



RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

CERTIFIED MAIL

July 24, 2008

Mr. Gregory L. Simpson
Project Manager
Textron, Inc.
40 Westminster Street
Providence, RI 02903

RE: Order of Approval – Short Term Response Action
Former Gorham Manufacturing Facility – Parcel A Retail Complex
333 Adelaide Ave., Providence, RI, Plat 51, Lot 170
Case No. 97-030

Dear Mr. Simpson:

Enclosed please find the Order of Approval (Order) for the proposed remediation plan for the above referenced facility. Please review the stipulations of this Order thoroughly to ensure your compliance with the requirements. This Order places primary responsibility for the construction, operation, maintenance and monitoring of the approved Short Term Response Action Work Plan (STRAWP) on Textron, Inc. (Textron). In order to enable the Department to monitor Textron's compliance with the STRAWP, the Order requires Textron to notify the Department of any condition that is non-compliant with the Order or that constitutes an interruption of the STRAWP. In order to maintain compliance with the Order and the STRAWP, Textron's responsibilities under the Order necessarily include the responsibility to respond to and correct non-compliant conditions in a timely, proactive and professional manner that minimizes non-compliance with the Order and STRAWP, and protects human health and the environment.

Please notify this office 48 hours prior to the beginning of any work related to the implementation of the STRAWP. If you have any questions regarding this matter, please contact me at (401) 222-2797 x7109.

This Order shall be recorded in the land evidence records of the City of Providence as required by law, and a recorded copy must be returned to the Department within 7 days of recording.

Sincerely,

Joseph T. Martella II
Senior Engineer, Office of Waste Management

cc: Terrence D. Gray, P.E., Assistant Director, RIDEM/AW&C
Leo Hellested, P.E., Chief, RIDEM/OWM
Kelly J. Owens, RIDEM/OWM
John Langlois, Esq., RIDEM/OLS
Douglas McVay, RIDEM/OAR
Barbara Morin, RIDEM/OAR
Robert Vanderslice, PhD, RIDOH
Dr. Robert Vanderslice, PHD, RIDOH
Tammie A. McRae, ATSDR
Hon. David N. Cicilline, Mayor, City of Providence
Senator Juan M. Pichardo, District 2
Representative Thomas Slater
Councilman John J. Lombardi
Councilman Leon F. Tejada
Thomas Deller, City of Providence
Sara Rapport, Esq., City of Providence
David Heislein, Mactec
Knight Memorial Library – Project Repository

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

**In the matter of Remedial Action Approval at:
Former Gorham Manufacturing Facility – Parcel A Retail Complex
333 Adelaide Avenue, Providence, RI, Plat 51, Lot 170 (the Site)**

Case No. 97-030

ORDER OF APPROVAL

In the above entitled matter wherein, **Textron, Inc. (Textron)**, in its capacity as **Responsible Party for the remediation of property located at 333 Adelaide Avenue, Providence**, has filed the following documents with the Rhode Island Department of Environmental Management (the Department):

1. Active Soil Depressurization System Design, Former Gorham Manufacturing Facility, Parcel A Retail Complex, 333 Adelaide Avenue, Providence, Rhode Island (ASD System Design), prepared by MACTEC Engineering and Consulting, Inc. (Mactec), and dated March 31, 2008;
2. Short Term Response Action Work Plan, Retail Complex Sub-Slab Soil Mitigation, Former Gorham Manufacturing Facility, 333 Adelaide Avenue, Providence, Rhode Island (STRAWP), prepared by Mactec, and dated May 9, 2008;
3. Response to RIDEM Comments - Short Term Response Action Work Plan, Retail Complex Sub-Slab Soil Mitigation, Former Gorham Manufacturing Facility, 333 Adelaide Avenue, Providence, Rhode Island (Response to STRAWP Comments), prepared by Mactec, and dated June 26, 2008; and
4. Revised Figure C-101 (Existing Conditions Plan and Proposed Layout), prepared by Mactec, and dated July 8, 2008.

Subject to the conditions herein, these documents are consistent with the requirements of Section 6.00 (Emergency and Short-Term Response) of the Department's Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations), as amended February 24, 2004. These documents also describe a plan to remediate existing contamination pursuant to RI General Laws 23-19.14-1 et seq., and the Department's Remediation Regulations, as amended February 24, 2004, in accordance therewith.

This Order of Approval (Order) places primary responsibility for the construction, operation, maintenance and monitoring of the approved Short Term Response Action (STRA) on Textron. In order to enable the Department to monitor Textron's compliance with the Short Term Response Action Work Plan (STRAWP), the Order requires Textron to notify the Department of any condition that is non-compliant with the Order or that constitutes an interruption of the STRA and to take immediate action to correct the non-compliant condition. In order to maintain compliance with the Order and the STRAWP, Textron's responsibilities under the Order necessarily include the responsibility to independently and proactively respond to and correct non-compliant conditions in a timely manner.

As the responsible party and performing party, Textron is expected to implement the STRAWP semi-autonomously; i.e. with Department oversight but without the need for constant Department direction or approval of Textron's activities. Textron is also responsible for promptly addressing non-compliant site conditions (e.g. equipment malfunctions or exceedances of established contaminant limits). Upon identifying any non-compliant condition, Textron is expected to act accordingly to develop and implement an appropriate response to re-establish compliance. Textron's response(s) to non-compliant conditions must be implemented in an expeditious and professional manner that minimizes non-compliance with the Order and STRAWP, and protects human health and the environment.

It is the Department's intent that this Order implement clear and specific timelines for deliverables that must be met by Textron with respect to the on-site monitoring, reporting and operation & maintenance requirements necessary to maintain the Remedy in a state of compliance.

Upon consideration thereof, and in accordance with Rule 10.1 (Remedial Action Approvals) of the Remediation Regulations, the Department conditionally approves said STRAWP through this Order, provided that:

- 1) All work, operations, activities and schedules shall be performed in accordance with the terms and conditions of this Order, the Department approved STRAWP, and all other applicable federal, state and local laws and regulations.
- 2) Textron shall prepare and distribute a community notice to the residents in the reservoir triangle neighborhood and to other interested parties (e.g. community groups and local elected officials). The notice shall be printed in English and Spanish and shall include an estimated schedule for remedial activities and construction, a brief description of the work to be performed and the precautions to be taken to protect the community, and appropriate contact information for Textron and its on-site contractors (including but not limited to, contact names, telephone numbers, and e-mail addresses) to address public concerns.
- 3) Work shall be initiated at the Site within sixty (60) days of receipt of this Order.
- 4) No hazardous waste shall be accepted from any off-site sources for treatment or disposal at the Site.
- 5) Sampling and analysis of all media involved in the Remedial Action shall be conducted in accordance with the requirements of the STRAWP, this Order, and the Remediation Regulations.
- 6) The Site remedy as described in the STRAWP shall incorporate the following:
 - a) All work, operations, activities, monitoring and sampling shall be performed to ensure that the applicable remedial objectives for the site are achieved for all hazardous substances at the site, so as to manage actual or potential risks to human health and the environment.

- b) Construction, installation, maintenance and continuous operation of four (4) individual Active Soil Depressurization (ASD) systems (one system for the main building and an individual ASD system for each of the three small retail units). Each ASD system will be designed to provide ample sub-slab depressurization to reduce the migration of soil vapor contamination from under the building into indoor air, to prevent the accumulation and/or buildup of volatile organic compound (VOC) vapors, and to ensure levels of VOC vapors are maintained below applicable “Action Levels.” Each ASD system shall also be equipped with “no flow” condition alarms, and system operation and maintenance will include periodic monitoring and compliance sampling of VOC levels below the building (at extraction well monitoring points), within the building (at Department approved indoor air sampling locations), and in the extracted soil vapor (measured at ASD system discharge points).
- c) In accordance with the Department’s Office of Air Resources (OAR), Air Pollution Control Regulation No. 9 - Air Pollution Control Permits, Rule 9.3.2 (Exemptions), prior to the construction, installation or modification of the ASD systems, Textron shall file a registration form with the OAR. Following the installation of the ASD systems, their proper operation shall be evaluated by periodic compliance sampling with analytical laboratory testing to demonstrate compliance with the Department approved performance criteria in the final STRAWP, and to verify actual emission values, in order to confirm that an Air Pollution Control (APC) permit is not required under the OAR APC Reg. No. 9.
- d) Implementation of a long term vapor and air-monitoring and compliance sampling program sufficient to ensure site conditions are maintained in compliance with the applicable remedial objectives. Said monitoring and compliance sampling program shall include at a minimum:
 - i) Incorporation of remedial “Action Levels” as follows:
 - (1) The remedial Action Level for VOCs shall be the Connecticut Residential Proposed Target Indoor Air Concentrations (TACs). An appropriate analytical method shall be selected with a detection limit (DL) or reporting limit (RL) sufficiently sensitive to allow proper comparison of detected VOC concentrations to each applicable TAC (e.g. speciated VOCs using EPA method TO-15 with the Selective Ion Monitoring [SIM] procedure RLs, or equivalent). Since no analytical laboratory to date has been identified which can reliably achieve the TAC RLs for five (5) of the VOCs (1,2-Dichloroethane, Ethylene dibromide, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, and Bromodichloromethane), their provisional remedial Action Levels shall be their respective SIM procedure RLs, until such time as laboratory technology allows detection of the TACs, or an alternative laboratory capable of lower detection levels is identified. Prior to each analytical sampling round, Textron’s environmental contractor shall contact the laboratory to determine their ability to achieve detection limits consistent with the TACs. The results of each inquiry shall be documented in the quarterly monitoring and compliance sampling reports. Once reporting limits consistent with the TACs are achievable for the five

- listed VOCs, they shall become the required reporting limit, remedial objective and remedial Action Level for those VOCs in air.
- ii) The location of the seven (7) proposed interior air sampling locations (one in each quarter of the main building and one in each of the three small retail units) shall be as described in the June 26, 2008, Response to STRAWP Comments, and revised Figure C-101 (Existing Conditions Plan and Proposed Layout). The Summa canister samples shall be collected in a manner such that the canister intake is at an elevation approximately two (2) feet above floor level, and the samples shall be analyzed for VOCs by EPA TO-15 SIM.
 - iii) The location of the seven (7) proposed extraction wells (EW-1 through EW-7) shall be as described in the STRAWP, and Figure C-101 (Existing Conditions Plan and Proposed Layout).
 - iv) The location of the seven (7) proposed vacuum monitoring wells (VMW-1 through VMW-7) shall be as described in the STRAWP, and Figure C-101 (Existing Conditions Plan and Proposed Layout).
 - v) Performance of baseline indoor air monitoring and compliance sampling within the building interior shall be conducted prior to system start up to evaluate current concentrations of VOCs at the site.
 - vi) A “complete round” of compliance sampling shall include 15 sample locations per sampling event as follows:
 - (1) All seven (7) interior air sampling locations (one in each quarter of the main building and one in each of the three small retail units);
 - (2) All seven (7) extraction well sample collection locations (EW-1 through EW-7);
 - (3) A minimum of one (1) ambient air sample collected from a representative background location outside of the building.
 - (4) All samples shall be analyzed for VOCs by EPA TO-15 SIM.
 - (5) Operational testing of all system components to verify proper system operation, including vacuum monitoring and individual system flow switches and the auto dialer.
 - vii) The schedule for periodic compliance sampling and compliance monitoring shall be as follows:
 - (1) Beginning at system start-up and weekly thereafter, a “complete round” of VOC compliance sampling and analysis shall be performed at the locations identified in item vi) above. After successfully demonstrating four (4) consecutive weeks of continuously compliant system operation (i.e. there are no exceedances of the applicable remedial Action Levels), Textron may decrease the required compliance sampling and compliance monitoring frequency to monthly.
 - (2) Upon successfully completing the requirements of item vii.(1) above, the frequency of periodic compliance sampling and compliance monitoring may be reduced to the monthly collection of a “complete round” of VOC compliance samples. After successfully demonstrating three (3) consecutive months of continuously compliant system operation, Textron may decrease the required compliance sampling and compliance monitoring frequency to quarterly.
 - (3) In the event that there are exceedances of the applicable remedial Action Levels, Textron shall immediately resume the monthly compliance sampling and

compliance monitoring frequency. Once the source of the exceedance has been determined and the failure of the ASD system has been corrected, Textron shall continue the monthly compliance sampling and compliance monitoring frequency until successfully demonstrating three (3) additional consecutive months of continuously compliant system operation, at which time Textron may again decrease the required compliance sampling and compliance monitoring frequency to quarterly.

- (4) Beginning at system start-up and following the same schedule required for the periodic compliance sampling, compliance monitoring shall be performed at all compliance sampling locations utilizing a photo ionization detector (PID), as well as collection of vacuum measurements at all vacuum extraction well locations.
 - viii) In the event that a remedial Action Level is exceeded in a location that is already being addressed by an ASD system, Textron shall immediately notify the Department by telephone and respond to and correct non-compliant conditions in a timely manner. Written notification to the Department shall follow within seven (7) days with any plans to upgrade or adjust the system to remedy the problem, including steps taken to address the non-compliance. It shall be Textron's responsibility to assess immediate threat or emergency situations and to address non-compliant conditions in an expeditious and professional manner that minimizes non-compliance with the Order and STRAWP, and protects human health and the environment.
 - ix) Each of the ASD systems shall be equipped with flow switches that are linked to an auto dialer, installed and programmed to call members of Textron or its representatives in the event of a "no flow" condition. Each system flow switch shall be powered in a manner such that operation will not be interrupted during a power failure. In the event that a "no flow" condition is reported, Textron shall act accordingly to develop and implement an appropriate response to re-establish compliance, and protect human health and the environment. Response protocols may include, but not necessarily be limited to, building evacuation, notification of the Department, and other steps, as appropriate, designed to identify and correct any "no flow" condition or ASD system-related problems that may have contributed to site conditions, which caused the "no flow" condition notification.
 - x) All equipment shutdowns (intentional and unintentional) or operational problems shall be reported to the Department immediately. Intentional equipment shutdowns for regular maintenance shall not require immediate notification to the Department provided that the shutdown is for less than twenty-four (24) hours and the maintenance activity is discussed in the next quarterly report.
 - xi) Periodic monitoring and compliance sampling and analysis of VOCs shall continue at the specified rate as long as a source of contamination exists unless otherwise authorized by the Department in written correspondence to Textron.
- e) Preparation and submission of quarterly air monitoring reports in accordance with this Order, and including the reporting of the following parameters:
- i) The concentrations of VOCs detected in each sample collected and analyzed during monitoring activities for the current reporting period.

- ii) A summary table of the concentrations of VOCs detected in each sample collected and analyzed during all reporting periods.
 - iii) The occurrences of any “no flow” conditions reported during the quarter and the resulting activities performed in response to the reported condition.
 - iv) The occurrences of any remedial Action Level exceedances during the quarter and resulting activities performed in response to the exceedance.
 - v) The system operational status during the quarter, particularly noting the length of any system shutdown due to power failure, system malfunction, repairs, scheduled maintenance, etc.
 - vi) The anticipated delivery date of the next scheduled monitoring report submittal.
- f) Management of all Site soil in accordance with the requirements of the STRAWP and this Order.
- g) Preparation and submission of a Short Term Response Action Closure Report documenting the work performed and including at a minimum the following items:
- i) Post ASD system installation as-built plans including final system layout, extraction well sampling port locations, final indoor air monitoring/sampling locations.
 - ii) Analytical results and summary of all post remediation/post construction VOC air monitoring performed to date, demonstrating compliance with the requirements of this Order.
 - iii) All original laboratory analytical data results from the remedial activities, compliance and confirmation sampling, and clean fill sampling as applicable.
 - iv) In the event that clean fill material is brought to the site, a statement from the facility or environmental consultant attesting to the origin of the clean fill and/or loam, and suitability consistent with the STRAWP and this Order.
- 7) The ASD system (including the flow switches and auto dialer) shall be operated and maintained to prevent VOC concentrations from reaching or exceeding the remedial Action Levels within any and all occupied structures at the site.
- 8) Any temporarily stockpiled regulated soils shall be placed upon and covered with polyethylene of thickness at least 6mm or greater to prevent tearing, and segregated from clean fill material to prevent cross contamination.
- 9) All excess regulated soils shall be properly managed and disposed of at a Department approved licensed facility.
- 10) Any material discovered during excavation activities that qualifies as “Solid Waste,” as defined by the Department’s Solid Waste Regulations, must be disposed of at a licensed Solid Waste Facility.
- 11) All waste derived from implementation of the STRAWP, operation and maintenance of the Remedy, or the engineered systems shall be managed in accordance with the Department's

Remediation Regulations, Rules and Regulations for Hazardous Waste Management, and Solid Waste Regulations, as appropriate.

- 12) All fill material imported to the Site must be sampled accordance with the STRAWP and this Order, prior to delivery and placement. All samples are to be discrete, grab samples. Laboratory analytical results must be submitted to the Department via fax (401) 222-3812, e-mail or hand delivery. Written approval (i.e. e-mail, fax, etc) to use the fill must be granted by the Department prior to use. Clean fill must be sampled for arsenic at a frequency of one sample per 500 cubic yards. One-quarter of the total number of compliance samples of clean fill must be sampled for VOCs, Semi-Volatile Organic Compounds (SVOCs), Total Metals (RCRA 13), and Total Petroleum Hydrocarbons (TPH). If less than 500 cubic yards of material will be utilized from a single source, the soil must be sampled for the full suite of analyses listed above at a minimum. All soil utilized onsite must be compliant with the Department's Method 1 Residential Direct Exposure Criteria pursuant to the Remediation Regulations.
- 13) Within sixty (60) days of completion of the Remedial Action described in the STRAWP, the Short Term Response Action Closure Report, detailing the Remedial Action and current site status, shall be submitted to the OWM for review and approval.
- 14) Textron, its representatives, employees, agents and contractors shall adhere to the following timelines in its management, operation and maintenance of the Site.
 - a) Textron shall immediately notify the OWM of any Site or operating condition that results in non-compliance with this Order, or that indicates that the Remedy is not meeting its intended goal of preventing human exposure to hazardous materials contained in the former manufacturing facility site.
 - b) The OWM shall be notified in writing immediately if Textron suspects or has reason to believe that any of the remedial objectives will not be met.
 - c) The OWM will be notified a minimum of five (5) working days in advance of any changes in contractors and/or consultants for the remedial activities in this STRAWP, and will be promptly supplied with complete contact information for each new contractor or consultant (including but not limited to company name and address, contact name and address, contact telephone number and e-mail address).
 - d) Any STRAWP interruptions shall be reported to the OWM by telephone within one (1) working day and in writing within seven (7) days.
 - e) All exceedances of the "Action Levels" established in the Order that are detected during any site monitoring activity (including but not limited to monitoring of ASD systems, or "no flow" condition notifications) shall be reported to the OWM immediately and responded to immediately by Textron.

- f) All equipment shutdowns (intentional and unintentional) or operational problems shall be reported to the OWM immediately. Intentional equipment shutdowns for regular maintenance shall not require immediate notification to the OWM provided that the shutdown is for less than twenty-four (24) hours and the maintenance activity is discussed in the next quarterly report.
 - g) All repairs or replacements of equipment or other actions taken in response to any non-compliance with the STRAWP shall be completed within fourteen (14) days of discovery of the non-compliant condition. Additional time may be requested from the OWM in writing, provided that the request is supported with a justifiable explanation as to why the work cannot be completed within 14 days and includes a binding timetable for the completion of all work. All requests for additional time shall be submitted to the OWM as soon as Textron becomes aware that additional time is necessary, but not later than 14 days from the discovery of the non-compliant condition. Documentation describing the repairs and certifying that the malfunction was corrected and that the equipment is operational must be received by the OWM within 5 (five) days of completion of the repairs.
 - h) Any report or notice required to be submitted to the OWM “immediately,” shall require verbal notification to the OWM within twenty-four (24) hours and written notification to the OWM within seventy-two (72) hours. The report or notice shall include a description of: the point of non-compliance (e.g. Action Level exceedance, equipment problems); the known or suspected cause for the non-compliance; any response actions taken as of the time of the report or notice; preliminary concepts for response actions to address, correct and/or prevent recurrence of the non-compliance; and a preliminary timetable for the completion of any further response actions. Final plans and timetables for response actions shall be reported to the OWM as soon as they are developed.
- 15) All notifications or reports required to be made or submitted to the Department under this Order, any other information pertinent to the STRAWP, and/or any other notification regarding the subject site shall be reported to:

Joseph T. Martella II, Senior Engineer
RIDEM – Office of Waste Management
235 Promenade St., 3rd Floor
Providence, RI 02908-5767

Tel: (401) 222-2797 x7109

Fax: (401) 222-3812

E-mail: joseph.martella@dem.ri.gov

- 16) This Order does not remove the obligation of Textron to obtain any other permits, licenses or approvals from any state, local, or federal agencies (including the Department) that may be necessary to comply with this Order.

- 17) All STRAWP activities shall be performed in compliance with all appropriate OAR Rules and Regulations, including but not limited to the monitoring and control of any air emissions and the timely acquisition of any required Air Pollution Control Permits (Air Permits).
- 18) It is Textron's sole obligation to obtain all necessary approvals and permits required to implement the STRAWP in a timely manner consistent with the STRAWP schedule and deadlines in this Order.
- 19) Textron shall have this Order recorded in the City of Providence, land evidence records of the subject property within thirty (30) days of execution of this Order, and a recorded copy forwarded back to the Department within ten (10) days.

Subject to future revisions or amendments by the Department, this Order shall remain in full force and effect for as long as said STRAWP shall be operated and maintained in a condition satisfactory to the Department. Failure to comply with all points outlined in the Department approved STRAWP and stipulated in this Order shall result in the issuance of a Notice of Violation and Order against Textron.

This Order shall be subject to modification or revocation in accordance with law.

Entered as an approval by the Department this 24TH day of July, 2008.

By:



Leo Hellested, P.E.
Chief, Office of Waste Management
Department of Environmental Management