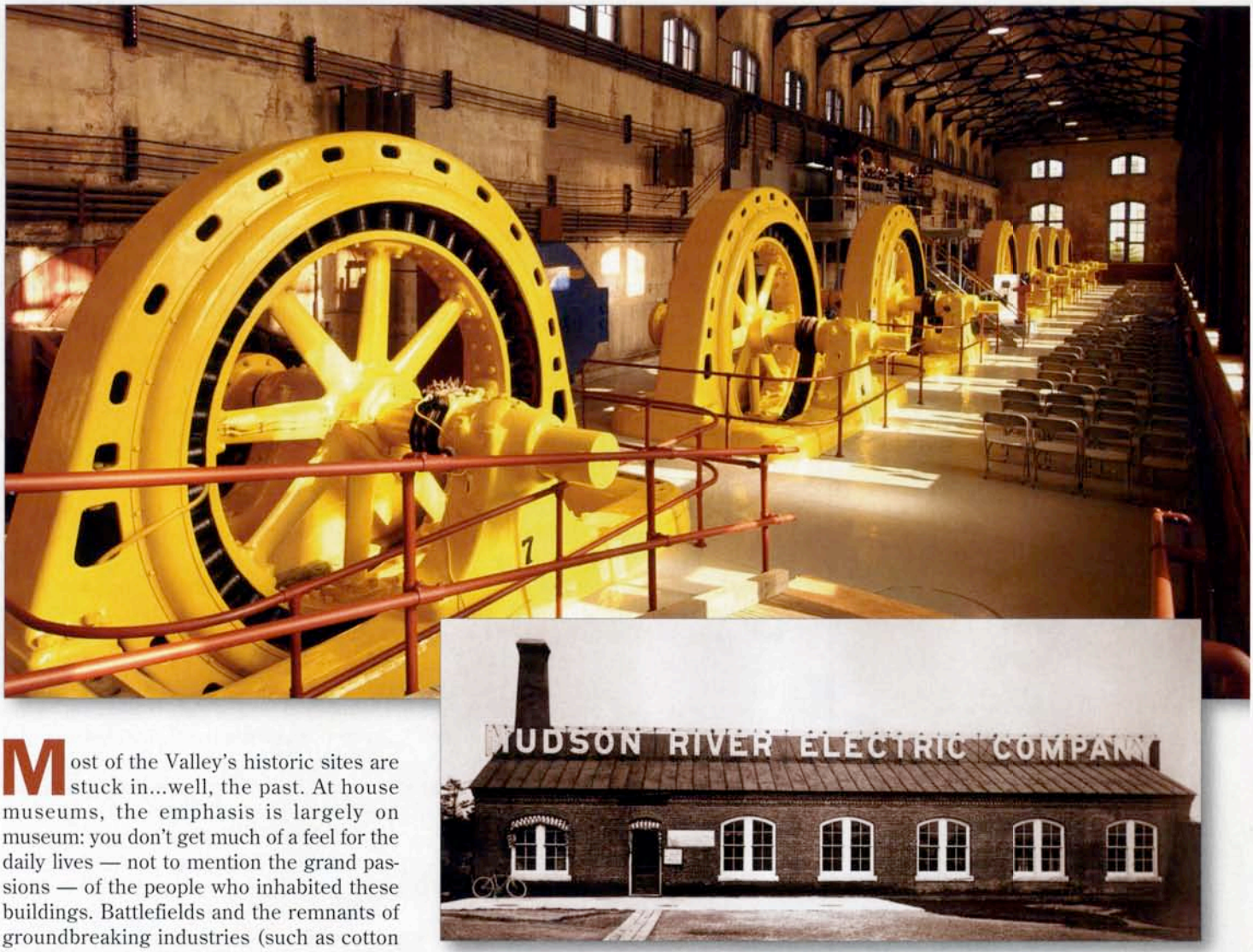
BY RICHARD BUTTLAR

A Bright Light

The restoration of the Mechanicville Hydroelectric Station preserves history — and makes it at the same time



Most of the Valley's historic sites are stuck in...well, the past. At house museums, the emphasis is largely on museum: you don't get much of a feel for the daily lives — not to mention the grand passions — of the people who inhabited these buildings. Battlefields and the remnants of groundbreaking industries (such as cotton mills and blast furnaces) are muted, and have often been reclaimed by nature.

Fortunately, there is one place in the Valley where, if all goes according to plan, you will soon be able to experience history's original sights and sounds — and even its smells.

The Mechanicville Hydroelectric Station is an attractive, but unprepossessing, building — red brick, with a peaked tin roof — that sits on the Hudson River about 20 miles north of Albany. From the outside, all is quiet, save for the soothing rush of water over the facility's massive dam and the occasional flutter of a great blue heron emerging from a nearby wetland.

Amazingly, inside all is pretty quiet, too. Walk down to the far end of the 250-foot-long generator hall and the drone from a 1950s-era machine you passed (soon to be banished from the building) is dulled. From here, you get a magnificent view of the seven huge General Electric generators, painted rain-slicker yellow. On the day of my visit, three were spinning, doing their bit to churn out the juice for toasters and computers and EKG machines and anything else that has a plug. They made about the same amount of noise you get when you turn

The hydroelectric station's generator hall today (top) and an early photo of the facility's exterior

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The generator hall straddles the Hudson River. The turbines sit beneath the building

the pedals of an upended bicycle — a lulling hum. A nickel sits on one, ready for what my guide calls "a parlor trick." He takes the coin and balances it on its side upon the cast-iron generator's enameled casing. It sits there like it was glued to the surface. You get the idea that someone could have placed it there in 1898, when these dynamos first began to spin.

"This is the oldest continuously operating hydroelectric plant in the United States. It has run 24/7 for more than 100 years," explains James Besha, the president of Albany Engineering Corporation, which owns the facility and is overseeing its meticulous restoration. When it originally opened — just 10 months after work began, thanks to the six-day-a-week, 12-hour-a-day shifts of 400 Italian laborers and teams of mules — it turned out 5,000 kilowatts, enough to light up all of Albany, Schenectady, and Troy, as well as power the region's streetcar system and Schenectady's General Electric factory. The generators were designed by G.E.'s Charles Steinmetz, who was on a par with Thomas Edison and George Westinghouse in realizing the potential of electricity. (The scientific concept that produces the power — electromagnetism — was pioneered by Joseph Henry, an Albany teacher who went on to head the Smithsonian Institution.)

Although hydropower was as old as the country, harnessing water to produce electricity was a relatively new concept when Dayton, Ohio, industrialist Robert Newton King built this plant. It is located on the last major drop in the Hudson River — an 18-foot fall that is perfect for spinning the 10-ton turbines, which in turn rotate the generators. "He decided hydroelectricity was the thing to do," says Besha, but he adds that for King it wasn't a sure thing. "He was selling something to people who didn't even know what electricity was." To prove that the new energy source was here to stay, King "had to portray a demeanor of strength and permanence," notes Besha, hence the building's sturdy brick exterior.

The interior offices were opulent, with hardwood floors, tin ceilings, chestnut paneling, and cast-brick fireplaces. The generator hall, 40- to 50-feet tall, was equally grand — an industrial cathedral. The walls were whitewashed; with the sunlight streaming in through the enormous arched windows (each with white marble sills), the effect must have been awe-inspiring.

Equally awe-inspiring is the battle that took place to save this plant — what Besha calls a "David and Goliath situation," and a grand chapter in the Valley's preservation history. After going through a handful of owners, energy powerhouse Niagara Mohawk purchased the facility in 1950. In 1986, it entered into a joint licensing agreement with Albany Engineering to operate the plant; from the get-go, the 10-employee company had visions of restoring the facility while still producing power. Then in 1997, citing the expense of upkeep at the outdated plant, Niagara Mohawk decided to shut it down. Since it could not be demolished (it's on the National Register of Historic Places), the company considered entombing the building in concrete.

"I think they figured we would dry up and blow away, but that was such an outrageous idea," says Besha. "It was the spark to really save it.... We had visions of having to chain ourselves to the concrete trucks."

After legal wrangling, Albany Engineering wound up with ownership of the plant in August 2003. It has already invested $1 million, getting the facility back on-line and beginning a restoration of the building to the period between 1897 and 1901. This includes everything from replacing the circa-1910 control board with the original to removing and reglazing all of the 350 windows. Much of the work is painstaking and shows just how talented 19th-century engineers were. For example, the round holes through which the massive turbines were inserted allow only a quarter-inch of extra space on each side. Albany Engineering had to build scale models to figure out how to remove them for refurbishment.

At the time of my visit, the Mechanicville Hydroelectric Station was churning out 2,000 kilowatts of electricity — enough to power about 2,000 homes. Eventually, all of the generators will be up and running, and the facility will be open for tourists and school groups, who will gain firsthand knowledge about the Valley's industrial history and its ecology (the latter in the adjacent wetland). "We tell people we're trying to train the next generation of hydroelectric engineers," says Besha with a laugh. On a more serious note, he adds, "There is so much you can learn here."

You'll be able to see and hear exactly what you would in 1897

For all who visit, it will be an eye-opening experience. "For too much industrial archaeology, there's just a thing sitting there statically," notes Besha. "For John Q. Public, it's nice to see something in use.... This will be as it was 100 years ago. You'll be able to see and hear exactly what you would in 1897."

But what, really, are you seeing? Besha recounted how he once pored through the plant's leather-bound logbooks, kept since day one. As he passed over those momentous dates in American history — entry into World Wars, the start of the Great Depression, John F. Kennedy's assassination, man's landing on the moon — he expected to read some small acknowledgment of these events. Instead, each and every notation, day after day, was about electricity.

"There are very few things that have that kind of constancy," he says. ■