FINAL DECISION

AND

RESPONSES TO COMMENTS

THE COMMONWEALTH OF VIRGINIA

EMERGENCY FUEL STORAGE FACILITY

YORK COUNTY, VIRGINIA

EPA Region III
841 Chestnut Street
Philadelphia, PA 19107

March 1997

INTRODUCTION

On April 2, 1992, the United States Environmental Protection Agency ("EPA") and the Virginia Department of Emergency Services ("VDES", Responsible Party) entered into an *Interagency Cleanup Agreement* ("*Agreement*"). The *Agreement* required the VDES to, among other things, conduct a site investigation, evaluate remedial alternatives, and propose a remedy to manage the contamination at the Virginia Emergency Fuel Storage Facility, York County, Virginia. The VDES completed all of the appropriate requirements of the *Agreement*, including submittal of a *Corrective Action Plan* ("*CAP*") to EPA. EPA reviewed the *CAP* and concluded that the remedy recommended by the VDES met the remediation objectives stated in the *Agreement*. EPA prepared a *Statement of Basis*, dated June 1996, to explain why EPA had tentatively accepted the remedy. In August 1996, EPA announced a public comment period regarding EPA's tentative decision on the remedy.

The purpose of this document is to present EPA's responses to the comments received, and to announce EPA's final decision regarding the remedy.

PUBLIC PARTICIPATION ACTIVITIES

Pursuant to the Public Comment And Participation Section of the *Agreement,* EPA announced a 30-day public comment period beginning August 14 and ending September 15, 1996 regarding EPA's tentative decision on the remedy. The announcement was issued in the Virginia Gazette-Williamsburg and the Daily Press-Newport News on August 14 and August 16, 1996, respectively.

PUBLIC COMMENTS AND EPA'S RESPONSES

The County of York, Virginia, provided the only source of written comments to EPA. EPA has evaluated the comments presented by the County of York and has prepared the following responses.

#1 County comment, cover letter: The County stated that the restrictive risk level chosen for the cleanup effectively eliminates consideration of commercial or light industrial uses for the site for the foreseeable future. The County believes that the cleanup objective should be consistent with both the federal and state initiatives on "brownfields" and the County encourages the state and EPA to consider alternatives to the proposed long-term use restrictions outlined in the Corrective action Plan.

EPA Response to Comment #1: EPA's role in the *Agreement* is to evaluate all proposed alternatives including, but not limited to, those proposed by the VDES, and to select the best remedy. A prospective remedy must be able to meet the remedial objective of adequate protection of human health, safety, and the environment. The question of adequacy is linked to existing and future land use scenarios. EPA's responsibility is not to decide how the land should be used, but to ensure that the proposed remedy is compatible with the intended land use. EPA will not reject any proposal from the VDES to turn the land into productive uses, provided that the proposed remedy is compatible with the alternate land use scenario. Under the current proposal, the VDES has decided not to develop the northern portion of the facility. EPA has determined that the proposed remedy is fully protective of human health, safety and the environment based on the VDES intended land use. The proposed remedy does not necessarily preclude potential light commercial or industrial land use, provided that the conditions assumed in the proposed remedy remain unchanged. Major development, however, may not be compatible with the proposed remedy because it will likely involve extensive construction of buildings, roads and infra-structures, thereby changing the landscape and the fundamental conditions assumed in the proposed remedy. One concern is that major development may lead to offsite migration of contaminated sediments due to short-term and long-term increase in storm runoff and erosion, thereby impacting the downstream aquatic and wetland habitats. It may also be difficult to enforce institutional controls to restrict consumptive and recreational use of on site water resources. If the VDES decides to fully develop the affected area, the VDES must submit an alternate remedy to EPA that contains measures to mitigate such impact.

#2 County comment on Page 2, first bullet: If the data indicate that natural attenuation is progressing as expected, the monitoring program will be terminated after five years. Thus, natural attenuation may or may not occur within five years.

EPA's Response to Comment #2: The data collected at the site suggest that the groundwater plumes have been stabilized and contaminant concentrations have attenuated naturally to below MCLs near the seepage points to surface water. Given that hydrocarbons are readily biodegradable under aerobic conditions, there is little doubt that natural attenuation has occurred in the past and will continue in the future. The five-year monitoring program is a conservative measure to ascertain that the groundwater plumes have been stabilized, as well as to monitor the progress of natural attenuation in achieving the remediation standards. It should be emphasized that the five-year monitoring program applies to surface and groundwater monitoring only. Inspection of the overall site conditions, the outlet dam, the fences, the tanks and other structures will continue indefinitely.

#3 County comment on Page 2, first bullet in last paragraph and Page 3, third paragraph: The restrictive (residential) risk level chosen for the site effectively eliminates consideration of commercial or light industrial uses for the site for the foreseeable future.

EPA's Response to Comment #3: Please refer to EPA's response to Comment #1.

#4 County comment on Page 2, first bullet in last paragraph and Page 3, third paragraph: Thus, in this instance the risk level chosen assumed that the most appropriate future land use for the site, both the northern and southern sections, was residential housing because risk was measured in terms of risk to on-site residents. This risk level was not required by (state) statute and is not consistent with the industrial zoning classification applied to the property by the County.

EPA's Response to Comment #4: The target receptors in EPA's *Risk Assessment* are adult workers for all media except groundwater. Thus, the primary land use assumption in EPA's *Risk Assessment* is industrial and commercial, not residential. Although there is no current use of groundwater at the site, EPA considers groundwater that is suitable for potable use (Class I or II aquifer) to have intrinsic value, and hypothetical exposure to such groundwater via ingestion, inhalation, and direct contact are typically evaluated in a risk assessment as a matter of policy, and to provide a basis for a risk management decision that will protect the groundwater for its ultimate beneficial use as drinking water. EPA concludes that, under current conditions, the site does not pose risks above EPA's health based standards. However, the driving risk at this site is not human health risk, but ecological risk. Macro-invertebrate surveys of on site surface water conclude that the on site aquatic habitat has been impacted. The diversity and abundance of indicator macro-invertebrates are substantially less than those found in offsite referenced stations, and no fish have been observed on site. Major development of any sort in the northern portion of the site, without adequate mitigation measures, may lead to short-term and long-term increase in storm runoff and erosion. As a result, the contaminated sediments that have been securely contained in Hipps Pond may be disturbed and begin to migrate offsite, thereby impacting the downstream sensitive aquatic and wetland habitats.

#5 County comment on Page 2, last bullet: Maintaining the tanks in the northern portion of the site will involve high annual operation costs for an indeterminate time period and effectively precludes re-use and development in that area.

EPA's Response to Comment #5: EPA disagrees that, under the current proposed remedy, maintaining the tanks will involve high annual operation costs. The tanks have been thoroughly cleaned out and the only requirement is to inspect the tank entrances periodically to ascertain that the locks and covers are in place. The proposed remedy and state dam safety regulations pertaining to the Hipps Pond dam require the site to be visited at least once a year. Regarding re-use and development of the land, please refer to EPA's response to Comment #1.

#6 County comment on Page 3, first bullet: In the *CAP* the standard risk concentrations chosen for this site were 630 m/kg for total petroleum hydrocarbons ("TPH") for shallow soils; no area exceeded the TPH levels of ground water. The risk analysis indicates that the concern was preventing ingestion of TPH from the soils. Realistically, and particularly with an industrial use of the property, this risk is non-existent.

EPA's Response to Comment #6: EPA did not use VDES's remediation standards or risk assessment described in the *CAP* for decision making. EPA has conducted its risk assessment

(EPA's *Risk Assessment*, November 1995) and established remediation standards for the site independently (*Statement of Basis*, June 1996). The results of EPA's *Risk Assessment* conclude that shallow soils do not pose risk above EPA's health based standards.

#7 County comment on Page 3, last bullet: The chemical of concern in the ground water is arsenic. The *CAP* used drinking water standards to assess the level of risk in the ground water. It is presumed that the low levels of TPH in the soils caused naturally occurring arsenic to leach into the ground water. The results of these factors is that if the entire site were used, potable water would need to be brought in from off-site or a very deep well would need to be dug that bypassed upper-level ground water aquifers. Clearly, any use of the property for industrial purposes would result in public water being extended to the site.

EPA's Response to Comment #7: As previously stated, the VDES has not chosen to develop the northern portion of the site. Please refer to EPA's response to Comment #1 regarding land use issues.

#8 County comment on Page 4, first bullet: Apparently one area has free product, shown in Figure 6.1, where a fuel seep seems to be coming from Tank 67. Rather than allowing this seep to naturally attenuate itself, this free product should be cleaned up.

EPA's Response to Comment #8: Although a fuel seep has been observed in the North Ravine below Tank 67 from time to time, the amount observed was no more than a sheen. There is no evidence that free product plumes exist anywhere on site, because free product has not been observed in monitoring wells. It appears that the fuel seep may have originated from pockets of contaminated soils located above the normal water table, because the fuel seep tends to occur after storm events. In light of the small amount of fuel seep and the absence of subsurface free product plumes, it is technically impractical to attempt to remove that minute amount of free product. EPA's Underground Storage Tank Guidance (EPA 510-R-96-001, September 1996) recommends that, in order to effectively remove free product, the minimum free product thickness must be greater than 0.01 foot or the minimum recovery rate must be greater than 2 gallons per month.

#9 County comment on Page 4, second and third bullets: It is suggested that consideration be given to the likelihood that the wetland plant species in question could have a maximum threshold level of iron uptake, at which time additional uptake of iron becomes toxic. An alternative to be considered may be to plant cattails and fragmites which have a greater capacity to take up iron. Two surface areas (Study Area C and the North Branch of Hipps Creek) were noted to be of concern. These two areas could be closed off and, if necessary, remediated under an industrial cleanup parameter while leaving the remainder of the entire site available for development.

EPA's Response to Comment #9: Although stressed vegetation has been observed in isolated areas, the extent is very limited and EPA has not determined that the stress is necessarily linked

to the contamination. Vegetation can be stressed by man-made causes as well as many natural causes such as drought, flood, insects and diseases. The ecological surveys conducted by EPA and VDES conclude that there is no evidence that the terrestrial environment has been impacted by the contamination.

#10 County comment on Page 4: The discussion following "The High Cost of Maintaining Tanks in Place and the Failure to Remove Tanks" urges EPA and the state to consider removing or filling in the tanks so the northern portion of the site can be fully developed.

EPA's Response Comment #10: Neither EPA nor state Underground Storage Tank Regulations require field-constructed tanks to be filled in with inert material or removed from the site at closure. VDES is not required by any regulations to implement a remedy that necessitates removal of the tanks or development of the land.

SELECTED REMEDY

After consideration of public comments, EPA concludes that it is unnecessary to revise its tentative remedy. EPA concludes that the tentative remedy is protective of human health, safety and the environment. Additionally, the VDES has stated to EPA that it has no intention to develop the northern portion of the facility. Thus, the land use plan remains unchanged and compatible with the tentative remedy. Therefore, EPA selects the tentative remedy, which is described below, as final. The reader is referred to the *Statement of Basis* and the *CAP* for detailed descriptions of the following elements of the remedy.

(1) Restrict residential development of and access to the contaminated northern portion of the facility by implementing deed restriction and erecting perimeter fences;

(2) Upgrade the outlet dam and install an emergency spillway to prevent dam failure and subsequent release of contaminated sediments;

(3) Secure access to all underground tanks and structures to prevent accidental falling of animals and trespassers;

(4) Decommission Oil Water separator 1 by removal;

(5) Remediate the South Cosmoline Dump by excavation to allow unrestricted development of the southern portion of the facility;

(6) Remediate Sludge Pit 2 by excavation; and

(7) Conduct long-term environmental monitoring and dam safety inspections.

FUTURE ACTIONS

Following EPA's final selection of the remedy, VDES will submit implementation work plans to EPA for approval. The work plans will contain design details, specifications and timetables on how each task listed in the selected remedy will be accomplished. VDES will implement the tasks according to EPA's approved work plans. EPA will continue its oversight role to assure satisfactory implementation of the remedy tasks.

DECLARATION

EPA has determined that the selected remedy is in compliance with the Underground Storage Tank regulations, it is appropriate for the intended land use, and it is protective of human health, safety and the environment.

2/28/97
Date

Thomas C. Voltaggio, Director
Hazardous Waste Management Division