PROPOSED PLAN OF REMEDIAL ACTION

Burton Island Ash Disposal Site
Operable Unit 2
Dagsboro, Sussex County, Delaware
DNREC Project No. DE-1399

January 2013

Delaware Department of Natural Resources and Environmental Control
Division of Waste and Hazardous Substances
Site Investigation & Restoration Section
391 Lukens Drive
New Castle, Delaware 19720

CONTENTS

- Figures: 1-5
- Glossary of Terms

PROPOSED PLAN OF REMEDIAL ACTION

Burton Island Ash Disposal Site
Operable Unit 2
Dagsboro, Sussex County, Delaware
DNREC Project No. DE-1399

Approval:
This Proposed Plan meets the requirements of the Hazardous Substance Cleanup Act.

Approved by:

Marjorie A. Crofts, Director
Division of Waste and Hazardous Substances

1.8.13
Date

What is the Proposed Plan of Remedial Action?

The Proposed Plan of Remedial Action (Proposed Plan) summarizes the clean-up (remedial) actions that are being proposed to address contamination found at the Site for public comment. A legal notice is published in the newspaper for a 20-day comment period. DNREC considers and addresses all public comments received and publishes a Final Plan of Remedial Action (Final Plan) for the Site.

What is the Burton Island Ash Disposal Site OU2?

The Burton Island Ash Disposal Site (Site) is an inactive and unoccupied area on the premises of the Indian River Generating Station (IRGS).

The Site consists of three Operable Units (OUs), as follows:

- **OU1:** shoreline, intertidal zone, and vicinity within the footprint of the portion of the erosion control project surrounding the landfill.
- **OU2:** the landfill/land areas landward (inside) of the footprint of the erosion control project.
- **OU3:** the subtidal sediments and the waters seaward (outside) of the footprint of the erosion control project.

NOTE: *Except for the requirements for a site-wide Operations and Maintenance Plan and a Uniform Environmental Covenant, this Proposed Plan applies only to OU2. OU1 and OU3 were addressed previously in August 5, 2008 Final Plan of Remedial Action.*

What happened at the Burton Island Ash Disposal Site OU2?

IRGS is an active coal-fired electrical generating facility which has operated from 1957 through the present. The previous owner-operator of IRGS, Delmarva Power & Light Company (DP&L) used the Burton Island Ash Disposal Site for ash disposal from 1957 to 1979. Also, the Site has been reported to have been used for disposal of dredge spoils. The current site owner/operator is Indian River Power LLC (IRPLLC) (a subsidiary of NRG Energy), which purchased IRGS from DP&L in 2001.

In the summer of 2005, DNREC personnel observed erosion of ash-like material into Indian River and Island Creek. DNREC conducted a Site reconnaissance and obtained one sample each

of sediment and soil. Both samples were found to be contaminated with metals above DNREC's Uniform Risk-Based Standards (URS).

DNREC notified IRPLLC and DP&L of the need for investigation and possible remediation. IRPLLC entered into a Voluntary Cleanup Agreement with DNREC-SIRS to address the contamination. DP&L has refused to participate in site investigation or remediation activities.

What is the environmental problem at the Burton Island Ash Disposal Site OU2?

Soil, groundwater, pond water, and pond sediment are contaminated with coal ash containing several metals (most importantly arsenic, barium, mercury, selenium, and thallium). This contamination poses risks to certain aquatic and terrestrial wildlife and, under certain extreme circumstances, a slight potential cancer risk to humans.

What does the owner want to do at the Burton Island Ash Disposal Site OU2?

Following completion of the remedy, the Site is intended to be maintained in an undeveloped condition and will not be accessible to the public.

What additional clean-up actions are needed at the Burton Island Ash Disposal Site OU2?

DNREC proposes the following remedial actions for the Site, which need to be completed before a Certificate of Completion of Remedy (COCR) can be issued:

1. Grading of bare areas or other targeted areas of OU2 (about 2.5 acres), including pond banks, to stable slopes and covering of bare areas with at least 12″ of clean imported soil (including a topsoil layer of at least 3″). Marker fabric shall be used under the clean soil cover to provide a visual indication of the boundary between ash and clean fill.
2. Revegetating the covered areas with appropriate native vegetation, including grass seed mix(es) as well as shrubs and trees.
3. Implementation of daily (initially) perimeter patrols to inspect for signs of trespassing.
4. Implementation of a site-wide (all OUs) DNREC-approved Long-Term Stewardship (LTS) Plan to ensure the continued integrity of the remedy. The LTS Plan will specify requirements including, but not limited to:
    - Frequency and nature of inspections and reporting;
    - Disturbance of the soil cover by erosion, fire, burrowing animals, trespassers, etc., or through loss of existing or newly installed vegetation;
    - Inspections before, during, and after major storm or flooding events or other events that may affect the remedy;
    - Control of invasive species in remediated areas;
    - Periodic monitoring of groundwater, surface water, and sediment;

- Site security; specifically prevention and reporting of trespassing;
- Potential future impacts of sea level rise or extreme weather related to climate change;
- Corrective action as and when needed.

5. A site-wide (OU1 & 2) Environmental Covenant, consistent with Delaware's Uniform Environmental Covenants Act (Title 7, Del. Code Chapter 79, Subtitle II) (UECA), will be recorded in the office of the Recorder of Deeds to include the following:

    - Land Use Restrictions restricting future land use at the entire Site to non-residential (commercial/industrial);
    - Prohibit interference with the remedy;
    - Prohibit land disturbing activities without prior written approval by DNREC;
    - Comply with the established Long Term Stewardship Plan;
    - Prohibit the installation of groundwater wells for drinking water purposes without the prior written approval of DNREC.

What are the long term plans for the Site after the cleanup?

The Site is intended to be maintained in an undeveloped condition and will not be accessible to the public. Use of the Site will be restricted to non-residential (commercial/industrial) purposes by recording the environmental covenant.

How can I find additional information or comment on the Proposed Plan?

The complete file on the Site including the Remedial Investigation Report and other reports are available at the DNREC office, 391 Lukens Drive in New Castle, 19720. Most documents are also found on: http://www.nav.dnrec.delaware.gov/DEN3/

The 20-day public comment period begins on January 16, 2013 and ends at the close of business (4:30 pm) on February 8, 2013. Please send written comments to the DNREC office at 391 Lukens Drive, New Castle, DE 19720 to Gregory DeCowsky, Project Officer, or Robert Newsome, Public Information Officer. A Public Hearing will be held on this matter on Thursday, February 7, 2013, at 6:00 pm at Indian River Civic Center, located at 214 Irons Avenue in Millsboro. Verbal or written comments for the record may be submitted at this time.

Figure 1: Site Location.
Figure 2: Site map showing location of Burton Island Ash Disposal Site in relation to Indian River Generating Station.
Figure 3. Approximate proposed targeted soil cover areas.
Figure 4: OU1 (shoreline stabilization armoring) with OU2 beyond.
Figure 5. One of the ponds at the east end of OU2.

GMD:vdh; GMD13000.doc; DE 1399 II B 8

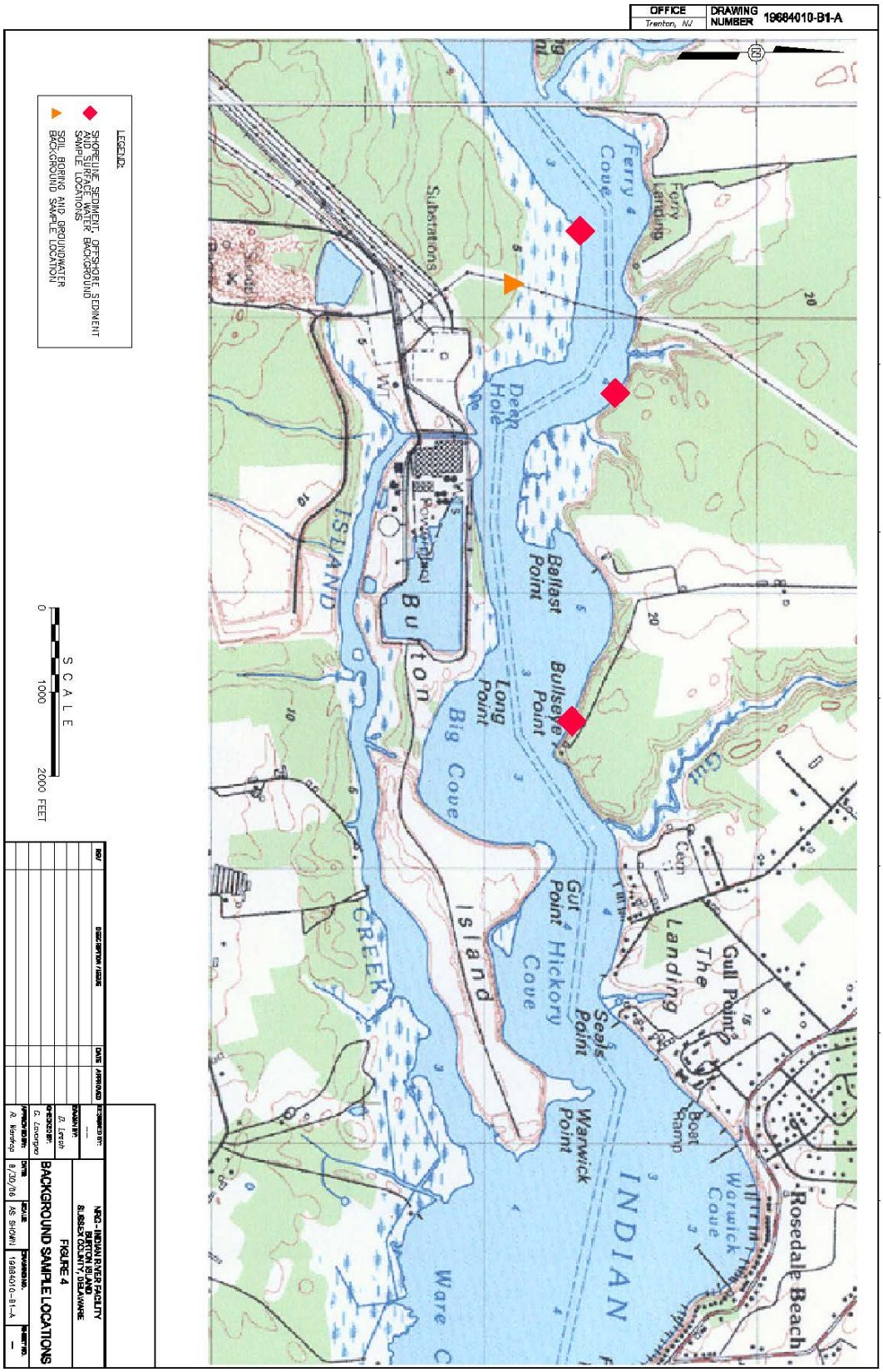

Figure 1: *Site Location.*

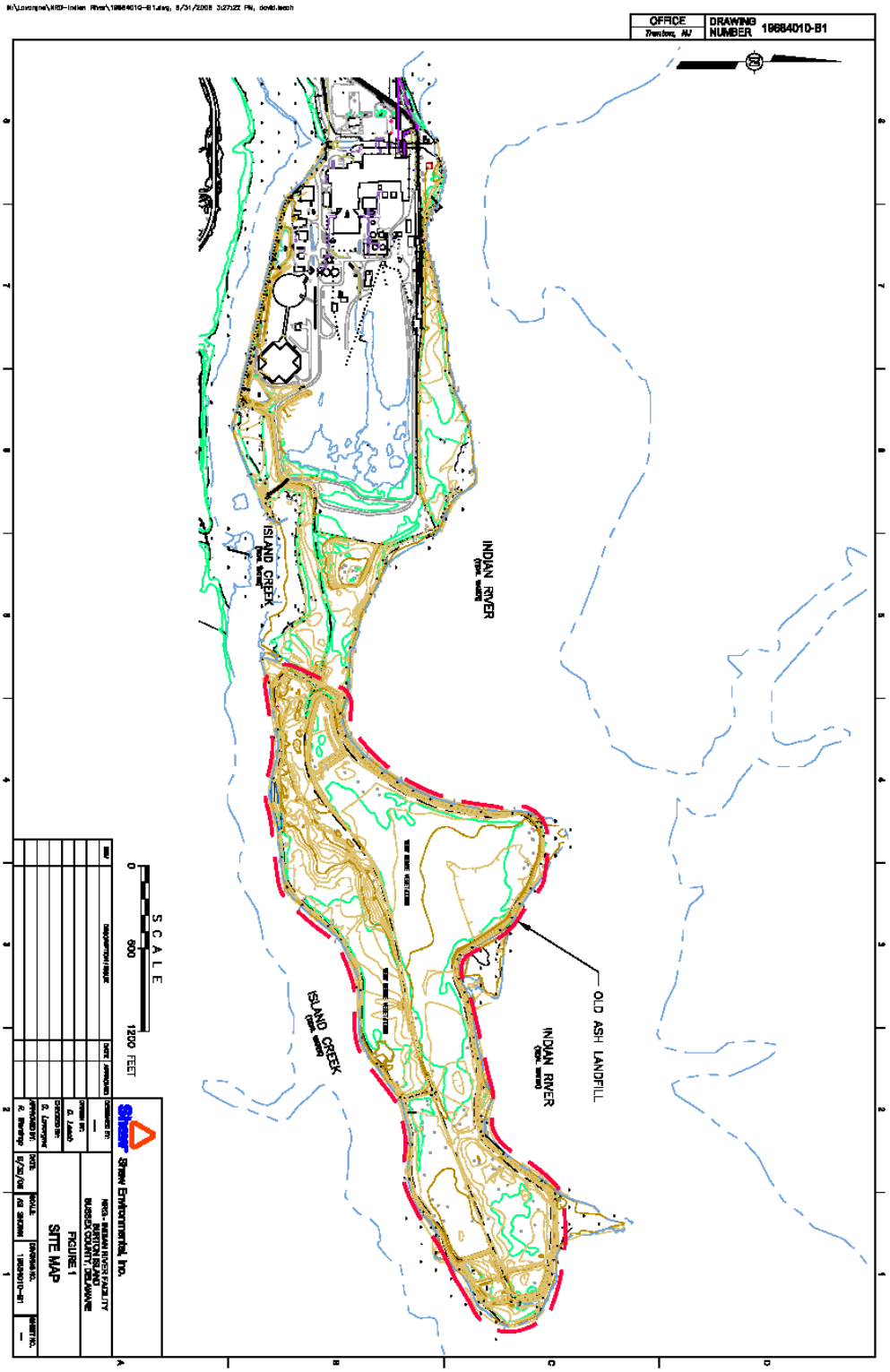

Figure 2. *Site map showing location of Burton Island Ash Disposal Site in relation to Indian River Generating Station.*

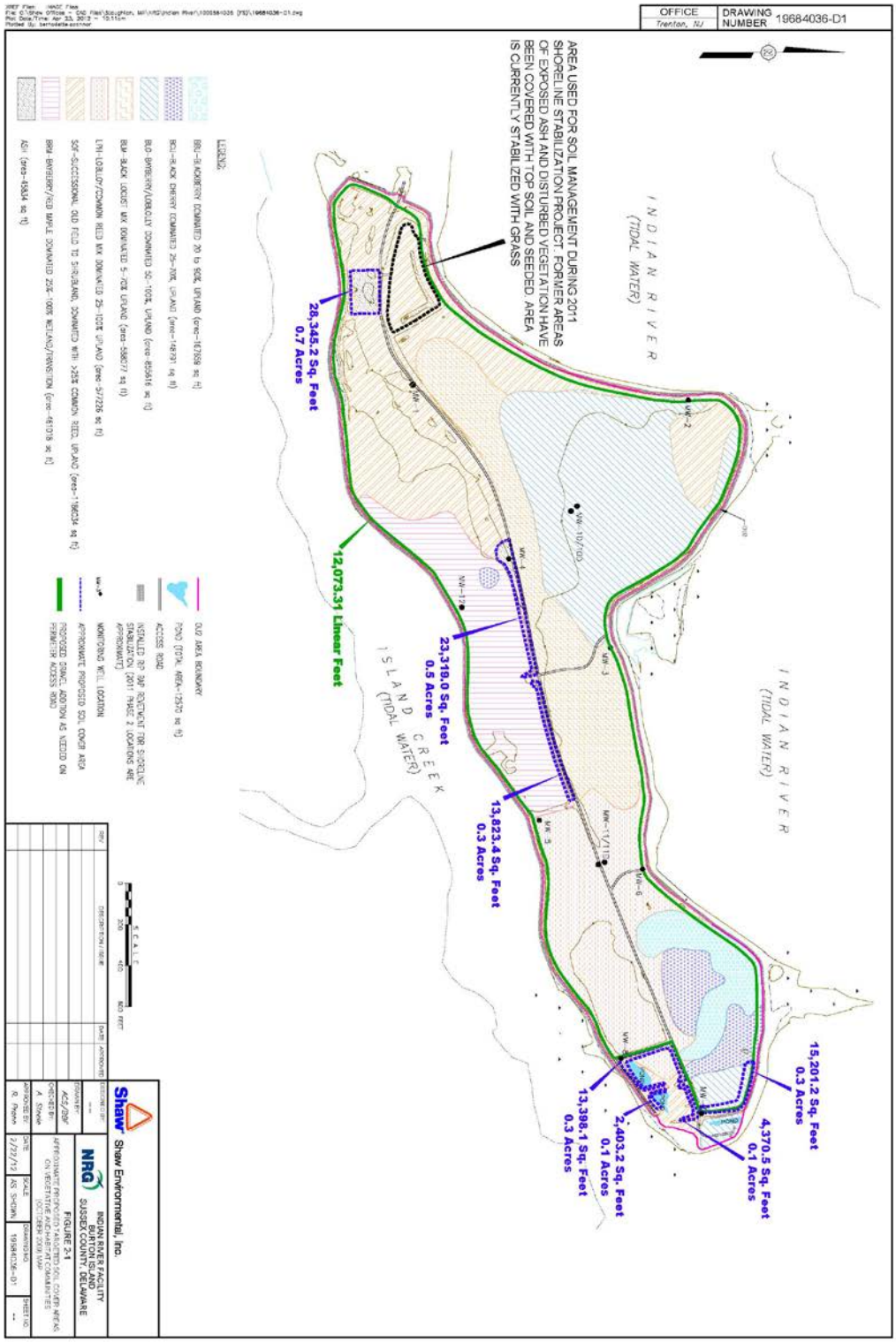

Figure 3. *Approximate proposed targeted soil cover areas (dark blue). (Figure 2-1 from Final Feasibility Study by Shaw Environmental for NRG.)*

Figure 4. *OU1 (shoreline stabilization armoring) with OU2 beyond.*

Figure 5. *One of the ponds at the east end of OU2.*

Glossary of Terms
Used in this Proposed Plan

Aquifer	A geologic formation, group of formations, or a part of a formation capable of yielding groundwater to wells or springs.
Certificate of Completion of Remedy (COCR)	A formal determination by the Secretary of DNREC that remedial activities required by the Final Plan of Remedial Action have been completed.
Contaminant of Concern (COC)	These are potentially harmful substances, *e.g.*, metals, at concentrations above acceptable levels.
Contamination	The introduction of harmful or hazardous matter into the environment.
Facility Evaluation (FE)	If the initial investigation indicates a release or imminent threat of release, DNREC conducts an FE to assess the related risk. This may consist of a review of general facility and existing information and/or a field investigation, including sampling of soil, air, groundwater, surface water, sediments, and animals or plants as appropriate. The scope is flexible and depends on the specific conditions of the facility.
Feasibility Study (FS)	A study undertaken to develop, screen and evaluate options for remedial action, performed after or in combination with a Remedial Investigation (RI).
Final Plan of Remedial Action (FPRA)	DNREC's proposal for cleaning up a hazardous site after it has been reviewed by the public and finalized.
Groundwater	Water below the land surface in the zone of saturation.
Hazardous Substance	(a) Any hazardous waste as defined in 7 *Delaware Code*, Ch. 63, or any hazardous waste designated by regulation issued under 7 *Del. C.*, Ch. 63; (b) Any hazardous substance as defined in CERCLA or regulations issued under CERCLA; (c) Petroleum, including crude oil or any fraction thereof; however, any release of hazardous substances from an underground storage tank which is regulated by 7 *Del. C.*, Ch. 74 or regulations issued under it is not subject to these regulations except that such a release is eligible for funding under Subsection 14.1; (d) Any substance in sufficient concentrations which the Secretary through regulation determines may present risk to the public health, welfare, or the environment.
Hazardous Substance Cleanup Act (HSCA)	Delaware Code Title 7, Chapter 91. The law that enables DNREC to identify parties responsible for hazardous substances releases and requires cleanup with oversight of the Department.

Operable Unit (OU)	The cleanup of a site can be divided into a number of operable units depending on the complexity of the problems associated at a site. Operable units may address geographic portions of a site, specific site problems, or initial phases of an action, or may consist of any set of actions that are concurrent but located in different parts of a site. The determination of an operable unit may vary over time as a result of change in activity or need.
Operations & Maintenance (O&M)	The activities necessary to provide for continued effectiveness and integrity of a remedial action after it is completed. O&M includes all activities needed to ensure effective operation of the remedy under both normal conditions and emergencies. Post-cleanup compliance monitoring (regular testing to determine if the prescribed cleanup levels have been met and if the treated effluent or emission meets discharge requirements) is often included under O&M.
Owner or Operator	(a) Any person owning or operating a facility. (b) Any person who previously owned, operated, or otherwise controlled activities at a facility. (c) The term "owner or operator" does not include an agency of the State or unit of local government that acquired title or control of the facility involuntarily through bankruptcy, tax delinquency, abandonment or other circumstances. (d) The term "control" does not include regulation of the activity by a federal, state or local government agency. (e) The term "owner or operator" does not include a person, who, without participating in the management of a facility, holds indicia of ownership primarily to protect his security interest in the facility.
Proposed Plan of Remedial Action (PPRA)	A plan for cleaning up a hazardous site submitted by DNREC and subject to public comments.

Release	Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing of a hazardous substance, pollutant or contaminant into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant), but exclud[ing]: (a) any release which results in exposure to a person solely within his or her workplace, with respect to a claim which such person may assert against his or her employer; provided, however, that this exclusion does not apply to any such release which also results in exposure to the environment; (b) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel or pipeline pumping station engine; (c) the appropriate and legal application of fertilizers and pesticides; and (d) any discharges in compliance with State permits issued in conformance with Title 7 of the *Delaware Code* and federally permitted releases under CERCLA.
Remedial Investigation (RI)	A detailed evaluation of a release or imminent threat of release of a hazardous substance. An RI is conducted to determine the extent of contamination and the risks to public health and welfare and the environment. It typically includes site characterization, field investigations, and performance of risk assessments as well as collection of engineering data that may be required to complete a feasibility study and or remedial design.
Remedy	Any action, response, or expenditure consistent with the purposes of HSCA, or any regulations or guidance issued under HSCA to identify, minimize, or eliminate any imminent threat posed by any hazardous substances, including preparation of any plans, conducting of any studies and any investigative, oversight, or monitoring activities, and any health assessments, risk assessments, or similar studies conducted to determine the risk or potential risk to public health or welfare or the environment.
Risk	Likelihood or probability of injury, disease, or death.
Sediment	A loose unconsolidated deposit of weathering debris, chemical precipitates, or biological debris that accumulates on Earth's surface; often under water. Sediments which become contaminated are often difficult and expensive to clean up, and provide a pathway for exposure of aquatic animals to hazardous substances.

Site Investigation and Restoration Section (SIRS)	The section within DNREC's Division of Waste and Hazardous Substances (DWHS) which carries out HSCA and the *Delaware Regulations Governing Hazardous Substance Cleanup*, overseeing cleanup and restoration of hazardous substance sites.
Uniform Environmental Covenant (UEC)	A standardized form of a land use restriction that is recorded on the deed and runs with the land. Provisions governing UECs are found in the Uniform Environmental Covenants Act (UECA).
Voluntary Cleanup Program (VCP)	The remedial process established by DNREC under HSCA, that a party willingly enters into (provided its application is approved by DNREC) for the purpose of conducting a remedy at a facility. When a property is contaminated with hazardous substances there are liabilities under Federal and State laws, regardless of who caused the contamination and when it was caused. Because of these liabilities, old industrial sites (with contamination) may not readily attract developers or buyers. Under the VCP, developers and buyers performing the cleanup of contaminated properties are provided protection from potential liabilities for past contamination, provided certain requirements are met.