UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

September 21, 2001

Mr. Leo M. Brausch
Consultant\Project Engineer
Viacom\CBS Corp.
373 Westinghouse Building
11 Stanwix St.
Pittsburg, PA 15222-1384

Subject: Viacom (Formerly CBS Corporation), Bridgeport, Connecticut. Technical Review of Environmental Indicators RCRIS Code CA725.

Dear Mr. Brausch:

EPA has conducted a technical review of Viacom's (Formerly CBS Corporation) Corrective Action Environmental Indicator (EI) RCRIS Code CA725 Report, Current Human Exposures Under Control (CA725), for the Former Bryant Electric Facility, 1421 State Street, Bridgeport, Connecticut. Our review of this document considered previous site assessment and hydrogeologic documents prepared in support of RCRA corrective action at this property. Based on our analysis, which is included below, current human exposures appear under control and a "YE" Status Code is a appropriate for the Former Bryant Electric facility.

The CA725 was reviewed to determine whether any unacceptable human exposures to contamination (i.e., contaminant concentrations in excess of appropriate risk-based levels) can be reasonably expected under current land and groundwater-use conditions. For ease of review, the information in this letter is presented in the order provided in Viacom's CA725.

In response to Question No. 2, Viacom indicates that, groundwater, surface soil, and subsurface soil are contaminated above appropriate risk-based levels. Viacom identifies several constituents including inorganics, semi-volatile organic compounds, and volatile organic compounds, which exceed the Connecticut Department of Environmental Protection Remediation Standards. Specifically, these constituents include but are not limited to: arsenic, cyanide, lead, copper, zinc, tetrachloroethene, trichloroethene,1,2 - dichloroethene, and vinyl chloride in groundwater; benzo(a)pyrene and lead in surface soil; and lead, cadmium, trichloroethene, and benzo(a)pyrene in subsurface soil.

In response to Question No. 3, Viacom evaluates potential human exposure pathways for groundwater, surface soil, and subsurface soil. Viacom indicates that complete exposure pathways do not exist for any receptors. Viacom has indicated that there is a deed restriction prohibiting residential, recreational, food preparation/storage activities, and/or day care use for the

site, and that the only possible receptors for the site are on-site workers, on-site construction workers, and trespassers.

Viacom eliminates the trespasser pathway based on the fact that the site is fenced, gated, and locked. In addition, Viacom explains that redevelopment of the site, which includes the construction of a new building and parking lots, is planned in the near future. Pursuant to this redevelopment plan, as discussed below, all surface and subsurface soil will be rendered inaccessible, thereby further eliminating the trespasser as a potential receptor.

Because no workers currently exist on site, Viacom eliminates on-site workers as potential receptors. In addition, Viacom indicates that for future on-site workers, both surface and subsurface soil exposures will not exist once the site is redeveloped, because the new building and parking lots planned for the site will render the soils inaccessible. The CA725 also addresses potential future exposures to indoor air for workers. Although this pathway does not currently exist (as there are no buildings on site), it is possible that once the new building is constructed, an indoor air exposure pathway will exist for on-site workers. To address this issue, Viacom explains that in addition to the current air sparging/soil vapor extraction (AS/SVE) system operating at the site, either a passive vent, or vapor barrier system will be installed beneath the new building to control this pathway. Based on this information, it has been assumed that installation of a vapor system will be used to monitor and control any future potential indoor air exposures thereby eliminating indoor air to the worker as a complete exposure pathway.

The only potentially complete exposure pathway identified by Viacom in Question No. 3 is the construction worker. Viacom indicates that this pathway is not complete because surface and subsurface soil exposures are controlled for the construction workers pursuant to a site-specific health and safety plan (HASP). It should be noted that the groundwater pathway for the construction worker is also a potentially complete exposure. Viacom states however, that groundwater at the site is 6.5 to 14 feet below ground surface, and that no planned construction activities will exceed these depths. Furthermore, it is assumed that the site-specific HASP will also control this potential exposure pathway.

Based on the response to Question No. 3, that no complete exposure pathways exist for the site, Viacom has correctly skipped Question Nos. 4 and 5. In response to Question No. 6, Viacom indicates that a "YE" should be assigned for the CA725 RCRIS status code. Based on the information provided in the CA725, Viacom has demonstrated that minimal exposures exist for the site, and that those exposures have been and will continue to be mitigated through the use of the HASPs, the AS/SVE System, and the installation of a vapor barrier system. Based on this analysis, current human exposures appear under control and a "YE" Status Code is a appropriate for the Former Bryant Electric facility. Note, however, that if conditions change, such as during and after redevelopment of the site, the status code may need to be reevaluated.

If you have any questions, please contact me at (617) 918-1360.

Sincerely,

Robert A. O'Meara
RCRA Facility Manager

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)

Current Human Exposures Under Control

Facility Name: Former Bryant Electric Facility
Facility Address: 1421 State Street, Bridgeport, Connecticut
Facility EPA ID #: CTD 001183078

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

P If yes - check here and continue with #2 below.

___ If no - re-evaluate existing data, or

___ If data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be **"contaminated"**1 above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	Yes	No	?	Rationale / Key Contaminants
Groundwater	P			See attached worksheet/VOCs and metals
Air (indoors)		P		See attached worksheet
Surface Soil (e.g., <2 ft)	P			See attached worksheet/SVOCs and lead
Surface Water		P		See attached worksheet
Sediment		P		See attached worksheet
Subsurf. Soil (e.g., >2 ft)	P			See attached worksheet/SVOCs, cadmium, and lead
Air (outdoors)		P		See attached worksheet

___ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

P If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

___ If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s) See attached worksheet for discussion. Supporting documentation can be found in the attached Draft August 2001 Remedial Action Plan.

Footnotes:

1 "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

2 Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

	Potential **Human Receptors** (Under Current Conditions)						
"Contaminated" Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food3
Groundwater	No	No	No	No*		No	No
~~Air (indoors)~~	NA	NA	NA				
Surface Soil (e.g., <2 ft)	No	No	No	No*	No*	No	No
~~Surface Water~~	NA	NA			NA	NA	NA
~~Sediment~~	NA	NA			NA	NA	NA
Subsurf. Soil (e.g., >2 ft)				No*			No
~~Air (outdoors)~~	NA	NA	NA	NA		NA	

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated") as identified in #2 above.

2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

P If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

___ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

___ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code

Rationale and Reference(s): See attached worksheet for discussion. Supporting documentation can be found in the attached Draft August 2001 Remedial Action Plan. For items noted above as "No*", there will not be a complete pathway between "contamination" and human receptors once the Site redevelopment activities are completed, as explained in the attached worksheet.

3 Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

4 Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **"significant"**4 (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

___ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

___ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

___ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s):___

4 If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

5 Can the "significant" **exposures** (identified in #4) be shown to be within **acceptable** limits?

___ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

___ If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

___ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

Rationale and Reference(s):___

6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

P YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the Former Bryant Electric facility, EPA ID # CTD 001183078, located at 1421 State Street, Bridgeport, Connecticut under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

___ NO - "Current Human Exposures" are NOT "Under Control."

___ IN - More information is needed to make a determination.

(Review of Facility Submission)

Completed by (signature) _____ Date 9/11/01
Robert O'Meara
US EPA Region I

Supervisor (signature) _____ Date 9/27/01
(print) Matthew R. Haagland
(title) Section Chief
(EPA Region or State) EPA-Region I New England

Locations where References may be found:

See Attached Draft RAP

Contact telephone and e-mail numbers

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FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.