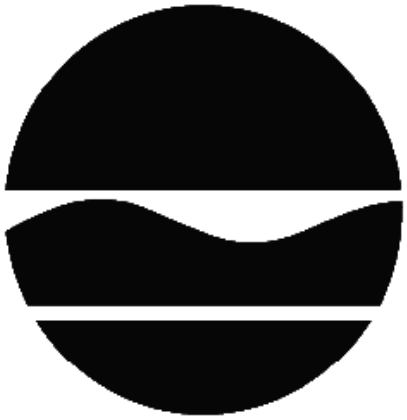
PROPOSED REMEDIAL ACTION PLAN

Techem, Inc.
State Superfund Project
New Hyde Park, Nassau County
Site No. 130097
February 2011



Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of hazardous wastes at the site resulted in threats to public health and the environment that were addressed by actions known as interim remedial measures (IRMs), which were undertaken at the site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or feasibility study (FS). The IRMs undertaken at this site are discussed in Section 6.2.

Based on the implementation of the IRM(s), the findings of the RI indicate that the site no longer poses a threat to human health or the environment; therefore No Further Action is the remedy proposed by this Proposed Remedial Action Plan (PRAP). A No Further Action remedy may include site management, which will include continued operation of any remedial system installed during the IRM and the implementation of any prescribed institutional controls/engineering controls (ICs/ECs) that have been identified as being part of the proposed remedy for the site.

The IRM(s) conducted at the site attained the remediation objectives identified for this site, which are presented in the attached exhibits, for the protection of public health and the environment. This PRAP identifies the IRM(s) conducted and discusses the basis for No Further Action.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375. This document is a summary of the information that can be found in the site-related reports and documents in the document repositories identified below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all PRAPs. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the reports and documents, which are available at the following repositories:

Hillside Public Library
155 Lakeview Road
New Hyde Park, NY 11040-3003
Phone: 516-355-7850

New Hyde Park Village Hall
1420 Jericho Turnpike
New Hyde Park, NY 11040
Phone: 516-354-0022

New York State Department of Environmental Conservation
Attn: Region One Office
State University of New York Stonybrook
50 Circle Rd.
Stony Brook, NY 11790-3409
Phone: 631-444-0204

A public comment period has been set from:

February 28, 2011 to March 29, 2011

A public meeting is scheduled for the following date:

Wednesday, March 23, 2011 at 7:00 PM

Public meeting location:

Hillside Public Library
155 Lakeville Road
New Hyde Park, New York 11040

At the meeting, the findings of the remedial investigation (RI) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP.

Written comments may also be sent through to:

Cynthia Whitfield
NYS Department of Environmental Conservation

Division of Environmental Remediation
625 Broadway
Albany, NY 12233
cxwhitfi@gw.dec.state.ny.us

The Department may modify the proposed remedy presented in this PRAP based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The former Techem facility is a 0.18 acre parcel located in a commercial/industrial section of the Village of New Hyde Park, north of Jericho Turnpike and immediately west of Denton Avenue.

Site Features: A one-story slab on-grade masonry block building exists on the site that was constructed in approximately 1955. The building has an attached metal enclosure on its south side approximately the same width as the Techem building that appears to extend to the southern border of the property. The west side of the building contains a narrow (approximately 4 feet wide) covered alley. The alley is secured by a locked metal door, and two approximately 275 gallon above ground storage tanks (ASTs) are in the northern portion of the alley. The ground surface in the alley is mainly gravel. With the exception of two grass-covered areas on the north side of the Techem building that total approximately 200 square feet (ft2) each (the front lawn, between the building and the sidewalks) and the narrow alley on the west side, the site is covered either by concrete or asphalt. A chain-link fence surrounds the southern and eastern perimeter of the site.

Current Zoning/Use(s): Manufacturing/plating operations are not currently conducted at the site; businesses in neighboring buildings are engaged in a variety of commercial or industrial enterprises. The building has been used for a variety of commercial purposes since manufacturing ceased; currently a DOT welding certification business occupies the eastern garage area. The remainder of the facility contains merchandise related to a former window shade manufacturing business, but does not appear to be occupied on a regular basis. The area is

zoned Commercial/Industrial. The nearest residential area is approximately ¼ mile to the east.

Historical Use(s): The Techem facility formerly manufactured acid-based chromium, cadmium, cyanide, nickel, and zinc electroplating solutions. Materials used in manufacturing these solutions included: chromic acid, hydrochloric acid, sulfuric acid, cadmium oxide, caustic soda, sodium cyanide, sodium stannate, copper cyanide, ethylenediamine, and ammonium hydroxide. The site had a history of spills and poor housekeeping that caused the release of solutions containing heavy metals that resulted in various actions by local, state and federal regulatory agencies.

Past industrial activities at the site have contributed to impacts to soil and groundwater, including the metals cadmium, chromium, iron, copper, lead, nickel and selenium. In 1982 Nassau County Department of Health (NCDOH) sampled water from a "drywell" on the south side of the building which contained elevated concentration of cadmium, chromium and lead. Sludge samples from the cesspool at the northeast corner of the site were collected in 1983, which contained cadmium, chromium, iron, copper, nickel, and selenium. The cesspool was reportedly cleaned in 1984. In 1992, NCDOH sampled a sump located on the south side of the Techem site and sampling was also conducted in the sump area by the United State Environmental Protection Agency (USEPA) in 1993. Samples from the sump area contained concentrations of metals indicating a significant threat to human health and the environment. The sump was reported to have been sealed with concrete by the property owner in 1993 without regulatory approval.

A two-phase removal was conducted by the USEPA in 1994 and 1995. USEPA removed approximately 1,500 small containers and 1,250 drums of hazardous chemicals from the building and storage area and excavated soil beneath the former sump and several other areas containing metals impacted soil. The excavations were backfilled with clean soil and resurfaced with concrete.

Site Geology and Hydrogeology: The region is underlain by Coastal Plain Deposits from the upper Cretaceous consisting of silty clay, glauconitic sandy clay, sand, and gravel ranging in thickness from 0-2000 feet thick. The Upper Glacial Aquifer (UGA) present beneath the site is a shallow, unconsolidated aquifer (water bearing area) of variable thickness. The water table occurs at varying depths because of the irregular inland topography, and ranges in elevation from approximately 10 to 150 feet above mean sea level. The UGA is underlain by the Magothy Aquifer which is composed of unconsolidated sands with discontinuous layers of silts and clays, with a bottom unit of coarse sand and gravel. Groundwater at the site is generally encountered at about 35 feet, and flow is generally south to southwest.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows

for industrial use) as described in Part 375-1.8(g) is/are being evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

Techem, Inc

The owner/operator of the site during disposal was Techem, Inc..

Subsequent to Techem, Inc., the site was owned/occupied by Arash Development Corporation.

The current owner of the site is Sergey Shakhparyan.

The PRPs for the site declined to implement a remedial program when requested by the Department. After the remedy is selected, the PRPs will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,

- Sampling of surface water and sediment,

- Ecological and Human Health Exposure Assessments.

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Information

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor
- indoor air

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

cadmium
chromium
copper
iron
lead
manganese
nickel
selenium
sodium

Based on the investigation results, comparison to the SCGs, and the potential public health and environmental exposure routes, certain media and areas of the site required remediation. These media were addressed by the IRM(s) described in Section 6.2. More complete information can be found in the RI Report and the IRM Construction Completion Report.

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision.

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

Remedial Action IRM

Soil Removal
Based on the results of the RI elevated levels of metals were present is soils at a depth of 0" - 2" in an unpaved area in front of the former Techem building. Approximately 30 cubic yards of soil was excavated and disposed of off-site as non-hazardous waste in accordance with applicable federal, state, and local regulations. The area excavated was the unpaved areas in the north of the site between the building and the sidewalks / street. This area was approximately 400 square feet total. Although the RI sampling did not indicate soils needed to be removed to a depth of two feet or more in this area, the IRM was conducted in the most conservative yet cost effective manner possible; casual disturbance of the soils would not likely exceed two feet, disturbance of soil in excess of two feet would likely require a permit and regulatory oversight. Soils were screened with an X-Ray flouresence detector (an instrument that would indicate the possible presence of the metals of concern at elevated levels) during the removal, and soil samples were collected at the sidewalls and bottom of the excavation and sent to a certified laboratory for analysis to verify that soil containing metals at concentrations greater than 6 NYCRR Part 375 unrestricted Soil Cleanup Objectives did not remain. The excavation area was backfilled with certified clean backfill (soils that were tested for contamination and certified to meet Department requirements for use as backfill for the identified site use as set forth in 6 NYCRR Part 375-6.7(d)). A portion of the area was excavated to a depth of 4 feet to allow the excavation team to see buried utilities (i.e., sewer connections). The backfill was mechanically compacted in one-foot lifts. The excavation area was covered with topsoil and grass seed to restore it to pre-excavation conditions. Approximately 30 cubic yards of certified clean fill and 6 cubic yards of top soil were used to backfill the excavation. An approximately 3-foot diameter, 20-foot deep former cesspool is located outside the site building. The cesspool was previously cleaned and filled to within approximately 6 feet of the ground surface with soil. The cesspool was filled with flowable fill to within one-foot of ground surface. The flowable fill consisted of a free-flowing, self-consolidating, self-leveling, non-segregating, low-shrink cement/sand mix that met design specifications for strength. The cesspool was covered at the top with a one-foot layer of concrete, and the exisitng metal cover.

6.3: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

People are not drinking the contaminated groundwater because the area is served by a public water supply that obtains its water from a different source. Since most of this site is covered by a building and concrete, people will not come into contact with subsurface residual soil

contamination unless they dig below these surfaces. People may come into contact with contaminated surface soil if they disturb the limited grass cover. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect indoor air quality. This process which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The potential for soil vapor intrusion to occur in the on-site building was evaluated and no further actions were deemed necessary. In addition, environmental sampling indicates that off-site migration of site-related contaminants is not a concern.

6.4: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU(s) 01.

Nature and Extent of Contamination:

During the RI soil samples collected from the interval from 0 to 5 feet below the ground surface near the cesspool, former sump/drywell, and the access way on the east side of the building, indicated the presence of cadmium, chromium, copper, nickel and/or cyanide greater than the applicable NYSDEC Cleanup Objectives. In addition sub-surface soil samples collected from the northeast corner of the site near the cesspool; in the access way on the east side of the building; and near the former sump/dry well, contain concentrations of cadmium greater than the commercial SCOs. In February 2011 an IRM was conducted that included two grass-covered areas located on the north side of the Techem building that total approximately 400 square feet (ft2). Surface soil samples from this area during the RI contained metals at concentrations exceeding the respective 6 NYCRR Part 375 Commercial Soil Cleanup Objectives.

Groundwater samples indicated the presence of cadmium, chromium, copper, iron, lead, manganese, nickel, selenium, and sodium at concentrations greater than the applicable NYSDEC Class GA Standards. These exceedences were minor and limited to the site. The nature of the contaminants found is further described in the Exhibits. The area is served by municipal water supplies drawn from a deeper aquifer; the metals will not migrate sufficiently to impact the municipal supply or any surface water body. Treatment or containment of groundwater is not required as the metals do not present a significant threat to human health or the environment, even though there are minor instances of samples exceeding drinking water standards, due to the incomplete exposure pathway. Downgradient groundwater monitoring will be conducted as part of the Site Management Plan to ensure off site migration of site related metals does not take place.

Soil vapor intrusion samples indicate the presence of Perchloroethene (PCE) in soil vapor, and the presence of PCE and carbon tetrachloride in indoor and ambient air. Although no Volatile

Organic Compounds (VOCs) were detected in sub-surface soil or groundwater samples, historical indications of VOCs in soil and groundwater near the site indicate a potential source for VOCs in soil vapor. The maximum sub-slab soil vapor concentration of PCE was 110 micrograms per cubic meter (ug/m3). The maximum indoor air PCE concentration was 4.8 ug/m3. The maximum indoor air concentration of carbon tetrachloride was 0.56 ug/m3. Based on the concentrations of these compounds, the NYSDOH decision matrix criteria indicate that further action is required to identify the source(s) and reduce the potential for exposures to carbon tetrachloride and to continue to monitor and/or mitigate potential exposure pathways to PCE. The PCE is not believed to be site related; in 2010 MACTEC (a consulting company)performed field work related to PCE and TCE contamination in the Water Authority of Western Nassau County's Well # 57 (NYSDEC site #130191), located between South 5th and South 6th streets north of 2nd Avenue in New Hyde Park. The study revealed PCE and TCE contamination of groundwater and soil vapor that extended from the well field, which is located north and east of the Techem site, to some distance south and west of Techem. That study is ongoing, and any source(s) identified will be addressed under that project. Carbon tetrachloride is not a historic contaminant of concern related to the remedial program at the site. Indoor air monitoring will be recommended in the environmental easement.

Special Resources Impacted/Threatened: No special resources have been impacted or threatened by disposal activities at the site.

SECTION 7: SUMMARY OF PROPOSED REMEDY

Based on the results of the investigations at the site, the IRM that has been performed, and the evaluation presented here, the Department is proposing No Further Action with implementation and continued certification of the Site Management Plan as the preferred alternative for the site. The Department believes that this alternative would be protective of human health and the environment and would satisfy all SCGs as described above.

Therefore, the Department concludes that No Further Action is needed other than institutional controls. The elements of the IRM already completed and the institutional controls are listed below:

1. A site cover currently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

2. Imposition of an institutional control in the form of an environmental easement for the controlled property that

a. requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3).
b. allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
c. restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or County DOH;
d. prohibits agriculture or vegetable gardens on the controlled property;
e. requires compliance with the Department approved Site Management Plan;

3. A Site Management Plan is required, which includes an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:
Institutional Controls: The Environmental Easement discussed in Paragraph 28 above.
Engineering Controls: The site cover discussed in Paragraph 1 above.
This plan includes, but may not be limited to:
i. Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
ii. descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
iii. maintaining site access controls and Department notification; and
iv. the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls;

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
i. installation of a monitoring well downgradient of the metals impacted groundwater;
ii. monitoring of groundwater to assess the performance and effectiveness of the remedy;
iii. a schedule of monitoring and frequency of submittals to the Department.

4. The remedial party or subsequent property owner will provide a periodic certification of institutional and engineering controls for the site, prepared and submitted by a professional engineer or such other expert, acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place, and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.