



Green Sense 01/05/2014

## **Revitalization of the Salem Harbor Power Station**

After years of debate, Salem is moving toward having a modern gas-fired power station to replace an out-moded, coal-fired power plant. With a similar megawatt output, this plant should produce 50% less Green House Gas (CO<sub>2</sub>), using fewer employees, less land, and without the soot and noxious fumes of the old coal-fired power plant.

The new owner, Footprint Power, LLP (see [www.footprintpower.com](http://www.footprintpower.com)) has stated goals of being a good neighbor and delivering electricity with a minimum amount of greenhouse gasses and other noxious fumes (sulfur and nitrogen oxides, soot, mercury, ozone, etc.). They also see natural gas as an interim fuel, as we wait for more solar and wind power.

The Salem Harbor Power Station, abutting Derby Street, stands on 65 acres of prime property right on the Harbor. The power station is on the site of the 19<sup>th</sup> century India and Phillips Wharfs. Salem harbor port delivered coal and cotton to the mills in Lawrence and Lowell. At its peak it delivered 90,000 tons of coal per year. By the 20<sup>th</sup> century, the site was only used as a coal depot, and after World War II a coal-fired power plant was constructed.

The first units were built in 1951. As the EPA imposed limits on sulfur, nitrogen oxide emissions, and smog, the Salem Harbor plant made only minor changes. They now buy coal from South America, which is sufficiently low in sulfur to allow the plant to continue operation. However, this power is over-priced, and the plant is very inefficient.

In 2003 the owner declared bankruptcy and Dominion bought the assets. Dominion's request for relief from a new EPA requirement for mercury emissions, was partially rejected. When a new EPA ozone requirement went into effect, Dominion gave final notice that the plant would shut down.

Being a local employer of many workers, shut down is a difficult issue. In 2003 our Republican governor, Mitt Romney, had promised shut-down. Attempts to force the shut-down failed because of a lack of proof that the plant would not be needed in an emergency. Finally, a U.S. District Court ordered the shut-down by 2014. At that point (2012) Dominion sold the plant to Footprint Power, LLP.

The advantage of the site to Footprint is the presence of an existing sub-station and an offshore natural gas network. Gas is also now plentiful because of the new fracking technology.

The new gas power plant is very useful for peak power needs, expected to be able to deliver 50% of its maximum output in ten minutes, and 100% in one hour. Such flexibility of operation is impossible for a coal-fired plant, which is built to deliver continuous power. One does not quickly turn off a coal furnace.

Footprint has now obtained a five-year contract for power, which will allow them to start construction of a 674 megawatt, gas-fired power plant. Footprint plans to raze the present plant and build a new plant on 18 acres of the old 65-acre site. Cost estimates for site cleanup range from \$5-20 million, and demolition of buildings (which contain asbestos and lead paint) about \$60 million.

The City of Salem has great plans for the use of the remaining acreage. After the cleanup, there may be a green park, and returned maritime use. A small cruise ship port is envisioned. A Salem Harbor Revitalization Task Force has been formed to oversee the demolition and reconstruction project ([www.mass.gov/eea/energy-utilities-clean-tech/salem-harbor/](http://www.mass.gov/eea/energy-utilities-clean-tech/salem-harbor/)). This 11-person Task Force includes two state representatives, the Mayor of Salem, two State Secretaries and the DEP Commissioner, as well as representatives from National Grid and the IBEW Local 326.

Footprint plans to use some of the additional area for a feasibility study of wind power generation. The company believes that the plant will be uniquely suited to support off-shore wind power when this becomes available. They see wind off the coast of Massachusetts as a reliable, renewable, energy source, and foresee their plant using this power source, with the gas-fired units used as the back-up for times of low winds.

It's well worth watching these changes starting in 2014.

A column by Reading Climate Committee members David Williams and Michele Benson