



APPENDIX 6-C

Somerset Generating Station Demolition Plan

OSC Demolition Work Plan Somerset Generating Station – Barker, NY



Submitted to:

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Barker, NY 14012

Submitted by:



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Scope of Work

OSC understands the intent of this project is to demolish all site buildings, tanks and miscellaneous facilities in a manner that is protective of human health and environment, that will minimize the Owner's current and future risk and, to the extent practical, maximize recycling and salvage of materials. Generally, work performed will include the following:

- ✚ Performance of a Pre-Demolition Survey and preparation of a Site-specific Health and Safety Plan;
- ✚ Demolition of all above-grade structures, tanks and miscellaneous facilities;
- ✚ Segregation and proper disposal/recycling of debris – metals/brick/concrete;
- ✚ Removal, transport and legal disposal of universal wastes such as light bulbs, ballasts, mercury containing devices and other designated building e-waste components;
- ✚ Filling of basement, pits and voids resulting from demolition operations with clean on-site demolition recyclable debris;
- ✚ Wash down of concrete surfaces slated to remain after completion of demolition work;
- ✚ Penetrations in the bottom of drain sumps to facilitate drainage of stormwater;
- ✚ Re-grading of all work areas so that surfaces are uniform, having adequate surface drainage for the prevention of water ponding;
- ✚ Removal of concrete pedestals to +/- 18" above surrounding grade; and
- ✚ Site clean-up and demobilization.

Engineering Survey

Prior to the demolition of any structures, equipment, concrete or piping; a competent person will conduct a pre-work survey. This survey will include a review of available drawings, a visual survey of the work area and an assessment to assure the safe execution of the work. This will include evaluating the possibility of any unplanned events and reviewing the steps necessary to prevent any such occurrence. During this survey, representatives from Heorot will identify any utilities which need to be disconnected and make arrangements to do so. A report documenting the survey will be submitted to a Heorot representative prior to the onset of work.

Electrical Considerations - OSC understands that the Liquid Waste Treatment building shall be one of the final buildings to be demolished based on the site's current needs. It is also understood that a power source to this building will be re-routed by Heorot Power and will be completed in time to avoid schedule impacts, with the assurance that this power source will not be fed through buildings slated for demolition and within proximity to the active demolition work areas.

Erosion & Sediment Control

OSC will installing inlet protection within the active work areas during demolition operations. This will be done using geotextile fabric that will be placed beneath the existing grate of the structure. Inlets will also be properly marked-out with orange traffic barrels so that they are properly identified. Demolition activities that occur within grassed areas of the site will have E&S controls installed prior to work commencing. This will entail installation of a filter sock or silt fence system along the lower-level portion of the designated work zone. Following demolition activities, OSC will re-grade these disturbed areas to match existing grade and allow for proper site drainage to occur. E&S controls will be inspected and maintained as necessary to keep solids from entering drainage structures and traveling beyond established silt sock and silt fence limits.

Asbestos Abatement

It is OSC's understanding that, based on the construction of the facility, no asbestos containing materials are present on-site. However, because asbestos containing materials were not banned and only regulated during the period the plant



was constructed; OSC will require that Heorot provide a formal confirmation letter from a 3rd party asbestos inspection firm that states that no asbestos is present within the slated buildings and structures. This report is necessary for OSC to provide with the local demolition permit application.

Pre-Demolition Building Removals.

OSC understands that Heorot Power has begun, and will continue and complete, the removal of all oils (and liquids or gasses such as refrigerants) from on-site equipment slated for demolition. OSC will take the responsibility of verifying this work has been completed prior to demolition activities commencing. Building inspections completed by OSC during the bid period identified heavy oil stained areas throughout the site, however most of this staining was observed in the coal conveyor buildings and conveyor systems. For purposes of this Demolition Work Plan, OSC has assumed these areas will not require removal prior to demolition activities taking place.

Hazardous Waste Removal

PCBs. OSC understands that all remaining oils within transformers and other electrical equipment are non-PCB containing and will be treated and disposed of as such by Heorot when requested by OSC. OSC's intent is to sell transformers in their current state and may need the oil within those units to remain. Transformers that are not re-sold will need to be drained prior to demolition. During universal sweep operations of the structures, all fluorescent and sodium vapor light bulbs and associated ballasts will be collected, properly packaged and disposed of by OSC in accordance with regulatory guidelines.

Universal Waste Removal

Batteries. Batteries will be segregated by type and placed into appropriate containers/drums that will remain closed when not in use. Batteries that are broken or leaking will be managed as hazardous/solid waste and handled accordingly. Those not leaking/broken will be sold or recycled.

Mercury-Containing Equipment. Mercury within the fluorescent and vapor light fixtures, as well as thermostats, will be removed and sent to an approved recycling facility prior to demolition.

Freon-Containing Devices. Freon and all liquids will be removed from all roof-top units, air conditioners and other devices that require fluid removals prior to demolition taking place. These items will be removed by Heorot.

Demolition

Above-Grade Demo. OSC understands the work shall include all buildings presently on-site with the exception of the four large transformers located outside the Turbine Hall Building, the guardhouse and the switchyard. Any below-grade equipment, concrete floors and structural components that cannot safely be reached with standard demolition equipment from ground level will be abandoned in place.

The demolition will take place in five phases of site activities. The five major phases of work to be completed are as follows:

Phase 1: Asset identification, sales, removal, and off-site relocation/disposition. This phase will also include the removal of high value non-ferrous metals in areas where OSC has deemed it feasible for removal prior to structural demolition taking place.

Phase 2: Structural Demolition of all structures slated for removal excluding stack and Boiler Building.

Phase 3: Preparation and demolition with the use of explosives on two or three major buildings on the site.



Phase 4: Managing, processing and off-site shipment of all ferrous and non-ferrous metals.

Phase 5: Processing and placement of concrete and site restoration.

Phase 1:

OSC will identify assets that will be removed prior to demolition operations starting. These assets will be removed utilizing OSC resources or, in some circumstances, performed by customers that are purchasing these assets. OSC anticipates smaller scale assets will be removed prior to demolition such as electrical controls, pumps, motors, spare parts, tanks, transformers and smaller vessels. Prior to any of these removals taking place, OSC will work with Heorot's on-site team to verify that items are properly locked and tagged out and that all equipment has been properly drained of any free liquids. As these items are removed, they will be staged in a designated area on-site or loaded directly on to transport vehicles.

In addition to asset removals, OSC will be removing non-ferrous metals such as copper pipe and copper wire that OSC deems feasible to remove prior to structural demolition taking place. Similar to the equipment removals above, proper lock-out/tag-out, as well as free liquid verification, will take place prior to any removals commencing. This work will be done utilizing a combination of mechanical and manual means on a more selective basis. Work will be done as to not impact any structural integrity to the building or create any hazardous conditions following these removals.

Phase 2:

Phase 2 will entail the structural demolition of all structures once they have been cleared and free of all hazardous materials (if present) and universal waste streams. This phase of work will also be in constant coordination with the ongoing Phase 1 operations being completed. It is OSC's intent to start demolition with the coal handling equipment and the outbuildings, with the exception of the Liquid Waste Treatment Building and the warehouse, and work to clear the site in a manner to where the concrete stack, precipitators, Boiler Building and Turbine Building are the only buildings standing.

During the process of removing salvageable assets, it is the intent to begin structural demolition with the main portions of the coal conveyor systems and structures. Proposed start and end points will be dictated by asset removal operations, however this progression will be communicated daily with Heorot's on-site project team.

Following demolition of the coal handling equipment and structures, tanks and smaller outbuildings; OSC will be preparing and continuing demolition with the FGD and ID Fan buildings as well as the East/West Precipitators. The majority of the demolition of these three large scale buildings will be done using mechanical structural demolition means and methods. The demolition work will be done in a top and top-down manner that will minimize risk to health, safety and the environment. In some instances where mechanical means are not feasible or safe to complete due to height restrictions, OSC will prepare and, in a controlled manner, layover some portions of these structures using selective demolition means.

OSC's plan is to demolish the Boiler Building and the concrete stack using explosive demolition methods. The use of explosives will require a large amount of preparation work to be performed ahead of time. This will include a series of ground floor removals of all equipment and materials from the slab-on-grade Elevation 266' up to elevation +/- 308'. Once this work is complete, OSC will also be creating a physical separation between the Boiler House and Turbine Hall. The intent is to control the felling of the Boiler House to the South and utilize the Turbine Hall as a means of protection for the four transformers that are required to remain and be protected.



Following the implosion of the Boiler Building and stack, a size reduction crew consisting of large-scale excavators with shears and grapples, as well as manual torchmen, will begin to process the Boiler House and stack debris into manageable sizes for on-site processing and off-site disposition. This is further discussed under Phase 3.

As size reduction work is taking place, OSC's structural demolition crew will continue with the demolition of the Turbine and Water Treatment Buildings. This work will also include completing the demolition of the Administration and Services Building as well.

During all structural demolition, the downsizing and processing of demolition debris will be managed into various categories including ferrous and non-ferrous metals, reusable concrete, CMU and brick and non-recyclable C&D wastes such as insulations, wood, plastics etc. Ferrous and non-ferrous metals will be sent off-site for recycling. All hardfill material will stay on-site, and all C&D waste will be sent off-site for proper disposal.

At peak levels, OSC anticipates the following series of equipment and manpower will be mobilized to the site to complete this project. This anticipated manpower and equipment will be managed into two or three site crews that will complete all of the demolition.

- ✚ 2-3 lead equipment operators
- ✚ 3-4 secondary equipment operators
- ✚ 8-10 laborers / torch men
- ✚ 2 ea. 700 series excavators w/ various attachments
- ✚ 3 to 4 ea. 400 series excavators w/various attachments
- ✚ 2 ea. 300 series excavators.
- ✚ 1 ea. Front End Loader
- ✚ Various Aerial Boom Lifts and support equipment

Phase 3:

During the course of demolition operations, OSC will be utilizing the use of explosive demolition (Implosion) as a means to facilitate the work. Explosive demolition will be used to bring down the following structures on-site in a controlled manner:

- Boiler Building
- Concrete Stack
- East and West Precipitators (still being considered)

Explosive demolition will be designed and completed by an approved subcontractor. For the purposes of this Plan, OSC's intent is to utilize the services of DYKON Explosive Demolition out of Tulsa, Oklahoma. Dykon will conduct a site visit and inspection of the site and specific structures slated for explosive demolition, as well as an assessment of surrounding structures and/or areas which must be protected. Following the site inspection and review of available structural drawing details, Dykon will provide a detailed Blast Plan which will articulate the specifics of how the structures will be prepared, protected, charged and demolished. OSC will assist Dykon with the work from start to finish and be responsible for all preparation work such as drilling and torch cutting as well as protective measures placement.

OSC's intent is to complete the explosive demolition work under one single phase of work - meaning that the Boiler Building and the stack will be imploded concurrently, possibly with a brief delay. OSC still has to determine which structure would be imploded first, however further information and details will be provided at a later date for Heorot's review and approval. These details and plans will include the following:



- Discussions and coordination with local code enforcement officials, as well as with life safety officials such as police and fire operations. This will include details on proposed implosion times, coordination of the delivery and storage of explosives to the site and on-site security as it pertains to secured explosives.
- For the concrete stack, a plan will be provided to show the proposed drop location of the stack as well as proposed drill locations and details for explosives placement that will be made in the stack.
- Additional details will be provided on how and what materials will be used for protective measures once the explosives are placed and wired.
- For the Boiler Building, a plan will be provided that explains how the building will be isolated from the Turbine Building.
- The proposed direction of fall of the Boiler Building.
- Plans with details will be provided on which columns will be imploded, how each column will be prepared to accept an explosive device, what specific explosive devices and detonation devices will be used and what is used to secure and protect each column where an explosive device is placed.
- The plan will include further information on which columns will be prepared prior to the placement of explosives via torch cutting means as well as the purpose behind these cuts which are required to get the building(s) to fall and layover in a controlled manner.

Phase 4:

OSC's plans to utilize the site's rail system for the off-site disposition of recyclable metals. For purposes of this project, the scrap metals will be categorized, sorted and staged into five major categories. These categories are as follows:

- Plate and Structural
- Heavy Melt
- Shearing/ Bailing Materials
- Shearing/ Loose Light Iron
- Non-Ferrous Metals

The majority of the metals sorting and processing will be done within the designated demolition work area. Larger structural steel beams will be moved to a scrap processing area for further downsizing. Processing and downsizing of ferrous metals will be done using a combination of mechanical shears and manual labor operating gas fed torches (hot work). Similar to the structural demolition, all hot work being done during scrap processing will follow the daily 30-minute fire watch period before the work area is exited for the day. The majority of hot work torch cutting will be done using liquid oxygen and propane; however where conditions necessitate, OSC may employ acetylene in lieu of propane for larger structural steel and heavy melt components.

For the load out of scrap metals, OSC is still determining the most economical location for this operation as this will be determined between OSC and the scrap facility providing rail cars to the site. As of this moment, the plan is to load ferrous scrap metals via rail cars from a designated location West of the Car Positioning Building.

Nonstructural and ferrous metals that will not be moved via rail cars will be loaded out directly from the demolition work area into a combination of dump trailers, roll-offs or intermodal storage containers.

Phase 5:

Once all above-grade structures have been demolished to slab-on-grade and debris processing activities are taking place, OSC will begin and complete the removal of concrete foundations and pedestals that extend above-slab or above-grade. These features will be removed to +/- 18" above surrounding grade. Any at-grade concrete pads will remain. Below-grade



pits and vaults will have the lowest machine accessible floor hammered and/or cracked to allow for positive drainage and prevent pooling water.

Concrete generated from these operations will be used in-place or relocated to other areas of the site and placed within the pits, vaults and basements exposed during demolition operations.

OSC understands that for the purposes of hardfill re-use, no size reduction requirements need to be met. OSC will make a reasonable effort to place larger size pieces of concrete into basement and pits first before smaller reusable hardfill is placed. OSC understands that protruding rebar will not require removal from concrete prior to its re-use but will assure that no protruding rebar is visible at-grade post backfill operations. Any such rebar will be cut flush at-grade.

Water Management

Throughout the course of the project, best water management practices will be maintained to prevent dust mitigation and, more importantly, for fire watch purposes during all hot work activities. OSC will complete our demolition work in coordination with Heorot, allowing them to adequately plan to maintain water to each of the work areas throughout the duration of the project.

OSC's plan is to utilize this site's fire loop system for dust control and fire watch activities via fire hose connections. For minor demolition activities in locations where a fire hose is not feasible or available, OSC will utilize a manned water truck for purposes of dust control and fire watch. For indoor activities requiring dust control and/or fire watch, OSC will utilize the building(s) domestic water system to the extent possible for these controls.

During the project, OSC will encounter colder temperatures that will limit and hinder the use of water for dust control purposes. OSC has found, in the past, that the use of water will create icy conditions on-site which will then lead to hazardous conditions being encountered. These conditions also cause equipment to freeze and affect production activities greatly. When water is not feasible for use due to these conditions, OSC will make field adjustments as necessary to accommodate for dust mitigation in the absence of water during demolition activities.

OSC understands that once power is terminated to each of the areas, groundwater may become an issue with personnel access to some below-grade areas. Based on our previous experience, OSC is assuming that some areas of the site maintain electrically driven pumps to keep these areas free of water for safe access. For purposes of our work being performed on this project, OSC will work closely with Heorot so that the universal waste collection work can be completed in full prior to the building's electrical system needing to be terminated to these areas.



LEGEND

- For boards on wood joist construction or any material which is supported by wood joists.
 - For reinforced concrete, brick arch or similar constructions with no exposed steel supports.
 - For any non-combustible construction which is supported by exposed steel supports (steel joists, steel beams or steel truss).
-
- Dry or test proof hydrant with the department primary connection (number of horns indicates number of hose outlets).
 - Hose connection.
 - Fire pump.
 - Steamer, exhaust or mechanical valve (As noted on plan).
 - Fire department connection.
 - Standpipe.
 - Automatic sprinkler point of distribution.
 - Open sprinkler point of distribution.
 - Collage valve, rate of rise or preaction type valves.
-
- Dry pipe valve with quick opening device.
 - Alarm check valve.
 - Check valve (Detector check or back flow preventer when indicated).
 - Post Indicating valve (PIV) or Post Indicating gate valve.
 - Gate valve, non-rising stem pressure relief valve (PRV), quick opening valve (QOV) or as noted on plan.
 - Outside knee and yoke valve (OSAV).
 - Unprotected opening in a floor or in plan or through floor in section. Complete on all floors unless indicated by floor number.
 - Fire doors complete on all floors unless indicated by the floor number. Sub-assembly doors shown with a light blue.
 - Elevators or stairs enclosed by fire walls with standard fire doors.
 - Elevators or stairs complete on all floors without enclosures.

SPRINKLER SYSTEM DATA

RISER LOCATION	Type	Flow (gpm)	Temp (°F)	HYDRAULICALLY DETERMINED SYSTEM DATA		
				Flow (gpm)	Pressure (psi)	Pressure (psi)
Safe Shut Down Trunk				30.0 P.S.I.	295	58
East Pres. Trunk				32.5 P.S.I.	180	59
East Cent. Pres. Trunk				32.5 P.S.I.	180	59
West Cent. Pres. Trunk				32.5 P.S.I.	180	59
West Pres. Trunk				32.5 P.S.I.	180	59
H2 Seal Oil Unit				30.5 P.S.I.	114	58
Batch Oil Tank				32.0 P.S.I.	347	72
Turbine Lub Oil Tank				32.5 P.S.I.	298	54
Boil Feed Water Pump				30.5 P.S.I.	108	102
Turbine-Oil Bearing				29.0 P.S.I.	208	114
Oil Slop-Rm				15.0 P.S.I.	44	105
Material handling				0.18	704	239

DH-KH-BRACKS HYD L D E BR

REVISIONS

DR	CH	DATE	CHANGES MADE

JMA FWB 6-27-86 Redacted C88-14708-11

COMPOSITE

NEW YORK STATE ELECTRIC & GAS CORPORATION, et al.

"KINTIGH POWER GENERATING STATION"

Somerset, N.Y.

Surveyed By **J.M. Aree** Scale: 1 in = 200 ft
 May 8, 1986 By **J.M. Aree**

FACTORY MUTUAL INSURANCE COMPANY
 Engineering Plan Service

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