UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
26 FEDERAL PLAZA
NEW YORK, NEW YORK 10278

NOTICE OF ISSUANCE
OF FINAL HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984
(HSWA) PERMIT TO E. I. DU PONT DE NEMOURS & COMPANY,
INCORPORATED, POMPTON LAKES WORKS, POMPTON LAKES, NEW JERSEY

The United States Environmental Protection Agency (EPA) Region II has decided to issue a final HSWA permit to the E. I. du Pont de Nemours & Company, Incorporated (DuPont) facility in Pompton Lakes, New Jersey. Enclosed is a copy of the final HSWA permit and EPA's Responsiveness Summary. The Responsiveness Summary provides EPA's response to comments received by EPA during the public comment period (April 3, 1992 through May 18, 1992) and the public hearing held on May 13, 1992 at the Pompton Lakes High School auditorium in Pompton Lakes, New Jersey.

Any appeal of this decision must be filed to the USEPA Environmental Appeal Board at the address indicated below:

U.S. Environmental Protection Agency
Office of Administrator
Environmental Appeal Board (A-101)
401 M Street, SW
Room 1145 (West Tower)
Washington, DC 20460

Anyone wishing to appeal the permit decision should refer to the procedures set forth in 40 C.F.R. § 124.19. Within thirty (30) days after the date of this Notice, any person who filed comments on the draft HSWA permit may petition the Environmental Appeal Board to review any condition of the draft HSWA permit. Any person who failed to file comments on the draft HSWA permit may petition for administrative review only to the extent of the changes from the draft to the final HSWA permit.

The thirty (30) day period to request review of this final permit decision shall begin with the service of this Notice. (Note, for those parties receiving this Notice by mail, three (3) additional days will be added to the prescribed thirty (30) day period, as is provided for at 40 C.F.R. § 124.20(d).)

for C.S. 6/30/92

Conrad Simon, Director
Air and Waste Management Division
U. S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10278

July 21, 1992
Date Served

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

JACOB K. JAVITS FEDERAL BUILDING

NEW YORK, NEW YORK 10278

RESPONSIVENESS SUMMARY
FOR HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984 PERMIT
FOR E.I. DU PONT DE NEMOURS & CO., INC.
POMPTON LAKES, NEW JERSEY
NJD002173946

A. Background

Under the Solid Waste Disposal Act (the "Act"), as amended by the Resource Conservation and Recovery Act ("RCRA") and the Hazardous and Solid Waste Amendments of 1984 ("HSWA"), 42, U.S.C. §§ 6901 et seq., the United States Environmental Protection Agency ("EPA") Region II proposed issuance of a HSWA permit to the Pompton Lakes facility of E.I. du Pont de Nemours & Company, Inc. ("DuPont"). The draft HSWA permit includes corrective action requirement for the 151 Solid Waste Management Units ("SWMUs") at the DuPont facility, waste minimization, land disposal restrictions, organic air emission standards for process vents and equipment leaks, toxicity characteristic standards, and other applicable standards under the Act. The HSWA permit, if finalized, in conjunction with the permit issued on July 5, 1990 by the New Jersey Department of Environmental Protection and Energy ("NJDEPE") for operation of the RCRA Treatment, Storage, and Disposal ("TSD") facility, will constitute a full RCRA permit for the facility.

The availability of the draft HSWA permit was public noticed and radio announced on April 3, 1992. EPA held a public hearing on the draft HSWA permit on May 13, 1992 at the Pompton Lakes High School and the comment period closed on May 18, 1992.

EPA has received written and verbal comments from the public, DuPont, and NJDEPE during the comment period and the public hearing, on the draft HSWA permit. This Responsiveness Summary document provides EPA's response to the comments.

Conrad Simon, Director
Air and Waste Management Division
U. S. Environmental Protection Agency
Region II

6/30/92
Date

B. Comments and Response

(Comments #1 through #42 come from the letter dated May 18, 1992 from DuPont. EPA's response follows each of the comments.)

1. **Comment** (phrased)

"...we believe that the permit, if finalized, would be a major setback in our effort to successfully complete our site cleanup effort.

We are well into the investigation and remediation of solid waste management units and other areas of concern at the facility. This work began in 1988, and has proceeded under the terms and conditions of an Administrative Consent Order ("ACO") between DuPont and NJDEPE with continual oversight by EPA. The ACO clearly defines such requirements as compliance schedules, deliverable formats, and reporting requirements.

For several years, EPA has been providing oversight and comments on our work plans and various other documents prepared in compliance with the ACO through the NJDEPE.

This mechanism has provided a clear focal point for the regulatory coordination of the project, and we believe that it has been very effective and efficient. The terms and conditions of the draft permit would eliminate this mechanism by requiring separate submittals, mandating submittal formats different from those in the ACO, and providing a separate compliance schedule with no regard to coordination with the NJDEPE, ACO compliance schedules, or the time required to obtain any necessary local, State and Federal permits for remedial actions."

Implementing a project of this scale is not easy, and we strongly believe that any changes in our existing approach would add administrative complexity and duplication with no benefit to the public or the environment. While we appreciate the effort that must have gone into producing the draft HSWA Permit, we believe that in the interest of everyone involved the permit must be substantially revised to reinforce existing procedures and coordination mechanisms rather than creating entirely new and separate ones.

... we are requesting a formal extension of the permit comment period so that we can work with you and the

NJDEPE to develop an approach that satisfies your HSWA permitting concerns without impeding our effort to remediate the site."

Response

The DuPont, Pompton Lakes site has been a high priority RCRA site to EPA Region II, due to its size, known contamination, long history of chemical manufacturing, and its proximity to residences and other potential sensitive environments. The discovery in late 1990 along the Acid Brook of the contamination in soil, with high levels of lead and mercury, among other metals found, provides adequate justification that the DuPont, Pompton Lakes corrective action program warrants EPA's active involvement and close scrutiny. The proposed HSWA permit is a mechanism to formalize this role.

EPA agrees with DuPont's assessment that the corrective action program, with current NJDEPE/EPA oversight, has been effective and efficient. However, EPA disagrees with DuPont, that major problems will result from issuance of the permit. The HSWA permit, as proposed, will not require separate submission of documents from those required by the ACO, due to perceived differences in the formatting or reporting requirements. The goal of corrective action for both NJDEPE and EPA is protection of human health and the environment. Within that context, the proposed HSWA permit is not intended to eliminate the existing procedures. Furthermore, issuance of the HSWA permit should not result in major changes in DuPont's on-going or future corrective actions efforts. Any potential conflicts between the ACO and the HSWA permit with respect to compliance schedules can be easily resolved during implementation of corrective action.

There are reports, studies and work plans that relate to the site generally and/or to specific SWMUs and which have already been submitted to EPA for review and evaluation. EPA is approving certain of these documents and recording such approval as part of the permit (See III-15-a for a listing and description). NJDEPE has already approved such documents, although in some instances, the NJDEPE approval was made subject to certain conditions. EPA's approval will also incorporate such conditions of approval.

EPA, in cooperation with NJDEPE, will evaluate other such documents that have been developed to date and have already been submitted to EPA. It is EPA's intent to provide its approval expeditiously for such

documents that NJDEPE may have approved but where such NJDEPE approval has not as yet been substantiated to EPA. EPA will also expedite review after submittal of such documents that have not as yet been submitted to EPA and where NJDEPE approval has not as yet been substantiated to EPA. In those cases where NJDEPE has not as yet given its approval, EPA and NJDEPE will coordinate their review.

Any plans or reports, which are to be submitted after the effective date of the HSWA permit, will be jointly reviewed by the EPA and the NJDEPE prior to each agency signifying its approval. EPA will coordinate with NJDEPE to provide consistent review documents. The HSWA permit has provisions which would allow flexibility for corrective action implementation and schedules and modification to compliance schedules, when necessary. As is currently the case, any technical conflicts would be resolved between the agencies before communication with DuPont. These procedures are currently successful at other sites, including DuPont facilities.

EPA believes that modifications being made to the HSWA permit are responsive to DuPont's concerns. Therefore, DuPont's request for an extension of the public comment period to revise the HSWA permit is denied.

2. **Comment** (phrased)

"FACT SHEET, Page 3

The third paragraph suggests that the municipal wells have been sampled as part of the project. In fact, the wells are not within the scope of the project and as such discussion of municipal wells should be deleted from the permit narrative."

Response

EPA has accepted this comment. The Fact Sheet, as attached to this Responsiveness Summary, has been revised to reflect this.

3. **Comment** (phrased)

"The final paragraph should clarify that no further public notice is anticipated regarding groundwater contamination. The final paragraph should also clarify that DuPont may either implement an interim measure for remediation of contaminated groundwater or propose that

no further action is required. Either case must be approved by both the EPA and the NJDEPE."

Response

It is incorrect to say that no further public notice is anticipated regarding groundwater contamination. Under the RCRA program, final remedies for contaminated groundwater, soil or other environment media, must be publicly noticed for public comments before they are implemented, even if the final remedies involve no action. No change has been made to the Fact Sheet.

4. **Comment** (phrased)

"Page 5

The discussion of coordination between EPA and NJDEPE understates the significant differences between the ACO requirements and the requirements of the draft permit. Further, the statement "the EPA and the NJDEPE will coordinate . . ," does not adequately address the exact mechanism of coordination between the two agencies. We are seeking revision of this permit to clarify that the NJDEPE is the regulatory focal point on the project, and that the EPA will provide comments and recommendations through the NJDEPE while reserving the right to intercede at the Regional Administrator's discretion."

Response

See Response to Comment #1.

5. **Comment** (phrased)

"The discussion of the Acid Brook remediation incorrectly states that the effort is an interim measure. Rather, the remediation of Acid Brook is being implemented as a final corrective measure with ongoing oversight by the EPA and NJDEPE."

Response

The current remedial action covers only the areas around the southern portion of the Acid Brook off from the DuPont property, not the entire Acid Brook. Although the current remedial action may very well be a final remedy for the areas being remediated, it is not a final remedy for the entire Acid Brook. In this context, the current remedial action is an interim measure. No change has been made to the Fact Sheet.

6. **Comment** (phrased)

"A separate section should be added to the fact sheet to clarify that a Site Investigation Work Plan has been prepared in accordance with ACO Condition No. 16, approved by EPA and NJDEPE, and that the facility is now in the implementation phase of the site investigation."

Response

The Remedial Investigation Work Plan was approved by NJDEPE in the letter dated September 20, 1989. As indicated in Response to Comment #1 and in the final HSWA permit, EPA has evaluated and approved this document, by concurring the NJDEPE September 20, 1989 letter. The Fact Sheet has been revised to reflect this.

7. **Comment** (phrased)

"MODULE I - STANDARD CONDITIONS, F - Duties & Requirements, 9(a) - Representativeness of Samples and Measurements

All sampling is being implemented in accordance with the NJDEPE's Field Procedures Manual for Data Acquisition. We request that this condition be revised to reflect this."

Response

This condition has been revised to say that DuPont must comply with either Appendix I of 40 C.F.R. Part 261, an equivalent method approved by the Regional Administrator, or the NJDEPE's Field Procedures Manual for Data Acquisition.

During review of future sampling plans, EPA and NJDEPE will coordinate with each other to resolve any technical inconsistencies between these documents, prior to communication with DuPont. The HSWA permit reflects this change.

8. **Comment** (phrased)

"9(c) - Minimum QA/QC Submittals

Given that QA/QC submittals are already made to the NJDEPE under the terms of the ACO, this requirement is duplicative. We request that this condition be revised to confirm that NJDEPE QA/QC submittals are made, that

such records be kept at the facility, and that EPA reserves the right to review any QA/QC submittals upon request."

Response

For work already completed by DuPont under the ACO, DuPont need not submit QA/QC information. However, DuPont may have to submit all or part of QA/QC information, upon EPA's requests.

For work plans or reports to be approved after the effective date of the HSWA permit, DuPont may have to submit QA/QC information, upon EPA's request. In this regard, EPA will coordinate with NJDEPE to provide consistent review documents to DuPont. However, EPA does not believe that changes to the HSWA permit are needed to reflect this and therefore, no change has been made to the permit.

9. Comment (phrased)

"H - Reports, Notifications and Submissions to the Regional Administrator

As we are currently providing notifications to the NJDEPE and EPA under the ACO, the NJDEPE notifications in this condition should be eliminated. To minimize confusion we also request a single EPA document submittal contact, to whom we will forward three copies for his or her distribution to the appropriate EPA staff. We request the submittals to the EPA generally be limited to work plans and reports, with other documentation available upon request by the EPA."

Response

EPA has partially accepted this comment. DuPont must send one copy to the EPA Permits Administration Branch and two copies to the EPA Hazardous Waste Facilities Branch. The two copies to the Hazardous Waste Facilities Branch may be directed to the Section Chief of the New Jersey/Caribbean Corrective Action Section who is currently Barry Tornick. A minimum of three copies must be directed to the Division of Responsible Party Site Remediation of NJDEPE. The HSWA permit reflects this change.

DuPont must submit all information and documents including work plans and reports required by the HSWA permit.

10. **Comment** (phrased)

"MODULE II - FACILITY DESCRIPTION

D . Groundwater

The third paragraph suggests that the municipal wells have been sampled as part of the project. In fact, the wells are not within the scope of the project and as such discussion of municipal wells should be deleted from the permit narrative."

Response

EPA has accepted this comment. The HSWA permit reflects this change.

11. **Comment** (phrased)

"H - Coordination Between EPA and NJDEPE

The discussion of coordination between EPA and NJDEPE understates the significant differences between the ACO requirements and the requirements of the draft permit. Further, the statement "the EPA and the NJDEPE will coordinate . . ." does not adequately address the exact mechanism of coordination between the two agencies. We are seeking revision of this permit to clarify that the NJDEPE is the regulatory focal point on the project, and that the EPA will provide comments and recommendations through the NJDEPE while reserving the right to intercede at the Regional Administrator's discretion."

Response

See Response to Comments #1. Coordination procedures are included in the Fact Sheet. However, the HSWA permit has no legal authority over NJDEPE. Therefore, although we indicated the coordination procedures in the Fact Sheet, EPA believes that inclusion of such coordination procedures in the HSWA permit is inappropriate.

If DuPont believes that more detailed procedures than the procedures described in the Fact Sheet need to be defined, EPA is willing to work with NJDEPE and DuPont to attempt to satisfy these concerns.

12. **Comment** (phrased)

"MODULE III - CORRECTIVE ACTION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS, A. APPLICABILITY, 2 - Summary of Corrective Action Process

It should be clarified in this section that a remedial investigation work plan has been prepared and approved by EPA and NJDEPE, and that the work plan satisfies the requirements for the RCRA RFI."

Response

This submission has been recognized in the Response to Comment #6. The HSWA permit now reflects approval of the remedial investigation work plan.

13. **Comment** (phrased)

"B - STANDARD CONDITIONS FOR CORRECTIVE ACTION, 5 - Prior Submittals

Several years of work has already been completed, including review and approval of a number of documents by the EPA and NJDEPE. The decision on compliance with RCRA requirements has in many cases already been made. As such, this condition should be revised to acknowledge those prior submittals which have already been made and approved, and which sections of the permit requirements are fully satisfied. These documents include, but are not limited to:..."

Response

See Response to Comment #1.

14. **Comment** (phrased)

"6 - Interim Measures

Depending upon the nature of the release or suspected release, thirty (30) days may not be adequate for the preparation of an interim corrective measures study. It is requested that a clause be added that would allow the Regional Administrator to grant the facility additional time if necessary to prepare an adequate submittal."

Response

Condition E.10 of Module III or Condition K of Module I of the draft HSWA permit may be utilized by DuPont, as

needed for time extensions. No change has been made to the HSWA permit.

15. **Comment** (phrased)

"The notification requirements specify that the facility must immediately summarize the nature and magnitude of the actual or potential threat and nature of the interim measures being considered and notify the Regional Administrator. The method (written or verbal) and timing of such notification is not specified, We suggest that the terms be revised to specify a 24-hour verbal notification, followed by a written notification within 5 days."

Response

EPA has accepted this comment. The HSWA permit reflects this change.

16. **Comment** (phrased)

"General comment - this section should acknowledge and recognize the need for and timing of NJDEPE approval of any proposed interim measures per item No. 31 of the ACO."

Response

As indicated in the Response to Comment #1, EPA's approval of any interim measures will be coordinated with the NJDEPE. No change has been made to the HSWA permit.

17. **Comment** (phrased)

"8 - Reporting

8 - a. Consistent with ACO Item No. 32, it is requested that this condition and Appendix C -Compliance Schedule be revised to specify that progress reports must be submitted on or before the 30th day of the month following the quarter being reported and that the reporting format be identical to that listed in Item No. 32."

Response

Condition 8-a requires DuPont to submit progress reports pursuant to approved work plans, with the first progress report submitted within thirty (30) days after any work initiated under the HSWA permit. This initial

notification is an additional requirement to the requirement of ACO Item No. 32. However, Condition 8-a is not inconsistent with ACO Item No. 32.

Progress reports must address all substantive requirements of the HSWA permit, irrespective of the format. No change has been made to the HSWA permit.

18. **Comment** (phrased)

"Provision of summaries of all contacts made with the public is excessive in light of the fact that we are in constant contact with the public regarding the project. We request that these summaries be limited to official meetings and hearings."

Response

DuPont must provide EPA with all contacts with the public made by DuPont with respect to any significant issues, questions, or solutions associated with the implementation of the HSWA permit requirements. It is important and critical for EPA to understand parties involved and to plan necessary coordination in advance. EPA is willing to work with DuPont and/or NJDEPE to delineate the scope of this requirements after issuance of the HSWA permit. No change has been made to the HSWA permit.

19. **Comment** (phrased)

"Given the significant number of staff from both DuPont and outside firms working in the project, we request that the requirement for reporting changes in personnel be eliminated. If necessary, this information could be generated based upon personnel records."

Response

Any changes in personnel, that are critical in conducting and managing corrective action activities, must be reported to EPA. EPA is willing to work with DuPont and/or NJDEPE to develop a list of critical personnel after issuance of the HSWA permit. No change has been made to the HSWA permit.

20. **Comment** (phrased)

"Given the significant volume of day-to-day recordkeeping, data, etc., being generated by the project, we request that the reporting requirement for these items be eliminated. These items are more

appropriately recordkeeping issues, where such records should remain at the facility and be available for review by the Regional Administrator if requested."

Response

The progress reports must include items described in Condition B.8.a of Module III, which EPA believes are minimum requirements. However, EPA agrees with DuPont that most of the data required by Condition B.8.a.viii may be kept at the site. Only critical data is needed to be included in progress reports. Therefore, the HSWA permit reflects this change.

21. **Comment** (phrased)

"8 - d. This condition should recognize the need for NJDEPE approval of our activities, as well as the need for local, state, and federal permits and related delays."

Response

EPA's approval of work plans or schedules will be coordinated with NJDEPE, any local government bodies, or public groups, as needed. No change has been made to the HSWA permit.

22. **Comment** (phrased)

"10 - Notification

10 - a. The public has already been informed of the groundwater contamination concerns. As such, this condition should be eliminated or revised to indicate that it has been fulfilled and that no further public notice regarding groundwater contamination is required."

Response

The notifications performed under the ACO for the contaminated groundwater is accepted equivalent to compliance with Condition B.10.a of Module III.

DuPont must maintain compliance with this Condition, as needed. Any new discoveries with respect to groundwater contamination, such as new contamination plumes in groundwater or additional households which would be impacted by contaminated groundwater, will require DuPont to comply with this Condition. No change has been made to the HSWA permit.

23. **Comment** (phrased)

"C - Assessment of Newly Identified SWMUs

The issue of the need for additional remedial investigation and remediation is covered by ACO Item No. 31. We request that this section be revised to require compliance with this ACO condition rather than establishing separate notification, reporting, and implementation requirements."

Response

Condition C of Module III is not inconsistent with ACO Item No. 31. No change to the draft is needed for this comment.

24. **Comment** (phrased)

"2 - SWMU Assessment Report

2 - h. The SWMU assessment report has been effectively completed in the form of the Operational History report. Therefore, it is requested that the word 'required' be replaced with the word 'completed'."

Response

See Response to Comment #1.

In addition, any newly-discovered SWMUs, after the effective date of the HSWA permit, must comply with this Condition. Therefore, no change has been made to the HSWA permit.

25. **Comment** (phrased)

2 - i. It Is requested that the word 'is' be replaced with the words 'appears, based upon existing information, to represent'."

Response

Condition C.2.i of Module III, as proposed, requires DuPont's assessment of release potential based on available information. No change has been made to the HSWA permit.

26. **Comment** (phrased)

"3 - SWMU Sampling and Analysis Plan

This condition should be revised to document that the approved RI Work Plan satisfies the requirements for a SWMU Sampling and Analysis Plan, and that we are presently authorized to implement the plan.

It Is also requested that the wording '<u>in accordance with the most recent version of the New York State Department of Environmental Conservation ("NYSDEC") RCRA Quality Assurance Project Plan Guidance</u>' be eliminated or replaced with the wording '<u>in accordance with Appendix A and B of the ACO or the most recent version of the New Jersey Department of Environmental Protection and Energy (NJDEPE) Remedial Investigation Guide.</u>'"

Response

See Response to Comment #1.

This condition has been revised to add the Appendices of the ACO and NJDEPE Remedial Investigation Guide. During review of future SWMU sampling and Analysis Plans, EPA and NJDEPE will coordinate with each other to resolve any technical inconsistencies between these documents, prior to communication with DuPont. The HSWA permit has been revised to reflect this change.

27. **Comment** (phrased)

"4 - Subsequent Assessment Actions

4 - b. Depending upon the nature of the issues discussed at the meeting, thirty (30) days may not be adequate for the preparation of a revised SWMU Assessment Sampling and Analysis Plan. It is requested that a clause be added that would allow the Regional Administrator to grant the facility additional time if necessary to prepare adequate submittal.

It is requested that this condition be revised to replace the words 'receipt of Plan comments from the Regional Administrator' with the words (receipt of Plan comments from the Regional Administrator and the NJDEPE)"

Response

Time extensions may be granted pursuant to Condition E.10 of Module III or Condition K of Module I.

As indicated in the Response to Comment #11, the HSWA permit has no legal authority over NJDEPE and therefore it is inappropriate to impose any of the HSWA permit conditions on NJDEPE. However, since the HSWA permit has the same goals of cleanup of the DuPont site and protecting human health and the environment from any releases from the site, as those of the ACO, EPA will coordinate with NJDEPE to have consistent implementation of the DuPont's corrective action program. No change has been made to the HSWA permit.

28. **Comment** (phrased)

"4 - c. it is requested that this condition be revised to replace the words 'from the Regional Administrator' with 'from the Regional Administrator and the NJDEPE'"

Response

See the Response to Comment #27.

29. **Comment** (phrased)

"5. SWMU Sampling and Analysis Report

It is requested that this condition be revised to allow additional time to prepare the required Sampling and Analysis Report with the approval of the Regional Administrator should thirty (30) days be an inadequate amount of time to prepare the document."

Response

Time extensions may be granted pursuant to Condition E.10 of Module III or Condition K of Module I. No change has been made to the HSWA permit.

30. **Comment** (phrased)

"E - CORRECTIVE ACTION REQUIREMENTS, 1 - RCRA Facility Investigation (RFI) Work Plan

Per Condition No. 16 of the ACO, a Remedial Investigation Work Plan was prepared, submitted and approved by the NJDEPE and EPA in accordance with Appendix A, B, and C of the ACO. A significant amount of work was required to develop this Work Plan, both on

the part of DuPont and the NJDEPE in terms of their review time. We are confident that the information generated through the implementation of the existing Work Plan adequately addresses both EPA's and NJDEPE's concerns.

It is simply not practical or reasonable for us to develop and implement two Work Plans with different formats and submittal requirements to address the same areas of concern. Therefore, we request that this condition be revised to reference the need for compliance with ACO Conditions No.s 16 and 17 rather than the preparation of a separate EPA version of the Work Plan. The extent to which previously submitted documents satisfy HSWA concerns should be documented in the permit rather than being left open-ended."

Response

See Response to Comment #1.

31. **Comment** (phrased)

"2 - RCRA Facility Investigation Work Plan Implementation

Consistent with ACO Condition No. 18, we request that this condition be revised to read, 'Upon receipt of the Regional Administrator and NJDEPE's written final approval of the RI Work Plan, DuPont shall conduct the remedial investigation in accordance with the approved RI Work Plan and the schedule contained therein.' In addition, this section should acknowledge the fact that the RI Work Plan has been approved and is under implementation."

Response

See Responses to Comments #27 and #6.

32. **Comment** (phrased)

"3 - RCRA Facility Investigation Final Report and Summary Report

The ACO requires that we submit any remedial investigation reports in accordance with Appendix A of the ACO. This condition requires the development of a document covering the same topic, but in a different format. Once again, the development of two documents addressing the same issues in different formats is neither practical or reasonable.

We request that this condition be revised to require submittal to the Regional Administrator the Remedial Investigation Report prepared in conformance with ACO Condition No. 19 In a time frame defined in the Work Plan."

Response

See Response to Comment #1.

33. **Comment** (phrased)

"It is requested that rather than submit a copy of any such final report to all individuals on the facility mailing list, such individuals be notified of its availability to them. This will focus the information on those individuals who are interested in receiving it."

Response

Condition E.3.c of Module III requires sending a copy of only the approved summary report to all individuals, not the final report. EPA has partially accepted this comment. DuPont must notify all individuals on the mailing list of the availability of the report. In addition, the notification must indicate that a copy of the summary report will be sent to them upon receipt of a written request. The final HSWA permit reflects this change.

34. **Comment** (phrased)

"4 - Interim Measures

We have submitted a work plan, gained approval, and implemented an interim measures program at the facility. This condition should be revised to acknowledge this fact, and state that only new interim measures need be submitted for review. We also request that the permit be written to allow us to implement immediate interim measures if necessary with notification to EPA without formal written approval."

Response

See Response to Comment #1.

New interim measures, if needed, are implemented pursuant to Condition E.B.6 of Module III. This Condition allows implementation of interim measures without formal written approval from EPA, if such

action is needed to respond to accidental releases of hazardous waste or materials, fire or other emergencies. DuPont must follow up with formal notification to EPA. No change has been made to the HSWA permit.

35. **Comment** (phrased)

"5. 6. and 7 - Corrective Measures Study ("CMS") Plan; Corrective Measures Study Implementation; and Corrective Measures Study Final Report

The issue of remedial/corrective measures is already addressed in Conditions 22 through 26 of the ACO. Those conditions specify a format for development of both a "Feasibility Study" work plan and report. Condition E(5) of the draft permit again requires the preparation of a document covering the same topic but in an EPA preferred format. As with several of the other permit conditions, the development of two documents addressing the same topic to satisfy two preferred formats is neither practical nor reasonable.

To avoid duplication of effort, and to insure regulatory coordination, we request that this condition be revised to require the submittal to the Regional Administrator of the Feasibility Study Work Plan and Feasibility Study Report prepared in conformance with ACO Condition No.s 22 through 26 in a time frame defined in the ACO."

Response

See Response to Comment #1. No change has been made to the HSWA permit.

36. **Comment** (phrased)

"8 - Corrective Measures Selection

According to ACO Condition No. 27, the NJDEPE will make the final selection of the remedial action alternative for each remedial component. Draft permit condition E(8) states that the Regional Administrator will make the final corrective measures selection. We request that this condition be revised to require compliance with ACO Condition No. 27, with the Regional Administrator reserving the right to review and approve the NJDEPE-selected alternative."

Response

EPA will make the final selection of remedial action alternative in coordination with NJDEPE. Any technical conflicts will be resolved between the two agencies before communication with DuPont. No change has been made to the HSWA permit.

37. **Comment** (phrased)

"Given that the RCRA Corrective Action regulations have not yet been finalized, we request the EPA await the finalization of these regulations rather than incorporating specific remedy selection protocol into this permit. The condition should be revised to tie compliance with the eventual issuance of corrective action regulations, or at a minimum indicate that the regulations will supersede the interim language."

Response

EPA has determined that, without the RCRA corrective action regulations, the protocol included in the draft HSWA permit are the minimum requirements needed to be complied with. DuPont may request modification, pursuant to Condition K of Module I, of this protocol or EPA may initiate permit modification, if the protocol turns out inconsistent with the final RCRA Corrective Action regulations. No change has been made to the HSWA permit.

38. **Comment** (phrased)

"9 - Permit Modification for Corrective Measure(s)

The requirements for permit modifications to implement corrective action will result in unnecessary delays. All plans and reports approved by the EPA should be incorporated by reference into the permit, as stated in the draft permit Module I, Item D.1. Because this condition relies on cross-referencing with other conditions, if conditions that are cross-referenced are modified this condition may need to be modified for consistency."

Response

EPA disagrees with DuPont that the permit modification process required in the HSWA permit for selection of the final remedial alternative, will result in unnecessary delays. EPA will coordinate with NJDEPE to ensure selection of final corrective remedy

alternatives without unnecessary delays. The HSWA permit will be modified as needed. No change has been made to the HSWA permit.

39. **Comment** (phrased)

"10 - Modification of the Compliance Schedule

The compliance schedule for the site investigation/ remediation has already been negotiated, and is reflected in the ACO. Given the complexity and scale of this project, it is essential that we continue to implement the work according to a single schedule, and as such we request that this condition be modified to recognize the existence and legitimacy of the ACO schedule. This would include deletion of the Appendix C compliance schedule. We fully expect the permit language to clarify that EPA reserves the right to intercede if the Regional Administrator is not satisfied with our progress, and request that this condition be revised to clarify that authority.

In the context of the ACO requirements, this permit can and should be written so that permit modifications will generally not be necessary. This is possible because such things as the compliance schedule or remedial actions are incorporated into the various documents. The permit need only reference the need for compliance with the elements of the approved plans, rather than providing specific dates or formats."

Response

Any inconsistent schedules between the HSWA permit and the ACO will be resolved during implementation of corrective action, to ensure implementation of one single schedule.

The compliance schedule in Module III and in Appendix C are minimum requirements for EPA to monitor and to manage DuPont's corrective action program. EPA agrees with DuPont that detailed implementation schedules, which will not be known until detailed work is defined, are included in work plans or various documents. The HSWA permit does not include such detailed schedules. No change has been made to the HSWA permit.

40. **Comment** (phrased)

"MODULE IV - WASTE MINIMIZATION

This HSWA permit was written primarily to address corrective action resulting from past waste disposal practices at the facility. As such, we question the need for incorporation of waste minimization requirements in the permit."

Response

One of the HSWA requirements is Waste Minimization. Waste minimization must be implemented by DuPont under the HSWA permit. No change has been made to the HSWA permit.

41. **Comment** (phrased)

"MODULE VII - TOXICITY CHARACTERISTICS, B. Authorized Activities

This condition should include narrative to document that TC wastes generated, but stored less than 90-days, are not subject to the limitations of this permit."

Response

NJDEPE issued the modification to the Hazardous Waste Facility (HWF) permit on February 19, 1992. The modified permit allows storage of TC wastes in the permitted Container Storage Areas. During the June 29, 1992 telephone conversation between EPA and DuPont, DuPont indicated that TC wastes are stored in the permitted Storage Areas. Therefore, Module VII is applicable to the Storage Areas regardless of whether the TC wastes are stored less than 90 days. No change has been made to the HSWA permit.

42. **Comment** (phrased)

"APPENDIX A THROUGH D

The permit revisions that we are requesting would eliminate the need for these appendices. We are generally requesting that the NJDEPE and the terms of the ACO remain the focal point for the project, and that the EPA work with and through the NJDEPE as has been the practice since ACO implementation to insure that HSWA issues are adequately addressed."

Response

See Response to Comment #1. No change has been made to the HSWA permit.

(Comments # 43 through # 50 come from the letter dated May 18, 1992 from NJDEPE. EPA's response follows each of the comments.)

43. **Comment** (phrased)

"Page 2, Page II-1 - Off-specification blasting caps are no longer detonated underwater in the Shooting Ponds."

Response

The statement "Off-specification blasting caps are detonated underwater in a lagoon known as the Shooting Pond." is a inadvertent mistake. EPA recognizes that the Shooting Pond is no longer in use. Page 2 of the Fact Sheet and page 1 of Module II have been revised to reflect this.

44. **Comment** (phrased)

"Page 3, Page II-2 - the third sentence should be clarified to read that contamination was found only in the non-potable private wells, not the municipal supply wells."

Response

This has been clarified in EPA's response letter, dated May 21, 1992, to Mr. Ed Merrill, as attached to this Responsiveness Summary. Furthermore, this has been revised pursuant to the Response to Comment #2.

45. **Comment** (phrased)

"Page 5, Page II-4 - Coordination Between EPA and NJDEPE - the ACO requires site-wide corrective action and off-site corrective action."

Response

This comment has been accepted. The HSWA permit reflects this change.

46. **Comment** (phrased)

"Page 5 - Why is the Acid Brook remediation considered an 'interim action pursuant to the permit'?"

Response

See Response to Comment #5.

47. **Comment** (phrased)

"Page I-11 - Reports, Notifications, and Submissions to the Regional Administrator - NJDEPE, Division of Responsible Party Site Remediation should receive a copy of all reports."

Response

This comment has been accepted. The final HSWA permit reflects this change.

48. **Comment** (phrased)

"Page III-5 - Old Shooting Pond - the Interim Measures were completed January 30, 1992."

Response

See Response to Comment #1.

49. **Comment** (phrased)

"Page III-8 - Interim Measures are underway at SWMUs 3, 4, 47, 48, 56, 57, 58, and 74."

Response

Under Condition E.4 of Module III, DuPont may continue implementing the interim measures for these SWMUs. Any interim measures being implemented without NJDEPE's approval prior to the effective date of the HSWA permit must also be approved by EPA.

50. **Comment** (phrased)

"EPA is requiring Interim Measures at SWMUs 87, 91, 95, and 97 (off-site). What type of interim measures is EPA concerned with in these areas?"

Response

EPA believes that main sources for the contaminated groundwater in the southern portion of the DuPont facility and in the residential area southeast of the DuPont property are these four lagoons. Interim measures for off-site contaminated groundwater must be immediately implemented, if further investigation indicates that reasonable measures are available.

(Comment # 51 through # 57 were verbally provided by the public during the public hearing held on May 13, 1992, 7:00 pm - 9:00 pm, at the auditorium of the Pompton Lakes High School in Pompton Lakes, New Jersey. EPA's response follows each of the comments.)

51. **Comment** (paraphrased) - Provided by Mr. Neal Boyce, 131 Vam Avenue, Pompton Lakes, New Jersey

Soils on either sides and the back of the driveway, which is at 2 Pamley Avenue, were excavated, but the driveway and the soil underneath it have not been excavated. In the future, the soil may be exposed to people.

Response

DuPont's remedial action consists of excavation of contaminated soils and follow-up soil sampling and analysis. Soil samples are collected from the side walls and the bottom of excavated areas. Excavation must continue to the extent that the sampling results show concentrations above the cleanup standards.

As such, DuPont's remedial action for the area specified has also been performed to the extent to ensure meeting this cleanup standards.

52. **Comment** (paraphrased) - Provided by Mr. Neal Boyce

The brook at one end has a wall about six feet high at the bridge of Colfax Road and the wall height is gradually lowered down the way. There will be a flood and water will flow into the neighborhood. I can't see why that could be permitted.

Response

The current Remedial Action for the Acid Brook includes restoration of the Acid Brook. The restoration program

must also comply with the requirements of the NJDEPE Stream Encroachment program. The goal of the restoration is to remove contaminated soils and to reestablish the area to a natural condition.

In addition, DuPont is currently constructing detention basins within the facility, to control flooding in the area of the Acid Brook.

53. Comment (paraphrased) - Provided by Mr. Ed Merrill, Environmental Officer for the Borough of Pompton Lakes, New Jersey

On the fourth paragraph on the third page of the Fact Sheet, a sampling results for some of 26 privately owned shallow wells located southeast of the operating plant and three municipal supply wells located in Pompton Lakes Borough have showed volatile organic chemicals ranging from 3.33 ppb to 5,592.6 ppb.

There are three Borough major wells. Two wells are at the south end of the town and the other is over the Lake Inez section. The well located over Lake Inez section is not hydraulically interconnected with the other two municipal wells.

The wording in the paragraph makes it sound like all three Borough wells are affected by chemicals that may have been released in this project. This is the first time that such information was available to myself as Environmental Officer of the town. I would like a clarification.

Response

EPA's response letter dated May 21, 1992 to Mr. Ed Merrill clarifies this issue. See the attached letter.

54. Comment (paraphrased) - Mr. Paul Dow, 2 Howard Street, Pompton Lakes, New Jersey

DuPont remediated one property on Walnut Street but after the remediation, the property has a problem of flooding. DuPont should go back and correct the problem of flooding.

Response

DuPont is currently investigating the area for a possible further remedy for flooding.

55. **Comment (paraphrased) - Mr. Paul Dow**

The property of Mr. Dow was scheduled to be remediated this year or early next year, but Mr. Dow was told that it may be delayed. Furthermore, DuPont originally proposed to start properties on the north and to work down south along the Acid Brook. DuPont started the properties on the north. Although DuPont has not completed remediation of Mr. Dow's property, DuPont is currently remediating properties south of Mr. Dow's property. Mr. Dow wanted to know why DuPont is allowed to decide priorities of choosing properties to be remediated.

Response

At the onset of the Acid Brook remedial action, the Agency of Toxic Substances and Disease Registry recommended that the areas with high levels of lead and mercury be remediated first and further prioritized the areas for remediation. NJDEPE, EPA, and DuPont accepted the recommendation. The current remedial action work complies with this schedule. As indicated in the remedial action work plan, once the cleanup of the hot spots is completed, remediation will begin in the area north following to the south along the Acid Brook.

56. **Comment (paraphrased) - Provided by Mr. Robert Miller**

The Hazardous and Solid Waste Amendments of 1984 (HSWA) permit will require investigations and remediation, if determined needed, for the 151 SWMUs which have been identified up to now. Would this permit cover Solid Waste Management Units (SWMUs), which would be identified after the issuance of the HSWA permit?

Response

Yes. Conditions A.3.b and C require DuPont to investigate SWMUs newly discovered after the issuance of the HSWA permit.

57. **Comment (paraphrased) - Provided by Mr. Robert Miller**

Does the HSWA permit cover the wells at all?

Response

The HSWA permit covers wells to the extent that they are contaminated by any SWMUs at the DuPont facility.

FACT SHEET

Permittee: E. I. du Pont de Nemours & Company, Incorporated
Cannonball Road
Pompton Lakes, New Jersey 07442

Facility Location: E.I. du Pont de Nemours & Company, Incorporated
Cannonball Road
Pompton Lakes, Passaic County, New Jersey

EPA I.D. Number: NJD002173946

BACKGROUND

The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act ("RCRA") and the Hazardous and Solid Waste Amendments of 1984 ("HSWA"), codified at 42 U.S.C. §6901 et. seq. ("the Act") empowers, under Section 3005 of the Act, the United State Environmental Protection Agency ("EPA") to establish a permit program for hazardous waste treatment, storage, and disposal ("TSD") facilities.

Under Section 3006 of the Act, 42 U.S.C. §6926, EPA may, if certain criteria are met, authorize a state to operate a hazardous waste program in lieu of the Federal program. Although the State of New Jersey ("NJ") was granted final authorization to operate its hazardous waste program on February 21, 1985, this authorization specifically excluded state administration of the new requirements and prohibitions imposed by HSWA. By the expressed terms of Section 3006(g) of the Act, 42 U.S.C. §6926(g), the new HSWA provisions take effect in all states, authorized or unauthorized, simultaneously. Until EPA formally authorizes a state to implement the HSWA provisions, along with the other elements of the state hazardous waste program, EPA will implement the HSWA provisions, including the issuance of full or partial facility permit.

Until EPA authorizes NJ to administer the provisions in HSWA, NJ issues the non-HSWA portion of the RCRA permit and EPA will issue the HSWA portion of the permit. Only when both portions are issued, will the applicant be deemed to have a full RCRA permit.

The permit which EPA is proposing constitutes the HSWA portion of the RCRA permit. NJ issued the non-HSWA portion of the RCRA permit on July 5, 1990, Hazardous Waste Facility Permit No. 1609A1HP01.

GENERAL FACILITY DESCRIPTION

The facility, E. I. du Pont de Nemours & Company, Incorporated ("DuPont"), is located on Cannonball Road in Pompton Lakes, Passaic County, New Jersey on about six hundred (600) acres of land, surrounded by mountainous areas (state forests) to the north, Lake Inez (it is now drained) to the west, and residential areas to the south. The facility has manufactured explosives for more than 100 years, starting from 1888. The products include explosive powders (mercury fulminate, lead azide, etc.) and finished products (detonating fuses, electric blasting caps, etc.).

GENERATION AND MANAGEMENT OF WASTES

Wastes generated at the facility from the explosive manufacturing processes include lead salts, mercury compounds, explosive powders, chlorinated solvents, waste wire drawing solution, and detonated off-specification blasting caps. These wastes have been handled in a variety of ways. Powder contaminated material is burned on-site. Sludges and chemical wastes are drummed and disposed of off-site. Off-specification blasting caps were detonated underwater in a lagoon known as the Shooting Pond. Furthermore, a number of areas have been used for disposal of various wastes.

RCRA REGULATED UNITS AND THEIR STATUS

The New Jersey Department of Environmental Protection and Energy ("NJDEPE") issued the non-HSWA portion of the RCRA permit to the facility on July 5, 1990, with the permit duration of five years. The permit allows operation of the Container Storage Areas (Indoor Storage Area and Outdoor Storage Area), the Storage Magazines, the Tanks for Storage and Treatment, the Upper Burning Ground, the Lower Burning Ground, and the Proposed Burning Area.

The Shooting Pond, which is a RCRA-regulated surface impoundment, was closed pursuant to the closure permit issued by NJDEPE in Ocotber 1988. All the waste in the unit and contaminated subsoil beneath the unit were removed and sent off-site for disposal, the area was backfilled to rough grade with clean fill, and hydroseed was planted. After review of the groundwater data for the unit, NJDEPE determined that the closure of the unit met the State clean closure standards, as specified in N.J.A.C. 7:26-10.6(h)1 et. seq. As such, no additional actions under the State RCRA program are required for this unit.

GROUNDWATER

The facility is underlain by two principal geologic units: crystalline bedrock and colluvial/alluvial deposits. The bedrock in the northern portion of the facility is overlain by 0-20 feet

of colluvial deposits consisting of poorly sorted clay, sand, and gravel, while the bedrock in the southern portion of the facility is overlain by 15-140 feet of alluvial deposits consisting of sand and silty sand. Groundwater flow direction in the alluvial deposits is toward the southeast, in the direction of the residential section of Pompton Lakes.

The results of the groundwater investigation, submitted by the facility in July 1984 in the report entitled "Ground Water Assessment Report", showed that the groundwater beneath the site was contaminated with metals and volatile organic chemicals. It also showed that the most severe pollution existed in the southern area of the site near the four (4) lagoons. The lagoons had received wastewater from various manufacturing operations. Specifically, prior to 1974, an unknown quantity of petroleum-based waste hyraulic oil was reportedly dumped into the lagoons. Prior to 1981, the lagoons were used to receive wastewater from electroplating operations and, prior to 1983, were used to receive wastewater containing animal fat-based lubricants from shell making and wire drawing operations. Until 1988, the lagoons were also used to receive a permeate discharged from the reverse osmosis process of non-hazardous wastewater, the animal-fat-based-lubricant wastewater. Pursuant to the Administrative Consent Order (ACO) signed between NJDEPE and the Permittee in September 1988, the Permittee has stopped using the lagoons. These lagoons were interconnected and unlined.

The report submitted by the Permittee, dated June 1986, on the hydrogeologic investigation showed that groundwater beneath the southern plant operating area was contaminated with volatile organics and inorganics. A plume of volatile organic chemicals contaminated groundwater has migrated from the site toward the southeast and is detectable in the shallow portion of the alluvial aquifer. Sampling results for some of twenty-six privately owned shallow wells located southeast of the operating plant have showed volatile organic chemicals ranging from 3.33 ppb to 5592.6 ppb.

Pursuant to the ACO, the Permittee conducted groundwater sampling at off-site non-potable wells in June 1990 and found that some of the wells had elevated levels of organic chemicals and metals which were higher than Maximum Contaminant Levels (MCLs). The NJDEPE and the Permittee have notified residents that the wells must not be used for drinking, and the NJDEPE is investigating possibility of sealing of these wells. The Permittee also has submitted a workplan for remediation of the contaminated groundwater to the NJDEPE and the EPA, and the workplan is currently being reviewed. The Permittee will carry out the workplan, as approved by EPA, as an interim measure for corrective action under this Permit.

RCRA FACILITY ASSESSMENT

Section 3004(u) of RCRA, 42 U.S.C. §6924(u) (Section 206 of HSWA), and its corresponding regulations published in 40 C.F.R. §264.101 require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit ("SWMU"), regardless of when wastes were placed in the unit. The corrective action implementation process includes a RCRA Facility Assessment ("RFA"), a RCRA Facility Investigation ("RFI"), a Corrective Measures Study ("CMS"), and a Corrective Measures Implementation ("CMI") phase.

The RFA for the E.I. du Pont de Nemours & Company, Incorporated, Pompton Lakes, New Jersey facility was a two-phase study which included a Preliminary Review ("PR") and a Visual Site Inspection ("VSI"). The EPA, with support of the NJDEPE conducted a PR and a VSI of the site and prepared a RFA report dated February 1987. The RFA report identified 46 SWMUs at the facility.

The study conducted by the Permittee pursuant to the Administrative Consent Order ("ACO") signed by the NJDEPE and the Permittee in September 1988 identified additional waste Sites, including the SWMUs identified by the RFA report.

Therefore, this HSWA permit, if finalized, would require the facility to conduct corrective action investigations for all SWMUs (or waste sites) identified to date. There are 151 SWMUs.

PERMIT STATUS

When effective, this HSWA permit, in conjuction with the permit issued by the NJDEPE under the Hazardous Waste Regulations on July 30, 1990, will constitute the full RCRA permit for the facility.

HSWA PERMIT

This HSWA permit requires the Permittee to:

1. Determine the nature, extent, direction, and rate of migration of hazardous waste, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air at any solid waste management unit(s) at the facility regardless of the time waste was placed in such unit, and to develop appropriate corrective action for any such releases, and to implement interim measures for corrective action, where required;

2. Certify annually that the generation of hazardous waste is minimized to the extent practicable, and submit and implement a hazardous waste reduction plan;

3. Comply with the land disposal restrictions;

4. Comply with the organic air emission standards for process vents and equipment leaks in accordance with the regulations promulgated on July 21, 1990;

5. Comply with the Toxicity Characteristic standards in accordance with the regulations promulgated on March 29, 1990; and

6. Comply with any other applicable statutory or regulatory requirements imposed pursuant to RCRA and HSWA.

COORDINATION BETWEEN EPA AND NJDEPE

The ACO signed in September 1988 requires site-wide corrective action and off-site corrective action, addressing SWMUs and contaminated groundwater. Since this HSWA permit, if finalized, would also require implementation of corrective action, similar to the requirements of the State ACO, the EPA and the NJDEPE will coordinate to ensure that actions or investigations to be taken by the Permittee address Federal, EPA and State NJDEPE requirements.

Any potential conflicts between the ACO and the HSWA permit with respect to compliance schedules can be easily resolved during implementation of corrective action. There are reports, studies and work plans which have already been submitted to EPA for review and evaluation. EPA is approving certain of these documents and recording such approval as part of the HSWA permit. NJDEPE has already approved such documents, although in some instances, the NJDEPE approval was made subject to certain conditions. EPA's approval will also incorporate such conditions of approval.

EPA, in cooperation with NJDEPE, will evaluate other such documents that have been developed to date and have already been submitted to EPA. It is EPA's intent to provide its approval expeditiously for such documents that NJDEPE may have approved but where such NJDEPE approval has not as yet been substantiated to EPA. EPA will also expedite review after submittal of such documents that have not as yet been submitted to EPA and where NJDEPE approval has not as yet been substantiated to EPA. In those cases where NJDEPE has not as yet given its approval, EPA and NJDEPE will coordinate their review.

Any plans or reports, which are to be submitted after the effective date of the HSWA permit, will be jointly reviewed by the EPA and the NJDEPE prior to each agency signifying its approval. EPA will coordinate with NJDEPE to provide consistent review documents. Any technical conflicts will be resolved between the agencies before communication with DuPont.

ACID BROOK REMEDIATION

During the exploratory sampling of the area of the Acid Brook in May 1990 through January 1991, DuPont identified contaminated soils off-site along the Acid Brook to the south of the facility boundary, with high levels of mercury and lead, ranging up to 100,000 ppm for lead and 5000 ppm for mercury. The Permittee submitted a remedial action workplan for the contamination and the EPA and the NJDEPE jointly approved the workplan in August 1991. The workplan calls for excavation of the contamination soils and backfill with clean fill in the areas of the about 120 households. The Permittee is currently implementing remedial actions pursuant to the approved workplan. The remedial works are expected to be completed by the end of 1993. The remedial work will be carried out as an interim measure for corrective action, pursuant to this Permit.

REMEDIAL INVESTIGATION WORK PLAN

Pursuant to the ACO, DuPont submitted a Remedial Investigation Work Plan to the NJDEPE. In a letter dated September 20, 1989 to DuPont, NJDEPE conditionally approved the Remedial Investigation Work Plan. The final HSWA permit states that EPA is approving the Remedial Investigation Work Plan, by concurring the State September 20, 1989 letter.

MAY 21 1992

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Ed Merrill
Environmental Officer
Pompton Lakes Borough-CAC
25 Lenox Avenue
Pompton Lakes, New Jersey 07442

Re: Municipal Wells, Pompton Lakes Borough, NJ

Dear Mr. Merrill:

This is in response to your request made during the public hearing held on May 13, 1992 at Pompton Lakes High School. You requested that the U.S. Environmental Protection Agency (EPA) clarify the statements in the Fact Sheet and on page II-2 of the draft Hazardous and Solid Waste Amendments of 1984 (HSWA) permit, concerning groundwater data in the Municipal Wells. Your interpretation of the Fact Sheet and permit was that both private and municipal wells were contaminated with VOCs. You also indicated your prior understanding that, based on 1986 data, some private wells were contaminated with VOCs, but not the two Municipal Wells located downgradient from DuPont, Pompton Lakes.

The June 26, 1986 report, cited in our permit and Fact Sheet, had been provided by DuPont. It indicated that some of the 26 private wells were contaminated with chemical constituents above the drinking water standards, but not the groundwater samples collected from the Municipal Wells. Additional data collected during 1990 and 1991, which EPA has reviewed in conjunction with the New Jersey Department of Environmental Protection and Energy (NJDEPE), confirms that no hazardous constituents were found in the Municipal Wells that exceed drinking water standards.

If you have questions, please contact me at (212) 264-9601 or Andrew Park, of my staff, at (212) 264-8684.

Sincerely yours,

Barry R. Tornick, Chief
New Jersey/Caribbean Corrective Action Section
Hazardous Waste Facilities Branch

cc: Mr. Leander Woods, DuPont
Bruce Venner, NJDEPE

bcc: Andrew Bellina, 2AWM-HWF
Barry Tornick, 2AWM-HWF
Andrew Park, 2AWM-HWF

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984 PERMIT

Permittee:
E. I. du Pont de Nemours & Company, Incorporated
Cannonball Road
Pompton Lakes, New Jersey 07442

I.D. Number: NJD002173946
Effective Date: August 24, 1992
Expiration Date: August 24, 1997

This permit is issued by the United States Environmental Protection Agency ("EPA" or "Agency") under authority of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act ("RCRA") of 1976 and the Hazardous and Solid Waste Amendments ("HSWA") of 1984, 42 U.S.C. §§ 6901-6991 (the "Act"), and EPA regulations promulgated pursuant thereto, to E.I. du Pont de Nemours & Company, Incorporated (hereafter called the "Permittee"), to operate a hazardous waste management facility located at Pompton Lakes, New Jersey.

In accordance with HSWA, this permit requires the Permittee to:

1. Determine the nature, extent, direction, and rate of migration of hazardous waste, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air at any solid waste management unit(s) at the facility regardless of the time waste was placed in such unit, and to develop appropriate corrective action for any such releases, and to implement interim measures for corrective action, where required;

2. Certify annually that the generation of hazardous waste is minimized to the extent practicable, and submit and implement a hazardous waste reduction plan;

3. Comply with the land disposal restrictions;

4. Comply with the organic air emission standards for process vents and equipment leaks in accordance with the regulations promulgated on July 21, 1990;

5. Comply with the Toxicity Characteristic standards in accordance with the regulations promulgated on March 29, 1990; and

6. Comply with any other applicable statutory or regulatory requirements imposed pursuant to RCRA and HSWA.

This permit, in conjunction with the State permit issued on July 5, 1990 by the New Jersey Department of Environmental Protection and Energy ("NJDEPE" or the "Department") under the Hazardous Waste Regulations, constitutes the full RCRA permit for this facility.

The Permittee must comply with all the terms and conditions of this permit. This permit consists of the conditions contained herein (Module I, pages 1 through 13; Module II, pages 1 through 5; Module III, pages 1 through 36; Module IV, page 1 through 2; Module V, pages 1 through 2; Module VI, page 1; Module VII, page 1; and the following appendices: Appendix A, Appendix B, Appendix C, and Appendix D) and the applicable regulations contained in 40 C.F.R. Parts 124, 260 through 264, 268, and 270 as specified in the permit. Applicable regulations are those which are in effect on the date of issuance of this permit, except as provided in 40 C.F.R. § 124.86(c) for RCRA permits being processed under Subpart E or F of Part 124 (see 40 C.F.R. § 270.32(c)). A permit may be modified, however, to incorporate new regulations pursuant to 40 C.F.R. § 270.41(a)(3) and 40 C.F.R. § 270.32 (c).

This permit is based on the assumption that the information provided in Permittee's applications, and all succeeding revisions and data submissions, is accurate. Further, this Permit is based, in part, on the provisions of Sections 206, 212, and 224 of HSWA, which modify Sections 3002, 3004 and 3005 of RCRA. The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the Permittee's misrepresentation of any relevant facts at any time may be grounds for the termination, revocation and reissuance, or modification of this permit (see 40 C.F.R. §§ 270.41, 270.42 and 270.43) and potential enforcement action. The Permittee must inform EPA of any deviation from or changes in the information which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of ~~August 24, 1992~~ and shall remain in effect until August 24, 1997 unless revoked and reissued, modified or terminated in accordance with 40 C.F.R. §§ 270.41, 270.42 or 270.43, or continued in accordance with 40 C.F.R. § 270.51(a).

Conrad Simon, Director
Air and Waste Management Division
United States Environmental Protection Agency
Region II

9/30/92
Date

TABLE OF CONTENTS

MODULE I - STANDARD CONDITIONS

A. EFFECT OF PERMIT. This Permit authorizes only the management of hazardous waste expressly described in this Permit and does not authorize any other activities. Compliance with the terms of this Permit constitutes compliance, for purposes of enforcement with Subtitle C ("Hazardous Waste Management") of the Act. Issuance of this Permit does not convey any property rights of any sort, or any exclusive privilege; nor does it authorize any injury to persons or property or invasion of other private rights (40 C.F.R. §§ 270.4, 270.30(g)), or any infringement of State or local laws or regulations. Compliance with the terms of this Permit does not constitute a defense to any action brought under Sections 3013, 3008(h) or 7003 of the Act (42 U.S.C. §§ 6934, 6928(h), 6973), Sections 106(a), 104, 107 and/or 122 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") of 1980 (42 U.S.C. §§ 9601 et seq.), as amended, or any other law and corresponding regulations governing protection of public health and the environment. (40 C.F.R. §§ 270.4, 270.30(g)).

B. PERMIT ACTIONS. This Permit may be modified, revoked and reissued, or terminated for cause as specified in 40 C.F.R. §§ 270.41, 270.42 and 270.43. The filing of a request for a permit modification, revocation and reissuance, termination the notification of planned changes, anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any condition of this Permit. (40 C.F.R. § 270.30(f)). Review of any application for a permit renewal shall consider improvements in the state of control and measurement technology, as well as changes in applicable regulations.

C. PERMIT CONDITIONS. Pursuant to Section 3005(c)(3) of the Act, 42 U.S.C. § 6925(c)(3), promulgated as regulation 40 C.F.R. § 270.32(b), this Permit contains those terms and conditions the Regional Administrator determines necessary to protect human health and the environment. If not otherwise specified in this Permit, all the requirements of 40 C.F.R. §§ 270.30, 270.31, 270.32 and 270.33 are hereby incorporated into this Permit by reference.

D. PERMIT SUBMITTALS.

1. Effect of Permit. All plans, reports and schedules required by the terms of this Permit are, upon approval by EPA, except as otherwise noted in this Permit where approval is not required, incorporated by reference into this Permit. Upon incorporation, the provisions of each such document shall be binding upon Permittee and have the same legal force and effect as the requirements of this Permit.

2. Submittal Modifications. Permittee shall submit draft plans and reports required by this Permit to EPA for review and comment. Unless otherwise specified, EPA shall review any plan, report, specification or schedule submitted pursuant to, or required by this Permit, and provide its written approval/disapproval, comments and/or modifications to the Permittee. Unless otherwise specified by EPA, the Permittee shall submit a revised proposal within thirty (30) calendar days of its receipt of EPA's written comments and/or modifications. Any such revised proposal submitted by the Permittee shall incorporate EPA's comments and/or modifications. EPA will then approve the revised proposal or modify the proposal and approve it with any such modifications. The revised proposal, as approved by EPA, shall become final. All final approvals shall be given to the Permittee in writing.

E. SEVERABILITY. The provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance is stayed or held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby. (40 C.F.R. § 124.16(a))

F. DUTIES AND REQUIREMENTS.

1. Duty to Comply. The Permittee shall comply with all conditions of this Permit, except that the Permittee need not comply with the conditions of this Permit to the extent and for the duration such noncompliance is authorized in an emergency permit (see 40 C.F.R. § 270.61). Any noncompliance with this Permit, except under the terms of an emergency permit, constitutes a violation of the Act and is grounds for: 1) an enforcement action; 2) permit termination, revocation and reissuance, modification; or 3) denial of a permit renewal application. (40 C.F.R. § 270.30(a)).

2. Duty to Reapply. If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittee shall submit a complete application for a new permit at least one hundred and eighty (180) days before this Permit expires, unless the Regional Administrator grants permission for a later date which is not later than the expiration date of the existing permit. (40 C.F.R. §§ 270.10(h) and 270.30(b)).

3. Permit Expiration and Continuation. This Permit will be in effect for the time period stated on page i, which must not exceed ten (10) years. Each permit for a land disposal facility shall be reviewed by the Regional Administrator five (5) years after the date of permit issuance or reissuance and shall be modified as necessary, as provided in 40 C.F.R. § 270.41 (40 C.F.R. § 270.50). However, as set forth in 40 C.F.R. § 270.51, as long as EPA is the permit issuing authority for HSWA, this Permit and all conditions herein will remain in effect beyond this Permit's expiration date if the Permittee has submitted a timely, complete application (40 C.F.R. §§ 270.13 through 270.23 and 270.10) and through no fault of the Permittee, the Regional Administrator has not issued a new permit as set forth in 40 C.F.R. § 124.15.

   If the State, at the time of permit renewal, has permitting authority under 40 C.F.R. Part 271 for HSWA, and if the Permittee has submitted a timely and complete application under State law and regulations, the terms and conditions of this Permit continue in force beyond the expiration date of the Permit, but only until the effective date of the State's issuance or denial of a State permit which includes measures pursuant to HSWA.

4. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit. (40 C.F.R. § 270.30(c)).

5. Duty to Mitigate. In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. (40 C.F.R. § 270.30(d)).

6. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit. (40 C.F.R. § 270.30(e)).

7. Duty to Provide Information. The Permittee shall furnish to the Regional Administrator, within a reasonable time, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this Permit. (40 C.F.R. §§ 270.30(h) and 264.74(a)).

8. Inspection and Entry. The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

   a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

   d. Sample or monitor, at reasonable times, for the purposes of assuring compliance with this Permit or as otherwise authorized, any substances or parameters at any location.

   (40 C.F.R. §§ 270.30(i)(1-4) and 264.74(a)).

9. Monitoring and Records.

a. Representativeness of Samples and Measurements. Samples and measurements taken for the purpose of monitoring all media shall be representative of the monitored activity. (40 C.F.R. § 270.30(j)(1)). The method used to obtain a representative sample of the waste or environmental media to be analyzed must be the appropriate method from Appendix I of 40 C.F.R. Part 261, an equivalent method approved by the Regional Administrator, or NJDEPE's Field Procedures Manual for Data Acquisition. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (EPA Publication SW-846, as currently amended), or an equivalent method approved by the Regional Administrator. (40 C.F.R. § 270.6)

b. Quality Assurance Program. The Permittee shall conduct a quality assurance program to ensure that the monitoring data are technically accurate and statistically valid. The quality assurance program shall be in accordance with Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (EPA Publication SW-846, as currently amended) and other requirements specified in this Permit and approved by EPA. (40 C.F.R. §§ 270.30(e) and 270.6).

c. Minimum QA/QC Submittals. The minimum Quality Assurance/Quality Control data and information that shall be delivered with all sample analyses required by this Permit are tabulated in Appendix D of this Permit.

d. Retention of Records. The Permittee shall retain, for the effective term of this Permit, all records and data used to complete the application for this Permit. (40 C.F.R. §§ 270.10(i) and 270.30(j)(2)).

The Permittee shall also retain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period as well. (40 C.F.R. § 270.30(j)(2)).

In addition the Permittee shall also retain records of all other media monitoring, if required, including calibration and maintenance records and all original strip chart recordings for continuous air monitoring instrumentation, copies of all reports and records required by this Permit, and the certification required by 40 C.F.R. § 264.73(b)(9), for the life of the facility. (40 C.F.R. § 270.30(j)(2)).

Records to be kept for the active life of the facility include only raw data (i.e., laboratory and field measurements) results. QA/QC data validation records need only be kept for the effective term of this Permit.

e. Contents of Monitoring Records. Records for monitoring information shall include:

i. The date, exact place, and time of sampling or measurements;

ii. The individual(s) who performed the sampling or measurements;

iii. The date(s) analyses were performed;

iv. The individual(s) who performed the analyses;

v. The sampling techniques or methods used;

vi. The analytical techniques or methods used; and

vii. The results of such analyses.

(40 C.F.R. § 270.30(j)(3)).

f. Monitoring Reports. Monitoring results must be reported at the intervals specified elsewhere in this Permit. (40 C.F.R. § 270.30(l)(4)).

10. Reporting Planned Changes. The Permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility. (40 C.F.R. § 270.30(l)(1)).

11. Anticipated Noncompliance. The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with this Permit's requirements. This notice must include a description of all incidents of noncompliance reasonably expected to result from the proposed changes. (40 C.F.R. § 270.30(l)(2)).

12. Transfer of Permit. This Permit is not transferable to any person unless notice has been given to the Regional Administrator and this Permit has been modified, or revoked and reissued, or a modification made to identify the new permittee and to incorporate such other requirements as may be necessary. (40 C.F.R. §§ 270.30(l)(3) and 270.40).

13. Compliance Schedules. Reports of compliance or noncompliance with or any progress reports on, interim and/or final requirements contained in any compliance schedule of this Permit shall be submitted no later than fourteen (14) calendar days following each schedule date. (40 C.F.R. §§ 270.30(i)(5) and 270.33(a)(3)).

The Permittee shall comply with all parts of the Compliance Schedule included in Appendix C of this Permit.

14. Immediate Reporting of Releases.

a. Whenever there is an imminent or actual emergency situation, the emergency coordinator as designated in the contingency plan (or a designee when the emergency coordinator is on call) must immediately:

i. Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

ii. Notify appropriate State or local agencies with designated response roles if their help is needed.

~~(40 C.F.R. § 264.56(a)(1-2)).~~

b. If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, the coordinator must report the findings as follows:

i. If the coordinator's assessment indicates that evacuation of local areas may be advisable, she/he must immediately notify appropriate local authorities. She/he must be available to help appropriate officials decide whether local areas should be evacuated; and

ii. The coordinator must immediately notify either the government official designated as the on-scene coordinator for that geographical area in the applicable regional contingency plan or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:

(1) Name and telephone number of reporter;

(2) Name and address of facility;

(3) Time and type of incident (e.g., release, fire);

(4) Name and quantity of material(s) involved, to the extent known;

(5) The extent of injuries, if any; and

(6) The possible hazards to human health, or the environment, outside the facility

(40 C.F.R. § 264.56(d)).

15. Twenty-four Hour Reporting.

a. The Permittee shall orally report to the Regional Administrator any noncompliance with this Permit which may endanger health or the environment within 24 hours from the time the Permittee becomes aware of the circumstances, including:

i. Information concerning the release of any hazardous waste, including hazardous constituents, that may cause an endangerment to public drinking water supply sources;

ii. Any information of a release or discharge of hazardous waste, including hazardous constituents, or a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident;

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

(40 C.F.R. § 270.30(l)(6)(i-ii)).

b. A written submission shall also be provided to the Regional Administrator within five (5) calendar days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Permittee need not comply with the 5-day written notice requirement if the Regional Administrator waives that requirement in favor of a written report within fifteen (15) calendar days of the time the Permittee becomes aware of the circumstances. (40 C.F.R. § 270.30(l)(6)(iii)).

16. Additional Noncompliance Reporting. The Permittee shall report all instances of noncompliance not required to be reported under Module I, Conditions F.9.f, F.13 or F.15. Such additional noncompliance shall be reported at the time monitoring and noncompliance reports are submitted. The reports shall contain the information listed in Module I, Condition F.15, and all other relevant information. (40 C.F.R. § 270.30(l)(10)).

17. Other Information. Whenever the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, the Permittee shall promptly submit such new or correct facts or information to the Regional Administrator. (40 C.F.R. § 270.30(l)(11)).

G. DOCUMENTS TO BE MAINTAINED AT THE FACILITY. The Permittee shall maintain at the facility all documents required by this Permit, and amendments, revisions and modifications to these documents.

H. REPORTS, NOTIFICATIONS AND SUBMISSIONS TO THE REGIONAL ADMINISTRATOR. All reports, notifications or other submittals required by this Permit are to be submitted to the Regional Administrator unless otherwise directed in this Permit and sent certified mail or given to:

Two (2) copies:

United States Environmental Protection Agency
Air and Waste Management Division
Hazardous Waste Facilities Branch
Region II
26 Federal Plaza
New York, New York 10278

Copies shall also be sent to the following addresses:

One (1) copy:

United States Environmental Protection Agency
Office of Policy and Management
Permits Administration Branch
Region II
26 Federal Plaza
New York, New York 10278

A minimum of three (3) copies:

New Jersey Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
401 East State Street
CN-028
Trenton, New Jersey 08625

I. SIGNATORY REQUIREMENTS. All reports, or information submitted to the Regional Administrator shall be signed and certified in accordance with 40 C.F.R. § 270.11. (40 C.F.R. § 270.30(k)).

J. CONFIDENTIAL INFORMATION. The Permittee may claim confidential any information required to be submitted by this Permit in accordance with 40 C.F.R. § 270.12 and 40 C.F.R. Part 2, Subpart B.

K. PERMIT MODIFICATION. This Permit may be modified as allowed under 40 C.F.R. §§ 270.41 and 270.42, or as specified in Conditions E.9 and E.10 of Module III of this Permit. Modifications to this Permit may be made by the Regional Administrator for cause in accordance with 40 C.F.R. § 270.41. Modifications to this Permit may also be requested by the Permittee as is provided for in 40 C.F.R. § 270.42.

L. DEFINITIONS. For the purpose of this Permit, terms used herein shall have the same meaning as those set forth in 40 C.F.R. Parts 260 through 270, unless this Permit specifically states otherwise; where terms are not otherwise defined, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

1. Action Levels. For purposes of this Permit, action levels are hazardous constituent concentrations that are protective of human health or the environment. Where available, action levels are based on appropriate promulgated standards established for a specific environmental medium. When such promulgated standards are not available, action levels are media specific, hazardous constituent concentrations derived from non-promulgated human health-based levels and environmental-based levels. An action level may be set at the background level for a hazardous constituent for which data are inadequate to set a human health or environmental health-based level.

2. Area of Concern (AOC). Pursuant to the authority granted by 40 C.F.R. § 270.32(b)(2), an area of concern is hereby defined for purposes of this permit to mean an area at the facility or an off-site area, which is not at this time known to be a solid waste management unit (SWMU), where hazardous waste and/or hazardous constituents are present or are suspected to be present as a result of a release from the facility. The term shall include area(s) of potential or suspected contamination as well as actual contamination. Such area(s) may require study and a determination of what, if any corrective action may be necessary. All permit references to, and conditions for SWMUs shall also apply to areas of concern.

3. EPA. The United States Environmental Protection Agency.

4. Facility. All contiguous land, structures, other appurtenances, and improvements on the land used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments or combination of them). For the purposes of implementing Corrective Action "Facility" means all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA.

5. Hazardous Constituents. Those constituents identified in Appendix VIII of 40 CFR Part 261, or any constituent identified in Appendix IX of 40 CFR Part 264.

6. Hazardous Waste. For the purposes of Corrective Action and SWMUs, hazardous waste means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. The term hazardous waste includes hazardous constituents as defined above and hazardous waste listed and identified in 40 C.F.R. § 261.3.

7. Regional Administrator. The Regional Administrator of the United States Environmental Protection Agency for Region II, his designee or authorized representative.

8. Release. For purposes of this Permit release includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste, including hazardous constituent, unless expressly authorized under the terms of this Permit.

9. Solid Waste Management Unit (SWMU). A SWMU includes any discernible waste management unit from which hazardous waste, including hazardous constituents, have migrated or may migrate, irrespective of whether the unit was intended for the management of hazardous or solid wastes as those terms are defined in § 1004(5) and (27) of the Act, 42 U.S.C. § 6903(5) and (27) and in 40 C.F.R. §§ 261.2 and 261.3. These units include, but are not limited to: landfills, surface impoundments, waste piles, land treatment units, tanks, elementary

neutralization units, transfer stations, container storage areas, incinerators, injection wells, recycling units, and closed and abandoned units. Certain areas associated with production processes which have become contaminated as a result of routine, and systematic releases of wastes, or hazardous constituents from wastes, are also considered SWMUs. All permit references to, and conditions for SWMUs shall also apply to AOCs.

M. DISPUTE RESOLUTION. The Permittee shall use its best efforts to informally and in good faith resolve all disputes or differences of opinion. If, however, disputes arise concerning submissions required under this Permit, including, but not limited to, implementation of any plans, approval of documents, scheduling of any of the work, selection, performance or completion of any corrective action, or any other obligation required under this Permit, the Permittee shall notify EPA immediately of such disputes and, within thirty (30) calendar days of notification, the Permittee shall submit a written statement to the EPA, that argues its position. The written argument shall set forth the Permittee's specific points of contention; the Permittee's position and reason for its position; and any additional matters that the Permittee considers necessary or relevant for the EPA's determination. If the dispute cannot be resolved informally within sixty (60) calendar days of EPA receipt of the written argument, EPA will provide the Permittee its decision on the dispute which shall be incorporated into this Permit.

MODULE II - FACILITY DESCRIPTION

A. GENERAL FACILITY DESCRIPTION

The facility, E. I. du Pont de Nemours & Company, Incorporated ("DuPont"), is located on Cannonball Road in Pompton Lakes, Passaic County, New Jersey on about six hundred (600) acres of land, surrounded by mountainous areas (state forests) to the north, Lake Inez (it is now drained) to the west, and residential areas to the south. The facility has manufactured explosives for more than 100 years, starting from 1888. The products include explosive powders (mercury fulminate, lead azide, etc.) and finished products (detonating fuses, electric blasting caps, etc.).

This Permit will enable DuPont to operate a hazardous waste management facility, while continuing to operate its commercial business at the site. As Permittee, DuPont will be responsible for investigating, analyzing and preparing for the remediation of hazardous waste conditions in soils, groundwater, subsurface soils or air, at its facility, regardless of when the waste was placed in the facility. The Permittee will also carry out certain remedial interim measures pursuant to the Permit where contamination has already been identified, both on and off-site.

B. GENERATION AND MANAGEMENT OF WASTES

Wastes generated from the explosive manufacturing processes include lead salts, mercury compounds, explosive powders, chlorinated solvents, waste wire drawing solution, and detonated off-specification blasting caps. These wastes have been handled in a variety of ways. Powder contaminated material is burned on-site. Sludges and chemical wastes are drummed and disposed of off-site. Off-specification blasting caps were detonated underwater in a lagoon known as the Shooting Pond. Furthermore, a number of areas have been used for disposal of various wastes.

C. RCRA REGULATED UNITS AND THEIR STATUS

The New Jersey Department of Environmental Protection and Energy ("NJDEPE") issued the non-HSWA portion of the RCRA permit to the facility on July 5, 1990, with the permit duration of five years. The permit allows operation of the the Container Storage Areas (Indoor Storage Area and Outdoor Storage Area), the Storage Magazines, the Tanks for Storage and Treatment, the Upper Burning Ground, the Lower Burning Ground, and the Proposed Burning Area.

The Shooting Pond, which is a RCRA-regulated surface impoundment, was closed pursuant to the closure permit issued by NJDEPE in Ocotber 1988. All the waste in the unit and contaminated subsoil beneath the unit were removed and sent off-site for disposal, the area was backfilled to rough grade with clean fill, and hydroseed

was planted. After review of the groundwater data for the unit, NJDEPE determined that the closure of the unit met the State clean closure standards, as specified in N.J.A.C. § 7:26-10.6(h)1 et. seq. As such, no additional actions under the State RCRA program are required for this unit.

D. GROUNDWATER

The facility is underlain by two principal geologic units: crystalline bedrock and colluvial/alluvial deposits. The bedrock in the northern portion of the facility is overlain by 0-20 feet of colluvial deposits consisting of poorly sorted clay, sand, and gravel, while the bedrock in the southern portion of the facility is overlain by 15-140 feet of alluvial deposits consisting of sand and silty sand. Groundwater flow direction in the alluvial deposits is toward the southeast, in the direction of the residential section of Pompton Lakes.

The results of the groundwater investigation, submitted by the facility in July 1984 in the report entitled "Ground Water Assessment Report", showed that the groundwater beneath the site was contaminated with metals and volatile organic chemicals. It also showed that the most severe pollution existed in the southern area of the site near the four (4) lagoons. The lagoons has received wastewater from various manufacturing operations. Specifically, prior to 1974, an unknown quantity of petroleum-based waste hyraulic oil was reportedly dumped into the lagoons. Prior to 1981, the lagoons were used to receive wastewater from electroplating operations and, prior to 1983, were used to receive wastewater containing animal fat-based lubricants from shell making and wire drawing operations. Until 1988, the lagoons were also used to receive a permeate discharged from the reverse osmosis process of non-hazardous wastewater, the animal-fat-based-lubricant wastewater. Pursuant to the Administrative Consent Order (ACO) signed between NJDEPE and the Permittee in September 1988, the Permittee has stopped using the lagoons. These lagoons were interconnected and unlined.

The report submitted by the Permittee, dated June 1986, on the hydrogeologic investigation showed that groundwater beneath the southern plant operating area was contaminated with volatile organics and inorganics. A plume of volatile organic chemicals contaminated groundwater has migrated from the site toward the southeast and is detectable in the shallow portion of the alluvial aquifer. Sampling results for some of twenty-six privately owned shallow wells located southeast of the operating plant have showed volatile organic chemicals ranging from 3.33 ppb to 5592.6 ppb.

Pursuant to the ACO, the Permittee conducted groundwater sampling at off-site non-potable wells in June 1990 and found that some of the wells had elevated levels of organic chemicals and metals which were higher than Maximum Contaminant Levels (MCLs). the NJDEPE and the Permittee have notified residents that the wells must not be used for drinking, and the NJDEPE is investigating possibility of sealing of these wells. The Permittee also has submitted a workplan for remediation of the contaminated groundwater to the NJDEPE and the EPA, and the workplan is currently being reviewed. The Permittee will carry out the workplan, as approved by EPA, as an interim measure for corrective action under this Permit.

E. RCRA FACILITY ASSESSMENT

Section 3004(u) of RCRA, 42 U.S.C. §6924(u) (Section 206 of HSWA), and its corresponding regulations published in 40 C.F.R. §264.101 require corrective action for all releases of hazardous waste or hazardous constituents from any solid waste management unit ("SWMU"), regardless of when wastes were placed in the unit. The corrective action implementation process includes a RCRA Facility Assessment ("RFA"), a RCRA Facility Investigation ("RFI"), a Corrective Measures Study ("CMS"), and a Corrective Measures Implementation ("CMI") phase.

The RFA for the E.I. du Pont de Nemours & Company, Incorporated, Pompton Lakes, New Jersey facility was a two-phase study which included a Preliminary Review ("PR") and a Visual Site Inspection ("VSI"). The EPA, with support of the NJDEPE conducted a PR and a VSI of the site and prepared a RFA report dated February 1987. The RFA report identified 46 SWMUs at the facility.

The study conducted by the Permittee pursuant to the Administrative Consent Order ("ACO") signed by the NJDEPE and the Permittee in September 1988 identified additional waste Sites, including the SWMUs identified by the RFA report.

This HSWA permit, if finalized, would require the facility to conduct corrective action investigations for 151 SWMUs (or waste sites) identified to date.

F. PERMIT STATUS

When effective, this HSWA permit, in conjuction with the permit issued by the NJDEPE under the Hazardous Waste Regulations on July 5, 1990, will constitute the full RCRA permit for the facility.

G. HSWA PERMIT

This HSWA permit requires the Permittee to:

1. Determine the nature, extent, direction, and rate of migration of hazardous waste, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air at any solid waste management unit(s) at the facility regardless of the time waste was placed in such unit, and to develop appropriate corrective action for any such releases, and to implement interim measures for corrective action, where required;

2. Certify annually that the generation of hazardous waste is minimized to the extent practicable, and submit and implement a hazardous waste reduction plan;

3. Comply with the land disposal restrictions;

4. Comply with the organic air emission standards for process vents and equipment leaks in accordance with the regulations promulgated on July 21, 1990;

5. Comply with the Toxicity Characteristic standards in accordance with the regulations promulgated on March 29, 1990; and

6. Comply with any other applicable statutory or regulatory requirements imposed pursuant to RCRA and HSWA.

H. COORDINATION BETWEEN EPA AND NJDEPE

The ACO signed in September 1988 requires site-wide corrective action and off-site corrective action, addressing SWMUs and contaminated groundwater. Since this HSWA permit, if finalized, would also require implementation of corrective action, similar to the requirements of the State ACO, the EPA and the NJDEPE will coordinate to ensure that actions or investigations to be taken by the Permittee address Federal EPA and State NJDEPE requirements.

I. ACID BROOK REMEDIATION

During the exploratory sampling of the area of the Acid Brook in May 1990 through January 1991, DuPont identified contaminated soils off-site along the Acid Brook to the south of the facility boundary, with high levels of mercury and lead, ranging up to 100,000 ppm for lead and 5000 ppm for mercury. The Permittee submitted a remedial action workplan for the contamination and the EPA and the NJDEPE jointly approved the workplan in August 1991. The workplan calls for excavation of the contamination soils and backfill with clean fill in the areas of the about 120

households. The Permittee is currently implementing remedial actions pursuant to the approved workplan. The remedial works are expected to be completed by the end of 1993. The remedial work will be carried out in an interim measure for corrective action, pursuant to this Permit.

MODULE III - CORRECTIVE ACTION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS

A. APPLICABILITY

1. Statute and Regulations. Section 3004(u) of the Act, 42 U.S.C. § 6924(u), and its corresponding regulations published in 40 C.F.R. § 264.101 require corrective action for all releases of hazardous wastes, including hazardous constituents, from any solid waste management unit ("SWMU") at a storage, treatment or disposal facility seeking a permit, regardless of the time at which waste was placed in such unit. Section 3004(v) of the Act, 42 U.S.C. § 6924(v) requires that corrective action be taken beyond the facility boundary where necessary to protect human health and the environment. Pursuant to Section 3005(c) of the Act, 42 U.S.C. § 6925(c), and its corresponding regulations published in 40 C.F.R. § 270.32(b)(2), the Regional Administrator may impose terms and conditions as the Administrator determines necessary to protect human health and the environment.

2. Summary of Corrective Action Process. Corrective action implementation authorized by Section 3004(u) of the Act, 42 U.S.C. § 6924(u) includes: (a) the RCRA Facility Assessment ("RFA"); (b) the RCRA Facility Investigation ("RFI"); and (c) the Corrective Measures ("CM"). The RFA is a three phase process that includes: (a) the Preliminary Review ("PR"); (b) the Visual Site Inspection ("VSI"); and (c) the Sampling Visit ("SV"). The PR is a review of all available information on the individual SWMU(s). During the PR, and in subsequent phases of the RFA, all of the media (i.e., soil, groundwater, surface water/sediment, air and subsurface gas) that could potentially be impacted by the release(s) of hazardous wastes, including hazardous constituents, are evaluated. Based on this review, the SWMUs are characterized as to their release potentials.

   Following the PR, a VSI is conducted during which all of the SWMUs, either previously or newly discovered, are observed. While performing this reconnaissance, any signs of spills or leakage, stained soil, stressed vegetation, unit deterioration, or any other conditions that may be indicative of a release are assessed. By means of these observations and the findings of the PR, EPA may require the facility to conduct a Sampling Visit at the areas where releases are suspected.

The SV can involve any or all of the previously described media at any given SWMU. For those units where releases are clearly demonstrated in the PR and/or VSI, the SV can be avoided leaving the unit(s) to be addressed in the RFI.

The RFA includes preparing the RFA report. This report includes the findings of the various RFA activities and recommendations for further action at those units with demonstrated releases of hazardous wastes, including hazardous constituents. In some cases, where an immediate threat to human health or the environment exists, interim corrective measures may be required.

If the RFA concludes that there is a need for further investigative work, the Permittee shall be required to pursue phase two of corrective action, an RFI. The purpose of the RFI is to determine the nature, extent, direction, and rate of migration of hazardous wastes, including hazardous constituents, in soils, groundwater, surface water/sediment, subsurface gas and/or air. Based on these multimedia analyses, the types and concentrations of contaminants present, the boundaries of any contamination (e.g., plumes), and the rate and direction of contaminant movement can be determined in each of the impacted media. Sufficient data shall be generated during the RFI to allow proper assessment of corrective measure alternatives. This may require bench and/or pilot studies to be implemented as part of the RFI. Once all these analyses are reviewed, a RFI report is prepared that provides a summation of the data and recommendations for any needed corrective measures.

The culmination of the Corrective Action Program is Corrective Measures ("CM"). The initial stage of the Corrective Measures phase is the preparation of a Corrective Measures Study ("CMS"). A CMS may be required if concentrations of hazardous constituents in an aquifer, in surface water/sediment, in soils, or in air exceed their action levels for any contaminated medium. Such a study may also be required if individual concentrations of hazardous constituents are at or below action levels, but still may pose a threat to human health or the environment due to site specific exposure conditions. The CMS will address alternative corrective measure strategies that are technologically feasible and reliable and which effectively mitigate and minimize damage to, and provides adequate protection of, human health and the environment. The Permittee will develop the site-specific CMS using target cleanup levels chosen by the Regional

Administrator to be protective of human health and the environment. Where available, they may be promulgated health-based standards, such as Maximum Contaminant Levels ("MCLs") established under the Safe Drinking Water Act. Where promulgated standards are not available, EPA may use other health-based levels, based on Risk-Specific Doses ("RSD") for carcinogens, and Reference Doses ("RfD") for systemic toxicants, or concentration levels protective of the environment, that have undergone scientific review. The CMS report should provide a discussion of the alternative corrective measure strategies studied, addressing technical, institutional, public health, and environmental issues, and develop the conceptual engineering for the alternative action selected by the facility. The CMS may not require extensive evaluation of a number of remedial alternatives where a solution is straight forward or if few solutions exist. Such situations could require the Permittee to submit a highly focused CMS.

Following completion of the CMS, the Regional Administrator will select the corrective measure(s) from the corrective measures evaluated in the CMS. The Regional Administrator will then initiate a permit modification for the selected corrective measure(s). Subsequent to the permit modification, the owner or operator of the facility will be required to demonstrate financial assurance for completing the approved corrective measure(s).

Permit modification for the approved corrective measure(s) will initiate the final stage of corrective measures, Corrective Measures Implementation ("CMI"). The CMI will address the final design, construction, operation, maintenance, and monitoring of the corrective measure or measures selected.

The corrective action process also includes carrying out certain Interim Measures for corrective action in instances where contamination of soil or groundwater, both on and off-site, has already been identified and corrective measures have been designed after appropriate study and analysis. The Interim Measures and SWMUs to which they apply are listed in Condition A.3 of this Module, below.

3. Solid Waste Management Units. The conditions of this Module apply to:

a. All the SWMUs listed in this Module individually or in combinations;

b. Any additional SWMUs identified during the course of groundwater monitoring, field investigations, environmental audits or other means as described in Module Condition C. below; and

c. The SWMUs listed below were identified by the RFA report dated February 1987, and by the investigations conducted by the Permittee.

The RFA for the Pompton Lakes, New Jersey E.I. du Pont de Nemours & Company, Incorporated facility included a PR and a VSI. Based on the PR and VSi, the SWMUs were characterized as to their release potential and evaluated as to which media could potentially be impacted by such potential releases. The EPA, with support of the NJDEPE completed the RFA in February 1987 and it is available for review at U.S. EPA Region II, Permits Administration Branch, Room 505, 26 Federal Plaza, New York, New York 10278.

The actions identified below are required for the SWMUs. The SWMUs are located and identified on a map, entitled "RCRA/Solid Waste Management Units" prepared by CONOCO ENVIRONMENTAL GEOSCIENCE for DuPont, dated February 19, 1992, which is herein incorporated by reference.

SWMUs	Corrective Action Status and Media to be Investigated
1. Old Shooting Pond	- Interim Measure (IM) required. - Full RFI required for soil and groundwater.
2. Upper Burning Ground	- RCRA-regulated unit. - 1st-phase RFI required for soil.
3. Old Lead Recycling Area	- IM required. - Full RFI required for soil and groundwater.
4. Sludge Pile and Burning Pit	- IM required. - Full RFI required for soil and groundwater.
5. Shooting Pond	- RCRA-regulated unit. Clean closed. - No action required.
6. Shooting Pond Sludge Pile	- Included in the clean closure of SWMU #5. - No action required.
7. Zirconium Disposal Area	- 1st-phase RFI required for soil.
8. Mercury Fulminate and Lead Azide Storage Tank A	- 1st-phase RFI required for soil.
9. Mercury Fulminate and Lead Azide Storage Tank B	- 1st-phase RFI required for soil.
10. Mercury Fulminate and Lead Azide Storage Tank C	- 1st-phase RFI required for soil.
11. Buried Rags	- 1st-phase RFI required for soil.
12. Mercury Fulminate Platform	- 1st-phase RFI required for soil.
13. Powder Dry House Impoundment	- 1st-phase RFI required for soil.
14. 50/25/25 Drain Filter Tank	- 1st-phase RFI required for soil.

SWMUs	Corrective Action Status and Media to be Investigated
15. Figure 8 Bowl Sludge Dump	- 1st-phase RFI required for soil.
16. Mop Station/Sink Overflow No.1	- 1st-phase RFI required for soil.
17. Mop Station/Sink Overflow No.2	- 1st-phase RFI required for soil.
18. Lead Azide Ponds	- 1st-phase RFI required for soil.
19. Lead Azide Tanks	- 1st-phase RFI required for soil.
20. Mop Station/Sink Overflow No.3	- 1st-phase RFI required for soil.
21. RDX/PETN Impoundment	- 1st-phase RFI required for soil.
22. Lead Salt Lagoons	- 1st-phase RFI required for soil.
23. Sodium Azide Pit	- 1st-phase RFI required for soil.
24. Sodium Azide Rinsewater Storage Tank	- 1st-phase RFI required for soil.
25. Lead Nitrate Rinsewater Storage Tank	- 1st-phase RFI required for soil.
26. Mercury Fulminate and Lead Azide Storage Tank D	- 1st-phase RFI required for soil.
27. Mercury Fulminate Killing Platform	- 1st-phase RFI required for soil.
28. Lead Styphnate Pit	- 1st-phase RFI required for soil.
29. Lead Styphnate Killing Shed No.1	- 1st-phase RFI required for soil.

SWMUs	Corrective Action Status and Media to be Investigated
30. Lead Styphnate Killing Runoff Area	- 1st-phase RFI required for soil.
31. Mercury Fulminate and Lead Azide Storage Tank E	- 1st-phase RFI required for soil.
32. Mop Station/Sink Overflow No.4	- 1st-phase RFI required for soil.
33. Triple Filter Collection Tank	- 1st-phase RFI required for soil.
34. Mop Station/Sink Overflow No.5	- 1st-phase RFI required for soil.
35. Mop Station/Sink Overflow No.6	- 1st-phase RFI required for soil.
36. Powder Transfer Sumps	- 1st-phase RFI required for soil.
37. Laboratory Sump	- 1st-phase RFI required for soil.
38. Mop Station/Sink Overflow No.7	- 1st-phase RFI required for soil.
39. North Biazzi Dryer Baffle Box	- 1st-phase RFI required for soil.
40. Biazzi Alcohol/Water Storage Shed	- 1st-phase RFI required for soil.
41. South Biazzi Dryer Baffle Box	- 1st-phase RFI required for soil.
42. Barium Peroxide/Selenium Mixing House	- 1st-phase RFI required for soil.
43. Mop Station/Sink Overflows No. 8	- 1st-phase RFI required for soil.
44. Mop Station/Sink Overflow No.9	- 1st-phase RFI required for soil.

SWMUs	Corrective Action Status and Media to be Investigated
45. Mop Station/Sink Overflow No.10	- 1st-phase RFI required for soil.
46. Mop Station/Sink Overflow No.11	- 1st-phase RFI required for soil.
47. Black Powder Mill	- IM required. - Full RFI required for soil and groundwater.
48. Delay Tube Manufacturing Building	- IM required. - Full RFI required for soil and groundwater.
49. Mop Station/Sink Overflow No.12	- 1st-phase RFI required for soil.
50. Sawdust Rumbler	- 1st-phase RFI required for soil.
51. Mop Station/Sink Overflow No.13	- 1st-phase RFI required for soil.
52. Mercury Fulminate Storage Building	- 1st-phase RFI required for soil.
53. Mop Station/Sink Overflow No.14	- 1st-phase RFI required for soil.
54. Mop Station/Sink Overflow No.15	- 1st-phase RFI required for soil.
55. Cap Pressing Area	- 1st-phase RFI required for soil.
56. Sawdust Pile	- IM required. - Full RFI required for soil and groundwater.
57. Old Cap Test Area	- IM required. - Full RFI required for soil and groundwater.
58. Burned Wire Dump	- IM required. - Full RFI is required for soil and groundwater.
59. Cap Test Well	- 1st-phase RFI required for soil.

SWMUs	Corrective Action Status and Media to be Investigated
60. Lower Burning Ground	- RCRA-regulated unit. - 1st-phase RFI required for soil.
61. Lead Recycling Area	- Full RFI required for soil and groundwater.
62. Mop Station/Sink Overflow No.16	- 1st-phase RFI required for soil.
63. Boron/Red Lead Wastewater Tank No.1	- Full RFI required for soil and groundwater.
64. Boron/Red Lead Wastewater Tank No.2	- Full RFI required for soil and groundwater.
65. Delay Loader Impoundment	- 1st-phase RFI required for soil.
66. Boron/Red Lead Sand Filter	- 1st-phase RFI required for soil.
67. Test Well No. 1	- 1st-phase RFI required for soil.
68. Lead Styphnate Killing Shed No. 2	- 1st-phase RFI required for soil.
69. Gasoline Underground Storage Tank No.1	- Full RFI required for soil and groundwater.
70. Experimental Lead Azide Laboratory	- 1st-phase RFI required for soil.
71. Mop Station/Sink Overflow No.17	- 1st-phase RFI required for soil.
72. Powder Sump Tanks	- 1st-phase RFI required for soil.
73. Assembly Machine Solvent Sump	- 1st-phase RFI required for soil.
74. Mercury Fulminate Plant	- IM required. - Full RFI required for soil and groundwater.

SWMUs	Corrective Action Status and Media to be Investigated
75. Mercury Fulminate Fume Line No. 1	- 1st-phase RFI required for soil.
76. Mercury Fulminate Fume Line No. 2	- 1st-phase RFI required for soil.
77. Scrap Metal Area	- Full RFI required for soil and groundwater.
78. Former Fuel Oil Tank	- Full RFI required for soil and groundwater.
79. Machine Shop Solvent Sump No.1	- Full RFI required for soil and groundwater.
80. Shell Plant RO System	- 1st-phase RFI required for soil.
81. Machine Shop Solvent Sump No.2	- Full RFI required for soil and groundwater.
82. Mercury Fulminate Transfer Platform	- Full RFI required for soil and groundwater.
83. Old Electric Shop	- Full RFI required for soil and groundwater.
84. Control Laboratory Chemical Sink Drain Pit	- Full RFI required for soil and groundwater.
85. Control Laboratory Chemical Sink Drain Tank	- Full RFI required for soil and groundwater.
86. Pickling Acid Tanks	- Full RFI required for soil and groundwater.
87. Lagoon No. 1	- Full RFI required for soil and groundwater. - IM required. (off-site)
88. Machine Shop Scrap Dump	- Full RFI required for soil and groundwater.

SWMUs	Corrective Action Status and Media to be Investigated
89. Acid Crock	- Full RFI required for soil and groundwater.
90. Old Paint Shop	- Full RFI required for soil and groundwater.
91. Lagoon No. 2	- Full RFI required for soil and groundwater. - IM required. (off-site)
92. Hand Line Solvent Dump	- Full RFI required for soil and groundwater.
93. Old Boron/Red Lead Area	- Full RFI required for soil and groundwater.
94. Test Well No. 2	- Full RFI required for soil and groundwater.
95. Lagoon No. 4	- Full RFI required for soil and groundwater. - IM required. (off-site)
96. Test Well No. 3	- Full RFI required for soil and groundwater.
97. Lagoon No. 3	- Full RFI required for soil and groundwater. - IM required. (off-site)
98. Old Hand Line Area	- 1st-phase RFI required for soil.
99. Fuze Works	- Full RFI required for soil and groundwater.
100. Old Detonator Assembly Area	- Full RFI required for soil and groundwater.
101. Salvage Yard	- Full RFI required for soil and groundwater.
102. Rivet Line Lagoon	- Full RFI is required for soil and groundwater.
103. General Dump	- Full RFI required for soil and groundwater.

SWMUs	Corrective Action Status and Media to be Investigated
104. Canister Disposal	- Full RFI required for soil and groundwater.
105. Scrap Metal Dump	- Full RFI required for soil and groundwater.
106. Sewage Treatment Plant	- 1st-phase RFI required for soil.
107. Shooting Ground Above the Main Office	- 1st-phase RFI required for soil.
108. Old Cladding Tunnel	- 1st-phase RFI required for soil.
109. Old Fuze Works	- 1st-phase RFI required for soil.
110. Barrel Dump Area	- 1st-phase RFI required for soil.
111. Tunnel Residue Dump	- 1st-phase RFI required for soil.
112. Lakefront Magazines	- 1st-phase RFI required for soil.
113. Lake Inez	- 1st-phase RFI required for soil.
114. Upper Dump	- 1st-phase RFI required for soil.
115. Lead Carbonate Sludge Pile	- 1st-phase RFI required for soil.
116. Sanitary Sewer Sludge Pile	- 1st-phase RFI required for soil.
117. Ballestite Operation	- 1st-phase RFI required for soil.
118. Acid Brook	- IM required. (off-site) - Full RFI required for soil and groundwater.
119. Northwest Bank of Lake Inez	- 1st-phase RFI required for soil.

SWMUs	Corrective Action Status and Media to be Investigated
120. Gasoline Underground Storage Tank No.2	- 1st-phase RFI required for soil.
121. Gasoline Underground Storage Tank No.3	- 1st-phase RFI required for soil.
122. Gasoline Underground Storage Tank No.4	- 1st-phase RFI required for soil.
123. Mop Station/Sink Overflow No.18	- 1st-phase RFI required for soil.
124. Mop Station/Sink Overflow No.19	- 1st-phase RFI required for soil.
125. Mop Station/Sink Overflow No.20	- 1st-phase RFI required for soil.
126. Mop Station/Sink Overflow No.21	- 1st-phase RFI required for soil.
127. Mop Station/Sink Overflow No.22	- 1st-phase RFI required for soil.
128. Mop Station/Sink Overflow No.23	- 1st-phase RFI required for soil.
129. Mop Station/Sink Overflow No.24	- 1st-phase RFI required for soil.
130. Mop Station/SInk Overflow No.25	- 1st-phase RFI required for soil.
131. Mop Station/Sink Overflow No.26	- 1st-phase RFI required for soil.

SWMUs	Corrective Action Status and Media to be Investigated
132. Mop Station/Sink Overflow No.27	- 1st-phase RFI required for soil.
133. Mop Station/Sink Overflow No.28	- 1st-phase RFI required for soil.
134. Mop Station/Sink Overflow No.29	- 1st-phase RFI required for soil.
135. Mop Station/Sink Overflow No.30	- 1st-phase RFI required for soil.
136. Mop Station/Sink Overflow No.31	- 1st-phase RFI required for soil.
137. Mop Station/Sink Overflow No.32	- 1st-phase RFI required for soil.
138. Biazzi Alcohol/Water Storage Shed	- 1st-phase RFI required for soil.
139. Mop Station/Sink Overflow No.33	- 1st-phase RFI required for soil.
140. Mop Station/Sink Overflow No.34	- 1st-phase RFI required for soil.
141. Mop Station/Sink Overflow No.35	- 1st-phase RFI required for soil.
142. Mop Station/Sink Overflow No.36	- 1st-phase RFI required for soil.
143. Powder Sump Tank 1	- 1st-phase RFI required for soil.

4. Prior Submittals. EPA has evaluated the following documents submitted by the Permittee pursuant to the Administrative Consent Order (ACO) signed between the Permittee and the New Jersey Department of Environmental Protection and Energy (NJDEPE):

   a. EPA approves the document "Remedial Investigation Work Plan for Pompton Lakes Works (Revision 3), November 1989", by concurring with the September 20, 1989 letter from NJDEPE;

   b. EPA approves the document "Remedial Action Work Plan for Pompton Lakes Works - Acid Brook Cleanup, April 1991", by concurring with the August 22, 1991 letter from NJDEPE;

   c. EPA approves the document "Interim Remedial Measures Closure Plan - Waste Piles #WP - 8, 9&10, August 5, 1991", by concurring with the January 30, 1992 letter from the NJDEPE;

   d. EPA approves the document "Interim Remedial Measures Plan from Waste Sites 47 & 48, October 28, 1991", by concurring with the January 16, 1992 letter from NJDEPE; and

   e. EPA approves the document "Site-Wide Ground Water Monitoring Program and Field Operation Program, October 29, 1991", by concurring with the April 9, 1992 letter from NJDEPE.

SWMUs	Corrective Action Status and Media to be Investigated
144. Powder Sump Tank 2	- 1st-phase RFI required for soil.
145. Tunnel Residue Dump	- 1st-phase RFI required for soil.
146. Lakefront Magazine 1	- 1st-phase RFI required for soil.
147. Lakefront Magazine 2	- 1st-phase RFI required for soil.
148. Lakefront Magazine 3	- 1st-phase RFI required for soil.
149. Lakefront Magazine 4	- 1st-phase RFI required for soil.
150. Lakefront Magazine 5	- 1st-phase RFI required for soil.
151. Lakefront Magazine 6	- 1st-phase RFI required for soil.

- First-Phase RFI: The purpose of the first phase RFI is to confirm any releases from these SWMUs. The first phase RFI differs from a full RFI in the extent and degree of investigations required.

  The Permittee shall follow Conditions C.3, C.4, C.5, and C.6 of this Module for the first-phase RFI.

- Full RFI: The purpose of the full RFI is to determine the nature, rate, and extent of migration of hazardous waste or hazardous constituents.

  The Permittee shall follow Conditions E.1, E.2, and E.3 of this Module for the full RFI.

- Interim Measures: The purpose of Interim Measures is to carry out corrective action for certain SWMUs in the near future in those instances where contamination has been identified, both on and off-site. The Permittee shall follow Condition E.4 for implementation of the Interim Measures.

B. STANDARD CONDITIONS FOR CORRECTIVE ACTION

1. Work Plans. All work plans submitted pursuant to this Module shall include:

   a. Quality Assurance/Quality Control protocols to ensure that data generated is valid and supported by documented procedures;

   b. Other plans, specifications and protocols, as applicable;

   c. A schedule for starting specific tasks, completing the work and submitting progress and final reports; and

   d. Plans for the treatment, storage, discharge or disposal of wastes to be generated by activities described therein.

2. Monitoring and Records. Requirements for monitoring and records shall be in accordance with Permit Condition F.9 of Module I of this Permit.

3. Health/Safety Plans. The Permittee shall develop, according to applicable Federal, State and local requirements, and submit to the Regional Administrator, health and safety plans that will be implemented to ensure that the health and safety of project personnel, plant personnel and the general public are protected. These plans are not subject to approval by the Regional Administrator.

4. Guidance Documents. When preparing the submissions described in this Module, the Permittee shall follow applicable guidance documents issued by EPA and the New Jersey Department of Environmental Protection and Energy in a manner reflecting reasonable technical considerations.

5. Prior Submittals. The Permittee may have already submitted portions of information, plans, or reports required by this Permit Module and its Appendices to the Regional Administrator pursuant to the terms of previous applications, consent orders, or plans. For those items the Permittee contends were submitted to the Regional Administrator, the Permittee may cite the specific document(s) and page(s) it believes adequately addresses each of the individual items requested by this Permit Module and its Appendices. The references, by document(s) and page(s), shall be placed in the appropriate sections of the submittals that require the

referenced information and data. If the Regional Administrator, after a file search, determines that it does not possess any of the referenced information, plans, or reports that the Permittee claims were previously submitted, the Regional Administrator will notify the Permittee and the Permittee shall submit the referenced documents within the time frame specified within the notification.

6. Interim Measures.

a. If at any time it is determined by the Regional Administrator that a release or, based on site-specific circumstances, a threatened release of hazardous waste, including hazardous constituents, from a SWMU, or a combination of SWMUs, poses a threat to human health or the environment, or that such condition jeopardizes the Permittee's ability to comply with any governmental permit, the Permittee shall submit a draft interim corrective measures study to the Regional Administrator for approval within thirty (30) calendar days of notice of such a determination. This study shall consider, among other relevant factors, the character, the extent, direction, the rate of release, the proximity to population, the exposure pathways, the effects of delayed action, and the evaluations of appropriate interim corrective measures. Upon approval of the study by the Regional Administrator, the Permittee shall implement the required interim corrective measures as specified by the Regional Administrator. Nothing herein shall preclude the Permittee from taking immediate action to address the conditions described herein and promptly notifying the Regional Administrator.

b. In the event the Permittee discovers a release or, based on site-specific circumstances, a threatened release of hazardous wastes, including hazardous constituents, from a SWMU, or a combination of SWMUs, that poses a threat to human health or the environment, the Permittee shall identify interim corrective measures to mitigate this threat. The Permittee shall immediately summarize the nature and magnitude of the actual or potential threat and nature of the interim measures being considered and notify the Regional Administrator verbally within 24 hours and in writing within 5 days. Within thirty (30) calendar days of the verbal notification to the Regional Administrator, the Permittee shall submit to the Regional

Administrator, for approval, an interim corrective measures work plan for the interim measures. The Permittee shall implement the measures specified by the Regional Administrator. Nothing herein shall preclude the Permittee from taking immediate action to address the conditions described herein and promptly notifying the Regional Administrator.

c. The following factors may be considered by the Regional Administrator in determining the need for interim corrective measures:

i. Time required to develop and implement a final corrective measure;

ii. Actual and potential exposure of human and environmental receptors;

iii. Actual and potential contamination of drinking water supplies and sensitive ecosystems;

iv. The potential for further degradation of any impacted medium;

v. Presence of hazardous waste, including hazardous constituents, in containers that may pose a threat of release;

vi. Presence and concentration of hazardous waste, including hazardous constituents, in soils that have the potential to migrate to ground water or surface water;

vii. Weather conditions that may affect the current levels of contamination;

viii. Risks of fire, explosion, or potential exposure to hazardous waste, including hazardous constituents, as a result of an accident or failure of container or handling system; and

ix. Other situations that may pose threats to human health and the environment.

7. Determination of No Further Action

a. Based on the results of the RFI for a particular SWMU, or combination of SWMUs, and other relevant information, the Permittee may submit an application to the Regional Administrator for a Class III permit modification under 40 C.F.R. §270.42(c) to terminate the subsequent corrective action requirements of this Module. This permit modification application must contain information demonstrating that there are no releases of hazardous wastes, including hazardous constituents, from such SWMUs that pose a threat to human health or the environment, as well as information required in 40 C.F.R. §270.42(c), which incorporates by reference 40 C.F.R. §§270.13 through 270.21, 270.62, and 270.63.

If, based upon review of the Permittee's request for a permit modification, the results of the RFI, and other information, including comments received during the sixty (60) calendar day public comment period required for Class III permit modifications, the Regional Administrator determines that the release(s) or the suspected release(s) investigated either are non-existent or do not pose a threat to human health or the environment, the Regional Administrator may grant the requested modification.

b. A determination of no further action shall not preclude the Regional Administrator from implementing the following actions:

i. Modifying this Permit at a later date to require the Permittee to perform such investigations as necessary to comply with the requirements of this Permit Module and its Appendices if new information or subsequent analysis indicates that there are, or are likely to be, releases from SWMUs that may pose a threat to human health or the environment; and

ii. Requiring continued or periodic monitoring of air, soil, groundwater, surface water/sediment or subsurface gas, if necessary to protect human health and the environment, when site-specific circumstances indicate that release(s) of hazardous waste, including hazardous constituents, are likely to occur from any SWMU.

8. Reporting.

a. The Permittee shall submit, to the Regional Administrator, signed progress reports, as specified in approved work plans pursuant to this Permit, of all activities (i.e., SWMU Assessment, Interim Measures, RCRA Facility Investigation, Corrective Measures Study) conducted pursuant to the provisions of the Corrective Action Schedule of Compliance, beginning no later than thirty (30) calendar days after the Permittee is first required to begin implementation of any requirement herein. These reports shall contain:

i. A description of the work completed during the reporting period;

ii. Summaries of all findings made during the reporting period, including summaries of laboratory data;

iii. Summaries of all changes made during the reporting period;

iv. Summaries of all contacts made with representatives of the local community and public interest groups during the reporting period;

v. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;

vi. Changes in personnel conducting or managing the corrective action activities during the reporting period;

vii. Projected work for the next reporting period; and

viii. Copies of daily reports, inspection reports, laboratory/monitoring data, etc., generated during the reporting period, which are

critical to the implementation of the corrective action program required by this Module.

b. Upon request, copies of other relevant reports and data not identified in Condition B.8.a of this Module shall be made available to the Regional Administrator.

c. The Regional Administrator may require the Permittee to conduct new or more extensive assessments, investigations, or studies, based upon information provided in the progress reports referred to in Condition B.8.a of this Module above, or upon other supporting information.

d. All plans and schedules required by the conditions of this Permit Module and Appendix C of this Permit are, upon approval of the Regional Administrator, incorporated into this Permit by reference and become an enforceable part of this Permit. Any noncompliance with such approved plans and schedules shall be termed noncompliance with this Permit. Extensions of the due dates for submittals may be granted by the Regional Administrator in accordance with the permit modification processes under 40 C.F.R. §270.41.

9. Compliance with Governmental Requirements. During investigative activities, interim corrective measures, and final corrective measures (including, but not limited to, equipment decommissioning, excavation and unit demolition) required under this Module, the Permittee shall ensure that the transportation, treatment, storage, discharge, and disposal of all contaminated materials generated as a result of such activities (including, but not limited to, soils, sediments, liquids, tanks, pipes, pumps, rubble, debris, and structural materials) are performed in an environmentally sound manner pursuant to all applicable Federal, State and local requirements and that is protective of public health and the environment. Nothing in this Module shall be construed to require the Permittee to proceed in a manner which is in violation of any such requirements.

10. Notifications.

a. Notification of Groundwater Contamination. If at any time the Permittee discovers that hazardous constituents in groundwater that may have been released from a solid waste management unit at the

facility have migrated beyond the facility boundary in concentrations that exceed action levels the Permittee shall, within fifteen (15) calendar days of discovery, provide written notice to the Regional Administrator and any person who owns or resides on the land which overlies the contaminated groundwater.

b. Notification of Air Contamination. If at any time the Permittee discovers that hazardous constituents in air that may have been released from a solid waste management unit at the facility have or are migrating to areas beyond the facility boundary in concentrations that exceed action levels and that residences or other places at which continuous, long-term exposure to such constituents might occur are located within such areas, the Permittee shall, within fifteen (15) calendar days of such discovery:

i. Provide written notification to the Regional Administrator; and

ii. Initiate any actions that may be necessary to provide notice to all individuals who have or may have been subject to such exposure.

c. Notification of Residual Contamination. If hazardous wastes or hazardous constituents in solid waste management units, or which have been released from solid waste management units, will remain in or on the land, including groundwater, after the term of the permit has expired, the Regional Administrator may require the Permittee to record, in accordance with State law, a notation in the deed to the facility property or in some other instrument which is normally examined during titled search that will, in perpetuity, notify any potential purchaser of the property of the types, concentrations, and locations of such hazardous wastes or hazardous constituents. The Regional Administrator may require such notice as part of the corrective measures selection process.

C. ASSESSMENT OF NEWLY IDENTIFIED SWMUs.

1. Notification. The Permittee shall notify the Regional Administrator, in writing, of any additional SWMUs not listed in this Module, which are identified during the course of groundwater monitoring, field investigations, environmental audits, or other means within fifteen

(15) calendar days of such identification.

2. SWMU Assessment Report. Within thirty (30) calendar days after notifying of the Regional Administrator, the Permittee shall submit a SWMU Assessment Report. This Report must provide, at a minimum, the following information for each newly identified SWMU:

   a. Type of unit;

   b. Location of each unit on a topographic map of appropriate scale;

   c. Dimensions, capacities and structural description of the unit (supply available engineering drawings);

   d. Function of unit;

   e. Dates that the unit was operated;

   f. Description of the wastes that were placed or spilled at the unit;

   g. Description of any known releases from the unit (to include groundwater data, soil analyses, air monitoring data, and/or surface water/sediment data);

   h. The results of any sampling and analysis required for the purpose of determining whether releases of hazardous waste, including hazardous constituents, have occurred, are occurring, or are likely to occur from the unit; and

   i. Whether this unit, individually or in combination with other units listed in Module Condition A.3. of this Module is a significant source of contaminant release.

3. SWMU Sampling and Analysis Plan. Within thirty (30) calendar days after submittal of the SWMU Assessment Report required in Condition C.2 of this Module, the permittee shall submit a Plan in accordance with most recent version of the New York State Department of Environmental Conservation ("NYSDEC") RCRA Quality Assurance Project Plan Guidance, Appendices A and B of the ACO, or most recent version of the NJDEPE Remedial Investigation Guide for any sampling and analysis of ground water, land surface and subsurface strata, surface waters/sediment or air, as necessary to determine whether a release of hazardous waste,

including hazardous constituents, from such unit(s) has occurred, is likely to have occurred, or is likely to occur. The SWMU Sampling and Analysis Plan must demonstrate that the sampling and analysis program, if applicable, is capable of yielding representative samples and must include parameters sufficient to identify migration of hazardous waste, including hazardous constituents, from the newly-discovered SWMU(s) to the environment.

4. Subsequent Assessment Actions. Following submission of the SWMU Assessment Sampling and Analysis Plan set forth in Condition C.3. of this Module, subsequent activities for the Plan shall proceed in accordance with the following schedule:

   a. Meeting between the Permittee, the Agency and the Department to discuss Plan comments, as appropriate.

   b. Submission of a revised Plan to the Regional Administrator within thirty (30) calendar days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Plan to the Regional Administrator, according to a schedule specified by the Agency, not to exceed forty-five (45) calendar days after Permittee's receipt of Plan comments from the Regional Administrator.); and

   c. Begin implementation of the Plan within thirty (30) days following written approval from the Regional Administrator for the Plan.

5. SWMU Sampling and Analysis Report. Within thirty (30) calendar days of receipt by the Permittee of validated analytical data generated under the approved SWMU Sampling and Analysis Plan, the Permittee shall submit a SWMU Sampling and Analysis Report to the Regional Administrator. The Report shall follow reporting requirements in the approved Plan and describe all results obtained from the implementation of the approved Plan.

6. Assessment Conclusions. Based on the results of the SWMU Sampling and Analysis Report, the Regional Administrator shall determine the need for further investigations at specific unit(s) covered in either the SWMU Assessment Report or the SWMU Sampling and Analysis Report. If the Regional Administrator determines that such investigations are needed, the

Regional Administrator shall by written notification require the Permittee to prepare and submit for approval a RCRA Facility Investigation Work Plan in accordance with Condition E.1 et. seq. of this Module.

D. NOTIFICATION REQUIREMENTS FOR NEWLY-DISCOVERED RELEASES AT SWMUS

The Permittee shall notify the Regional Administrator, in writing, of any release(s) of hazardous waste, including hazardous constituents, discovered during the course of ground-water monitoring, field investigation, environmental auditing, or other activities no later than fifteen (15) calendar days after discovery. Such newly-discovered releases may be from newly-identified units, from units for which, based on the findings of the RFA, the Regional Administrator had previously determined that no further investigation was necessary, or from units investigated as part of an RFI. Based on the information provided in the notification the Regional Administrator shall determine the need for further investigation of the release(s). If the Regional Administrator determines that such investigations are needed, the Regional Administrator shall, by written notification, require the Permittee to prepare and submit for approval a RCRA Facility Investigation Work Plan in accordance with Condition E.1 et. seq. of this Module.

E. CORRECTIVE ACTION REQUIREMENTS

1. RCRA Facility Investigation ("RFI") Work Plan

a. Within sixty (60) calendar days of the effective date of this Permit, the Permittee shall submit to the Regional Administrator, for approval a RCRA Facility Investigation Task I Report or Current Conditions required by Task I of the RFI Scope of Work included in this Permit as Appendix A. A Task I Report shall be submitted for approval within sixty (60) calendar days after the written notification by the Regional Administrator that an RFI is required pursuant to Conditions C.6 and/or D of this Module.

b. Within ninety (90) calendar days of the effective date of this Permit, the Permittee shall submit to the Regional Administrator for approval a RCRA Facility Investigation Task II Report on the Pre-Investigation Evaluation of Corrective Measures Technologies required by RFI Scope of Work included in this Permit as Appendix A. A Task II Report shall be submitted for approval within ninety (90) calendar days after the written

notification by the Regional Administrator that an RFI is required pursuant to Condition C.6 and/or D of this Module.

c. Within one hundred and twenty (120) calendar days after the effective date of this Permit, the Permittee shall submit for approval a RFI Work Plan to the Regional Administrator to address those units, releases of hazardous waste, including hazardous constituents, and media of concern which require the further investigations. A RFI Work Plan shall be submitted within ninety (90) calendar days after written notification by the Regional Administrator that an RFI is required pursuant to Conditions C.6 and/or D of this Module.

i. The Work Plan shall describe the objectives of the investigation and the overall technical and analytical approach to completing all actions necessary to characterize the nature, direction, rate, movement, and concentration of releases of hazardous waste, including hazardous constituents, from specific SWMUs or groups of SWMUs, and their actual or potential receptors. The Work Plan shall detail all proposed activities and procedures to be conducted at the facility and/or off-site, the schedule for implementing and completing such investigations, the qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall management of the RFI.

ii. The Work Plan shall discuss sampling, data collection strategy, methods of sample analysis, as well as quality assurance and data management procedures, including formats for documenting and tracking data and other results of investigations, and health and safety procedures.

iii. The Work Plan must, at a minimum, address all necessary activities or include descriptions to meet the requirements specified in Tasks III through Task V of the Scope of Work for a RCRA Facility Investigation included in this Permit as Appendix A and its attachments.

iv. The Permittee may determine that any of the

ii. Submission of a revised Report to the Regional Administrator within forty-five (45) calendar days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Report to the Regional Administrator, according to a schedule specified by the Agency, not to exceed sixty (60) calendar days after Permittee's receipt of Report comments from the Regional Administrator.)

c. After the Regional Administrator approves the RFI Final Report and Summary Report, the Permittee shall notify all individuals on the facility mailing list established pursuant to 40 C.F.R. §124.10(c)(1) of availability of the approved Summary Report, within thirty (30) calendar days of receipt of approval. The notification must also state that a copy of the Summary Report will be provided to any of those individuals, upon receipt of a request.

d. A report summarizing the testing program required by Task VI of the Scope of Work for RFI in Appendix A to this Permit shall be submitted, as a separate document, at the same time as the RFI Final Report.

4. Interim Measures

a. Within thirty (30) calendar days of the effective date of this Permit, the Permittee shall submit all studies, plans and supporting documents to EPA in connection with implementation of Interim Measures, as required for the SWMUs identified in the Table in Condition A.3.c. EPA shall review, modify and approve such measures and shall notify Permittee in writing of its determination(s) within fifteen (15) days after receipt of complete materials from the Permittee. In its discretion, Permittee may submit materials that already have been submitted to the NJDEPE in fulfilling this requirement.

b. The Permittee shall continue implementing the ~~interim measures for the SWMUs identified~~ in the Table in Condition A.3.c of this Module, pending EPA review, modification and approval of such measures.

c. The Permittee must submit to the EPA and NJDEPE

within thirty (30) calendar days of the effective date of this Permit, documents establishing financial assurance for conducting the interim measures. The Permittee must continue to demonstrate financial assurance unless otherwise notified by EPA.

5. Corrective Measures Study ("CMS") Plan

a. Should a CMS be required, the Regional Administrator shall notify the Permittee in writing. This notice shall identify the hazardous constituent(s) which have exceeded action levels as well as those which have been determined to threaten human health and the environment given site specific exposure conditions or due to additive exposure risk. The notification shall specify target cleanup levels for hazardous constituents detected in each medium of concern, and may also specify corrective measure alternatives to be evaluated by the Permittee during the CMS.

b. The Regional Administrator may require a Corrective Measures Study ("CMS") under the following conditions:

i. If the concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air exceed their corresponding individual action levels;

ii. If the concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air do not exceed their corresponding individual action levels, but additive exposure risk due to the presence of multiple constituents is not protective of human health; or

iii. If the concentrations of hazardous constituents in groundwater, surface water/sediment, soil, or air do not exceed corresponding individual action levels, but still pose a threat to human health or the environment, given site-specific exposure conditions.

c. The CMS will be considered complete upon completion of Tasks I through IV of the Appendix B of this Permit. Within sixty (60) calendar days after the notification required by Condition E.5.a

of this Module, the Permittee shall complete Task I and submit to EPA a Task I report and documents, if any, relevant to other Tasks.

d. The Permittee shall submit CMS Plan to the Regional Administrator within sixty (60) calendar days after the notification required by Condition E.5.a of this Module.

i. The CMS Plan shall provide:

(1) A description of the general approach to investigating and evaluating potential corrective measures;

(2) A definition of the overall objectives of the study;

(3) The specific plans for evaluating corrective measures to ensure compliance with corrective measure standards;

(4) The schedule for conducting the study; and

(5) The proposed format for the presentation of information.

ii. The CMS Plan must address, at a minimum, all necessary activities to complete Tasks II and III of Appendix B of this Permit.

e. Following submission of the CMS Plan set forth in Condition E.5.d of this Module, subsequent activities for the Plan shall proceed in accordance with the following schedule:

i. Meeting between the Permittee, the Agency and the Department to discuss Plan comments, as appropriate.

ii. Submission of a revised Plan to the Regional Administrator within thirty (30) calendar days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Plan to the Regional Administrator, according to a schedule specified by the Agency, not to exceed forty-five (45) calendar days after Permittee's receipt of Plan comments from the Regional Administrator.)

6. Corrective Measures Study Implementation No later than thirty (30) calendar days after the Permittee has received written approval from the Regional Administrator for the CMS Plan, the Permittee shall begin to implement the CMS according to the schedules specified in the CMS Plan. The CMS shall be conducted in accordance with the approved plan submitted pursuant to Condition E.5 of this Module.

7. Corrective Measures Study Final Report

a. Within forty-five (45) calendar days after the completion of the CMS, the Permittee shall submit a CMS Final Report (Task IV of Appendix B of this Permit). The CMS Final Report shall:

i. Summarize the results of the investigations and, if applicable, of any bench-scale or pilot tests conducted;

ii. Provide a detailed description of the corrective measures evaluated and include an evaluation of how each corrective measure alternative meet the standards set forth in Condition E.8.a of this Module;

iii. Present all information gathered under the approved CMS Plan; and

iv. Contain any additional information to support the Regional Administrator in the corrective measure selection decision-making process, described under Condition E.8. of this Module.

b. The CMS Final Report (Task IV of Appendix B of this Permit) must address, at a minimum, all items necessary to demonstrate completion of Task II and III required by the CMS Scope of Work included in Appendix B of this Permit.

c. Following submission of the CMS Report set forth in Module Condition E.7.a, subsequent activities for the Report shall proceed in accordance with the following schedule:

i. Meeting between the Permittee, the Agency, and the Department to discuss the Report comments, as appropriate.

ii. Submission of a revised Report to the Regional Administrator within thirty (30)

days of the above-described meeting. (If the Regional Administrator determines that the above referenced meeting is not necessary, the Permittee shall submit a revised Report to the Regional Administrator, according to a schedule specified by the Agency, not to exceed forty-five (45) calendar days after Permittee's receipt of Report comments from the Regional Administrator.)

d. As specified under Condition E.5.a of this Module, based on preliminary results and the CMS Final Report, the Regional Administrator may require the Permittee to evaluate additional corrective measures or particular elements of one or more proposed corrective measures.

8. Corrective Measures Selection

a. Based on the results of the documents submitted under Condition E.3 of this Module for the RFI, under Condition E.7 of this Module for the CMS, and any further evaluations of additional corrective measures under this study, the Regional Administrator shall select a corrective measures that, at a minimum, will meet the following standards:

i. Be protective of human health and the environment;

ii. Attain media cleanup standards selected by the Regional Administrator during the corrective measures selection process;

iii. Control the source(s) of release(s) so as to reduce or eliminate, to the maximum extent practicable, further releases of hazardous waste, including hazardous constituents, that might pose a threat to human health and the environment; and

iv. Meet all applicable waste management requirements.

b. In selecting the corrective measure(s) which meets the standards for remedies established under Module Condition E.8.a, the Regional Administrator shall consider the following evaluation factors, as appropriate:

i. Long-term reliability and effectiveness. Any potential corrective measure(s) may be assessed for the long-term reliability and effectiveness it affords, along with the degree of certainty that the corrective measure(s) will prove successful. Factors that shall be considered in this evaluation include:

(1) Magnitude of residual risks in terms of amounts and concentrations of hazardous waste, including hazardous constituents, remaining following implementation of a corrective measure(s), considering the persistence, toxicity, mobility and potential to bioaccumulate of such hazardous wastes, including hazardous constituents;

(2) The type and degree of long-term management required, including monitoring and operation and maintenance;

(3) Potential for exposure of humans and environmental receptors to remaining hazardous wastes, including hazardous constituents, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal or containment;

(4) Long-term reliability of the engineering and institutional controls, including uncertainties associated with land disposal of untreated hazardous wastes, including hazardous constituents, and their residuals; and

(5) Potential need for replacement of the corrective measure(s).

ii. Reduction of toxicity, mobility, or volume. A potential remedy(s) may be assessed as to the degree to which it employs treatment that reduces toxicity, mobility or volume of hazardous wastes, including hazardous constituents. Factors that shall be considered in such assessments include:

(1) The treatment processes the corrective measure(s) employs and materials it would treat;

(2) The amount of hazardous wastes, including hazardous constituents, that would be destroyed or treated;

(3) The degree to which the treatment is irreversible;

(4) The residuals that will remain following treatment, considering the persistence, toxicity, mobility and propensity to bioaccumulate of such hazardous wastes, including hazardous constituents; and

(5) All concentration levels of hazardous waste, including hazardous constituents, in each medium that corrective measure(s) must achieve to be protective of human health and the environment.

iii. The short-term effectiveness of a potential corrective measure(s) may be assessed considering the following:

(1) Magnitude of reduction of existing risks;

(2) Short-term risks that might be posed to the community, workers, or the environment during implementation of such a corrective measure(s), including potential threats to human health and the environment associated with excavation, transportation, and redisposal or containment; and

(3) Time until full protection is achieved.

iv. Implementability. The ease or difficulty of implementing a potential corrective measure(s) may be assessed by considering the following types of factors:

(1) Degree of difficulty associated with constructing the technology;

(2) Expected operational reliability of the technologies;

(3) Need to coordinate with and obtain necessary approvals and permits from other agencies;

(4) Availability of necessary equipment and specialists;

(5) Available capacity and location of needed treatment, storage, disposal services; and

(6) Requirements for removal, decontamination, closure, or post-closure of units, equipment, devices or structures that will be used to implement the corrective measure(s).

v. Cost. The types of costs that may be assessed, including the following:

(1) Capital costs;

(2) Operational and maintenance costs;

(3) Net present value of capital and operation and maintenance costs; and

(4) Potential future corrective action costs.

9. Permit Modification for Corrective Measure(s)

a. Based on the information the Permittee submits in the RFI Final and Summary Reports, under Condition E.3 of this Module; the CMS Final Report, under Condition E.7 of this Module; and other information: the Regional Administrator will select a corrective measure(s) and initiate a permit modification to this Permit, pursuant to 40 C.F.R. §270.41. The modification will specify the selected corrective measure(s) and include, at a minimum, the following:

i. Description of all technical features of the corrective measure(s) that are necessary for achieving the standards for corrective measure(s) established under Condition E.8.a of this Module, including length of time for which compliance must be demonstrated at specified points of compliance;

ii. All media cleanup standards for hazardous constituents, selected by the Regional Administrator, that the corrective measure(s) must achieve to be protective of human health and the environment;

iii. All requirements for achieving compliance with these cleanup standards;

iv. All requirements for complying with the standards for management of wastes;

v. Requirements for removal, decontamination, closure, or post-closure of units, equipment, devices or structures that will be used to implement the corrective measure(s);

vi. A schedule for initiating and completing all major technical features and milestones of the corrective measure(s); and

vii. Requirements for submission of reports and other information.

b. Within thirty (30) calendar days after this Permit has been modified, the Permittee shall demonstrate in writing to the Regional Administrator that financial assurance for completing the approved corrective measure(s).

10. Modification of the Compliance Schedule

a. Upon prior request of the Permittee, the Regional Administrator may extend a compliance deadline set forth in this Appendix by a period not to exceed ninety (90) days. Subsequent compliance deadlines that are determined by a deadline for which an extension under Condition III.E.10.a has been granted, shall automatically be adjusted accordingly. The cumulative effect of more than one extension granted under Condition III.E.10.a shall not exceed one hundred and eighty (180) days.

b. If at any time the Permittee determines that the Compliance Schedule provided for in Appendic C of this Permit (as modified pursuant to Condition III.E.10.a), cannot be met, the Permittee must:

i. Notify the Regional Administrator in writing within fifteen (15) calendar days of such determination; and

ii. Provide an explanation why the Compliance Schedule cannot be met.

c. If the Permittee submits a notification and explanation pursuant to Condition III.E.10.b, above, or if at any time the Regional Administrator determines that the Compliance Schedule provided for in Appendix C of this Permit (as modified by Condition III.E.10.a) cannot be met, the Regional Administrator shall notify the Permittee and all persons on the facility mailing list in writing of the modifications to the Compliance Schedule deemed necessary by the Regional Administrator. Such notice will:

i. Describe the exact change(s) to be made to the permit conditions;

ii. Provide an explanation of why the modification is needed;

iii. Provide notification that supporting documentation or data may be available for inspection at the Regional office; and

iv. Specify the data on which the modification will become effective.

d. Any modification to the Compliance Schedule provided for in Appendix C of this Permit (as modified by Condition III.E.10.a), initiated pursuant to this Condition III.E.10.b shall become effective no less than fifteen (15) days after the notification required pursuant to Condition III.E.10.c has been provided.

e. Modification to the Compliance Schedule provided for in Appendix C of this Permit pursuant to this Condition III.E.10 does not constitute a reissuance of this Permit.

MODULE IV - WASTE MINIMIZATION

A. SUBMITTAL REQUIREMENTS. Pursuant to 40 C.F.R. § 264.73(b)(9), and Section 3005(h) of the Act, 42 U.S.C. § 6925(h), the Permittee must submit to the Regional Administrator, at least annually, a waste minimization report by the owner or operator. This report and all accompanying documentation will be submitted by July 1 of each year after the effective date of this Permit.

B. WASTE MINIMIZATION REPORT. The Permittee must certify that:

1. A program is in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and

2. The proposed method of treatment, storage or disposal is that practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment.

C. HAZARDOUS WASTE REDUCTION PLAN (HWRP). The Permittee shall submit a HWRP by July 1 of the first year following permit issuance. The HWRP shall be updated at least biennially to reflect changes in the HWRP, and submitted by July 1 of that year. The HWRP shall include at a minimum, the following information:

1. Identify amounts and types of all acute hazardous waste generated by waste stream.

2. Identify amounts and types of non-acute hazardous waste by waste stream for streams greater than five (5) tons and,

3. Identify at least 90% of all non-acute hazardous waste generated at the facility.

4. Describe source of generation and waste management method for each waste stream.

5. Provide list of technically feasible and economically practicable waste reduction measures.

6. Provide a program plan and schedule for implementing technically feasible and economically practicable waste reduction over time.

The following guidance documents should be used in developing the HWRP:

Waste Minimization Opportunity Assessment Manual. EPA/625/7-88/003, July 1988. Available through: EPA, Office of Research and Development, Cincinnati, Ohio 45268, tel. 513/569-7562 or NTIS, 5285 Port Royal Road, Springfield, VA 22161, tel. 703/487-4600.

Region II HWRP Requirements. Available through EPA Region II, Hazardous Waste Facilities Branch, Andrew Bellina, tel. 212/264-0505.

New York State Waste Reduction Guidance Manual March 1989.

New York State Waste Reduction Guidance Manual Supplement. December 1990. Available through the New York State Department of Environmental Conservation, Bureau of Pollution Prevention, 50 Wolf Road, Albany, New York 12233-7253, tel. 518/485-8400.

D. IMPLEMENTATION OF WASTE REDUCTION TECHNIQUES.
The Permittee shall implement the feasible waste reduction techniques in accordance with the schedule in the HWRP.

MODULE V - LAND DISPOSAL RESTRICTIONS

A. BACKGROUND. HSWA prohibits the continued land disposal of untreated hazardous wastes beyond specified dates, "unless the Administrator determines that the prohibition ... is not required in order to protect human health and the environment for as long as the wastes remain hazardous..." (Sections 3004(d)(1), (e)(1), (g)(5) of the Act, 42 U.S.C. §6924(d)(1), (e)(1), (g)(5).

Pursuant to 40 C.F.R. §264.13(a)(1), before an owner or operator treats, stores, or disposes of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store or dispose of the waste in accordance with the requirements of 40 C.F.R. Parts 264 and 268 or with the conditions of a permit issued under 40 C.F.R. Parts 270 and 124.

The Permittee shall comply with the waste analysis, notification, certification, and recordkeeping requirements of 40 C.F.R. §268.7 whenever generating, treating, or managing a restricted waste.

B. STORAGE OF RESTRICTED WASTES. The Permittee may store such wastes to which the land disposal prohibition applies for up to one year unless the Agency can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. (40 C.F.R. §267.50(b)).

The Permittee may store wastes to which the land disposal prohibition applies beyond one year; however, the Permittee bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. (40 C.F.R. §268.50(c)).

C. LAND DISPOSAL OF RESTRICTED WASTES. The land disposal of restricted waste is prohibited unless the applicable treatment standard is met, or the waste is exempt under 40 C.F.R. §268.1(c).

D. RESTRICTION DATES. The above restrictions become effective and are phased in for specific hazardous wastes over a period which began November 8, 1986.

The Permittee is required to comply with the restrictions and applicable dates which are specified in 40 C.F.R. Part 268 for all hazardous waste regulated under this Permit.

MODULE VI - ORGANIC AIR EMISSION STANDARDS FOR PROCESS VENTS AND EQUIPMENT LEAKS

A. BACKGROUND. Under the authority of Section 3004(n) of the Act, 42 U.S.C. § 6924(n), on June 21, 1990, EPA promulgated standards for the monitoring and control of organic air emissions from hazardous waste treatment, storage and disposal facilities requiring a permit under Subtitle C of RCRA. These standards became effective on December 21, 1990.

B. COMPLIANCE SCHEDULE. The Permittee shall comply with 40 C.F.R. Part 264 Subpart AA - Air Emission Standards for Process Vents - and Part 264 Subpart BB - Air Emission Standards for Equipment Leaks, as applicable. The Permittee will be required to submit supporting documentation to demonstrate compliance with these regulations.

MODULE VII - TOXICITY CHARACTERISTICS

A. BACKGROUND. Under the authority of Section 3001(g) and 3001(h) of the Solid Waste Disposal Act (the "Act"), as amended by the Resource Conservation and Recovery Act (RCRA) and the Hazardous and Solid Waste Amendments of 1984 (HSWA), 42 U.S.C. §§ 6920(g) and 6920(h), on March 29, 1990, EPA promulgated an improved leaching procedure to better predict leaching and an expansion of the Toxicity Characteristic (TC) listing to include additional toxicants for regulatory control under Subtitle C of the Act. These standards became effective September 25, 1990. (See 55 Federal Register 11788 (March 29, 1990).)

B. AUTHORIZED ACTIVITIES. The Permittee is authorized to manage TC wastes at the following units:

1. Indoor Storage Area as detailed on Figure 9-1 and Figure 9-2 and in Sections 1.02, 3.01 and 9.02 of the Part B Permit Application as specified in Condition 1(a) of Section II of the Hazardous Waste Facility permit issued by NJDEPE.

   Design Capacity: 5,280 gallons (96 of 55-gallon drums).
   Container Type Allowed: DOT Specification 17 H Steel Drum.
   TC Wastes Allowed:

   D001: Waste kerosene and paint thinner.
   D008: The following wastes containing lead: test house sludge; waste litharge; waste powders; test house cap stubs; burning ground ash residue; contaminated styroform blocks and plastic bags; wastes containing lead generated from site remediation activities; and lead nitrate contaminated filter.
   D009: Wastes containing mercury, generated from site remediation activities.

2. Outdoor Storage Area as detailed on Figure 9-1 and Figure 9-2 and in Sections 1.02, 3.01 and 9.02 of the Part B Permit Application as specified in Condition 1(a) of Section II of the Hazardous Waste Facility permit issued by NJDEPE.

   Design Capacity: 100 cubic yards (5 of 20-cubic yard containers) and 11,220 gallons (204 of 55-gallon drums).
   Container Type: Covered steel roll-off containers and DOT specification 17 H steel drums.

TC Wastes Allowed:

D008/D003: Shooting pond sludge which is potentially explosive and contains lead.

D008: The following wastes containing lead: test house sludge; waste litharge; waste powders; test house cap stubs; burning ground ash residue; contaminated styroform blocks and plastic bags; waste lead tamped tubing; and wastes containing lead generated from site remediation activities.

D009: Solid waste containing mercury, generated from site remediation activities.

3. Storage in Magazines as detailed in Sections 1.03, 3.02, 9.03 and Exhibits 9-1 and 3-3 of the Part B permit application as specified in Condition 1(a) of Section II of the Hazardous Waste Facility permit issued by NJDEPE.

a. Magazine Number: FA-1235.
Capacity:

In Piece Units:	1,300,000 detonators or 4,000,000 feet cord.
In TNT Equivalent:	2000 pounds TNT (145 gallons TNT).

b. Magazine Number: FA-1265.
Capacity:

In Piece Units:	1,000,000 detonators or 3,000,000 feet cord.
In TNT Equivalent:	1500 pounds TNT (100 gallons TNT).

c. Magazine Numbers: FA-10, FA-121, FA-1295, FA-270, FA-1240.
Capacity:

In Piece Units:	14,400,000 detonators or 43,200,000 feet cord.
In TNT Equivalent:	21,600 pounds TNT (1,566 gallons TNT).

d. TC Wastes Allowed in the Megazines identified in Conditions B.3.a-B.3.c of this Module:

D003: Reactive waste detonating cord.

D003/D008: The following reactive wastes containing lead: waste exploders; and waste caps with wire.

C. REQUIREMENTS FOR STORAGE OF TC WASTES IN THE AUTHORIZED CONTAINER STORAGE AREA. In order to manage on-site generated TC wastes in containers at the authorized storage areas of the facility, the Permittee must comply with the following requirements:

1. The requirements specified in Subpart I of 40 C.F.R. Part 264 for use and management of containers:

   a. 40 C.F.R. § 264.171 - Condition of containers;

   b. 40 C.F.R. § 264.172 - Compatibility of waste with containers;

   c. 40 C.F.R. § 264.173 - Management of containers;

   d. 40 C.F.R. § 264.174 - Inspections;

   e. 40 C.F.R. § 264.175 - Containment;

   f. 40 C.F.R. § 264.176 - Special requirements for ignitable or reactive waste; and

   g. 40 C.F.R. § 264.177 - Special requirements for incompatible waste.

2. The requirements specified in 40 C.F.R. § 264.13(b) for a waste analysis plan. The waste analysis plan will address all TC wastes handled at the facility. Within thrity (30) calendar days of the effective date of this Permit, the Permittee shall submit two copies of a waste analysis plan to EPA and one copy to NJDEPE.

D. OTHER REQUIREMENTS. The Permittee shall comply with the following requirements, to assure compliance with the TC rule:

1. If the facility generates new TC wastes or manages TC wastes in units other than the authorized storage area identified in Condition C of this Module, within thirty (30) days of the changes, the Permittee must submit a permit modification request to EPA and NJDEPE, if applicable. The modification request must include all information relevant for the modification of permits, including a revised Part A.

2. The Permittee must comply with all relevant requirements of the Land Disposal Restrictions as specified in 40 C.F.R. part 268, for the TC wastes handled at the facility.

APPENDIX A

SCOPE OF WORK FOR A RCRA FACILITY INVESTIGATION

Appendix A

SCOPE OF WORK FOR A RCRA FACILITY INVESTIGATION (RFI) AT E. I. DU PONT DE NEMOURS & COMPANY, INCORPORATED POMPTON LAKES, NEW JERSEY

I. PURPOSE

The purpose of this RCRA Facility Investigation is to determine the nature, rate, direction and extent of releases of hazardous waste, including hazardous constituents, from solid waste management units and other source areas at the facility including areas off-site impacted by the release(s) from the facility, and to gather all necessary data to support the Corrective Measures Study. The Permittee shall furnish all personnel, materials, and services necessary for, or incidental to, performing the RCRA remedial investigation.

II. SCOPE

The RCRA Facility Investigation consists of seven tasks:

Task I: Description of Current Conditions

- A. Facility Background
- B. Nature and Extent of Contamination
- C. Implementation of Interim Measures

Task II: Pre-Investigation Evaluation of Corrective Measure Technologies

Task III: RFI Management Plans

- A. Project Management Plan
- B. Data Collection Quality Assurance Plan
- C. Data Management Plan
- D. Health and Safety Plan
- E. Community Relations Plan

Task IV: Facility Investigation

- A. Environmental Setting
- B. Source Characterization
- C. Contamination Characterization
- D. Potential Receptor Identification

Task V: Investigation Analysis

- A. Data Analysis
- B. Protection Standards

Task VI: Laboratory and Bench-Scale Studies

Task VII: Reports

A. Progress
B. Draft and Final

III. TASK I: DESCRIPTION OF CURRENT CONDITIONS

The Permittee shall submit for EPA approval a report providing the background information pertinent to the facility, contamination and interim measures as set forth below. The data gathered during any previous investigations or inspections and other relevant data shall be included. The report must include, at a minimum, the following information:

A. Facility Background

The Permittee's report shall summarize the regional location, pertinent boundary features, general facility physiography, hydrogeology, and historical use of the facility for the treatment, storage or disposal of solid and hazardous waste. The Permittee's report shall include:

1. Map(s) depicting the following:

   a. General geographic location;

   b. Property lines, with the owners of all adjacent property clearly indicated;

   c. Topography and surface drainage (with a contour interval of two (2) feet and a scale of 1 inch = 100 feet) depicting all waterways, wetlands, floodplains, water features, drainage patterns, and surface-water containment areas;

   d. All tanks, buildings, utilities, paved areas, easements, rights-of-way, and other features;

   e. All solid or hazardous waste treatment, storage or disposal areas active after November 19, 1980;

   f. All known past solid or hazardous waste treatment, storage or disposal areas regardless of whether they were active on November 19, 1980;

g. All known past and present product and waste underground tanks or piping;

h. Surrounding land uses (residential, commercial, agricultural, recreational); and

i. The location of all production and groundwater monitoring wells. These wells shall be clearly labeled and ground and top of casing elevations and construction details included (these elevations and details may be included as an attachment).

All maps shall be consistent with the requirements set forth in 40 CFR 270.14 and be of sufficient detail and accuracy to locate and report all current and future work performed at the site;

2. A history and description of ownership and operation, solid and hazardous waste generation, treatment, storage and disposal activities at the facility;

3. Approximate dates or periods of past product and waste spills, identification of the materials spilled, the amount spilled, the location where spilled, and a description of the response actions conducted (local, state, or federal response units or private parties), including any inspection reports or technical reports generated as a result of the response; and

4. A summary of past permits requested and/or received, any enforcement actions and their subsequent responses and a list of documents and studies prepared for the facility.

B. Nature and Extent of Contamination

1. The Permittee's report shall summarize all possible source areas of contamination. This, at a minimum, should include all regulated units, solid waste management units, spill areas, and other suspected source areas of contamination. For each area, the Permittee shall identify the following:

a. Location of unit/area (which shall be depicted on a facility map);

b. Quantities of solid and hazardous wastes;

c. Hazardous waste or constituents, to the extent known; and

d. Identification of areas where additional information is necessary.

2. The Permittee shall prepare an assessment and description of the existing degree and extent of contamination. This should include:

a. Available monitoring data and qualitative information on locations and levels of contamination at the facility;

b. All potential migration pathways including information on geology, petrology, hydrogeology, physiography, hydrology, water quality, meteorology, and air quality; and

c. The potential impact(s) on human health and the environment, including demography, groundwater and surface-water use, and land use.

C. Implementation of Interim Measures

The Permittee's report shall document interim measures which were or are being undertaken at the facility. This shall include:

1. Objectives of the interim measures: how the measure is mitigating a potential threat to human health and the environment and/or is consistent with and integrated into any long term solution at the facility;

2. Design, construction, operation, and maintenance requirements;

3. Schedules for design, construction and monitoring; and

4. Schedule for progress reports.

IV. TASK II: PRE-INVESTIGATION EVALUATION OF CORRECTIVE MEASURE TECHNOLOGIES

The Permittee shall submit a report that identifies the potential corrective measure technologies that may be used on-site or off-site for the containment, treatment, remediation, and/or disposal of contamination. This report shall also identify any field data that needs to be

collected in the facility investigation to facilitate the evaluation and selection of the final corrective measure or measures (e.g., compatibility of waste and construction materials, information to evaluate effectiveness, treatability of wastes, etc.).

V. TASK III: RFI MANAGEMENT PLANS

The Permittee shall submit RFI Management Plans. These Plans shall be followed during the implementation of RFI, and will be part of the RFI Workplan. During the RFI, these Management Plans may be necessary for revisions depending on the detail of information collected to accommodate the facility specific situation. The RFI Management Plans include the following:

A. Project Management Plan

The Permittee shall prepare a Project Management Plan which will include a discussion of the technical approach, schedules, budget, and personnel. The Project Management Plan will also include a description of qualifications of personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the RCRA Facility Investigation.

B. Data Collection Quality Assurance Plan

The Permittee shall prepare a plan to document all monitoring procedures: sampling, field measurements, and sample analysis performed during the investigation to characterize the environmental setting, source, and contamination, so as to ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented.

1. Data Collection Strategy

   The strategy section of the Data Collection Quality Assurance Plan shall include but not be limited to the following:

   a. Description of the intended uses for the data, and the necessary level of precision and accuracy for these intended uses;

   b. Description of methods and procedures to be used to assess the precision, accuracy and completeness of the measurement data;

c. Description of the rationale used to assure that the data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition or an environmental condition. Examples of factors which shall be considered and discussed include:

   i. Environmental conditions at the time of sampling;

   ii. Number of sampling points;

   iii. Representativeness of selected media; and

   iv. Representativeness of selected analytical parameters.

d. Description of the measures to be taken to assure that the following data sets can be compared to each other:

   i. RFI data generated by the Permittee over some time period;

   ii. RFI data generated by an outside laboratory or consultant versus data generated by the Permittee;

   iii. Data generated by separate consultants or laboratories; and

   iv. Data generated by an outside consultant or laboratory over some time period.

e. Details relating to the schedule and information to be provided in quality assurance reports. The reports should include but not be limited to:

   i. Periodic assessment of measurement data accuracy, precision, and completeness;

   ii. Results of performance audits;

   iii. Results of system audits;

   iv. Significant quality assurance problems and recommended solutions; and

v. Resolutions of previously stated problems.

2. Sampling

The Sampling section of the Data Collection Quality Assurance Plan shall discuss:

a. Selecting appropriate sampling locations, depths, etc.;

b. Providing a statistically sufficient number of sampling sites;

c. Measuring all necessary ancillary data;

d. Determining conditions under which sampling should be conducted;

e. Determining which media are to be sampled (e.g., groundwater, air, soil, sediment, etc.);

f. Determining which parameters are to be measured and where;

g. Selecting the frequency of sampling and length of sampling period;

h. Selecting the types of sample (e.g., composites vs. grabs) and number of samples to be collected;

i. Measures to be taken to prevent contamination of the sampling equipment and cross contamination between sampling points;

j. Documenting field sampling operations and procedures, including;

i. Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g., filters, and adsorbing reagents);

ii. Procedures and forms for recording the exact location and specific considerations associated with sample acquisition;

iii. Documentation of specific sample preservation method;

iv. Calibration of field devices;

v. Collection of replicate samples;

vi. Submission of field-biased blanks, where appropriate;

vii. Potential interferences present at the facility;

viii. Construction materials and techniques, associated with monitoring wells and piezometers;

ix. Field equipment listing and sample containers;

x. Sampling order; and

xi. Decontamination procedures.

k. Selecting appropriate sample containers;

l. Sample preservation; and

m. Chain-of-custody, including:

i. Standardized field tracking reporting forms to establish sample custody in the field prior to and during shipment; and

ii. Pre-prepared sample labels containing all information necessary for effective sample tracking.

3. Field Measurements

The Field Measurements section of the Data Collection Quality Assurance Plan shall discuss:

a. Selecting appropriate field measurement locations, depths, etc.;

b. Providing a statistically sufficient number of field measurements;

c. Measuring all necessary ancillary data;

d. Determining conditions under which field measurements should be conducted;

e. Determining which media are to be addressed by appropriate field measurements (e.g., groundwater, air, soil, sediment, etc.);

f. Determining which parameters are to be measured and where;

g. Selecting the frequency of field measurement and length of field measurements period; and

h. Documenting field measurement operations and procedures, including:

i. Procedures and forms for recording raw data and the exact location, time, and facility-specific considerations associated with the data acquisition;

ii. Calibration of field devices;

iii. Collection of replicate measurements;

iv. Submission of field-biased blanks, where appropriate;

v. Potential interferences present at the facility;

vi. Construction materials and techniques associated with monitoring wells and piezometers used to collect field data;

vii. Field equipment listing;

viii. Order in which field measurements were made; and

ix. Decontamination procedures.

4. Sample Analysis

The Sample Analysis section of the Data Collection Quality Assurance Plan shall specify the following:

a. Chain-of-custody procedures, including:

   i. Identification of a responsible party to act as sample custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;

   ii. Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and

   iii. Specification of laboratory sample custody procedures for sample handling, storage, and dispersement for analysis.

b. Sample storage procedures and storage times;

c. Sample preparation methods;

d. Analytical procedures, including:

   i. Scope and application of the procedure;

   ii. Sample matrix;

   iii. Potential interferences;

   iv. Precision and accuracy of the methodology; and

   v. Method detection limits.

e. Calibration procedures and frequency;

f. Data reduction, validation and reporting;

g. Internal quality control checks, laboratory performance and systems audits and frequency, including:

   i. Method blank(s);

   ii. Laboratory control sample(s);

   iii. Calibration check sample(s);

   iv. Replicate sample(s);

v. Matrix-spiked sample(s);

vi. "Blind" quality control sample(s);

vii. Control charts;

viii. Surrogate samples;

ix. Zero and span gases; and

x. Reagent quality control checks.

h. Preventive maintenance procedures and schedules;

i. Corrective action (for laboratory problems); and

j. Turnaround time.

C. Data Management Plan

The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

1. Data Record

The data record shall include the following:

a. Unique sample or field measurement code;

b. Sampling or field measurement location and sample or measurement type;

c. Sampling or field measurement raw data;

d. Laboratory analysis ID number;

e. Property or component measured; and

f. Result of analysis (e.g., concentration).

2. Tabular Displays

The following data shall be presented in tabular displays:

a. Unsorted (raw) data;

b. Results for each medium, or for each constituent monitored;

c. Data reduction for statistical analysis;

d. Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and

e. Summary data.

3. Graphical Displays

The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transacts, three dimensional graphs, etc.):

a. Display sampling location and sampling grid;

b. Indicate boundaries of sampling area, and areas where more data are required;

c. Display levels of contamination at each sampling location;

d. Display geographical extent of contamination;

e. Display contamination levels, averages, and maxima;

f. Illustrate changes in concentration in relation to distance from the source, time, depth or other parameters; and

g. Indicate features affecting intramedia transport and show potential receptors.

D. Health and Safety Plan

The Permittee shall prepare a facility Health and Safety Plan.

1. Major elements of the Health and Safety Plan shall include:

a. Facility description including availability of resources such as roads, water supply, electricity and telephone service;

b. Describe the known hazards and evaluate the risks associated with the incident and with each activity conducted;

c. List key personnel and alternates responsible for site safety, response operations, and for protection of public health;

d. Delineate work areas;

e. Describe levels of protection to be worn by personnel in work areas;

f. Establish procedures to control site access;

g. Describe decontamination procedures for personnel and equipment;

h. Establish site emergency procedures;

i. Address emergency medical care for injuries and toxicological problems;

j. Describe requirements for an environmental surveillance program;

k. Specify any routine and special training required for responders; and

l. Establish procedures for protecting workers from weather-related problems.

2. The Facility Health and Safety Plan shall be consistent with:

a. NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1985);

b. EPA Order 1440.1 - Respiratory Protection;

c. EPA Order 1440.3 - Health and Safety Requirements for Employees engaged in Field Activities;

d. Facility Contingency Plan;

e. EPA Standard Operating Safety Guide (1984);

f. OSHA regulations particularly in 29 CFR 1910 and 1926;

g. State, local, and other federal agency (e.g., DOD, DOE) regulations; and

h. Other EPA guidance as provided.

E. Community Relations Plan

The Permittee shall prepare a plan, for the dissemination of information to the public regarding investigation activities and results.

VI. TASK IV: FACILITY INVESTIGATION

The Permittee shall conduct those investigations necessary to: characterize the facility (Environmental Setting); define the source (Source Characterization); define the degree and extent of contamination (Contamination Characterization); and identify actual or potential receptors.

The investigations should result in data of adequate technical quality to support the development and evaluation of the corrective measure alternative or alternatives during the Corrective Measures Study ("CMS").

The site investigation activities shall follow the plans set forth in Task III. All sampling and analyses shall be conducted in accordance with the Data Collection Quality Assurance Plan. All sampling locations shall be documented in a log and identified on a detailed site map.

A. Environmental Setting

The Permittee shall collect information to supplement and verify existing information on the environmental setting at the facility. The Permittee shall characterize the following:

1. Hydrogeology

The Permittee shall conduct a program to evaluate hydrogeologic conditions at the facility. This program shall provide the following information:

a. A description of the regional and facility specific geologic and hydrogeologic characteristics affecting groundwater flow beneath the facility, including:

i. Regional and facility specific stratigraphy: description of strata including strike and dip, identification of stratigraphic contacts;

ii. Structural geology: description of local and regional structural features (e.g., folding, faulting, tilting, jointing, etc.);

iii. Depositional history;

iv. Identification and characterization of areas and amounts of recharge and discharge;

v. Regional and facility specific groundwater flow patterns; and

vi. Characterize seasonal variations in the groundwater flow regime.

b. An analysis of any topographic features that might influence the groundwater flow system. (Note: Stereographic analysis of aerial photographs may aid in this analysis).

c. Based on field data, test, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the facility (i.e., the aquifers and any intervening saturated and unsaturated units), including:

i. Hydraulic conductivity and porosity (total and effective);

ii. Lithology, grain size, sorting, degree of cementation;

iii. An interpretation of hydraulic interconnections between saturated zones; and

iv. The attenuation capacity and mechanisms of the natural earth materials (e.g., ion exchange capacity, organic carbon content, mineral content etc.).

d. Based on field studies and cores, structural geology, and hydrogeologic cross sections showing the extent (depth, thickness, lateral extent) of hydrogeologic units which may be part of the migration pathways identifying:

   i. Sand and gravel deposits in unconsolidated deposits;

   ii. Zones of fracturing or channeling in consolidated or unconsolidated deposits;

   iii. Zones of higher permeability or low permeability that might direct and restrict the flow of contaminants;

   iv. The uppermost aquifer: geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs; and

   v. Water-bearing zones above the first confining layer that may serve as a pathway for contaminant migration including perched zones of saturation.

e. Based on data obtained from groundwater monitoring wells and piezometers installed upgradient and downgradient of the potential contaminant source, a representative description of water level or fluid pressure monitoring including:

   i. Water-level contour and/or potentiometric maps;

   ii. Hydrologic cross sections showing vertical gradients;

   iii. The flow system, including the vertical and horizontal components of flow; and

   iv. Any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences.

f. A description of manmade influences that may affect the hydrogeology of the site, identifying:

i. Active and inactive local water-supply and production wells with an approximate schedule of pumping; and

ii. Manmade hydraulic structures (pipelines, french drains, ditches, unlined ponds, septic tanks, NPDES outfalls, retention areas, etc.).

2. Soils

The Permittee shall conduct a program to characterize the soil and rock units above the water table in the vicinity of the contaminant release(s). Such characterization shall include but not be limited to, the following information:

a. SCS soil classification;

b. Surface soil distribution;

c. Soil profile, including ASTM classification of soils;

d. Transacts of soil stratigraphy;

e. Hydraulic conductivity (saturated and unsaturated);

f. Relative permeability;

g. Bulk density;

h. Porosity;

i. Soil sorptive capacity;

j. Cation exchange capacity (CEC);

k. Soil organic content;

l. Soil pH;

m. Particle size distribution;

n. Depth of water table;

o. Moisture content;

p. Effect of stratification on unsaturated flow;

q. Infiltration

r. Evapotranspiration;

s. Storage capacity;

t. Vertical flow rate; and

u. Mineral content.

3. Surface Water and Sediment

The Permittee shall conduct a program to characterize the surface water bodies in the vicinity of the facility. Such characterization shall include, but not be limited to, the following activities and information:

a. Description of the temporal and permanent surface-water bodies including:

i. For lakes and estuaries: location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;

ii. For impoundments: location, elevation, surface area, depth, volume, freeboard, and purpose of impoundment;

iii. For streams, ditches, drains, swamps and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, and flooding tendencies (i.e., 100 year event);

iv. Drainage patterns; and

v. Evapotranspiration.

b. Description of the chemistry of the natural surface water and sediments. This includes determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients (NH_3, NO_3^-/NO_2^-, PO_4^{-3}), chemical oxygen demand, total organic carbon, specific contaminant concentrations, etc.

c. Description of sediment characteristics including:

i. Deposition area;

ii. Thickness profile; and

iii. Physical and chemical parameters (e.g., grain size, density, organic carbon content, ion exchange capacity, pH, etc.)

B. Source Characterization

The Permittee shall collect analytical data to completely characterize the wastes and the areas where wastes have been placed, collected or removed including: type; quantity; physical form; disposition (contain- ment or nature of deposits); and facility characteristics affecting release (e.g., facility security, and engineered barriers). This shall include quantification of the following specific characteristics at each source area:

1. Unit/Disposal Area characteristics:

a. Location of unit/disposal area;

b. Type of unit/disposal area;

c. Design features;

d. Operating practices (past and present.;

e. Period of operation;

f. Age of unit/disposal area;

g. General physical conditions; and

h. Method used to close the unit/disposal area.

2. Waste Characteristics:

a. Type of waste placed in the unit;

i. Hazardous classification (e.g., flammable, reactive, corrosive, oxidizing, or reducing agent);

ii. Quantity; and

iii. Chemical composition.

b. Physical and chemical characteristics;

i. Physical form (solid, liquid, gas);

ii. Physical description (e.g., powder, oily sludge);

iii. Temperature;

iv. pH;

v. General chemical class (e.g., acid, base, solvent);

vi. Molecular weight;

vii. Density;

viii. Boiling point;

ix. Viscosity;

x. Solubility in water;

xi. Cohesiveness of the waste;

xii. Vapor pressure.

xiii. Flash point

c. Migration and dispersal characteristics of the waste;

i. Sorption;

ii. Biodegradability, bioconcentration, biotransformation;

iii. Photodegradation rates;

iv. Hydrolysis rates; and

v. Chemical transformations.

The Permittee shall document the procedures used in making the above determinations.

C. Contamination Characterization

The Permittee shall collect analytical data on groundwater, soils, and/or surface water/sediment contamination in the vicinity of the facility. This data shall be sufficient to define the extent, origin, direction, and rate of movement of contaminant plumes. Data shall include time and location of sampling, media sampled, concentrations found, and conditions during sampling, and the identity of the individuals performing the sampling and analysis. The Permittee shall address the following types of contamination at the facility:

1. Groundwater Contamination

The Permittee shall conduct a groundwater investigation to characterize any plumes of contamination at the facility. This investigation shall, at a minimum, provide the following information:

a. A description of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the facility;

b. The horizontal and vertical direction of contamination movement;

c. The velocity of contaminant movement;

d. The horizontal and vertical concentration profiles of chemical contaminants;

e. An evaluation of factors influencing the plume movement; and

f. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations (e.g., well design, well construction, geophysics, modeling, etc.).

2. Soil Contamination

The Permittee shall conduct an investigation to characterize the contamination of the soil above the water table in the vicinity of the contaminant release(s). The investigation shall include the following information:

a. A description of the vertical and horizontal extent of contami-nation.

b. A description of contaminant and soil chemical properties within the contaminant source area and plume. This includes contaminant solubility, specification, adsorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation, and other factors that might affect contaminant migration and transformation.

c. Specific contaminant concentrations.

d. The velocity and direction of contaminant movement.

e. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations.

3. Surface-Water and Sediment Contamination

The Permittee shall conduct a surface-water and sediment investigation to characterize potential contamination in surface-water bodies and sediments resulting from the contaminant release(s) by the facility. The investigation shall include, but not be limited to, the following information:

a. A description of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the facility, and the extent of contamination in underlying sediments;

b. The horizontal and vertical direction of contaminant movement;

c. The contaminant velocity;

d. An evaluation of the physical, biological and chemical factors influencing contaminant movement;

e. An extrapolation of future contaminant movement; and

f. A description of the chemistry of the contaminated surface waters and sediments. This includes determining the pH, total dissolved solids, specific contaminant concentrations, etc.;

The Permittee shall document the procedures used in making the above determinations.

D. Potential Receptors

The Permittee shall collect data describing the human populations and environmental systems that are susceptible to contaminant exposure from the facility. Chemical analysis of biological samples may be needed. Data on observable effects in ecosystems may also be obtained. The following characteristics shall be identified:

1. Local uses and possible future uses of groundwater:

   a. Type of use (e.g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial); and

   b. Location of groundwater users including wells and discharge areas.

2. Local uses and possible future uses of surface waters draining the facility:

   a. Domestic and municipal (e.g., potable and lawn/gardening watering);

   b. Recreational (e.g., swimming, fishing);

   c. Agricultural;

   d. Industrial; and

   e. Environmental (e.g., fish and wildlife propagation).

3. Human use of or access to the facility and adjacent lands, including but not limited to:

   a. Recreation;

   b. Hunting;

   c. Residential;

d. Commercial;

e. Zoning; and

f. Relationship between population locations and prevailing wind direction.

4. A description of the biota in surface water bodies on, adjacent to, or affected by the facility.

5. A description of the ecology overlying and adjacent to the facility.

6. A demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to: age; sex; and sensitive subgroups.

7. A description of any endangered or threatened species near the facility.

VII. TASK V: INVESTIGATION ANALYSIS

The Permittee shall prepare an analysis and summary of all facility investi-gations and their results. The objective of this task shall be to ensure that the investigation data are sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and/ or the environment, and to support the Corrective Measures Study.

A. Data Analysis

The Permittee shall analyze all facility investigation data outlined in Task IV and prepare a report on the type and extent of contamination at the facility including sources and migration pathways. The report shall describe the extent of contamination (qualitative/quantitative) in relation to background levels indicative for the area.

B. Protection Standards

The Permittee shall identify all relevant and applicable standards for the protection of human health and the environment (e.g., National Ambient Air Quality Standards, federally-approved water quality standards, etc.).

VIII. TASK VI: LABORATORY AND BENCH-SCALE STUDIES

The Permittee shall conduct laboratory and/or bench scale studies to determine the applicability of a corrective measure technology or technologies to facility conditions. The Permittee shall analyze the technologies, based on literature review, vendor contracts, and past experience to determine the testing requirements.

The Permittee shall develop a testing plan identifying the types(s) and goal(s) of the study(s), the level of effort needed, and the procedures to be used for data management and interpretation.

Upon completion of the testing, the Permittee shall evaluate the testing results to assess the technology or technologies with respect to the site-specific questions identified in the test plan.

The Permittee shall prepare a report summarizing the testing program and its results, both positive and negative.

IX. TASK VII: REPORTS

A. Progress

The Permittee shall provide the EPA with signed, quarterly progress reports as required by Condition B.8.a of Module III of this permit.

B. Draft and Final

The Permittee shall prepare a RCRA Facility Investigation ("RFI") Report as required by Condition E.3 of Module III of this Permit. The RFI Report shall present all information gathered under the approved RFI Workplan.

APPENDIX B
SCOPE OF WORK FOR
A CORRECTIVE MEASURE STUDY

Appendix B

SCOPE OF WORK FOR A CORRECTIVE MEASURE STUDY AT E. I. DU PONT DE NEMOURS & COMPANY, INCORPORATED POMPTON LAKES, NEW JERSEY

I. PURPOSE

The purpose of this Corrective Measure Study (CMS) is to develop and evaluate the corrective action alternative or alternatives and to recommend the corrective measure or measures to be taken. The Permittee will furnish the personnel, materials, and services necessary to prepare the corrective measure study, except as otherwise specified.

II. SCOPE

The Corrective Measure Study consists of four tasks:

Task I: Identification and Development of the Corrective Measure Alternative or Alternatives

- A. Description of Current Situation
- B. Establishment of Corrective Action Objectives
- C. Screening of Corrective Measures Technologies
- D. Identification of the Corrective Measure Alternative or Alternatives

Task II: Evaluation of the Corrective Measure Alternative or Alternatives

- A. Technical/Environmental/Human Health/Institutional
- B. Cost Estimate

Task III: Justification and Recommendation of the Corrective Measure or Measures

- A. Technical
- B. Environmental
- C. Human Health

Task IV: Report

- A. Progress
- B. Final

III. TASK I: IDENTIFICATION AND DEVELOPMENT OF THE CORRECTIVE ACTION ALTERNATIVE OR ALTERNATIVES

Based on the results of the RCRA Facility Investigation and consideration of the identified Preliminary Corrective Measure Technologies (Task II of Appendix A of this Permit), the Permittee shall identify, screen, and develop the alternative or alternatives for removal, containment, treatment and/or other remediation of the contamination based on the objectives established for the corrective action.

A. Description of Current Situation

The Permittee shall submit an update to the information describing the current situation at the facility and the known nature and extent of the contamination as documented by the RCRA Facility Investigation Report. The Permittee shall provide an update to information presented in Task I of the RFI to the Agency regarding previous response activities and any interim measures which have or are being implemented at the facility. The Permittee shall also make a facility-specific statement of the purpose for the response, based on the results of the RCRA Facility Investigation ("RFI"). The statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.

B. Establishment of Corrective Action Objectives

The Permittee, in conjunction with EPA, shall establish site specific objectives for the corrective action. These objectives shall be based on public health and environmental criteria, information gathered during the RFI, EPA guidance, and the requirements of any applicable federal statutes. At a minimum, all corrective actions concerning groundwater releases from regulated units must be consistent with, and as stringent as, those required under 40 CFR §264.100.

C. Screening of Corrective Measure Technologies

The Permittee shall review the results of the RFI and reassess the technologies specified in Task II and identify additional technologies which are applicable at the facility. The Permittee shall screen the preliminary corrective measure technologies identified in Task II of the RFI and any supplemental technologies

to eliminate those that may prove infeasible to implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on eliminating those technologies which have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations. Site, waste, and technology characteristics which are used to screen inapplicable technologies are described in more detail below:

1. Site Characteristics

   Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration;

2. Waste Characteristics

   Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics should be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods, and land disposal (on/off-site); and

3. Technology Limitations

   During the screening process, the level of technology development,performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.

D. Identification of the Corrective Measure Alternative or Alternatives

The Permittee shall develop the corrective measure alternative or alternatives based on the corrective action objectives and analysis of the Preliminary Corrective Measure Technologies, as presented in Task II of the RFI and as supplemented following the preparation of the RFI Final Report. The Permittee shall rely on engineering practice to determine which of the previously identified technologies appear most suitable for the site. Technologies can be combined to form the overall corrective action alternative or alternatives. The alternative or alternatives developed should represent a workable number of option(s) that each appear to adequately address all site problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies. The Permittee shall document the reasons for excluding technologies, identified in Task II, as supplemented in the development of the alternative or alternatives.

IV. TASK II: EVALUATION OF THE CORRECTIVE MEASURE ALTERNATIVE OR ALTERNATIVES

The Permittee shall describe each corrective measure alternative that passes through the Initial Screening in Task I of this appendix and evaluate each corrective measure alternative and its components. The evaluation shall be based on technical, environmental, human health and institutional concerns. The Permittee shall also develop cost estimates of each corrective measure.

A. Technical/Environmental/Human Health/Institutional

The Permittee shall provide a description of each corrective measure alternative which includes but is not limited to the following: preliminary process flow sheets; preliminary sizing and type of construction for buildings and structures; and rough quantities of utilities required. The Permittee shall evaluate each alternative in the four following areas:

1. Technical

The Permittee shall evaluate each corrective measure alternative based on performance, reliability, implementability and safety.

a. The Permittee shall evaluate performance based on the effectiveness and useful life of the corrective measure:

   i. Effectiveness shall be evaluated in terms of the ability to perform intended functions, such as containment, diversion, removal, destruction, or treatment. The effectiveness of each corrective measure shall be determined either through design specifications or by performance evaluation. Any specific waste or site characteristics which could potentially impede effectiveness shall be considered. The evaluation should also consider the effectiveness of combinations of technologies; and

   ii. Useful life is defined as the length of time the level of effectiveness can be maintained. Most corrective measure technologies, with the exception of destruction, deteriorate with time. Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the future life of the technology, as well as appropriateness of the technologies, must be considered in estimating the useful life of the project.

b. The Permittee shall provide information on there liability of each corrective measure including their operation and maintenance requirements and their demonstrated reliability:

   i. Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. Technologies requiring frequent or complex operation and maintenance activities should be regarded as less reliable than technologies requiring

little or straight forward operation and maintenance. The availability of labor and materials to meet these requirements shall also be considered; and

ii. Demonstrated and expected reliability is a way of measuring the risk and effect of failure. The Permittee should evaluate whether the technologies have been used effectively under analogous conditions; whether the combination of technologies have been used together effectively; whether failure of any one technology has an immediate impact on receptors; and whether the corrective measure has the flexibility to deal with uncontrollable changes at the site.

c. The Permittee shall describe the implementability of each corrective measure including the relative ease of installation (constructability) and the time required to achieve a given level of response:

i. Constructability is determined by conditions both internal and external to the facility conditions and include such items as location of underground utilities, depth to water table, heterogeneity of subsurface materials, and location of the facility (i.e., remote location vs. a congested urban area). The Permittee shall evaluate what measures can be taken to facilitate construction under these conditions. External factors which affect implementation include the need for special permits or agreements, equipment availability, and the location of suitable off-site treatment or disposal facilities; and

ii. Time has two components that shall be addressed: (1) the time it takes to implement a corrective measure and (2) the time it takes to actually see beneficial results. Beneficial results are defined as the reduction of contaminants to some acceptable, pre-established level.

d. The Permittee shall evaluate each corrective measure alternative with regard to safety. This evaluation shall include threats to the safety of nearby communities and environments as well as those to workers during implementation. Among the factors to consider are fire, explosion, and exposure to hazardous substances.

2. Environmental

The Permittee shall perform an Environmental Assessment for each alternative. The Environmental Assessment shall focus on the facility conditions and pathways of contamination actually addressed by each alternative. The Environmental Assessment for each alternative will include, at a minimum, an evaluation of: the short and long term beneficial and adverse effects of the response alternative; any adverse effects on environmentally sensitive areas; and an analysis of measures to mitigate adverse effects.

3. Human Health

The Permittee shall assess each alternative in terms of the extent to which it mitigates short and long term potential exposure to any residual contamination and protects human health both during and after implementation the corrective measure. The assessment will describe the levels and characterizations of contaminants on-site, potential exposure routes, and potentially affected populations. Each alternative will be evaluated to determine the level of exposure to contaminants and the reduction over time. For management of mitigation measures, the relative reduction of impact will be determined by comparing residual levels of each alternative with existing criteria, standards, or guidelines acceptable to EPA.

4. Institutional

The Permittee shall assess relevant institutional needs for each alternative. Specifically, the effects of Federal, State, and local environmental and public health standards, regulations, guidance, advisories, ordinances, or community relations on the design, operation, and timing of each alternative.

B. Cost Estimate

The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital, operation and maintenance costs.

1. Capital costs consist of direct (construction) and indirect (nonconstruction and overhead) costs.

   a. Direct capital costs include:

      i. Construction costs: Costs of materials, labor (including fringe benefits and worker's compensation), and equipment required to install the corrective measure.

      ii. Equipment costs: Costs of treatment, containment, disposal and/or service equipment necessary to implement the action; these materials remain until the corrective action is complete;

   b. Indirect capital costs include:

      i. Engineering expenses: Costs of administration, design,construction supervision, drafting, and testing of corrective measure alternatives;

      ii. Legal fees and license or permit costs: Administrative and technical costs necessary to obtain licenses and permits for installation and operation;

      iii. Startup and shakedown costs: Costs incurred during corrective measure startup; and

      iv. Contingency allowances: Funds to cover costs resulting from unforeseen circumstances, such as adverse weather conditions, strikes, and inadequate facility characterization.

2. Operation and maintenance costs are post-construction costs necessary to ensure continued effectiveness of a corrective measure. The Permittee shall consider the following operation and maintenance cost components:

a. Operating labor costs: Wages, salaries, training, overhead, and fringe benefits associated with the labor needed for post-construction operations;

b. Maintenance materials and labor costs: Costs for labor, parts, and other resources required for routine maintenance of facilities and equipment;

c. Auxiliary materials and energy: Costs of such items as chemicals and electricity for treatment plant operations, water and sewer service, and fuel;

d. Purchased services: Sampling costs, laboratory fees, and professional fees for which the need can be predicted;

e. Disposal and treatment costs: Costs of transporting, treating,and disposing of waste materials, such as treatment plant residues, generated during operations;

f. Administrative costs: Costs associated with administration of corrective measure operation and maintenance not included under other categories;

g. Insurance, taxes, and licensing costs: Costs of such items as liability and sudden accidental insurance; real estate taxes on purchased land or rights-of-way; licensing fees for certain technologies; and permit renewal and reporting costs;

h. Maintenance reserve and contingency funds: Annual payments into escrow funds to cover (1) costs of anticipated replacement or rebuilding of equipment and (2) any large unanticipated operation and maintenance costs; and

i. Other costs: Items that do not fit any of the above categories.

V. TASK III: JUSTIFICATION AND RECOMMENDATION OF THE CORRECTIVE MEASURE OR MEASURES

The Permittee shall justify and recommend a corrective measure alternative using technical, human health, and environmental criteria. This recommendation shall include summary tables which allow the alternative or alternatives to be understood easily. Tradeoffs among health risks, environmental effects, and other pertinent factors shall be highlighted. The EPA will select the corrective measure alternative or alternatives to be implemented based on the results of Tasks II and III of this appendix. At a minimum, the following criteria will be used to justify the final corrective measure or measures.

A. Technical

1. Performance - corrective measure or measures which are most effective at performing their intended functions and maintaining the performance over extended periods of time will be given preference;

2. Reliability - corrective measure or measures which do not require frequent or complex operation and maintenance activities and that have proven effective under waste and facility conditions similar to those anticipated will be given preference;

3. Implementability - corrective measure or measures which can be constructed and operated to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time will be preferred; and

4. Safety - corrective measure or measures which pose the least threat to the safety of nearby residents and environments as well as workers during implementation will be preferred.

B. Human Health

The corrective measure or measures must comply with existing EPA criteria, standards, or guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time are preferred.

C. Environmental

The corrective measure or measures posing the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be favored.

VI. TASK IV:REPORTS

A. Progress

The Permittee shall provide the EPA with signed, progress reports as required by Condition B.8.a of Module III of this Permit.

B. Corrective Measures Study ("CMS") Final Report

The Permittee shall prepare a CMS Final Report as required by Condition E.7 of Module III of this Permit. The CMS Final Report shall include all information gathered under the approved CMS Workplan. The CMS Final Report shall at a minimum include:

1. A description of the facility;

   a. Site topographic map & preliminary layouts.

2. A summary of the corrective measure or measures;

   a. Description of the corrective measure or measures and rationale for selection;

   b. Performance expectations;

   c. Preliminary design criteria and rationale;

   d. General operation and maintenance requirements; and

   e. Long-term monitoring requirements.

3. A summary of the RCRA Facility Investigation and impact on the selected corrective measure or measures;

   a. Field studies (groundwater, surface-water, soil, air); and

   b. Laboratory studies (bench scale, pick scale).

4. Design and Implementation Precautions;

   a. Special technical problems;

   b. Additional engineering data required;

   c. Permits and regulatory requirements;

   d. Access, easements, right-of-way;

   e. Health and safety requirements; and

   f. Community relations activities.

5. Cost Estimates and Schedules;

   a. Capital cost estimate;

   b. Operation and maintenance cost estimate; and

   c. Project schedule (design, construction, operation).

APPENDIX C

COMPLIANCE SCHEDULE

APPENDIX C

COMPLIANCE SCHEDULE
AT
E. I. DU PONT DE NEMOURS & COMPANY, INCORPORATED
POMPTON LAKES, NEW JERSEY

Appendix C summarizes all of the compliance schedules addressed in Module III of this Permit. They are as follows:

I. Compliance Schedule For Interim Measures.

A. Pursuant to Module III Condition B.6.a, Permittee shall submit for approval an interim corrective measures study within thirty (30) calendar days following the date of the notification by the Regional Administrator requiring implementation of interim corrective measures.

B. Pursuant to Module III Condition B.6.b, Permittee shall submit for approval an interim corrective measures work plan within thirty (30) calendar days after notifying the Regional Administrator of the actual or potential threat to human health or the environment.

C. Pursuant to Module III Condition E.4.a, Permittee shall submit all materials concerning Interim Measures for SWMUs as identified in Module III Condition A.3.c within thirty (30) calendar days of the effective date of this Permit.

II. Compliance Schedule For Reporting.

A. Pursuant to Module III Condition B.8.a, Permittee shall submit signed progress reports of all activities conducted in accordance with the provisions of this Permit Module, beginning no later than thirty (30) calendar days after the Permittee is first required to begin implementation of any such requirement.

III. Compliance Schedule for Notification

A. Pursuant to Module III Condition B.10.a, Permittee within fifteen (15) calendar days; after discovering facility releases of hazardous constituents in groundwater exceeding action levels have migrated off-site, shall notify the Regional Administrative and off-site owners or residents on land overlying such contamination.

B. Pursuant to Module III Condition B.10.b, Permittee within fifteen (15) calendar days; after discovering facility releases of hazardous constituents in air have or are migrated off-site, exceeding action levels, shall notify the Regional Administrator and off-site individuals subject to such long term exposure.

IV. Compliance Schedule For Assessment of Newly Identified SWMUs.

A. Pursuant to Module III Condition C.1, Permittee shall notify the Regional Administrator, in writing, of any additional SWMU(s) within fifteen (15) calendar days of such identification.

B. Pursuant to Module III Condition C.2, Permittee shall submit a SWMU Assessment Report within thirty (30) calendar days after notifying the Regional Administrator of any additional SWMU(s).

C. Pursuant to Module III Condition C.3, Permittee shall submit for approval a SWMU Sampling and Analysis Plan within thirty (30) calendar days after submittal of the SWMU Assessment Report.

D. Pursuant to Module III Condition C.4.b, Permittee shall submit for approval revisions of the SWMU Sampling and Analysis Plan within thirty (30) calendar days after meeting with the Agency to discuss Plan comments, or within forty-five (45) calendar days after Permittee's receipt of Plan comments when no meeting is scheduled.

E. Pursuant to Module III Condition C.4.c, Permittee shall begin to implement the SWMU Sampling and Analysis Plan within thirty (30) calendar days following written approval of the Plan.

F. Pursuant to Module III Condition C.5, Permittee shall submit a SWMU Sampling and Analysis Report within thirty (30) calendar days of receipt by the Permittee of validated analytical data generated under the approved SWMU Sampling and Analysis Plan.

V. Compliance Schedule and Notification Requirements For Newly-Discovered Releases At SWMUs.

A. Pursuant to Module III Condition D, Permittee shall notify the Regional Administrator, in writing, of any newly-discovered releases at SWMUs, no later than fifteen (15) calendar days after such discovery.

VI. Compliance Schedule For RCRA Facility Investigation ("RFI") Work Plan.

A. Pursuant to Module III Condition E.1.a, Permittee shall submit for approval a RFI Task I Report for the SWMU(s) identified in Module Condition A.3.c, within sixty (60) calendar days after the effective date of this Permit, if applicable, and within sixty (60) calendar days after written notification that an RFI is required pursuant to Conditions C.6 and/or D of Module III.

B. Pursuant to Module III Condition E.1.b, Permittee shall submit for approval a RFI Task II Report for the SWMU(s) identified in Module Condition A.3.c, within ninety (90) calendar days after the effective date of this Permit, if applicable, and within ninety (90) calendar days after written notification that an RFI is required pursuant to Condition C.6 and/or D of Module III.

C. Pursuant to Module III Condition E.1.c, Permittee shall submit for approval a RFI Work Plan for the SWMU(s) identified in Module Condition A.3.c within one-hundred and twenty (120) calendar days after the effective date

of this Permit, if applicable, and within ninety (90) calendar days after written notification that an RFI is required pursuant to Condition C.6 and/or D of Module III.

D. Pursuant to Module III Condition E.1.c.iv Permittee may request, within thirty (30) calendar days of the effective date of this Permit, EPA to review for approval the Permittee's determination that any items required by Task III through V of the Scope of Work in Appendix A have been submitted or completed.

E. Pursuant to Module III Condition E.1.d.ii, Permittee shall submit for approval revisions to the RFI Work Plan within thirty (30) calendar days after meeting with the Agency to discuss Plan comments, or within forty-five (45) calendar days after Permittee's receipt of Plan comments when no meeting is scheduled.

VII. Compliance Schedule For RFI Work Plan Implementation.

A. Pursuant to Module III Condition E.2, Permittee shall begin to implement the RFI Work Plan within thirty (30) calendar days following written approval of the Plan.

VIII. Compliance Schedule For RFI Final Report And Summary Report.

A. Pursuant to Module III Condition E.3.a, Permittee shall submit for approval the RFI Final and Summary Reports within sixty (60) calendar days of receipt by the Permittee of validated analytical data generated under an approved work plan.

B. Pursuant to Module III Condition E.3.b.ii, Permittee shall submit for approval revisions to the RFI-Final and Summary Reports within forty-five (45) calendar days after meeting with the Regional Administrator to discuss Report comments or within forty-five (45) calendar days after Permittee's receipt of Report comments when no meeting is scheduled.

C. Pursuant to Module III Condition E.3.c, Permittee shall mail the approved Summary Report to all individuals on the facility mailing list within thirty (30) calendar days of receipt of Report approval.

IX. Compliance Schedule For Interim Measures.

A. Pursuant to Module III Condition E.4.a, Permittee shall continue implementing interim remedial measures. Within thirty (30) calendar days of the effective date of this Permit, the Permittee shall submit to the EPA all documents associated with such interim measures identified in the Table in Condition A.3.c. of Module III.

B. Pursuant to Module III Condition E.4.c, Permittee shall submit within thirty (30) calendar days of the effective date of this Permit, financial assurance for the interim measures identified in Condition A.3.c of Module III.

X. Compliance Schedule For Corrective Measures Study ("CMS") Scope of Work.

A. Pursuant to Module III Condition E.5.c, Permittee shall submit a Task I Report and documents within sixty (60) calendar days after the written notification by the Regional Administrator for a CMS.

B. Pursuant to Module III Condition E.5.d, Permittee shall submit for approval a CMS Plan within sixty (60) calendar days after the written notification by the Regional Administrator for a CMS.

C. Pursuant to Module III Condition E.5.e.ii, Permittee shall submit for approval revisions to the CMS Plan within thirty (30) calendar days after meeting with the Agency to discuss Plan comments, or within forty-five (45) calendar days after Permittee's receipt of Plan comments when no meeting is scheduled.

XI. Compliance Schedule For CMS Implementation.

A. Pursuant to Module III Condition E.6, Permittee shall begin to implement the CMS Plan within thirty (30) calendar days following written approval of the Plan.

XII. Compliance Schedule For CMS Final Report.

A. Pursuant to Module III Condition E.7.a, Permittee shall submit for approval a CMS Final Report within forty-five (45) days after completion of the CMS.

B. Pursuant to Module III Condition E.7.c.ii, Permittee shall submit for approval revisions to the CMS Final Report within thirty (30) calendar days after meeting with the Agency to discuss Report comments, or within forty-five (45) calendar days after Permittee's receipt of report comments, when no meeting is scheduled.

XIII. Compliance Schedule For Financial Assurance.

A. Pursuant to Module III Condition E.9.b, Permittee shall demonstrate financial assurance for completing the approved corrective measure(s) within thirty (30) calendar days after this Permit has been modified.

B. Pursuant to Module III Condition E.4.c, Permittee shall demonstrate financial assurance for carrying out interim measures within thirty (30) calendar days of the effective date of this Permit.

XIV. Modification of the Compliance Schedules.

A. Pursuant to Module III Condition E.10.a.i, Permittee shall submit proposed modifications of any Compliance Schedule within fifteen (15) calendar days of determining that a schedule cannot be met.

APPENDIX D

COMPONENTS REQUIRED FOR RCRA ANALYTICAL DATA SUBMITTED TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

APPENDIX D

COMPONENTS REQUIRED FOR RCRA ANALYTICAL DATA SUBMITTED TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY* AT E. I. DU PONT DE NEMOURS & COMPANY, INCORPORATED POMPTON LAKES, NEW JERSEY

A Report Narrative should accompany each submission, summarizing the contents, data and QA/QC results and all relevant circumstances of the work.

A. Parameter requested.

B. Sample Number or Numbers, Matrix, and:

1. Date and time collected;
2. Date extracted and/or digested;
3. Date and time analyzed; and
4. Chain of custody report and/or form, including confirmation of unbroken chain of custody, intact sample packaging and container seals and adequate temperature and/or other preservation.

C. Results [b,e,f,]

1. Sample results;
2. Duplicate;
3. Blanks;[e]
4. Matrix spike; matrix spike duplicate; blank spike; and
5. Surrogate recoveries, if applicable.

D. Supporting QA/QC[b]

1. Methodology;
2. Method detection limits, instrument detection limits[c]
3. Linear curves;
4. Percent solids for soils, sludges, sediments, and where otherwise applicable;
5. Calculations[d];
6. Cleanup procedures;
7. Data validation procedures, results, and completed data validation checklists; and
8. Documentation which illustrates how blank water is determined to be analyte-free.

In addition to submitting the above, all sample data and its QA/QC data as specified in SW-846, 3rd edition, Chapter 1, must be maintained accessible to USEPA either in hard copy or on magnetic tape or disk (computer data files). The data, if

requested by USEPA, should be formatted as described in SW-846, 3rd edition, Chapter 1. This requirement may be changed in the future to mandate computer data files, accessible to USEPA on request. This does not obviate the requirement to do the QA/QC specified in each individual EPA-approved method.

* Components for RCRA submissions for non-contract Lab Protocols. If CLP, then CLP deliverables are required, unless otherwise stated in the approved plan.

a The data should include all blanks (trip, equipment rinse, method and instrument blanks) as specified in the sampling and analysis plan, guidance and regulation.

b Supporting QA/QC should be specific to the RCRA samples analyzed.

c Every effort practicable must be made to achieve detection limits below regulatory limits and comparable to or better than the Practical Quantification Limits specified in the EPA-approved methods. In no case, will reporting limits above the specified PQL's be accepted without extensive and complete documentation to USEPA.

d These may not need to be submitted if adequate QA/QC summaries validating the data, including calibration control charts, correlation coefficients, etc. The Report Narrative should describe the data validation and explain discrepancies. The supporting data should be provided to USEPA upon request, without restriction. Calibration data must include date and time of analysis.

e Frequencies of blanks, duplicates, spikes, surrogates, calibrations, standard reference materials, etc., should be as stated in the approved sampling and analysis plan, the approved analytical methods and the SW-846 3rd edition, Chapter 1, requirements. If there are any perceived conflicts, these should be resolved with USEPA in advance of sampling.

f Spiking for metals, organics or other parameters must be done before sample preparation (i.e. before digestions, extractions etc.) unless otherwise stated in the approved plan. Furnace Analysis for metals will still require post-digestion spikes on all samples analyzed by this technique.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

MAY – 4 2010

Sheryl A. Telford, Director
DuPont Corporate Remediation Group
Chestnut Run 715-201
Rte 141 and Faulkland Road
Wilmington, DE 19805

Re: E. I. Dupont De Nemours & Company Incorporated, Pompton Lakes, New Jersey Facility, EPA I.D. Number NJD 002173946
RCRA HSWA Permit, Modified Compliance Schedule

Dear Ms. Telford:

Enclosed herewith is a Modified Compliance Schedule, which sets forth DuPont's corrective action obligations, as defined at this time, under the Environmental Protection Agency ("EPA") issued Permit for the above-referenced facility.

The Permit, which became effective on August 24, 1992, was issued to E.I. DuPont De Nemours & Company Incorporated ("DuPont") under the Solid Waste Disposal Act (the "Act") as amended by the Resource Conservation and Recovery Act ("RCRA"), and the Hazardous and Solid Waste Amendments of 1984 ("HSWA"), 42 United States Code ("U.S.C."), Section 6901 *et seq*. Pursuant to Module I-F.2 of the Permit, DuPont submitted a timely application for Permit renewal on February 24, 1997. Pursuant to Module I-F.(3) of the Permit, all conditions of the original 1992 Permit remain in effect.

The enclosed Compliance Schedule is issued by EPA pursuant to Module III-E.10(c) of the Permit, and is based upon and reflects in large part, the milestones contained in the proposed Remediation Implementation Schedule DuPont submitted to EPA on March 29, 2010. DuPont has the duty to comply with the enclosed Compliance Schedule, pursuant to Module I-F.(1) of the Permit. Any non-compliance may be grounds for an enforcement action under the Act.

While considerable progress has been made through remediation work carried out by DuPont under the EPA Permit and the 1988 Administrative Consent Order ("ACO") between DuPont and the New Jersey Department of Environmental Protection ("NJDEP"), EPA has determined that it is necessary to have a comprehensive compliance schedule in place that sets specific milestones for DuPont's completion of corrective action activities under the Permit.

Please be advised that additional corrective action tasks may arise pursuant to Module III- B(6) or B(10) or Module III-C or III-D of the Permit should information obtained from technical studies or from other sources identify new Solid Waste Management Units

("SWMUs"), Areas of Concern ("AOCs") or contaminant releases from the Pompton Lakes facility. If so, after consultation with DuPont and NJDEP, EPA may modify the enclosed Compliance Schedule to incorporate corrective action tasks with respect to such SWMUs, AOCs or contaminant releases.

In its discretion, EPA may also modify the enclosed Compliance Schedule should additional information become available that may impact DuPont's ability to meet a specific scheduling Due Date or Due Dates. DuPont will be notified in writing of any modifications that EPA may make to the Compliance Schedule.

Finally, I wish to reassure DuPont that EPA will continue to consult closely with NJDEP concerning DuPont's corrective action activities at the facility in order to coordinate our efforts and avoid duplication of effort. We will also work closely with DuPont as it carries out its Permit obligations.

In accordance with the provisions of Module III-E.10(c)(i)-(iv) of the Permit, EPA will notify all persons on the facility mailing list concerning the enclosed Compliance Schedule.

If you have any questions on this matter, please call me at (212) 637-3724 or contact Clifford Ng, at (212) 637-4113.

Sincerely,

Barbara A. Finazzo

Barbara A. Finazzo, Director
Division of Environmental Planning and Protection

cc: David Epps, DuPont
Leonard Romino, NJDEP
Stephen Maybury, NJDEP

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RCRA HSWA PERMIT
E.I. DUPONT DE NEMOURS & COMPANY INCORPORATED
POMPTON LAKES, NEW JERSEY FACILITY
EPA I.D. NUMBER NJD002173946

COMPLIANCE SCHEDULE

SECTION A. SITE-WIDE SOILS REMEDIATION

ACTION AREA/DELIVERABLES EPA ACTIONS	Due Date/Milestone (Calendar Days)	COMMENTS
Eastern Manufacturing Area RFI		
Submittal for approval of the Eastern Manufacturing Area Soils RCRA Facility Investigation (RFI) Report. Eastern Manufacturing Area locations: North Plant: 1 - 46, 123 - 138, 152 - 161, 163, 187, 191 (75 total)/ Mid plant: 47 - 82, 104, 105, 116, 139 - 144, 162, 164 - 176, 188 - 190 (62 total)/ South plant: 83 - 103, 106, 120 - 122, 177 - 181, 183 - 185 (33 total)/ Area Wide: 118, 182, and 186 Notes: The site locations above correspond to designations by EPA and New Jersey DEP, as follows: #1-151 EPA: Solid Waste Management Units (SWMUs) NJDEP: Areas of Concern (AOCs) #152-202 EPA: Newly-identified SWMUs NJDEP: AOCs. The RFI is referred to by NJDEP as Remedial Investigation Report (RIR).	June 30, 2010	The RFI Report is required by Module III-E.3(a) of the Permit. The schedule contained herein is established by EPA pursuant to Module III-E.10(c) of the Permit. EPA and NJDEP will coordinate review of the Report. Revisions to the Report may be required pursuant to Module III-E.3(b) of the Permit; if so, the date for submittal of the revised Report will be specified by EPA.

Western Manufacturing Area RFI Submittal for approval of the Western Manufacturing Area Soils RFI Report. Western Manufacturing Area locations: 107 - 115, 119, 145 - 151, 192 - 202 Notes: The site locations above correspond to designations by EPA and New Jersey DEP, as follows: #1-151 EPA: Solid Waste Management Units (SWMUs) NJDEP: Areas of Concern (AOCs) #152-202 EPA: Newly identified SWMUs NJDEP: AOCs. The RFI is referred to by NJDEP as Remedial Investigation Report (RIR).	June 30, 2010	The RFI Report is required by Module III-E.3(a) of the Permit. The schedule contained herein is established by EPA pursuant to Module III-E.10(c) of the Permit. EPA and NJDEP will coordinate review of the Report. Revisions to the Report may be required pursuant to Module III-E.3(b) of the Permit; if so, the date for the submittal of the revised Report will be specified by EPA.
Northern Manufacturing Area RFI Submittal for approval of the Northern Manufacturing Area Soils RFI Report Northern Manufacturing Area locations: 117 and 119. Notes: The site locations above correspond to designations by EPA and New Jersey DEP, as follows: #1-151 EPA: Solid Waste Management Units (SWMUs) NJDEP: Areas of Concern (AOCs) #152-202 EPA: Newly identified SWMUs NJDEP: AOCs. The RFI is referred to by NJDEP as Remedial Investigation Report (RIR).	June 30, 2010	The RFI Report is required by Module III-E 3(a) of the Permit. The schedule contained herein is established by EPA pursuant to Module III-E.10(c) of the Permit. EPA and NJDEP will coordinate review of the Report. Revisions to the Report may be required pursuant to Module III-E.3(b) of the Permit; if so, the date for the submittal of the revised Report will be specified by EPA.

EPA Actions EPA approval of RFI Reports for Eastern, Western and Northern Manufacturing Areas.	EPA approval of RFI Reports as soon as practicable after submission(s).	EPA approval of RFI Reports submitted pursuant to Module III.-E.3(a) and, if necessary, E.3(h) of the Permit.
Facility Mailing List Notification Permittee to notify facility mailing list of completion and availability of RFI Report.	Within 30 days after EPA approval of RFI Report.	Notification by Permittee of facility mailing list required by Module III-E.3(c) of the Permit.
Corrective Measures Study (CMS) Final Report Submittal for approval the Corrective Measures Study (CMS) Final Report for the Eastern, Western and Northern Manufacturing Areas. Note: The CMS Final Report is referred to by NJDEP as the Soils Remedial Action Selection Report (RASR).	Submittal required by 90 days after EPA approval of the RFI Reports for the Eastern, Western and Northern Manufacturing Areas.	CMS Final Report is required by Module III- E.7(a) and 7(b) of the Permit. EPA and NJDEP will coordinate review. Revisions to the CMS Final Report or additional evaluation may be required pursuant to Module III-E.7(c) and/or 7(d) of the Permit; if so, the date for submittal of a revised Report will be specified by EPA.

EPA Actions EPA approval of the CMS Final Report submissions and selection of proposed remedies for the Eastern, Western and Northern Manufacturing Areas; preparation of proposed Permit Modification; public comment period on proposed Permit Modification; Responsiveness Summary; final decision on proposed Permit modification.	EPA actions commence as soon as practicable after CMS submissions.	EPA actions pursuant to Module III-E.8 and E.9 of the Permit
Soils Corrective Measures Implementation (CMI) Work Plan Submittal for EPA approval of the Soils Corrective Measures Implementation (CMI) Work Plan, including an implementation schedule, for the Eastern, Western and Northern Manufacturing Areas. Note: The CMI Work Plan is referred to by NJDEP as the Soils Remedial Action Work Plan (RAWP)	270 days after EPA approval of CMS Report, unless Permittee provides justification acceptable to EPA for longer period. (As of March 29, 2010, Permittee estimated 365 days required).	Permit Modification for the selection of soils remedies will include requirements for the CMI Work Plan, including an implementation schedule. EPA and NJDEP will coordinate review. Revisions to the Work Plan and implementation schedule may be required; if so, the date for submittal of a revised Work Plan and implementation schedule will be specified by EPA.

EPA Actions EPA approval of CMI Work Plans, including implementation schedule, for the Eastern, Western and Northern Manufacturing Areas.	EPA approvals of CMI Work Plan, including implementation schedule as soon as practicable after submissions	EPA approvals pursuant to Module III- E.9(a) of the Permit or as specified in the Permit following its Modification.
Implement EPA Approved Soils Corrective Measures (CMI) Work Plans Complete final soils remediation for the Eastern, Western and Northern Manufacturing Areas in accordance with the CMI Work Plan and implementation schedule, as approved by EPA. Note: The CMI is referred to by NJDEP as Soils Remedial Action Implementation.	Start work upon receipt of EPA approval of CMI Work Plan and implementation schedule. As of March 29, 2010, Permittee estimated approximately three (3) years to complete soils remediation work.	Implementation of the remedies selected pursuant to Module III- E.(9) of the Permit and any applicable requirements of the Permit following its Modification.

Implement Site Restoration for the Eastern, Western and Northern Manufacturing Areas : Completion of site restoration for the Eastern, Western and Northern Manufacturing Areas in accordance with CMI Work Plans and implementation schedules, as approved by EPA.	As of March 29, 2010, Permittee estimated 365 days to complete site restoration for the Eastern, Western and Northern Manufacturing areas, following completion of soils remediation.	Implementation of the remedies selected pursuant to Module III- E.(9) of the Permit and any applicable requirements of the Permit following its Modification.
Submittal of the Site-wide Soils CMI Report The site-wide soils CMI Report to include all work performed in the Eastern, Western and Northern Manufacturing Areas. Note: The Site-wide Soils CMI Report is referred to by NJDEP as the Site-wide Soils Remedial Action Report (RAR).	As of March 29, 2010, Permittee estimated submission of the CMI Report 180 days after completion of site restoration.	Report on implementation of the remedies selected pursuant to Module III-E.(9) of the Permit and any applicable requirements of the Permit following its Modification. EPA and NJDEP to coordinate review of the Report. Revisions to the Report may be required; if so, the date for submittal of the revised Report will be specified by EPA.

SECTION B. POMPTON LAKE DELTA

ACTION AREA/DELIVERABLES EPA ACTIONS	Due Date/Milestone (Calendar Days)	COMMENTS
Pompton Lake Delta Remediation The Pompton Lake Delta area requires remediation because of migration of contamination from the DuPont facility. Submittal for approval of the Corrective Measure Implementation (CMI) Work Plan, including an implementation schedule for the work. Notes: (1) A RCRA Facility Investigation (RFI) and a Corrective Measures Study (CMS) Final Report have previously been submitted to NJDEP and EPA. (2) The RFI is referred to by NJDEP as a Remedial Investigation Report (RIR); the CMS Final Report is referred to by NJDEP as the Soils Remedial Action Selection Report (RASR). (3) The CMI Work Plan is referred to by NJDEP as the Remedial Action Work Plan (RAWP).	June 30, 2010	The Pompton Lake Delta contamination and need for remediation have been identified pursuant to Module III-D. of the Permit. The CMI Work Plan, including an implementation schedule, to be incorporated in a proposed Permit Modification. EPA and NJDEP will coordinate review. Revisions to the CMI Work Plan and its implementation schedule may be required; if so, a date for submittal of the revised CMI Work Plan and its implementation schedule will be specified by EPA.

EPA ACTIONS EPA approval of previous RFI Report and CMS Final Report submissions and selection of proposed remedy for the Pompton Lake Delta; EPA approval of CMI Work Plan and implementation schedule; preparation of proposed Permit Modification; public comment period on proposed Permit Modification; Responsiveness Summary; final decision on proposed Permit Modification.	EPA actions commence as soon as practicable after CMI Work Plan submittal.	EPA actions pursuant to Module III-E.(8) and E.(9) of the Permit.
Implement Remediation of Pompton Lake Delta Permittee to complete additional design studies; prepare and obtain necessary state and local permits; implement site preparation, including establishing sediment handling areas and trucking routes; perform required removal work.	Permittee to start work on receipt of EPA notification after Permit Modification approval. As of March 29, 2010, Permittee estimated approximately 3 years and 9 months to complete Pompton Lake remedial work, including time required for design work and obtaining necessary state and local permits.	Implementation of the remedies selected pursuant to Module III-E.(8) and E.(9) of the Permit and any applicable requirements of the Permit following its modification.

Demobilization/Restoration Activities; Submittal of the Pompton Lake Delta CMI Report The CMI Report to include all work performed in the Pompton Lake Delta area. Note: The CMI report is referred to by NJDEP as the Remedial Action Report.	As of March 29, 2010, Permittee estimated approximately 18 months required to complete site restoration and demobilization and submit CMI Report.	A CMI Report for the Pompton Lake Delta is required by Module III-E.(9) of the Permit and any applicable requirements of the Permit following its modification. EPA and NJDEP to coordinate review. Revisions to the CMI Report may be required; if so, the date for submittal of the revised Report will be specified by EPA.

SECTION C. WANAQUE RIVER

Wanaque River RFI The Wanaque River requires further investigation because of migration of contamination from the DuPont facility. Submittal for EPA approval of a RCRA facility investigation (RFI) Report for the Wanaque River. Note: The RFI Report is referred to by NJDEP as the Remedial Investigation Report (RIR).	July 31, 2010	The elements of the RFI Report are described in Module III-E.3(a) of the Permit. EPA and NJDEP to coordinate review. Revisions to the RFI Report may be required pursuant to Module III-E.3(b) of the Permit; if so, the date for submittal of the revised Report will be specified by EPA.
Facility Mailing List Notification Permittee to notify facility mailing list of completion and availability of the RFI Report.	Within 30 days after EPA approval of the RFI Report.	Notification of facility mailing list required by Module III-E.3(c) of the Permit.
Wanaque River – Additional Studies And Actions Future studies and actions may be required for the Wanaque River, based on the results of the RFI.	To be determined	A CMS Plan and/or CMS Report may be required pursuant to Module III-E.(5)- E.(7) of the Permit; if corrective measures are required, EPA and Permittee will proceed pursuant to Module III E.(8) and E.(9) of the Permit.

SECTION D. INTERIM MEASURES --- GROUND WATER REMEDIATION

Interim Measures **Ground Water Remediation** Permittee to carry out a Pilot Study of ground water remediation, including field characterization, to evaluate techniques for treating the ground water contamination from the DuPont facility.		
Field Characterization/Pilot Study concept design Work Plan submitted for approval to EPA.	Completed and submitted to EPA.	The Pilot Study is being carried out pursuant to Module III-B.6(b) and Module III-E.4 of the Permit. EPA and NJDEP have coordinated review. Revisions to the Field Characterization/Pilot Study concept design Work Plan Characterization Study are underway by Permittee.
Submittal for EPA approval of a revised Field Characterization/Pilot Study concept design Work Plan.	By May 1, 2010	The Field Characterization/Pilot Study concept design Work Plan is required pursuant to Module III-B.6(b) and Module III-E.4 of the Permit.
EPA Action		
EPA approval of the revised Field Characterization Pilot Study concept design Work Plan, including the IRM Field Characterization Study.	As soon as practicable after submittal of the revised Field Characterization/Pilot Study concept design Work Plan.	EPA approval of the revised Field Characterization/Pilot Study concept design Work Plan pursuant to Module III-B.6(b) and Module III-E.4 of the Permit.

Field Characterization Implementation; Final Pilot Study Work Plan Submittal		
Implement Field Characterization Study, including data evaluation.	By November 10, 2010.	EPA and NJDEP to coordinate review.
Submittal for EPA approval a Final Pilot Study Work Plan.	By November 10, 2010.	EPA and NJDEP to coordinate review. Revisions to the Final Pilot Study Work Plan may be required; if so, the date for submittal of a revised Final Pilot Study Work Plan will be specified by EPA.
EPA Action		
EPA approval of Final Pilot Study Work Plan.	As soon as practicable after submittal of the Final Pilot Study Work Plan or revised Final Pilot Study Work Plan.	EPA approval of the Final Pilot Study Work Plan or revised Final Pilot Study Work Plan pursuant to Module III-B.6(b) and Module III-E.4 of the Permit.
Pilot Study Implementation; Final Report		
Permittee to conduct Pilot Study and prepare Pilot Study Report.	As of March 29, 2010, Permittee estimated approximately 18 months to complete Pilot Study implementation and complete Pilot Study Report.	Implementation of The Pilot Study and preparation of the Pilot Study Report to be carried out pursuant to Module III B.6(b) and Module III-E.4 of the Permit.

SECTION E. INTERIM MEASURES --- VAPOR INTRUSION MITIGATION

Vapor Intrusion Investigative Report Vapor intrusion of hazardous chlorinated volatile organic compounds resulted from a plume of contaminated ground water that has migrated from the DuPont facility, and impacted or potentially impacted residences located above the plume.		
Vapor Intrusion Investigative Report submitted to EPA.	June 30, 2010	The Vapor Intrusion Investigative Report is required by Module III B.6(b) and Module III-E.4 of the Permit. EPA and NJDEP to coordinate review. Revisions to the Report may be required; if so, a date for submittal of the revised Report will be specified by EPA.
Vapor Intrusion Report The IRM Report to contain data on remediation system installations for the residences impacted by vapor intrusion, and other relevant information and recommendations.		
Vapor Intrusion Interim Remedial Measures (IRM) Report submitted to EPA.	Permittee to submit IRM Report by December 31, 2010	The Vapor IRM Report is required pursuant to Module III B.6(b) and Module III-E.4 of the Permit. EPA and NJDEP to coordinate review. Revisions to the Report may be required; if so, a date for submittal of the revised Report will be specified by EPA.

Vapor System Installations In Affected Residences As of April 15, 2010, 439 affected residences have been identified.		
Vapor System Installation Complete	176 as of April 15, 2010	
Timetable requirements for Vapor System installations in additional residences for which DuPont is managing the installation process.	98 additional affected residences* to have vapor systems installed by Deeember 1, 2010. (* less any residences which deny access or caneel DuPont management of the design/installation process).	Vapor system installations required as interim remedial measures pursuant to Module III-B.(6)(b) and Module III-E.4 of the Permit.

Progress Reports On Vapor System Installations Permittee to submit monthly Progress Reports on Vapor System Installations in affected residences.	By the 10th day of each month.	Progress Reports required pursuant to Module III-B.(6)(b) and Module III-E.4 of the Permit.
Progress Reports on Additional Delineation of Expanded Impact Area Permittee is required to conduct additional delineation of the expanded impact area boundary (pursuant to the approved Deep Soil Gas Sampling Work Plan, which is part of the vapor intrusion investigation), where access to homes to conduct sub-slab sampling has been denied.	By the 10th day of each month.	Progress Reports required pursuant to Module III-B.(6)(b) and Module III-E.4 of the Permit.
On-going Vapor System Activity for Additional Residences. Vapor System activities for 165 affected residences for which owners have not agreed to participate, or declined to have DuPont manage the Vapor System design/installation process or have not responded. Outreach and technical assistance will continue on an on-going basis. (Annual notification will be provided to any residents who refuse systems or do not respond.)	Scheduling of system design/installation for the165 residences to be determined on a case-by-case basis.	Interim Measures for vapor mitigation systems required pursuant to Module III-B.6(b) and Module III-E.4 of the Permit.

JUL 07 2010

Mr. David E. Epps, P.G.
Project Director, Pompton Lakes Works
DuPont Corporate Remediation Group
DuPont Pompton Lakes Works
2000 Cannonball Road
Pompton Lakes, NJ 07442

Re: Modified Compliance Schedule

Dear Mr. Epps:

This is in response to your May 19, 2010 letter to Clifford Ng in which you noted errors in the compliance schedule that you had provided to EPA. We approve your request and supporting justification for making the corrections to the dates in the RCRA HSWA Permit Modified Compliance Schedule, included with the May 4, 2010 letter from Barbara Finazzo, EPA, to Sheryl Telford, DuPont.

Enclosed is the revised RCRA HSWA Permit Modified Compliance Schedule. The following milestone dates have been corrected to:

1. Vapor Mitigation RIR Report – June 30, 2010

2. Vapor Mitigation IRM Report – December 31, 2010

3. Wanaque River RIR Report – July 31, 2010

If you have any questions, please feel free to contact Clifford Ng, of my staff, at (212) 637-4113.

Sincerely yours,

Adolph Everett, P.E., Chief
RCRA Programs Branch

Enclosures

cc: Frank Faranca, NJDEP, w/encls.