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Doc #33053

Golder Associates

April 3, 2017

Greg Fuhrmann, LRP Coordinator
Iowa Department of Natural Resources
Land Recycling Program
502 E. 9th St.
Des Moines, IA 50319

RE: LAND RECYCLING PROGRAM APPLICATION
FORMER ELECTROLUX HOME PRODUCTS, INC. MANUFACTURING FACILITY
601 EAST CENTRAL STREET
JEFFERSON, IOWA

Dear Mr. Fuhrmann:

On behalf of Electrolux Home Products, Inc. (Electrolux), Golder Associates Inc. (Golder) submits the attached Land Recycling Program (LRP) Application and associated check for enrollment of the above-mentioned facility into the Land Recycling Program.

Please contact the undersigned and/or Doug Arnold (404-881-7637) if you have any questions.

Sincerely,

GOLDER ASSOCIATES INC.

James S Peace

James S. Peace, PG
Senior Hydrogeologist

Alistair P. T. Macdonald, CPG, LSP
Senior Program Leader and Principal

Attachments

cc: Andrew Stienecker – Electrolux
Doug Ucci - Quantum Management Group, Inc.
Doug Arnold – Alston & Bird LLP

Golder Associates Inc.
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Iowa Department of Natural Resources

CASHIERS USE ONLY
0221-542-221A-0570
Organization
Contact Name

LAND RECYCLING PROGRAM ENROLLMENT APPLICATION

750 -

Please read the department rule in **Chapter 567 Iowa Administrative Code 137** and read the instructions in **Iowa Land Recycling Program Guidance Document #1** before completing this form.

PART A: Participant Information

Organization: Electrolux Home Products, Inc.	Title: Associate General Counsel
Contact Name: Andrew Stienecker	Telephone Number: (980) 236-2848
Address: 10200 David Taylor Dr.	Fax Number:
City, State, Zip: Charlotte, NC 28262	E-mail Address: Andrew.Stienecker@electrolux.com

Attachment A1 - Nature of Participation: Pertaining to the participant identified above, describe the reason(s) for participation in this program, legal relationship to the property being enrolled, and the expected role and scope of participation. Include this information as **Attachment A1.**

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Attachment A2 - Additional Participants: If there is more than one participant, please attach the above information for each participant and label it as **Attachment A2.**

Attachment A3 - Interested Parties: If there are other interested parties, please identify them and describe their relationship to this project. Include this information and label it as **Attachment A3.**

PART B: Property/Affected Area and Access Information

Property Name: Former Electrolux Manufacturing Facility
Address/Location: 601 East Central Street
City and Zip: Jefferson 50129
County: Greene
Property Owner (fee title holder): Electrolux Home Products, Inc.
Property Owner Mailing Address: 10200 David Taylor Drive, Charlotte, NC 28262
I, the fee title holder of the property identified in Part B, grant access/control to that property for the purpose of participating in the Iowa Land Recycling Program. Signature: _____ Date: 3-31-17

Attachment B1 -Property Access: If access has not been obtained for the property/affected area identified in **Part B**, please attach an explanation of the efforts taken to obtain access and, if appropriate, the reasons given for refusal. Please label it as **Attachment B1 - Property Access.**

Attachment B2 - Additional Property to be Enrolled: If the affected area is known to extend to properties other than the one identified in **Part B**, then please attach all the information requested under **Part B** for those additional properties as **Attachment B2 - Additional Property to be Enrolled.**

PART C: Hazardous Substance Information

Attachment C1 - Condition to be Addressed: Please attach information documenting the environmental condition which is the subject of this enrollment. Please label it as **Attachment C1 - Condition to be Addressed.** For information regarding the contents of this attachment, please consult **Iowa Land Recycling Program Guidance Document #1.**

Attachment C2 - Other Known Contamination: For contamination other than that covered in **Attachment C1**, which is known and reportable, please attach relevant information as **Attachment C2 - Other Known Contamination.** See the **Iowa Land Recycling Program Guidance Document #1** for further details.

PART D: Historical Information

Attachment D - Historical Information: Please give a general description of the current and historical uses of the property or properties identified in **Part B**, based on a reasonable and diligent inquiry. Identify known or probable sources and locations of hazardous materials which could reasonably be associated with past land use. Please attach this as **Attachment D - Historical Information.**

PART E: Project Objectives

Attachment E: Please attach a statement of project objectives as **Attachment E.** This should include the following information, insofar as it is known:

E1 - Current Setting: A general description of the property and its vicinity, including: current zoning and type of land use (e.g., commercial, industrial, residential).
E2 - Future Setting: Planned or probable future uses of the property or its vicinity.
E3 - Time Table: Expected time frame for activities reflected in item **E2.**
E4 - Estimate of Project Magnitude: A general description of the nature and magnitude of the environmental contamination to be addressed and the probable means of addressing it.
E5 - Anticipated Obstacles to Completion: A description of any foreseeable barriers to achieving project objectives, such as: access to property; financing uncertainties; legal actions; allocation of responsibility among parties; etc.

PART F: Other attachments (Attachments F1 through F3 are required only if applicable.)

Attachment F1 - General Environmental Regulatory Actions and Permits: Attach a list of all known permits or regulatory actions and directives associated with environmental conditions at the site as **Attachment F1 – General Environmental Regulatory Actions and Permits.**

Attachment F2 - Federal Environmental Regulatory Actions: Attach an explanation of any federal regulatory corrective action directives, administrative orders or judicial actions associated with environmental conditions at the site as **Attachment F2 - Federal Environmental Regulatory Actions.**

Attachment F3 - Proof of Federal Notification: Submit written proof that the federal regulatory agency, associated with responses to F1 or F2, has been notified regarding the intent to enroll the site in the Iowa Land Recycling Program.

Attach the $750 application fee payable to the Iowa Department of Natural Resources and main along with the form to:

Department of Natural Resources
Contaminated Sites
502 E 9th St
Des Moines, IA 50319

Applicant signature: _____ **Date:** 3-31-17

For DNR office use:

Reviewed by: _____ Date: _____

Review Action: ☐ Approved ☐ Denied ☐ Withdrawn

Explanation attached if denied or withdrawn

PART A – PARTICIPANT INFORMATION

ATTACHMENT A1 – Nature of Participation

Electrolux Home Products, Inc. (Electrolux) requests enrollment into the Land Recycling Program (LRP) to work collaboratively with the Iowa Department of Natural Resources (IDNR) to address chlorinated volatile organic compound (CVOC) and petroleum-impacted soil and groundwater at the Electrolux property located at 601 East Central Street in Jefferson, Iowa. (Site). Electrolux owns the Site and is responsible for performing assessment activities and remedial actions, if needed. The objective of Electrolux's enrollment in the LRP will be to achieve a no further action required certification from IDNR.

ATTACHMENT A2 – Additional Participants

There are no additional participants associated with this Site.

ATTACHMENT A3 – Interested Parties

There are no interested parties at this time.

PART B – PROPERTY / AFFECTED AREA AND ACCESS INFORMATION

ATTACHMENT B1 – Property Access

Electrolux owns the Site and there are no access limitations.

ATTACHMENT B2 – Additional Property to be Enrolled

There are no additional properties that need to be enrolled in this LRP application.

PART C – HAZARDOUS SUBSTANCE INFORMATION

ATTACHMENT C1 – Condition to be Addressed

In 2010, Electrolux commissioned Golder Associates Inc. (Golder) to review the Site history and develop an environmental assessment plan to evaluate subsurface conditions downgradient and exterior of the facility buildings as part of Site closure activities. Electrolux then voluntarily assessed Site subsurface conditions using a phased approach. Golder completed assessment activities between 2010 and 2016. As a result of these assessment activities, Electrolux delineated the nature and extent of Site soil and groundwater impacts and assessed potential environmental receptors on or near the Site. The following is a summary of assessment findings.

The Site is underlain by approximately 90 feet of glacial till overlying a sand gravel unit referred to as the Pleistocene Sand and Gravel Unit. Geologic conditions encountered during Site assessment activities is consistent with geologic information provide in IDNR databases and literature review. The glacial till is comprised on the following units (from ground surface):

- An oxidized brown till
- An unoxidized gray till
- A coarser-grained yellow-brown till
- Dark gray till

All of the glacial till units are characterized as aquitards, with the exception of the yellow-brown till.

Assessment of the soils and/or groundwater samples included the analysis of one or more of the following parameters:

- Volatile organic compounds (VOCs) using EPA Method 8260C
- Semi-volatile organic compounds (SVOCs) using EPA Method 8270D
- Resource Conservation and Recovery Act (RCRA) eight metals (arsenic barium, cadmium, chromium, lead, mercury, selenium, and silver) using various methods
- Polychlorinated biphenyls (PCBs) using EPA Method 8082
- Total extractable hydrocarbons (TEH) using Iowa Method OA-2
- Total Petroleum Hydrocarbons (TPH) gasoline using Iowa Method OA-1
- Oil and grease using EPA Method 1664A or Method SW 9071 A
- Parafinic, Isoparafinic, Aromatic, Naphthenic, Olefinic (PIANO) and Petroleum Hydrocarbon Identification analysis of the light, non-aqueous-phase liquid (LNAPL)

Key Site assessment findings include:

- The highest trichloroethylene (TCE) concentrations in groundwater occur in the upper tills near a former concrete steel-lined trench on the eastern side of former Building 1 and just to the south of this area outside of the former building footprint. Detected concentrations attenuate rapidly horizontally, downgradient of this area and reach non-detect levels well before the property boundary. TCE has not been detected above the MCL of five micrograms per liter (ug/L) in samples from wells screened in the upper tills located along the former facility boundary line (the Electrolux property boundary is located approximately 300 feet south of the facility boundary).

- The horizontal distribution of cis-1,2-dichlorothylene (cis-1,2-DCE) impacted groundwater is similar to TCE except that it extends further to the west beneath former Building 1. At many sample locations, the concentration of cis-1,2-DCE is two or more times greater than the concentration of parent compound, TCE. This indicates that significant natural degradation of TCE is occurring within Site groundwater. The larger areal extent of cis-1,2-DCE suggests that some areas formerly impacted by TCE may have fully degraded to cis-1,2-DCE.
- The laboratory detected 1,4-dioxane in three of the 18 groundwater samples collected during the October 2013 sampling event. Detected concentrations ranged from 144 ug/L to 618 ug/L. Laboratory reporting limits for 1,4-dioxane varied by sample depending on the concentration of other compounds (e.g., elevated TCE concentrations resulted in higher 1,4-dioxane reporting limits). IDNR's Statewide Standard for a Non-Protected Groundwater Source for 1,4-dioxane is 1,000 ug/L. The till units at the Site meet IDNR's definition of a Non-Protected Groundwater Source. All detected 1,4-dioxane concentrations and reporting limits for non-detect samples are below the Non-Protected Groundwater Source Standard.
- TCE impacts extend into the yellow-brown till beneath the area of highest TCE impact. The downgradient extent of TCE impacts in the yellow-brown till extends to the southern facility boundary but still on the Electrolux property. Analytical data indicate VOC concentrations attenuate downgradient and do not extend beyond the Electrolux property line located approximately 300 feet to the south of the former manufacturing facility.
- No Site-related VOCs have been detected at concentrations above the laboratory reporting limit in groundwater samples collected from the monitoring well screened in the Pleistocene Sand and Gravel Unit. Groundwater impacts from the Site do not extend to the Pleistocene Sand and Gravel Unit.
- The horizontal distribution of total extractable hydrocarbons (TEH) includes three distinct areas of petroleum impacts primarily within the footprint of the former building. Based on the screening and analytical data, the petroleum is associated with cutting or machining oils.

Detailed Site Assessments, Work Plans, and Risk Evaluations are provided in the following reports (provided on attached CD):

- Letter Report, Former Electrolux Manufacturing Facility, 601 East Central Street, Jefferson, Iowa, dated May 13, 2011.
- Work Plan for Supplemental Soil and Groundwater Assessment, Former Electrolux Manufacturing Facility, 601 East Central Street, Jefferson, Iowa, dated January 26, 2012.
- Supplemental Soil and Groundwater Assessment, Former Electrolux Home Products, Inc. Facility, Jefferson, Iowa, dated September 4, 2012.
- Work Plan Addendum for Supplemental Soil and Groundwater Assessment, Former Electrolux Manufacturing Facility, 601 East Central Street, Jefferson, Iowa, dated October 5, 2012.
- Supplemental Soil and Groundwater Assessment Addendum, Former Electrolux Home Products, Inc. Facility, Jefferson, Iowa, dated May 15, 2013.
- Supplemental Soil and Groundwater Assessment Addendum No. 2, Former Electrolux Home Products, Inc. Facility, Jefferson, Iowa, dated January 7, 2014.
- Site Assessment Summary Report, Former Electrolux Home Products, Inc. Facility, Jefferson, Iowa, dated October 18, 2016.
- Documentation of Environmental Indicator Determinations – Risk Evaluation - Human Health and Groundwater, dated January 17, 2017.

ATTACHMENT C2 – Other Known Contamination

No other contamination is known to be present.

PART D – HISTORICAL INFORMATION

ATTACHMENT D – Historical Information

Electrolux's predecessor, White Consolidated Industries, developed the Site in 1960 to manufacture dishwasher motor transmissions. Historical activities at the property included machining, heat treating, degreasing, metal fabrication, powder coating, warehousing, and testing of washing machine transmissions. The approximately 20.75 acre Site was previously improved by a 75,542 square-foot single-story former manufacturing/office/warehouse building constructed in 1960, with additions constructed in 1973, 1984, 1988, and 1992. The area of the Site formerly used for manufacturing operations encompassed approximately 7.5 acres of the 20.75-acre property owned by Electrolux (herein referred as the "facility" or ""former manufacturing area"). The remainder of the property, south and east of the facility, was previously leased for agricultural use. Prior to development by White Consolidated Industries, the property was used for agricultural purposes.

Site records indicate that Electrolux used five underground storage tanks (USTs), registered with IDNR (registration No.: 198603490), to store petroleum products including cooling oil, used oil, and hydraulic oil. Electrolux closed all five USTs in the mid to late 1980s and 1990. On January 11, 1991, Electrolux received a No Further Action letter from IDNR regarding the UST removal activities performed in 1990.

According to Site personnel, the facility had two former aboveground degreasers and one solvent aboveground storage tank (AST). The solvent AST was located in a small building located on the western side of the main Site building. Multiple machine pits and trenches exist within the former manufacturing area.

PART E – PROJECT OBJECTIVES

ATTACHMENT E1 – Current Setting:

Electrolux closed the manufacturing facility in March 2011, decommissioned and removed the manufacturing equipment and other items from the facility buildings, and demolished the buildings. The concrete building slabs, parking areas, chain-link fence, and sidewalks are still in place and maintained. The agricultural leases for the undeveloped portions of the Site were terminated in 2012.

According to the Greene County Assessor's Office, the Site is currently referenced as Parcel Pin # 11-05-400-007. Properties immediately adjacent to the Site include:

- North: East Central Street and further north, agricultural fields.
- East: Agricultural fields.
- West: A railroad spur servicing a feed grain company located north of the Site and further west, North Cedar Street and residential properties.
- South: Railroad tracks and agricultural fields.

ATTACHMENT E2 – Future Setting

Electrolux has assessed and confirmed that Site soil and groundwater impacts do not extend off Electrolux-owned property. Electrolux intends to maintain control of the Site and implement appropriate land use restrictions, as necessary. Although Electrolux has no immediate plans for redevelopment of the Site. If appropriate, potential future use of the Site would be restricted to industrial use until such time it is determined to be suitable for other potential uses.

ATTACHMENT E3 – Time Table

Electrolux has systematically and adequately delineated the nature and extent of impacts to Site soil and groundwater and intends to implement appropriate closure actions associated with the Site in accordance with the IDNR LRP program requirements in a timely manner.

ATTACHMENT E4 – Estimate of Project Magnitude

Petroleum compounds (total extractable hydrocarbons) and CVOCs are present on Site at concentrations above IDNR's state standards. Any potential risk posed by the petroleum-impacted soil is low as analysis of the samples indicates the absence of typical risk-driving compounds (e.g., benzene, ethylbenzene, toluene, xylene, etc.) and SVOCs (e.g., benzo-a-pyrene, benzo-a-anthracene, and anthracene). Fingerprint analysis of LNAPL-impacted soils indicates that the oils have undergone significant weathering and degradation.

The most frequently detected compounds above United States Environmental Protection Agency's (USEPA) Maximum Contaminant Levels (MCLs) and/or IDNR's Statewide Standard for a Non-Protected Groundwater Source are TCE and its associated degradation product, cis-1,2-DCE. VOCs detected less frequently and/or at lower concentrations include additional breakdown products of TCE, 1,1,1-trichloroethane (TCA). Electrolux has also observed the presence of LNAPL in two monitoring wells on-Site.

Site data indicate that significant anaerobic biological reductive dechlorination is occurring in soils and groundwater which, along with the generally low transmissivity of the till materials, limits the horizontal and vertical extent and potential migration of CVOC impacts. Most of the CVOC and petroleum-impacted soils and groundwater at the Site are present below the concrete slab floor and are not accessible for direct dermal exposure.

Petroleum and CVOC-impacted soil and groundwater is confined primarily to the facility (i.e., former developed portion of the Site) boundaries. Golder did not detect any VOCs or petroleum compounds above the MCLs and/or laboratory reporting limits in groundwater samples collected from monitoring wells screened within the oxidized brown and unoxidized gray tills along the southern facility boundary. VOC impacts to groundwater in the yellow-brown till also attenuate near the southern facility boundary. The Electrolux property boundary is located approximately 300 feet south of the facility boundary Groundwater samples collected from the monitoring well screened in the Pleistocene Sand and Gravel unit indicate that Site impacts have not migrated to this unit. The area of impacted groundwater is confined to the Electrolux-owned property.

To assess potential human health and groundwater receptors from Site impacts, Golder performed a risk evaluation following completion of the assessment activities. Golder used a format similar to the Environmental Protection Agency's Documentation of Environmental Indicator (EI) Determination (Interim Final 2/5/99). The EI Determination assesses risk under two categories: (1) Current Human Exposures Under Control, and (2) Migration of Contaminated Groundwater Under Control. The EI Determination form provides the rationale for reviewing potential receptors (e.g., vapor intrusion, groundwater migration) on and/or near the Site and for developing a groundwater monitoring program.

The risk evaluation determined that there are no receptors, such as public drinking water supply wells, streams or rivers, public use areas, or occupied buildings (i.e., vapor intrusion concerns), near the Site. Most of the impacted soil and groundwater areas are located beneath the concrete slab of the former buildings or concrete-paved driveways. Impacted soils in the landscaped areas are typically encountered two to three feet below ground surface. The former manufacturing facility is surrounded by a secure perimeter chain-link fence to deter trespassers.

Electrolux proposes to develop and implement a long-term groundwater monitoring program as part of a proposed monitored natural attenuation MNA remedy. In addition, Electrolux proposes to implement appropriate administrative controls (i.e. land use restrictions) including maintaining areas inside the secure fenced portion of the Site

ATTACHMENT E5 – Anticipated Obstacles to Completion

Electrolux does not anticipate any substantial barriers to completion of the LRP process.

PART F – OTHER ATTACHMENTS

ATTACHMENT F1 – General Environmental Regulatory Actions and Permits

Electrolux is not aware of any regulatory actions or directives for the Site. The Electrolux Jefferson Site was formerly a small quantity generator (SQG) of hazardous waste under the Resource Conservation and Recovery Act (RCRA). The Jefferson Site was never a large quantity generator, held any treatment, storage, or disposal permits under RCRA or had any other RCRA non-compliance issues or enforcement actions with any regulatory agencies. Although not subject to RCRA Corrective Action, Electrolux has been voluntarily assessing Site soils and groundwater with oversight from USEPA Region 7 since 2011.

ATTACHMENT F2 – Federal Environmental Regulatory Actions

The Electrolux Jefferson site is not subject to any federal regulatory corrective action directives, administrative orders, or judicial actions associated with any environmental conditions at the Site.

ATTACHMENT F3 – Proof of Federal Notification

Not applicable. There are no known past actions, corrective action directives, administrative orders, or judicial orders for the Site. Electrolux and Golder representatives met with USEPA on March 1, 2017 to discuss enrollment of the Site into the IDNR LRP program. Based on the assessment activities completed to date, USEPA staff recommended that Electrolux apply for inclusion of the Site into the IDNR LRP program.