United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. **Place additional certification comments, entries, and narrative items on continuation sheets if needed (NPS Form 10-900a).**

1. Name of Property

historic name Moran Municipal Generating Station

other names/site number Moran Plant, City of Burlington Steam Electric Power Plant

2. Location

street & number 475 Lake Street N/A not for publication

city or town Burlington N/A vicinity

state VT code VT county Chittenden code 007 zip code 05401

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this ___ nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property ___ meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___ national ___ statewide ___local

Signature of certifying official/Title Date

State or Federal agency/bureau or Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official Date

Title State or Federal agency/bureau or Tribal Government

4. National Park Service Certification

I hereby certify that this property is:

___ entered in the National Register ___ determined eligible for the National Register

___ determined not eligible for the National Register ___ removed from the National Register

___ other (explain:) ______________________

Signature of the Keeper Date of Action

MORAN MUNICIPAL GENERATING STATION
Name of Property

BURLINGTON, CHITTENDEN, VT
City, County and State

5. Classification

Ownership of Property
(Check as many boxes as apply.)

	private
X	public - Local
	public - State
	public - Federal

Category of Property
(Check only **one** box.)

X	building(s)
	district
	site
	structure
	object

Number of Resources within Property
(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
1	0	buildings
0	0	sites
2	0	structures
0	0	objects
3	0	**Total**

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing)

N/A

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions
(Enter categories from instructions.)

INDUSTRY/energy facility/power plant
GOVERNMENT/public works/electricity generating plant

Current Functions
(Enter categories from instructions.)

VACANT/NOT IN USE

7. Description

Architectural Classification
(Enter categories from instructions.)

OTHER: mid-20th century brick industrial

Materials
(Enter categories from instructions.)

foundation: CONCRETE
walls: BRICK
CONCRETE
roof: ASPHALT
other:

Narrative Description

Summary Paragraph

The 1954 Moran Municipal Generating Station is located on the eastern shore of Lake Champlain, approximately five blocks northwest of the City of Burlington's downtown core. One of few remaining historic, brick, industrial buildings just northwest of what is now Waterfront Park, the Moran forms a small cluster with a c.1880 shavings house, an earlier, c.1905 electric light station and a c.1910 water filtration plant. A small transformer yard lies to the southeast. Surrounded by a tall chain-link fence the Moran's rectangular form runs east-west between a historic rail bed, now a popular bicycle and pedestrian path, and Lake Champlain. Set below the hilly core of the city, it is overlooked by residential streets and Battery Park. Deceptively utilitarian and simple in form, the Moran is comprised of several distinct, stepped, rectangular, flat-roofed units embellished with subtle detailing and rising incrementally in height south to north. Its red brick walls are flat and taut, set in a common bond with contrasting single soldier-course copings. Concrete caps above these copings are no longer extant. Fenestration is irregular and window openings are predominantly arranged in banks and historically contained steel sash units. At the southwest corner, a former public entrance is subtly delineated by a slightly projecting pavilion with understated detailing reminiscent of the Art Deco style. On the south wall of the tallest block, large chrome lettering, clearly visible from several vantage points in the city, spells "City of Burlington." On the north wall of this same block are the remnants of a complex steel frame that once held the boilers and guided a coal conveyor from the ground to the top. On the west water intake and discharge channels, or sluiceways, constructed of steel and steel sheet pilings, largely retain their original appearance despite being dammed c.2009. Inside, the Moran is essentially an empty open shell – the majority of machinery removed upon decommissioning in 1986. Remaining interior elements include three large coal hoppers, remnants of a coal conveyor, and a complex system of steel stairs, grates and bridges providing accessibility from the building's base to its top. Character-defining interior features include an exposed interior steel frame, large, open spaces, and differentiation between industrial and public (or publicly visible) areas. An administrative block on the south features glazed and ceramic tile walls and floors while elsewhere walls and floors are unfinished and consist of bare concrete and brick or steel-grate systems respectively. The Moran retains integrity of location, setting, feeling and association as well as considerable integrity of design, materials and workmanship for the period 1954 -1960. This nomination includes the generating station and the two related sluiceways.

Narrative Description

Exterior

Supported by a heavy concrete foundation, the Moran has a two-part exterior, load-bearing, masonry frame consisting of concrete masonry units with a brick header course every two rows, and a brick veneer laid in a common bond with seventh course header rows. Soldier-course copings are in poor condition in several areas: bricks have either detached or are delaminating. Historic concrete caps are no longer extant. Parapeted roofs are sheathed with asphalt. Fenestration is irregular, window openings are generally set in banks, though the majority of sash has been lost, and have beveled, concrete sills. Window openings for the second story openings of the southernmost administration block echo, with soldier-course lintels, the soldier-course copings of the stepped blocks comprising the entire structure. On the east, this coping extends north from the three-story central block as a belt course across the tallest, hopper block.

The southern-most block – which originally held the primary public entrance and the administrative offices for the building – is one bay wide, two stories tall and forms an L-shape. The former public entrance is located on the westerly end of the south wall and is defined by a distinctive, slightly projecting pavilion. This historic primary entrance, which contains paired steel and glass doors, now covered by plywood panels, is sheltered by a flat, banded hood. Concrete steps, flanked by concrete-capped brick piers, descend from the entrance above which a tall opening now contains a plywood-and-steel-mesh panel. Above the soldier-course lintel of this opening, the pavilion is capped with four, raised, horizontal brick panels and a stepped parapet. To the east of this pavilion, banks of windows, separated by exposed concrete and brick where corrugated asbestos panels historically existed, form two vertically aligned rows the remaining width of the building. To the west of the entrance pavilion, a single bank of windows on each level lights the former administrative offices and public spaces. Turning the corner to the four-bay west elevation, two complementary banks are horizontally aligned to their southerly counterparts in the fourth bay. Fenestration on this west wall is irregular, but balanced. Two window openings on each level are horizontally and vertically aligned in the first and second bays. On the lower level, the third bay contains paired steel doors and is accessed by an open concrete platform ascended by concrete stairs on the south and a wooden wheelchair ramp on the north. The brick on the lower portion of this elevation is painted. A large wooden deck with integrated benches spans the remaining width of this block, which terminates at the northerly sluiceway. Window openings on the east, like those at the southerly end of the west elevation, correspond to those on the south both in configuration, detailing and alignment.

Double the width of the administration block, the three-story central block, which housed the power-generating turbines of the Moran, is heavily integrated with the tallest, northerly block, which housed the coal hoppers and conveyor system. East and west walls of these two blocks are cohesive and appear as a single continuous plane. At the second-story level, a soldier course atop slender stacked brick columns forms a subtle outline, suggesting a central panel. At ground level, three openings echo the stepped plan of the building: a pedestrian entrance with steel, shed-roof hood; a tall, rollup steel door; and a two-story panel featuring three bays separated by exposed brick and concrete – where original asbestos panels have been removed. On the west, above the administration block, is a central, single altered opening containing crude wood-and-steel-mesh screens. Original sash and decorative corrugated asbestos panels are no longer extant, thus exposing the concrete block and brick of the two-part exterior frame. Here too a portion of the brick is painted: a horizontal, band extends north and south from the midpoint of the window opening. On the south, are three banks of four windows just below the roof of the central block.

The tall northerly block of the Moran is distinguished by not only its height, but also by the remains of a massive exterior steel boiler structure. This “spaghetti works” dominates the north elevation, is as wide as the block to which it is attached and rises almost five of its six stories from the roof of a squat, single-level brick block at its base. The various levels of the steel frame are connected by remnants of steel grates, stairs and bridges. The entire framework is significantly deteriorated. Several painted sections above and around the structure indicate areas previously marred by graffiti. Several openings on the north wall contain glazed steel doors – which provided access to and from the interior of the building. Just below the roofline, are seven openings, the third, fourth, fifth and sixth paired. All but the second are short, square window openings and several contain historic steel sash – albeit heavily deteriorated. The second opening contains a badly damaged narrow door and trappings for the former coal conveyor. Below the steel boiler frame, the single-level brick block has seen several fenestration changes over time. Several former openings have been infilled with concrete masonry units. Short single window openings on the east and west have been covered with either steel or plywood panels. The east and west walls of this tallest block are free of intrusions, save for one paired window opening at each of the uppermost, southerly corners. On the south, just below the roofline, bands of windows span almost the entire depth of the building. While some retain their historic sash, glazing has been lost and the units are badly damaged. Here too, asbestos panels between the window sections have been lost and the interior of the two part masonry frame is exposed. Several levels below, three symmetrically placed window openings light the interior while a pedestrian door allows access to the roof of the turbine block.

On the west, the intake and discharge sluiceways maintain their historic appearance despite their damming and the installation of plain, metal railings around them c.1990 as a safety precaution. The intake channel, which runs east from Lake Champlain to the tallest building block, is approximately 20’ wide and 120’ long, and constructed of steel sheet pilings. The discharge channel, which exits parallel to the west elevation and then angles northwest, is of smaller dimension: approximately 10’ wide and 60’ in length. Its steel beam and sheet piling construction is, like the intake channel, still evident. Where a walking path along the lakefront intersects the sluiceways, they are spanned by heavy metal grates. To the south and west of these structures are a number of contemporary docks utilized by the Lake Champlain Sailing Center.

Interior

On the interior, the Moran has an exposed, floating interior steel frame which engages the exterior, load-bearing masonry walls. The interior is divided into several distinct areas, according to historic function. Each unit largely follows an open floor plan, save for the second level at the southwest corner. Partitioned and historically utilized for personal and administrative use, this area of the building features small divisions indicative of an office environment as well as bath and locker rooms. Dividing walls are comprised of painted concrete masonry units as well as glazed and ceramic tile – clearly delineating this area from the industrial function of the remaining portions of the building. Finishes have been significantly vandalized and large areas exhibit wholesale loss, breakage and graffiti.

The basement, although the sluiceways had been dammed in the late 20th century, remained partially flooded until 2010 and contained a considerable amount of submerged industrial and contaminated debris. Although the turbines were removed on decommissioning in 1986, their massive concrete cradles were left in place – as were three substantial coal hoppers and remnants of industrial fixtures, including the coal conveyor on the upper level of the hopper block and large copper coil units on the second level of the turbine block. Throughout the building, remnants of steel stairs, catwalks and related structural supports connect the different areas. Condition of these elements ranges from good to poor.

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- [X] A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B Property is associated with the lives of persons significant in our past.
- [X] C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply.)

Property is:

- [ ] A Owned by a religious institution or used for religious purposes.
- [ ] B removed from its original location.
- [ ] C a birthplace or grave.
- [ ] D a cemetery.
- [ ] E a reconstructed building, object, or structure.
- [ ] F a commemorative property.
- [ ] G less than 50 years old or achieving significance within the past 50 years.

Areas of Significance
(Enter categories from instructions.)

INDUSTRY

ARCHITECTURE

Period of Significance

1954-1960

Significant Dates

1954, 1955, 1957

Significant Person
(Complete only if Criterion B is marked above.)

N/A

Cultural Affiliation

N/A

Architect/Builder

J.F. Pritchard & Co.

Period of Significance (justification)
The period of significance begins with 1954, the date of the Moran's construction, and closes with 1960 (fifty years ago).

Criteria Considerations (explanation, if necessary)

Statement of Significance Summary Paragraph

The Moran Municipal Generating Station was constructed in 1954 for the Burlington Electric Department. It is significant: in the area of industry under National Register Criterion A for its association with local and regional electric power generation and; in the area of architecture under National Register Criterion C as a model, mid-20th century coal-fired energy facility. One of few such power plants erected in Vermont, the Moran represented a distinct departure from the monumental and classically-inspired power-generating buildings of preceding eras. The building's simple, utilitarian form was shaped by interior function and reflected current innovations and technological advancements in power plant design. The Moran's first turbine was set in motion in 1955 - the Burlington Electric Department's Golden Anniversary year – and facilitated the debut of electric heat to the city in 1957. Ownership of the plant and power distribution were part of a complex regional network of power companies, including the still-operational Green Mountain Power Corporation which leased the Moran until 1969. Although it played an important role in regional power-generation until its decommissioning in 1986, the established period of significance for the Moran Municipal Generating Station extends from 1954, the date of construction, to 1960 (fifty years ago).

Narrative Statement of Significance

The Moran Municipal Generating Station shares in the rich industrial history of Burlington's waterfront, which has been an integral element of the City's success and vitality since incorporation and settlement in the late 1700s. Since the early nineteenth century the waterfront area has transitioned from one of the nation's largest inland ports, predominantly for the local lumber trade, to a great rail yard in the 1850s and finally to a bulk petroleum facility which operated into the 1990s. Essentially inaccessible to the public until then, the area now functions as a significant cultural and recreational resource.

Burlington ventured into municipally controlled illumination on the eve of April 29, 1905. The Burlington Electric Department (BED) made its debut in City Hall Park with strings of lights punctuated by fireworks, a speech by then-Mayor James Burke and live musical performances. Three years earlier, in 1902, the Vermont General Assembly's passage of Act No. 213 had authorized the city to "construct and maintain an electric light plant for the purpose of lighting the streets, walks, public grounds and public buildings of the city," as well as to dispense electricity to municipal and surrounding residents at its discretion. The concept of municipal ownership of city utilities was welcomed in an era marked by rampant corruption and mutually beneficial relationships between big business and politicians. Mayor Burke, who advocated progressive ideology, taking a stand against big business, bringing honor and integrity to city government and improving residents' standard of living, is generally considered to be the "father of the Burlington Electric Department." His efforts to see the first municipal electric plant built met with considerable resistance however, particularly from former Governor and president of the privately owned Consolidated Electric Co. Urban A. Woodbury and Burlington-based coal and oil company owner Elias Lyman. Ultimately, Burke and his supporters prevailed; voters approved a $150,000 bond for construction and the newly erected Burlington Electric Light Plant, mandated to provide the city with the brightest, cleanest and cheapest light possible, went online in the spring of 1905. The 50' by 80' brick plant contained one room for two large steam-generating boilers and another room housing relevant engines and dynamos. Each coal-fired boiler had a capacity of 1,550 boiler horse power – equivalent to the evaporation of 550 gallons of water per hour. Water sourced from Lake Champlain passed as steam through a series of drums and an economizer to 200 horse-power engines that ran at 257 revolutions per minute. Dynamos connected to the engines each generated 2,300 volts of three-phase alternating current which passed to the street lights via transformers. The switchboard in particular exemplified the modernity of the operation and technology – instruments were of polished copper and mounted on Vermont-quarried blue marble.

Electricity itself was not new to Burlington however. The city's electric streetlights were initially powered by the 1885 Brush Swan Electric Light and Power Corporation's hydroelectric plant, the state's first, located on the Winooski River. Even so, the early grid was small, as the majority of residents and industrial entities continued to rely on gas- or candle light. Reliance on these alternate energy sources was in no small part due to the per-lamp cost and questionable safety of electricity at the time. In addition, electric lights were generally only illuminated at night – continuous power itself did not occur in Burlington until 1896. Not until William David Coolidge's 1910 invention of the long-lasting tungsten filament for incandescent bulbs was electric light fully maximized and expanded. Ironically, that same year BED found itself in a soon-to-be entrenched conflict with private power-generating companies. Just as BED made plans to upgrade its systems and install a new steam turbine in its plant, three injunctions by a privately owned competitor (the Burlington Electric Light and Power Company) halted the work. It wasn't until 1912 that the 25-ton Westinghouse turbine was installed. Capable of using 90,000 gallons of water per hour (2,000,000 gallons per day), drawn from the lake and supplied by the adjacent water works, the new turbine-generator-condenser assembly not only met the city's burgeoning demand for electricity but also alleviated frustrating and frequent power outages. Within two years, 1,394,042 generated kilowatt hours were feeding 343 street lights and 1,569 metered buildings.

World War I had a significant impact on electricity generation – an almost 100% increase in the price of coal in particular prompted a rallying cry to save the city its operating costs and sell the plant. Rather than relinquish ownership however, the city chose to end its free bulb replacement program and, in 1919, entered into a cooperative agreement with the Public Electric Light Company of St. Albans to purchase supplemental electricity at a low rate. Although BED struggled to stay afloat during the war, the cost-cutting measures it employed ensured an adequate, affordable supply to its entire customer base. The agreement with St. Albans (which remained in effect until 1944) was so successful that it opened the door for similar arrangements with other providers. Following the war, improvements in safety and delivery combined with innovative marketing strategies and collaborative agreements with appliance and product manufacturers drove an increasing demand for electricity. The 1920s presented an economic boom for power generation and BED became adept at lauding its successes, profitability and the city's subsequent savings. More boilers, circuits and street lights were added – as were underground lines. Electric appliances were sold in BED offices – where showrooms and a model kitchen were installed – and advertising campaigns targeted homemakers with small children. By 1927, after a period of only 24 years, the entire original construction bond been paid off. That same year, while hydroelectric facilities statewide were either damaged or completely destroyed by what would become known as the Great Flood, the city was able to continue supplying power with its coal-fired plant.

The onset of the Great Depression two years later once again prompted innovative and cost-cutting measures. Appliance sales from BED offices, which moved to the newly erected City Hall in 1932, were combined with cooking demonstrations in the city auditorium. Throughout the 1930s a number of significant improvements in, and expansion of, service were funded in part by grant programs offered by the federal Public Works Administration. Established under the National Industrial Recovery Act (NIRA) of 1933, the PWA commonly funded up to 30% of municipal electric utility improvements and installations. A failed 1929 proposal to replace the plant's engines from coal-fed to diesel-fueled was raised again in 1933, with the aim of taking advantage of these grant monies, but was defeated by voters a second time as was a pitch to purchase competing distribution systems held by Green Mountain Power.

In 1937, BED's superintendent, J. R. Tozer, resigned amid scandal and allegations of mismanagement and fiscal misappropriation. His replacement, Francis H. King, worked diligently to re-establish voter confidence in the department. Guided in part by his predecessor's earlier recommendations, King oversaw the installation of a new General Electric switchboard, hailed upon completion as the most modern in New England, to replace the severely overloaded brass and marble one that the plant had been fitted with thirty-three years earlier. The Great Flood of 1927 and a desire to prevent potential damage from high water levels of Lake Champlain, along with interest in improved fire safety and prevention, prompted several additional upgrades. New steel-and-concrete floors were constructed in order to elevate all machinery and plant equipment by four feet, transformers were relocated and many wooden elements were replaced with steel.

Between 1927 and 1942, despite the challenges presented by war, flood and a decade of economic depression, BED contributed a staggering $1.5 million to the city's sinking fund, bond payments and surplus accounts. Not surprisingly, grumblings about the turnover of all profits to the city coffers were heard more than once, as was a proposal to end the provision of free electric power to city streetlights – particularly when this meant that the BED had to request, or was denied, voter approval of expenditures for upgrades or improvements – for which there was no apparent reciprocity, since the city was charging the department rent. Negotiations with Green Mountain Power (GMP) for the purchase of its Burlington distribution system were still unresolved in the early 1940s, primarily due to lack of voter support, and now compounded by consideration of a merger with the New England Power Association. Sunday evening radio addresses and advertising campaigns encouraging residents to stop "shirking their civic responsibility" and switch from GMP to BED were largely rewarded with an increase in the customer base, though the GMP purchase plan was again voted down in 1942.

As the war progressed rationing and shortages, particularly of coal, labor, fuel oil and gasoline, constrained the electric plant's capacity for production. Compounding this in 1943 was a series of electrical storms that disrupted service and, in 1945 and 1947, severe droughts that encumbered the hydroelectric plants providing Burlington with supplemental power. In 1948, a month-long shut-down of the Burlington plant, due to lack of available oil, enabled BED to argue that a new electric plant – one that could meet the city's needs, fulfill the original mission, and be efficient as well as self-sufficient –

was now a critical need. Advocated by Mayor J. Edward Moran (1948-1957), the idea gained increasing momentum and support.

In 1951 the city's electric and water departments jointly purchased, from the Central Vermont Railway, an 113,645 square-foot parcel north of their existing waterfront facilities. The contract for the new plant was initially awarded to Pierce Consulting Engineering Company, the entity also representing the city in its negotiations with GMP, in September, and in November voters gave their approval for the $4 million bond required for implementation. BED commissioners, in their role as general contractors, selected the Vermont Construction Company Inc. to erect the plant. Despite a nationwide steel strike in May, 1952 and subsequent six-week delay, ground was broken in July 1952 and optimism for the new plant was high. Unfortunately, the situation quickly deteriorated. Vermont Construction found itself in severe fiscal distress and Pierce Consulting's plans were decreed to be not only poor but also $2.2 million over budget. Both companies were dropped from the project and, after a new round of bid solicitations, replaced by Kansas-based J.F. Pritchard Company in January 1953. While the delays and the loss of a breach-of-contract lawsuit, filed by Vermont Construction and Pierce Consulting, and a sizeable countersuit dealt the city a blow, they were tempered by a long-awaited deal with GMP. The agreement provided for a seven-and-a-half-year lease of the plant to GMP in exchange for an annual sum of $185,000 plus electricity at the rate of 1¢ per kilowatt hour – the same rate that had been negotiated with St. Albans some thirty-four years earlier.

The final steel beam of the Moran's interior structure was placed fifteen months after the initial ground-breaking, in December, 1953. But as the plant itself reached 70% completion, in March 1954, two additional, successive strikes delayed construction yet again. Still, crews were able to set the first turbine in motion in June 1954 and fully complete the plant in the summer of 1955 – coincidentally the BED's Golden Anniversary year. The Moran's three turbine generators and power switchgear assemblies, sold and installed by General Electric Co., Westinghouse Electric Corporation and Allis-Chalmers Corporation, accounted for just over $1 million – a quarter of the projected budget. Like its predecessor, the Moran employed a coal-fired system but the technological investment would bring markedly improved efficiency and greater generating capacity. Shaped by function, rather than the classically-inspired monumentality of earlier power plants, Pritchard's design for the Moran may have been influenced by the 1950 Sewaren Generating Station in Woodbridge, NJ, which followed a strikingly similar, stepped plan (a three story service building, a taller turbine room, and an even taller coal bunker with exterior boiler structure and stacks) and was featured in *Architectural Record* upon completion. Architecturally, the Moran featured crisp edges, subtle detailing, banks of steel windows and polished chrome lettering proclaiming itself the "City of Burlington Electric Light Plant." It projected a sense of clean, modern, unpretentious functionality: this was to be the future of Burlington's power generation and thus its success. Its complex exterior steel boiler structure, which dispensed with the need for an additional building unit to house the previously customary, elaborate, interior cooling and ventilation system, was also an important advance in power plant design. One of few coal-fired steam electric power plants built in Vermont, the Moran is the state's only known example of this particular design and style.

With the new electric generating station complete and the agreement with GMP in place, BED refurbished the old station as its headquarters and began the task of consolidating the two existing electricity distribution systems. Components of this included meter upgrades, reducing the number of poles and overhead wires, and further underground wire installations. Utilities along entire streets in the city's business core, such as Church Street and a section of Winooski Avenue, were moved entirely underground – simultaneously improving the streetscape and allowing for increased safety and efficiency of line maintenance. The BED also articulated a five-year plan within which the consolidated distribution system would be converted from 2,300 to 4,160 volts and the existing rate schedule would be appraised and improved. In 1956 negotiations began with the Power Authority of the State of New York to harness the St. Lawrence River for hydroelectric power and bring it to Vermont. Importing such power would be beneficial and cost-effective for Burlington during periods of increased water levels and elevated coal prices – conversely the city would be able to export its surplus power when water levels were low. A complex power distribution system allowing for such import and export aimed to provide the region with a reliable, consistent source of electricity – rather than the fluctuations and shortages that had been common in the past.

Despite all its modern accoutrements, however, the new plant - formally named the J. Edward Moran Municipal Generating Station at the end of the GMP lease in 1962 – quickly became a source of angst for those who lived and worked downwind of it. Waste expelled from the smokestacks drifted down and covered everything within its path with a thick, black crust. Laundry hung out to dry was immediately dirty again, windows were covered in soot and multiple respiratory problems were reported. In 1957 a series of improvements BED implemented to address the pollution, particularly to the smoke control system, were largely ineffective. Additional improvements that same year however, provided somewhat of a distraction: meters were relocated to building exteriors; uniformed service workers were available to customers from 7am to 11pm daily; and electric heat made its debut. In the city's New North End, the 1957 C.P. Smith Elementary School was the first to be entirely electrically heated. A heating system and new lighting were installed in the BED's remaining offices at City Hall to illustrate the comfort and convenience of clean, consistent heat. In 1960, the state's first "Electric Heating Symposium" was held in Burlington, further cementing the acceptance and standardization of electric heat. Nonetheless, pollution continued to be a thorny issue and the city's modernization efforts did little to assuage the Moran's surrounding neighborhoods which were still being blackened. In a further attempt to reduce airborne contaminants, the BED installed a Venturi stack nozzle to each of the Moran's chimneys. These nozzles facilitated the discharge of smoke and waste at a higher altitude and thus allowed for the possibility of a greater percentage of pollutants to be carried away and dissipated. Although some improvement was noted, the problem would persist throughout the 1960s and 1970s.

In addition to considerations for hydroelectric power, which was finally secured from New York in 1958, nuclear power was also tentatively explored as a cleaner, cheaper alternative. J.F. Pritchard & Company was again retained to conduct a feasibility study for atomic energy in Burlington. In 1959, Pritchard and the Westinghouse Corporation submitted a proposal for the conversion of the Moran's coal-fired boilers and steam-engines to the U.S. Atomic Energy Commission. The proposal was accompanied by a research and development request for $8.5 million which, despite support from Senator George D. Aiken, was unsuccessful. In 1961 the commission invited proposals from municipal power utilities and groups for a collaborative venture: the construction of a nuclear power plant that could be operational by 1965. Although Burlington did submit a preliminary proposal, successful negotiations by the State of Vermont to secure power from the Power Authority of New York rendered further pursuit of independent nuclear power unnecessary.

In 1960, imported power accounted for 50-70% of Burlington's electric usage – the cost of hydroelectric power being significantly less than Burlington's own coal-fired system at the time and, according to Federal Power Commission statistics, residents enjoyed the lowest rates in New England. Nevertheless, the Moran's role as a backup source was instrumental in keeping the city illuminated during the Great Blackout of 1965. Where other communities were plunged into darkness, Burlington's Moran Station allowed for the almost seamless transition between imported and locally generated power delivery.

In 1962 the city filed an anti-trust lawsuit against General Electric Co., Westinghouse Electric Corporation and Allis-Chalmers Corporation, alleging that the three companies had overcharged the BED for the Moran's original turbines and switching assemblies. Seeking to reclaim $300,000 for the alleged conspiracy and price fixing, the U.S. District Court instead set single damages at $168,000 and tripled them for a final judgment of $504,000. Although the plaintiffs appealed the decision, a private settlement was eventually reached and the city netted approximately $315,000 after legal expenses.

Burlington's continued expansion combined with technological advances throughout the 1960s placed increasing demands on the power supply. Between 1961 and 1967 the number of residential units on the grid increased by almost 1200%, jumping from 51 to 660. Three new schools had recently opened in the New North End, and a new high school on North Avenue presented additional loads on the system. Additional development on Shelburne Road and on the University of Vermont campus stressed the system further. As coal prices continued to rise, proposals for conversion to natural gas surfaced and the notion of atomic power was revisited. Also under consideration was a plan to enlarge the Moran and generate enough power to both meet the city's needs and generate a surplus supply to be sold for profit. This was deemed infeasible in 1966 and replaced by a proposal to build a second, smaller, coal-fired plant, to meet projected demand for the next decade. Although the BED's early campaigns encouraging residents and businesses to consume as much electricity as possible had been successful, voters were beginning to consider the impact on natural resources and rejected the notion of a second plant predominantly on environmental grounds, since additionally the existing pollution issues had yet to be satisfactorily addressed. Still, as a 1967 Federal Power Commission study revealed, Burlington residents consumed up to 2,000 kilowatt hours more than the national average which required millions of gallons of water to generate adequate steam and, over a six-month period in 1969, an average of 104 tons of coal were burned in the process each day. That same year, in conjunction with the end of GMP's lease of the Moran (extended and amended in 1959) and grand opening of a newly erected operations center on Pine Street, the station and its grounds were cleaned and landscaped. The beautification foreshadowed a critical shift in attitudes toward energy consumption and resource conservation that resounded nationwide.

Fuel shortages in the 1970s forced the BED to reverse its prior position of boundless electricity availability in favor of energy frugality. New sources of fuel were sought to replace coal and oil, an effort which increased in urgency with the oil crisis and embargo of 1973-74 and the bituminous coal strike of 1977-78. In 1977, in an effort touted as good old Vermonter ingenuity, BED employees tried an experimental conversion of one of the firing units from coal to wood chips mixed with one part of heating oil. Wood chips cost $12 per ton, as opposed to $50 – which factored out to a per kilowatt hour savings of 0.7¢. At a conservative cost of $25,000 this in-house conversion took just four months from design to fabrication and installation. Approved by the New England Power Pool after a brief, three-week testing period this innovative conversion gained global attention and the support of the Vermont Department of Forests and Parks. Ironically, this resounding success sparked an earnest quest for alternative fuel sources, some of which included trash and wood chip incineration as well as harnessing the Winooski River for hydropower, and rendered the Moran largely obsolete by 1982. In 1978 Burlington voters chose to pursue the path of wood-chips as a fuel source and approved a $40 million bond for the construction of a new generating plant in Burlington's Intervale district. Arguments for wood included the creation of local jobs, supporting local, rather than foreign economies, self reliance and, with proper inter-agency cooperation, responsible forest management. A second coal-fired unit was successfully converted at the Moran during the summer of 1979 and reinforced the validity of the vote.

Construction of what would become the Joseph C. McNeil Station began in 1982 and was completed in 1984. The Moran continued its operations and supplemented the regional power pool for an additional two years, and was decommissioned in 1986. The boilers, exterior coal conveyor and stacks were removed, although the majority of the supporting steel framework was left in place. On the interior, the turbines and other equipment were also removed. Since then, the building has largely sat vacant, save for a small portion of the basement utilized by the Lake Champlain Community Sailing Center for boat storage. Ownership of the station was formally transferred from BED to the City of Burlington in 1990. In 2010, the city began executing plans for an ambitious rehabilitation of the plant and site for mixed community use.

9. Major Bibliographical References

Barlow, Philip and Eileen Heideman. Assessment of Historic Electricity Generating Facilities on the Burlington Waterfront. Burlington: New England Preservation Collaborative, Inc., 2006.

Burlington Annual City Reports, 1900-2000.

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Fox, Gerald. "Turning the Lights on in Burlington." Unpublished manuscript, Bailey Howe Library, University of Vermont.

Guma, Greg. Burlington's Progressive Past: The Age of Burke. Burlington: Maverick Media, 1986.

Williams, Rebecca. Burlington Electric Department: The First One Hundred Years – 1905-2005. Burlington: Burlington Electric Department, 2005.

Maps

Sanborn Map and Publishing Company. *Burlington, Vermont.* New York: Sanborn Map and Publishing Co., 1900, 1906, 1912, 1926, 1942, 1942 revised to 1950, 1942 revised to 1960, 1978.

Historic Photographs & Images

Burlington Electric Department archives.

McAllister, LL. Photograph collection. Bailey Howe Library, University of Vermont.

Previous documentation on file (NPS):

____preliminary determination of individual listing (36 CFR 67 has been requested)
____previously listed in the National Register
__x__previously determined eligible by the National Register
____designated a National Historic Landmark
____recorded by Historic American Buildings Survey #____________
____recorded by Historic American Engineering Record # __________
____recorded by Historic American Landscape Survey # ___________

Primary location of additional data:

__X__State Historic Preservation Office
____Other State agency
____Federal agency
__X__Local government
__X__University
____Other
Name of repository: ________________________________

Historic Resources Survey Number (if assigned): ________________________________

10. Geographical Data

Acreage of Property 4
(Do not include previously listed resource acreage.)

UTM References
(Place additional UTM references on a continuation sheet.)

	Zone	Easting	Northing
1	18T	641221	4926947
2			
3			
4			

Verbal Boundary Description (Describe the boundaries of the property.)
The property described in this document is that indentified in the City of Burlington Land Records as Parcel ID 043-4-007-000.

Boundary Justification (Explain why the boundaries were selected.)
The boundary for the Moran Municipal Generating Station is determined by that of the present lot currently associated with the building. This boundary contains the power plant, sluiceways and land traditionally associated with the property and is sufficient to convey its historic significance.

11. Form Prepared By

name/title Liisa Reimann/Architectural Historian
organization New England Preservation Collaborative, Inc. date 9-19-2010
street & number PO Box 132 telephone 802-999-7928
city or town Montpelier State VT zip code
e-mail liisa@nepreservation.com

Additional Documentation

- **Maps: USGS map** (7.5 minute series) Burlington Quadrangle, VT – Chittenden Co.
- **Photographs 1-11**

Photographs:

Date Photographed:
Photographs 1-3, 5, 7-11: April 12, 2010
Photographs 4, 6: September 17, 2010

The following information is the same for all photographs:

Name of Property: Moran Municipal Generating Station

City or Vicinity: Burlington

County: Chittenden **State**: Vermont

Photographer: Liisa Reimann

CD with all images is on file at the Vermont Division for Historic Preservation.

Description of Photograph(s) and number:

1 of 11 – Context view, Moran Municipal Generating Station, and Burlington Waterfront, view SW.
2 of 11 – Moran Municipal Generating Station, S elevation, view NE.
3 of 11 – Moran Municipal Generating Station, W & S elevations, view E-NE.
4 of 11 – Moran Municipal Generating Station, W elevation and discharge channel, view S-SE.
5 of 11 – Moran Municipal Generating Station, N elevation, view SE.
6 of 11 – Moran Municipal Generating Station, E elevation, view W.
7 of 11 – Moran Municipal Generating Station, S elevation, former public entrance, view NE
8 of 11 – Moran Municipal Generating Station, interior view, basement level, view NW.
9 of 11 – Moran Municipal Generating Station, interior view, second level, view NW.
10 of 11 – Moran Municipal Generating Station, interior view, coal hoppers, view E-NE.
11 of 11 - Moran Municipal Generating Station, interior view, upper level coal conveyor room, view E.

Property Owner:

(Complete this item at the request of the SHPO or FPO.)

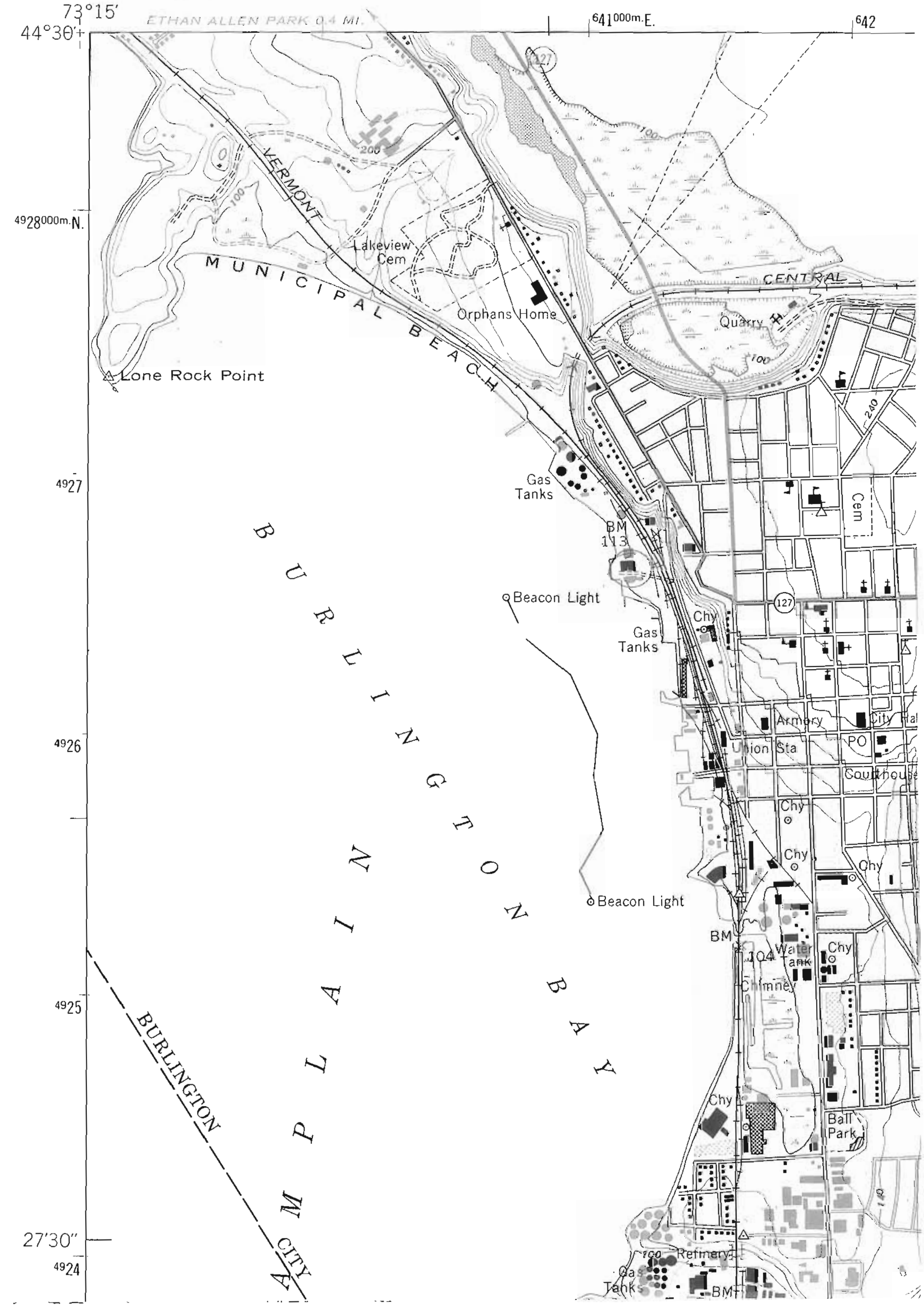
name City of Burlington, Office of the City Treasurer

street & number 149 Church Street telephone 802-865-7000

city or town Burlington state VT zip code 05401

6373 III SE
(COLCHESTER POINT)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

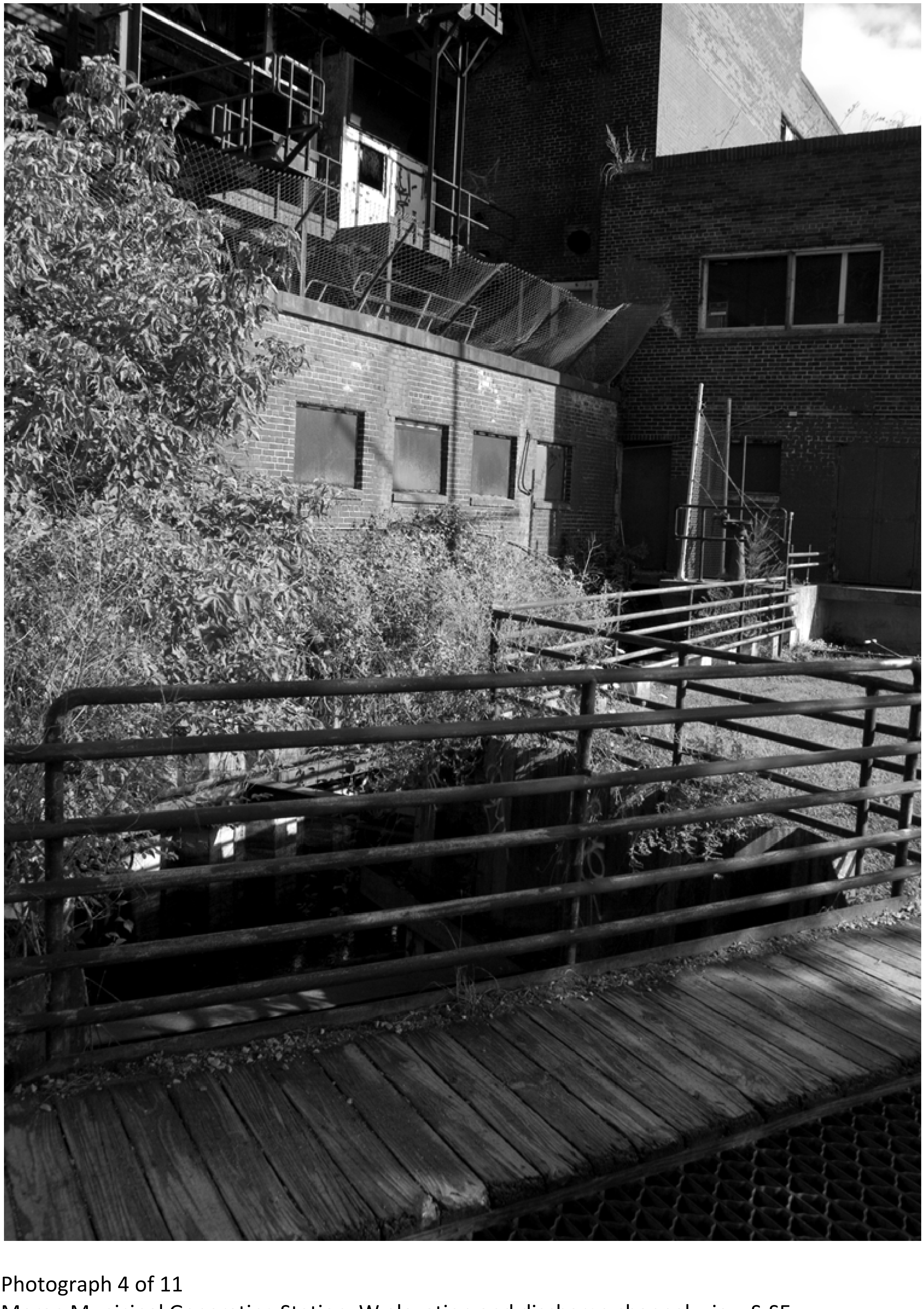


MORAN MUNICIPAL GENERATING STATION
BURLINGTON CHITTENDEN CO., VERMONT
18T 641221 4926694N

Photograph 1 of 11
Context view: Moran Municipal Generating Station and Burlington Waterfront, view SW
Photographer: Liisa Reimann, April 12, 2010

Photograph 2 of 11
Moran Municipal Generating Station, S elevation, view NE
Photographer: Liisa Reimann, April 12, 2010

Photograph 3 of 11
Moran Municipal Generating Station, W & S elevations, view E-NE
Photographer: Liisa Reimann, April 12, 2010



Photograph 4 of 11
Moran Municipal Generating Station, W elevation and discharge channel, view S-SE
Photographer: Liisa Reimann, September 17, 2010

Photograph 5 of 11
Moran Municipal Generating Station, N elevation, view SE
Photographer: Liisa Reimann, April 12, 2010

Photograph 6 of 11
Moran Municipal Generating Station, E elevation, view W
Photographer: Liisa Reimann, September 17, 2010

Photograph 7 of 11
Moran Municipal Generating Station, S elevation, former public entrance, view NE
Photographer: Liisa Reimann, April 12, 2010

Photograph 8 of 11
Moran Municipal Generating Station, interior view, basement level, view NW
Photographer: Liisa Reimann, April 12, 2010

Photograph 9 of 11
Moran Municipal Generating Station, interior view, second level, view NW
Photographer: Liisa Reimann, April 12, 2010

Photograph 10 of 11
Moran Municipal Generating Station, interior view, coal hoppers, view E-NE
Photographer: Liisa Reimann, April 12, 2010

Photograph 11 of 11
Moran Municipal Generating Station, interior view, upper level coal conveyor room, view E
Photographer: Liisa Reimann, April 12, 2010