



**State of New Jersey**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
 DIVISION OF HAZARDOUS WASTE MANAGEMENT  
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IN THE MATTER OF	:	ADMINISTRATIVE
HUDSON COUNTY CHROMATE CHEMICAL	:	CONSENT
PRODUCTION WASTE SITES	:	ORDER
AND	:	
PPG INDUSTRIES, INC.	:	

This Administrative Consent Order is issued pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (hereinafter "NJDEP" or the "Department") by N.J.S.A. 13:1D-1 et seq. and the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., and the Spill Compensation and Control Act ("Spill Act"), N.J.S.A. 58:10-23.11a et seq., and duly delegated to the Assistant Director for the Division of Hazardous Waste Management pursuant to N.J.S.A. 13:1B-4.

#### FINDINGS

1. PPG Industries, Inc. is a Pennsylvania corporation with its principal place of business at One PPG Place, Pittsburgh, Pennsylvania, 15272. PPG is the successor to Pittsburgh Plate Glass Company, Natural Products Refining Company, Southern Alkali Corporation, and Columbia Southern Chemical Corporation.

2. PPG Industries, Inc., its predecessors and their subsidiaries (collectively hereinafter "PPG") owned and operated a chromate chemical production facility encompassing approximately 16.6 acres located on Garfield Avenue in the City of Jersey City, County of Hudson, State of New Jersey, on the site designated on the City of Jersey City 1987 municipal tax map as Block 2025.A, Lot 2.1, and Block 2026.A, Lots 1, 2.A, and 3.B (hereinafter "the Garfield Avenue Site"). On or about September 1, 1963, PPG ceased operations of the chromate chemical production facility at the Garfield Avenue Site.

3. The operations referenced in paragraph 2 above, resulted in the generation of chromite ore processing residue, which contains chromium and its compounds and may contain hexavalent chromium, which are hazardous substances as defined by the Spill Compensation and Control Act, specifically, N.J.S.A. 58:10-23.11bk, and the regulation promulgated pursuant thereto, N.J.A.C. 7:1E-1 et seq., and are pollutants as defined in the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.,



specifically N.J.S.A. 58:10A-3n, and the regulations promulgated pursuant thereto, N.J.A.C. 7:14A-1.2(c).

4. The Department has determined that chromite ore processing residue from PPG's operations referenced in paragraph 2 above, was distributed by third parties as fill material for use in certain construction and development projects in Hudson County, New Jersey. The chromite ore processing residue was used for the backfilling of demolition sites, preparation for building foundations, construction of tank berms, roadway construction, the filling of wetlands and other construction and development related purposes.

5. The Department has found chromite ore processing residue contamination on the walls and floors of buildings, both interior and exterior, on the surfaces of driveways and parking lots and on the surfaces of unpaved areas at certain locations in Hudson County, New Jersey. These locations include residential lots, active work sites, publicly owned lands, industrial and commercial establishments and other populated and environmentally sensitive areas in Hudson County, New Jersey.

6. The Department has determined that PPG's chromate chemical production facility referenced in paragraph 2 above, and those of Allied-Signal Incorporated (hereinafter "Allied-Signal"), located in the City of Jersey City, and Diamond Shamrock Chemicals Company, (hereinafter "Diamond"), located in the Town of Kearny, were the only chromate chemical production facilities in New Jersey and were the only such facilities within an approximately one-hundred and fifty mile radius of Hudson County. The Department has found no evidence that any of the chromite ore processing residue from facilities outside such radius was deposited in, or was taken to Hudson County.

7. On January 22, 1985, the Department directed PPG, among others, to arrange for the removal of hazardous substances, including chromium and chromium compounds, at forty-two (42) sites in Hudson County, by paying for the Department's costs of a Remedial Investigation and Feasibility Study (hereinafter "RI/FS") at those sites.

8. On or about August 5, 1985, the State of New Jersey awarded a contract to Environmental Science and Engineering, Inc. to implement the RI/FS.

9. On July 22, 1986, PPG and the Department executed an Administrative Consent Order concerning the RI/FS. Pursuant to the Administrative Consent Order, PPG arranged in part for the removal of chromite ore processing residue by agreeing to reimburse the Department for the part of the Department's costs of conducting the RI/FS and PPG participated in the Chromium Sites Study Committee the Department created to oversee and manage the RI/FS.

10. On December 2, 1988, the Department issued a Directive (hereinafter "the December 2, 1988 Directive") to PPG, among others, pursuant to the Spill Act, directing it to undertake interim remedial actions at eighty-six (86) sites in Hudson County, including some of the Residential Sites listed in Attachment Two and the Non-Residential Sites

listed in Attachment One. Each of these attachments are attached hereto and made a part hereof. Except as incorporated herein, the December 2, 1988 Directive remains in full force and effect.

11. In response to the December 2, 1988 Directive identified in paragraph 10 above, PPG agreed to implement interim remedial measures (IRMs) at ten high priority and five medium priority sites. A draft IRM work plan for the ten high priority sites, dated February 14, 1989 prepared pursuant to the December 2, 1988 Directive was submitted by PPG to the Department for Sites numbered 1, 13, 28, 29, 37, 74, 75, 89, 102 and 137 (previously designated as part of site 114). On May 8, 1989 PPG received Department approval of the work plan and began implementation of the IRM at the ten high priority sites. Subsequent to May 8, 1989, PPG agreed to a Department request to perform the IRM at one additional high priority site, (Site 123) consistent with the procedures in the work plan previously approved on May 8, 1989. On October 6, 1989, PPG submitted IRM work plans for Sites 2 (exterior only), 3, 4, 5, and 112. On October 26, 1989, the Department determined that the October 6, 1989 PPG IRM Work Plan was unacceptable. On December 1, 1989, PPG submitted a revised IRM Work Plan to incorporate revisions to the Work Plan. The Department in correspondence dated December 19, 1989 and January 16, 1990 provided conditional acceptance of the work plan. On May 4, and May 9, 1990 PPG submitted draft interior and exterior sampling plans to the Department for Site 114 and Site 137. On May 23, 1990 the Department accepted the sampling plan conditional upon PPG's acceptance of certain modifications to which PPG agreed in a June 7, 1990 letter to the Department. On May 11, 1990 PPG submitted draft IRM work plans for sites 2 (interior only), 89 (interior only), and 133 (interior only), which were conditionally accepted on June 13, 1990. All IRM work plans and sampling plans approved by the Department prior to the effective date of this Administrative Consent Order for compliance with the December 2, 1988 Directive shall be deemed approved under this Administrative Consent Order. Similarly, all IRM work plans and sampling plans conditionally approved by the Department prior to the effective date of the Administrative Consent Order for compliance with the December 2, 1988 Directive shall be deemed conditionally approved under this Administrative Consent Order.

12. On May 25, 1989, the Chromium Sites Study Committee reviewed and approved the RI reports which concluded that thirty (30) of the sites studied were confirmed as containing chromite ore processing residue and had chromium concentrations in soil/fill materials and that chromite ore processing residue present adjacent to a building can lead to contamination of both outside and inside surfaces of such buildings.

13. On November 15, 1989, the Chromium Sites Study Committee approved the Feasibility Study Report (hereinafter "FS Report") which identified a number of viable remedial alternatives for the cleanup of chromium contamination from chromite ore processing residue.

14. On December 12, 1989, the Department issued its recommendation for remedial action for the soil remediation at residential sites, in a document entitled "Proposed Plan, Hudson County Chromium, Residential Sites" (hereinafter "the Proposed Plan"). The recommended remedial action included excavation, solidification/stabilization and disposal of chromium contamination in a commercial hazardous waste facility.

15. During December 1989, and January and part of February 1990, the Department solicited public comments on the Proposed Plan by mailing it to interested parties, including PPG, and made the Proposed Plan available for public review at repositories in Hudson County, New Jersey.

16. On April 17, 1990, the Department issued a Record of Decision containing the Department's final decision on the selection of a remedial action for the contaminated Residential Sites, its response to public comments on the Proposed Plan, and a cost estimate for the selected remedial action of twenty-nine million nine hundred thirty-eight thousand dollars (\$29,938,000).

17. On May 16, 1990, the Department issued a Directive (hereinafter "the May 16, 1990 Directive") to PPG pursuant to the Spill Act, directing PPG to arrange for the removal of hazardous substances at the Residential Sites by paying the Department its costs of implementing the remedial action alternative the Department selected in its April 17, 1990 Record of Decision.

18. The Department has determined that chromite ore processing residue has been discharged and is present at each of the sites listed in Attachment One (hereinafter "the Non-Residential Sites") and each of the sites listed in Attachment Two (hereinafter "the Residential Sites"). The Department has determined that the chromite ore processing residue, which contains chromium and its compounds, and other hazardous substances, at the Residential Sites and the Non-Residential Sites, including the Garfield Avenue Site, has been discharged into the waters and/or onto the lands of the State of New Jersey in violation of Section 4 of the Spill Act, N.J.S.A. 58:10-23.11c.

19. The Department has determined that the chromite ore processing residue at the Sites and the Garfield Avenue Site is identifiable by virtue of its chemical and physical characteristics, but is chemically and physically indistinguishable from the chromite ore processing residue generated by Allied-Signal's or Diamond's chromate chemical production facilities referenced above.

20. The Department has determined that uncontrolled discharges of hazardous substances from the chromite ore processing residue at the Sites and the Garfield Avenue Site are within an area of high population density in the State of New Jersey and that the risk of human exposure to chromite ore processing residue at the Sites and the Garfield Avenue Site is ongoing. Chromium and its compounds contained in the chromite ore processing residue, are potentially toxic to humans and may include demonstrated human carcinogens. The Department has determined that these conditions create a substantial risk of imminent danger to human health and the environment.

21. Pursuant to N.J.S.A. 58:10-23.11fa, whenever any hazardous substance is discharged, the Department may, in its discretion, act to remove or arrange for the removal of such discharge or may direct the discharger to remove, or arrange for the removal of, such discharge.

22. The Department has determined that the pollutants referenced in these FINDINGS discharged onto the lands and into the water of the State of New Jersey without a valid New Jersey Pollutant Discharge Elimination System

Permit in violation of the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., specifically N.J.S.A. 58:10A-6.

23. The Department has determined that pursuant to N.J.S.A. 58:10-23.11gc, PPG is strictly liable, jointly and severally, without regard to fault, for all costs of the cleanup and removal of the hazardous substances discharged at the Sites and the Garfield Avenue Site and other locations in Hudson County at which chromite ore processing residue and chromium and its compounds from the Sites and/or the Garfield Avenue Site have been discharged.

24. The Department has determined that the hazardous substances referenced in these FINDINGS have discharged into the waters and onto the lands of the State of New Jersey in violation of the Spill Compensation and Control Act, specifically N.J.S.A. 58:10-23.11c.

25. PPG disagrees with and does not admit the Department's determination of PPG's responsibility for the remediation of the sites described herein. PPG filed a challenge to the Department's Record of Decision on May 31, 1990, reflecting PPG's firmly held belief that the Department's ROD and cleanup levels are scientifically unjustified and that cleanup levels proposed by PPG and the other former chrome manufacturers, which were the result of a significant study effort by recognized experts, are fully protective of human health and the environment. For the same reasons, on July 2, 1990, PPG also challenged the Department's May 16, 1990 residential site cleanup directive to PPG. Although PPG remains convinced of the moral and legal correctness of its position, in order to resolve this matter without the necessity for litigation, and in order to work with the Department to expedite investigation and remediation of chromium contaminated sites in and around Hudson County, PPG has agreed to:

a. Implement the remedy selected by the Department in its April 17, 1990 Record of Decision for the Residential Sites listed in Attachment Two and all other residential sites in Hudson County to be identified, pursuant to this Administrative Consent Order;

b. Implement IRMs, conduct a remedial investigation and a feasibility study, and to design and implement remedial action selected by the Department to remedy the problems associated with the hazardous substances as defined by the Spill Act and pollutants as defined in the Water Pollution Control Act, discharged at the Garfield Avenue Site, emanating from the Garfield Avenue Site, or which have emanated from the Garfield Avenue Site;

c. Implement interim remedial measures and conduct a remedial investigation and a feasibility study, and to design and implement the remedial action selected by the Department to remedy the problems associated with chromite ore processing residue, chromium and its compounds whether or not any other hazardous substances or pollutants are intermingled therewith, at, emanating from or which have emanated from the Non-Residential Sites listed in Attachment One, and all Non-Residential Sites in Hudson County to be identified, pursuant to this Administrative Consent Order;

d. Withdraw all suits that PPG has pending, filed or otherwise commenced against the Department and withdraw PPG's January 23, 1990 petition to the Department;

e. Pay the Department for all its past and subsequent costs incurred in connection with the investigation and response to, the matters described hereinabove, including the costs associated with the preparation of this Administrative Consent Order;

f. Pay the Department for all its past and subsequent costs incurred in connection with implementing IRMs at Residential Sites listed in paragraphs 29 and 30 below; and

g. Pay the Department for all of its costs as set forth in paragraph 31 below in full satisfaction of the Department's August 23, 1989 Spill Act Directive for Non-Residential Site 122.

h. Pay the Department a civil penalty as set forth in paragraph 26 below.

#### ORDER

#### NOW THEREFORE IT IS HEREBY ORDERED AND AGREED THAT:

##### I. Penalties and Reimbursement of Prior Costs

26. PPG agrees to pay to the Department as provided for in this paragraph, a civil penalty of two million five hundred thousand dollars (\$2,500,000.00) for all violations of the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11a et seq., and the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., for all discharges of chromate ore processing residue from the Garfield Avenue Site. Within thirty (30) calendar days after the effective date of this Administrative Consent Order, PPG shall pay one million five hundred thousand dollars (\$1,500,000.00), the first of three (3) penalty payments. Within three hundred sixty-five (365) calendar days after the effective date of this Administrative Consent Order, PPG shall pay, five hundred thousand dollars (\$500,000.00), the second of three (3) penalty payments. Within seven hundred thirty (730) calendar days after the effective date of this Administrative Consent Order, PPG shall pay five hundred thousand dollars (\$500,000.00), the third of three (3) penalty payments. If PPG fails to make any of these payments in the time frames specified above, PPG expressly agrees that the Department may withdraw any remaining unpaid penalty payment amounts from the financial assurance established pursuant to paragraph 84 below in accordance with paragraph 85 below. The Department shall not seek, demand, or otherwise claim any civil or civil administrative fines or penalties from, or initiate any action for civil or civil administrative fines or penalties against PPG, its present or former parents, subsidiaries, predecessors or affiliates or the officers, directors, or employees of PPG, their present or former parents, subsidiaries, predecessors or affiliates, or any of them, based upon their alleged acts or omissions (including, without limitation, failure to report), or any continuing releases, migration or discharges of hazardous substances or pollutants, in connection with or arising in any way out of the disposal, discharge, handling, treatment or transportation, occurring

prior to the effective date of this Administrative Consent Order, of hazardous substances or pollutants at or from the Garfield Avenue Site. Although it agrees to pay this civil penalty, PPG denies any violation of statute, rule, regulation or ordinance and payment of this penalty is without admission of fact, fault, liability or obligation. The provisions of this paragraph shall survive any termination of this Administrative Consent Order.

27. Within thirty (30) calendar days after PPG's receipt from the Department of a summary of costs, PPG shall submit the amount of thirty thousand three hundred seventy-six and forty-four cents (\$30,376.44) to the Department as payment for all costs incurred by the Department up until April 6, 1990, in connection with the investigation of, and response to, the matters described in the FINDINGS hereinabove, including the costs associated with the preparation of this Administrative Consent Order.

28. Within thirty (30) calendar days after receipt of a written summary of all additional costs incurred by the Department, in connection with the investigation of, and response to, the matter described in the FINDINGS hereinabove, PPG shall submit to the Department payment of all such costs.

29. Within thirty (30) calendar days after PPG's receipt from the Department of a summary of costs, PPG shall submit the amount of six hundred thirty-six thousand four hundred fifty-two dollars and thirty-two cents (\$636,542.32) to the Department as payment for all costs incurred by the Department in connection with the costs of implementing IRMs at Residential Sites 6, 10, 11, 14, 18, 23, 24, 38, 39, 82 and 85.

30. Within thirty (30) calendar days after receipt of a written summary of all subsequent costs incurred by the Department in performing IRMs at Residential Sites 12, 22, 80, 81, 83, 84, 142 and at 409-411 Halladay Street in Jersey City, PPG shall submit to the Department payment of all such costs.

31. Within thirty (30) calendar days after PPG's receipt from the Department of a summary of costs, PPG shall submit the amount of two hundred fifty-one thousand and five hundred dollars (\$251,500) to the Department as payment in full satisfaction of the Department's August 23, 1989 Spill Act Directive for Non-Residential Site 122.

32. Within thirty (30) calendar days after the effective date of this Administrative Consent Order, as referenced in paragraph 128 below, PPG shall withdraw all suits that PPG has pending, filed or otherwise commenced against the Department and PPG shall withdraw its rule petition of January 23, 1990.

33. Payment of the amounts in paragraphs 26 through 31 above, shall be made by a cashier's or certified check payable to the "Treasurer, State of New Jersey". Payment shall be submitted to the Department contact listed in paragraph 82 below.

## II. Interim Remedial Measures

34a. PPG shall complete implementation of all IRMs at the sites on Attachment One pursuant to IRM Work Plans approved by the Department as of the effective date of this Administrative Consent Order.

34b. Within sixty (60) calendar days after the effective date of this Administrative Consent Order, PPG shall submit to the Department a draft IRM Grouping and Scheduling Plan which describes PPG's proposal for the organization of the Non-Residential Sites and the Garfield Avenue Site into groups and the scheduling of those groups for the submission of Interim Remedial Measures Work Plans required by this Administrative Consent Order.

34c. Within five (5) calendar days after PPG's receipt of the Department's written comments on the draft IRM Grouping and Scheduling Plan, PPG shall modify the IRM Grouping and Scheduling Plan to conform to the Department's comments and shall submit the modified IRM Grouping and Scheduling Plan to the Department. The determination as to whether or not the modified IRM Grouping and Scheduling Plan, as resubmitted, conforms to the Department's comments and is otherwise acceptable shall be made solely by the Department.

35. Within one hundred and thirty-five (135) calendar days after the effective date of this Administrative Consent Order, PPG shall submit to the Department a detailed draft Interim Remedial Measures Work Plan (hereinafter "IRM Work Plan"), in accordance with the scope of work set forth in Appendix A which is attached hereto and made a part hereof, for the initial group and at thirty day intervals thereafter for the subsequent groups identified in the approved IRM Grouping and Scheduling Plan.

36. Within forty-five (45) calendar days after receipt of the Department's written comments on the draft IRM Work Plan(s) for each group, PPG shall modify the draft IRM Work Plan(s) for each group to conform to the Department's comments and shall submit the modified IRM Work Plan(s) to the Department. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its comments. The determination as to whether or not the modified IRM Work Plan(s), as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

37. Upon receipt of the Department's written final approval of the IRM Work Plan(s) for each group, PPG shall implement the approved IRM Work Plan(s) for each group in accordance with the approved schedule therein. Within thirty (30) calendar days after completion of the interim remedial actions at each site grouping, PPG shall submit to the Department a report detailing the measures taken by PPG to implement the IRM Work Plan(s) for each group, including site map(s) showing the location(s) at the site(s) where such measures were taken.



### III. Non-Residential Sites Remedial Investigation and Cleanup

#### A. Remedial Investigation

38a. Within one hundred and twenty (120) calendar days after the effective date of this Administrative Consent Order, PPG shall submit to the Department a draft Remedial Investigation Grouping and Scheduling Plan which describes PPG's proposal for the organization of the Non-Residential Sites and the Garfield Avenue Site into groups and for the scheduling of those groups for the submission of Remedial Investigation Work Plans required by this Administrative Consent Order.

38b. Within five (5) calendar days after PPG's receipt of the Department's written comments on the draft Remedial Investigation Grouping and Scheduling Plan, PPG shall modify the Remedial Investigations Grouping and Scheduling Plan to conform to the Department's comments and shall submit the modified Remedial Investigation Grouping and Scheduling Plan to the Department. The determination as to whether or not the modified Remedial Investigation Grouping and Scheduling Plan, as resubmitted, conforms to the Department's comments and is otherwise acceptable shall be made solely by the Department in writing.

38c. Within two hundred and forty (240) calendar days after the effective date of this Administrative Consent Order, PPG shall submit to the Department a detailed draft Remedial Investigation Work Plan (hereinafter the "RI Work Plan") for the initial group identified in the approved Remedial Investigation Grouping and Scheduling Plan and in accordance with the schedule contained in the approved Remedial Investigation Grouping and Scheduling Plan. All draft RI Work Plans shall be drafted in accordance with the scope of work set forth in Appendices B, C and D, which are attached hereto and made a part hereof.

39. Within forty-five (45) calendar days after PPG's receipt of the Department's written comments on the draft RI Work Plan(s) for each group, PPG shall modify the draft RI Work Plan to conform to the Department's comments and shall submit the modified RI Work Plan(s) to the Department. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its comments. The determination as to whether or not the modified RI Work Plan(s), as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

40. Upon PPG's receipt of the Department's written approval of the RI Work Plan(s) for each group, PPG shall conduct the remedial investigation in accordance with the approved RI Work Plan(s) and the schedule(s) therein.

41. PPG shall submit to the Department draft Remedial Investigation Report(s) (hereinafter "RI Report") for each group identified in the approved Remedial Investigation Grouping and Scheduling Plan in accordance

with the approved RI Work Plan developed in accordance with Appendix B, and the schedule therein.

42. If upon review of any draft RI Report(s) the Department determines that additional remedial investigation is required, PPG shall conduct such additional remedial investigation pursuant to Appendix B, as required by the Department in writing and submit supplemental draft RI Report(s).

43. Within forty-five (45) calendar days after PPG's receipt of the Department's written comments on each draft or second draft (if applicable pursuant to the preceding paragraph) RI Report, PPG shall modify the draft or second draft RI Report to conform to the Department's comments and shall submit the modified RI Report to the Department. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its comments. The determination as to whether or not the modified RI Report, as resubmitted, conforms with the Department's comments and is otherwise acceptable by the Department shall be made solely by the Department in writing.

B. Feasibility Study

44. Within one-hundred and eighty (180) calendar days after PPG's receipt of either the Department's written final approval of any RI Report, or the Department's written notice to proceed, PPG shall submit to the Department a detailed draft Feasibility Study Work Plan (hereinafter, "FS Work Plan") for the site(s) which is (are) the subject of the approved RI Report or notice to proceed in accordance with the scope of work set forth in Appendix E, which is attached hereto and made a part hereof.

45. Within forty-five (45) calendar days after PPG's receipt of the Department's written comments on any draft FS Work Plan, PPG shall modify the draft FS Work Plan to conform to the Department's comments and shall submit the modified FS Work Plan to the Department. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its comments. The determination as to whether or not the modified FS Work Plan, as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

46. Upon PPG's receipt of the Department's written approval of any FS Work Plan, PPG shall conduct the feasibility study which is the subject of said approval in accordance with the approved FS Work Plan and the schedule therein.

47. PPG shall submit to the Department a draft Feasibility Study Report (hereinafter "FS Report") for the site(s) for which the Department has given written approval of the FS Work Plan in accordance with Section III of Appendix E and the approved FS Work Plan developed in accordance with Appendix E, and the schedule therein.

48. Within forty-five (45) calendar days after PPG's receipt of the Department's written comments on any draft FS Report, PPG shall modify the draft FS Report to conform to the Department's comments and shall submit the modified FS Report to the Department. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its comments. The determination as to whether or not the modified FS Report, as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

C. Remedial Action

49. The Department will make each selection of the remedial action alternative based upon any final FS Report submitted in accordance with paragraph 48 above, and on the criteria set forth in Appendix E, Section I.D. If PPG fails to submit any final FS Report in compliance with paragraph 48 above, then the Department will make selection of remedial action alternative(s) based on the criteria set forth in Appendix E, Section I.D.

50. Within one hundred and twenty (120) calendar days after PPG's receipt of the Department's written notification of its selection of any remedial action alternative(s), PPG shall submit to the Department a detailed draft Remedial Action Plan for those sites which are the subject of the Department's notification in accordance with the scope of work set forth in Appendix F, which is attached hereto and made a part hereof. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG disagrees with the Department's selected remedial action alternative(s). Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its selection of the remedial action alternative(s). If the Department has determined that more than one alternative for the Garfield Avenue Site and/or one or more of the Non-Residential Sites meets the criteria set forth in Appendix E, Section I.D., PPG may decide which of these alternatives it will implement.

51. Within ninety (90) calendar days after PPG's receipt of the Department's written comments on any draft Remedial Action Plan, PPG shall modify the draft Remedial Action Plan to conform to the Department's comments and shall submit the modified Remedial Action Plan to the Department. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its comments. The determination as to whether or not the modified Remedial Action Plan, as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

52. In accordance with the schedule contained in each approved Remedial Action Plans referenced in paragraph 51 above, PPG shall submit to the Department detailed engineering design(s) and cost estimate(s) for the selected remedial action alternative(s).

53. Within ninety (90) calendar days after PPG's receipt of the Department's written comments on the detailed engineering design(s) and cost estimate(s), PPG shall modify the detailed engineering design and cost estimates to conform to the Department's comments and shall submit the modified detailed engineering design and cost estimates to the Department. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its comments. The determination as to whether or not the modified detailed engineering design and cost estimates as resubmitted, conform to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

54. Upon PPG's receipt of the Department's written approval of any detailed design specifications and cost estimates, PPG shall implement the approved Remedial Action Alternative(s) which is (are) the subject of said approval in accordance with the schedule therein and in accordance with the approved detailed engineering design.

#### D. Additional Remedial Investigation and Remedial Action

55. If at any time prior to PPG's receipt of written notice from the Department pursuant to paragraph 134 below the Department determines that the criteria set forth in Appendix E, Section I.D. for Non-Residential Sites are not being achieved, or that additional remedial investigation and/or remedial action is required to protect human health or the environment from any chromite ore processing residue, chromium and its compounds, whether or not any hazardous substances or pollutants are intermingled therewith, at, emanating from or which have emanated from the Sites, PPG shall conduct such additional activities as directed by the Department and in accordance with this Administrative Consent Order. If at any time prior to PPG's receipt of written notice from the Department pursuant to paragraph 134 below the Department determines that the criteria set forth in Appendix E, Section I.D. for Non-Residential Sites are not being achieved, or that additional remedial investigation and/or remedial action is required to protect human health or the environment from any hazardous substances and pollutants at, emanating from or which have emanated from the Garfield Avenue Site, PPG shall conduct such additional activities as directed by the Department in accordance with this Administrative Consent Order.

#### E. Additional Sites

56. For each additional site, identified by the Department, contaminated with chromite ore processing residue and chromium and its compounds from the Garfield Avenue Site, or which is adjacent to the Garfield Avenue Site or any of the Non-Residential Sites, and is contaminated by chromite ore processing residue, chromium and its compounds, emanating or which has emanated from the Garfield Avenue Site or any of the Non-Residential Sites, PPG shall conduct, in accordance with the provisions of this Administrative Consent Order for such Non-Residential Sites interim remedial measures and a RI/FS, and shall design and implement a remedial action to remedy the problem associated with the chromite ore processing

residue, chromium and its compounds whether or not any hazardous substances or pollutants are intermingled therewith.

57. PPG shall conduct for such Non-Residential Sites, in accordance with the provisions of this Administrative Consent Order, interim remedial measures and delineation and remediation of chromite ore processing residue, chromium and its compounds whether or not any hazardous substances or pollutants are intermingled therewith.

58. Upon PPG's receipt of written notice from the Department of the existence of any additional Non-Residential Site or Non-Residential Sites identified pursuant to paragraphs 56 and 57 above, PPG shall undertake the obligations set forth in paragraphs 34 through 55, above, regarding such additional Non-Residential Site or Non-Residential Sites and in accordance with the time periods set forth therein.

#### IV. Remedial Action for Residential Sites

##### A. Site Specific Delineation

59. PPG shall design and implement the remedial action for the Residential Sites which the Department selected in its April 17, 1990 Record of Decision (hereinafter the "ROD"), in accordance with the paragraphs 60 through 71 below.

59a. Within sixty (60) days after the effective date of this Administrative Consent Order, PPG shall submit a written Residential Sites Grouping and Scheduling Plan which describes PPG's proposal for the organization of the Residential Sites into groups and for the scheduling of those groups for the remedial actions to be performed by PPG pursuant to this Administrative Consent Order. PPG shall include in the Residential Sites Grouping and Scheduling Plan a detailed schedule of each of the remedial activities called for in paragraphs 60 through 71, inclusive, (including the submission, revision and implementation of FSP-QAPPs in accordance with Appendix J, submission and revision of Preliminary Designs and the submission, revision and implementation of Final Designs in accordance with Appendices K and L) for each of the groups of sites identified and provide both graphical and narrative descriptions of the scheduling of those activities and their chronological relationship. PPG shall draft the schedule submitted in the Residential Sites Grouping and Scheduling Plan to provide for completion of all remedial actions called for in paragraphs 60 through 71 inclusive at each of the Residential Sites within eight hundred (800) days after the effective date of this Administrative Consent Order.

59b. Within five (5) calendar days after PPG's receipt of the Department's written comments on the Residential Sites Grouping and Scheduling Plan, PPG shall modify the Residential Sites Grouping and Scheduling Plan to conform to the Department's comments and shall submit the modified Grouping and Scheduling Plan to the Department. The determination as to whether or not the modified Residential Sites Grouping and Scheduling Plan, as resubmitted, conforms to the Department's comments and is otherwise acceptable shall be made solely by the Department in writing.

59c. As part of the Residential Sites Grouping and Scheduling Plan, PPG may petition the Department to allow Preliminary and Final Designs described herein below, to be submitted concurrently with the FSP-QAPPs for those Residential Sites where only a minimal amount of additional delineation may be required and where such delineation can be effectively carried out concurrently with removal of chromium contamination from the site. The petition must be submitted by PPG in writing to the Department. The determination as to whether or not the petition is granted shall be made solely by the Department in writing.

59d. All reports, plans or other submissions required in paragraphs 59 through 72 of this Administrative Consent Order shall be submitted for the groups designated in the Residential Sites Grouping and Scheduling Plan.

60. Within ninety (90) calendar days after the effective date of this Administrative Consent Order, PPG shall submit to the Department a detailed draft Field Sampling Plan - Quality Assurance Project Plan (hereinafter the "FSP-QAPP") for the initial group of sites identified within the approved Residential Sites Grouping and Scheduling Plan and for all other groups in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan. PPG shall prepare each FSP-QAPP in accordance with Appendix J which is attached hereto and made a part hereof.

61. PPG shall modify each draft FSP-QAPP to conform to the Department's comments and shall submit each modified FSP-QAPP to the Department in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan. The determination as to whether or not the modified FSP-QAPP, as resubmitted, conforms to the Department's comments and is otherwise acceptable shall be made solely by the Department in writing.

62. PPG shall complete the implementation of the FSP-QAPP in accordance with the approved FSP-QAPP and the approved Residential Sites Grouping and Scheduling Plan.

63. PPG shall submit to the Department draft Field Sampling Reports containing data and documentation required in Appendix J and the approved FSP-QAPP in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan.

64. If upon review of any draft Field Sampling Report, the Department determines that additional site specific sampling is required, PPG shall conduct such additional site specific sampling as required by the Department in writing and submit a supplemental Field Sampling Report.

65. PPG shall modify each draft or supplemental draft Field Sampling Report to conform to the Department's comments and shall submit a modified Field Sampling Report to the Department in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan or in accordance with a schedule otherwise specified by the Department. The determination as to whether or not any modified Field Sampling Report as resubmitted, conforms with the Department's comments and is otherwise acceptable shall be made solely by the Department in writing.

## B. Preliminary Design

66. PPG shall submit to the Department a draft Preliminary Design for each group of sites for which the Field Sampling Report has been approved in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan and in accordance with Appendix K, including: a) the Preliminary Design Report; b) Construction Operations Plan; c) Preliminary Engineering Plans; d) Specifications; and e) Permit documents.

67. PPG shall modify each draft Preliminary Design to conform to the Department's comments and shall submit the modified Preliminary Design to the Department in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan. The determination as to whether or not the modified Preliminary Design, as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

## C. Final Design

68. PPG shall submit to the Department a draft Final Design for the group of sites for which the Preliminary Design has been approved and in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan and in accordance with Appendix K, including: a) the Final Design Report; b) Final Engineering Design and Construction Drawings; c) Final Construction Specifications; d) Final Construction Operations Plan; and e) Specifications.

69. PPG shall modify each draft Final Design to conform to the Department's comments and shall submit the modified Final Design to the Department in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan. The determination as to whether or not the modified Final Design, as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

## D. Construction

70. Within fifteen (15) calendar days after PPG's receipt of the Department's written approval of any Final Design, PPG shall submit a schedule for implementation of the Final Design for the group of sites for which the Final Design has been approved. The schedule shall provide for completion of the implementation of the Final Design in accordance with the approved Residential Sites Grouping and Scheduling Plan and specify the groupings and order of implementation for each of the Residential Sites.

71. PPG shall complete implementation of each Final Design in accordance with the approved schedule and all the requirements of Appendix L.

## E. Additional Residential Sites

72. For each additional Residential Site, identified by the Department, contaminated with chromite ore processing residue and chromium and its compounds from the Garfield Avenue Site, or which is adjacent to the Garfield Avenue Site, a Non-Residential Site or a Residential Site, and is

contaminated by chromite ore processing residue, chromium and its compounds, emanating or which has emanated from Garfield Avenue Site, or any of the Non-Residential or Residential Sites or which is adjacent to the Garfield Avenue Site or any of the Non-Residential or Residential Sites, PPG shall conduct, in accordance with the provisions of this Administrative Consent Order, interim remedial measures and the remedial action the Department selected in the ROD for the Residential Sites, to remedy the problem associated with the chromite ore processing residue, chromium and its compounds whether or not any hazardous substances or pollutants are intermingled therewith. Upon PPG's receipt of written notice from the Department of the existence of any additional Residential Site(s) identified pursuant to the preceding paragraph, PPG shall undertake the obligations set forth in paragraph 59 through 71 above, regarding such additional site(s) and in accordance with the time periods set forth therein.

F. Additional Remedial Investigation and Remedial Action for Residential Sites

73. If at any time prior to PPG's receipt of written notice from the Department pursuant to paragraph 134 below the Department determines that additional remedial investigation and/or remedial action is required to protect human health or the environment from any chromite ore processing residue, chromium and its compounds, whether or not any hazardous substances or pollutants are intermingled therewith, at, emanating from or which have emanated from the Residential Sites including but not limited to the groundwater migration route, PPG shall conduct such additional activities as directed by the Department.

V. Progress Reports

74. PPG shall submit to the Department quarterly progress reports; the first progress report shall be submitted on or before the thirtieth (30th) calendar day of the month following the first full quarter after the effective date of this Administrative Consent Order. Each progress report thereafter shall be submitted on or before the thirtieth (30th) calendar day of the month following the quarter being reported. Each progress report shall detail the status of PPG's compliance with this Administrative Consent Order and shall:

- a. Identify the site grouping and refer to this Administrative Consent Order, including signatory parties and effective date;
- b. Identify specific requirements of this Administrative Consent Order (including the corresponding paragraph number or schedule) which were initiated during the reporting period;
- c. Identify specific requirements of this Administrative Consent Order (including the corresponding paragraph number or schedule) which were initiated in a previous reporting period, which are still in progress and which will continue to be carried out during the next reporting period;



- d. Identify specific requirements of this Administrative Consent Order (including the corresponding paragraph number or schedule) which were completed during the reporting period;
- e. Identify specific requirements of this Administrative Consent Order (including the corresponding paragraph numbers or schedule) which should have been completed during the scheduled reporting period and were not;
- f. Explain any potential non-compliance with any approved work plan(s), schedule(s) or Remedial Action Plan(s), and actions taken or to be taken to rectify any scheduled requirement not achieved; and
- g. Identify the specific requirements of this Administrative Consent Order (including the corresponding paragraph number or schedule) that will be initiated during the next reporting period.

## VI. Permits

75. This Administrative Consent Order shall not be construed to be a permit or in lieu of a permit for future activities which require permits and it shall not relieve PPG from obtaining and complying with all applicable Federal, State and local permits necessary for any future activities which PPG must perform pursuant to this Administrative Consent Order.

76. PPG shall submit complete applications for all Federal, State and local permits required to carry out its obligations under this Administrative Consent Order in accordance with the approved time schedules.

77. Within forty-five (45) calendar days after PPG's receipt of written comments from the permitting agency concerning any permit application to a Federal, State or local agency, or within a time period extended in writing by the Department, PPG shall modify the permit application to conform to the permitting agency's comments and resubmit the permit application to the agency. Within this timeframe for a Departmental permit, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss PPG's comments. The determination as to whether or not the permit application, as resubmitted, conforms with the agency's comments or is otherwise acceptable to the agency shall be made solely by the agency in writing.

78. The terms and conditions of any Federal, State or local permit or permit modification issued to PPG shall not be preempted by the terms and conditions of this Administrative Consent Order even if the terms and conditions of any such permit or permit modification are more stringent than the terms and conditions of this Administrative Consent Order. To the extent that the terms and conditions of any such permit or permit modification are substantially equivalent to the terms and conditions of this Administrative Consent Order, PPG hereby waives any rights it may have

to a hearing on such terms and conditions; under all other circumstances, such hearing rights are specifically preserved.

79. PPG shall be responsible for obtaining all necessary Federal, State and local permits, licenses and other authorizations for existing or former activities at the Garfield Avenue Site necessary for compliance with this Administrative Consent Order. This Administrative Consent Order shall not be construed to be a permit or permit modification for existing or former activities which require permits or permit modifications, nor shall it preclude the Department from requiring that PPG apply for such permit or permit modification.

#### VII. Project Coordination

80. PPG shall submit to the Department all documents required by this Administrative Consent Order, including correspondence relating to force majeure issues, by certified mail, return receipt requested or by hand delivery with an acknowledgement of receipt form for the Department's signature. The date that the Department executes the receipt or acknowledgement will be the date the Department uses to determine PPG's compliance with the requirements of this Administrative Consent Order and the applicability of stipulated penalties and any other remedies available to the Department.

81. The following individual shall be the PPG contact for the Department for all matters concerning this Administrative Consent Order, and shall be the agent for the purpose of service for all matters concerning this Administrative Consent Order:

Leonard S. Bryant  
Manager, Environmental Projects  
Chemicals Group  
PPG Industries, Inc.  
One PPG Place  
Pittsburgh, PA 15272  
(412) 434-2811

82. PPG shall submit three (3) copies of all documents required by this Administrative Consent Order, unless otherwise directed by the Department, to:

Tom McKee, Section Chief  
New Jersey Department of Environmental Protection  
Division of Hazardous Waste Management  
Responsible Party Cleanup Element, 5th Floor  
CN-028  
401 East State Street  
Trenton, New Jersey 08625-0028

83. PPG shall notify, both verbally and in writing, the contact person listed above at least two weeks prior to the initiation of any field activities, other than IRM field activities, and 48 hours prior to initiation of any IRM field activities.

## VIII. Financial Assurance Requirements

84. PPG shall submit to the Department as provided in this paragraph, financial assurance for the work to be performed pursuant to this Administrative Consent Order of eighty million dollars (\$80,000,000.00). PPG shall within ten (10) business days after the effective date of this Administrative Consent Order, provide a total of forty million dollars (\$40,000,000.00), of which ten million dollars (\$10,000,000.00) will be in the form of either an irrevocable letter of credit or performance bond designated for the Non-Residential sites, and thirty million dollars (\$30,000,000.00) will be in the form of either an irrevocable letter of credit or performance bond designated for the Residential Sites. Within three hundred sixty five (365) calendar days after the effective date of this Administrative Consent Order, PPG shall modify the irrevocable letter of credit or performance bond described above for the Non-Residential Sites to provide a total of twenty-five million dollars (\$25,000,000.00). Within seven hundred thirty (730) calendar days after the effective date of this Administrative Consent Order, PPG shall modify the irrevocable letter of credit or performance bond described above for the Non-Residential Sites to provide a total of fifty million dollars (\$50,000,000.00). Within three (3) business day after the execution of this Administrative Consent Order, PPG shall establish two (2) irrevocable standby trust funds, one (1) for the Residential Sites financial assurance and one (1) for the Non-Residential Sites financial assurance, each with an initial deposit of One Thousand Dollars (\$1,000) or an amount required by the issuing institution. The irrevocable letter(s) of credit, the performance bond(s), and the Standby Trusts shall meet the following requirements:

### i. Irrevocable Letter of Credit

- a. Is identical to the wording specified in Appendix G for letters of credit, which is attached hereto and made a part hereof;
- b. Is issued by a Federally chartered bank, savings bank, or New Jersey State chartered bank, savings bank, or savings and loan association, which has its principal office in New Jersey; and
- c. Is accompanied by a letter from PPG referring to the letter of credit by number, issuing institution and date and providing the following information: the name and address of the facility and/or site which is the subject of the Administrative Consent Order and the amount of funds securing the PPG's performance of all its obligations under the Administrative Consent Order.

### ii. Performance Bond

- a. Is identical to the wording specified in Appendix G for performance bonds, which is attached hereto and made a part hereof;
- b. The surety company issuing the performance bond shall be among those listed as acceptable sureties on Federal bonds in the most recent version of Circular 570 issued by the U.S. Department of the Treasury, which is published annually on July 1 in the Federal Register; and

- c. Is accompanied by a letter from PPG referring to the performance bond by number, issuing institution and date and providing the following information: the name and address of the facility and/or site which is the subject of the Administrative Consent Order and the amount of funds securing PPG's performance of all its obligations under the Administrative Consent Order.

iii. Standby Trust

- a. Is identical to the wording specified in Appendix H, which is attached hereto and made a part hereof;
- b. At the discretion of the Department, the irrevocable standby trust fund shall be the depository for all funds paid pursuant to a draft by the Department against the letter of credit or payments made under the performance bond as directed by the Department;
- c. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or New Jersey agency; and
- d. Is accompanied by an executed certification of acknowledgement that is identical to the wording specified in Appendix H.

85. PPG shall establish and maintain each of the standby trust funds until terminated by the written agreement of the Department, the trustee and PPG, or of the trustee and the Department if PPG ceases to exist. PPG shall maintain each of the letter(s) of credit or performance bond(s) until the Department provides written notification to PPG that the financial assurance is no longer required for compliance with this Administrative Consent Order. In the event that the Department determines that PPG has failed to perform any of its obligations under this Administrative Consent Order, the Department may proceed to have the financial assurance deposited into the standby trusts; provided, however, that before the Department takes this action, the Department shall notify PPG in writing of the obligation(s) which it has not performed, and PPG shall have thirty (30) calendar days after receipt of such notice, unless extended in writing by the Department, to remedy the failure to perform such obligation(s). In the event that the Department draws down on PPG's letter(s) of credit or performance bond(s) or other financial assurance, it is agreed that nothing in this Administrative Consent Order shall preclude the PPG from exercising whatever rights it may have, if any, to challenge the Department's action as provided for in paragraph 109 below.

86. At any time, PPG may apply to the Department to substitute other financial assurances in a form, manner and amount acceptable to the Department.

87. PPG agrees that for the purposes of complying with the financial assurance requirements of this Administrative Consent Order, PPG shall select a financial institution or surety, and a trustee, that shall agree in writing to be subject to the jurisdiction of New Jersey courts for all claims made by the Department against the financial assurance.

B. Further Financial Assurance

88. No further financial assurance shall be required of PPG under this Administrative Consent Order. However, PPG hereby expressly agrees that the financial assurance as provided for above, is not a limit on spending or liability.

C. Project Cost Review

89. Beginning three hundred sixty-five (365) calendar days after the effective date of this Administrative Consent Order and annually thereafter on that same calendar day, PPG shall submit to the Department a detailed review of all costs required for PPG compliance with this Administrative Consent Order.

90. PPG shall also submit a detailed cost review within fourteen (14) calendar days after its award of a contract or contract modification for the implementation of the remedial alternate for the Garfield Avenue Site and each of the Non-Residential and Residential Sites.

91. The project cost review referenced in the two preceding paragraphs shall include a detailed summary of all monies spent to date pursuant to this Administrative Consent Order for such site, the estimated cost of all future expenditures required to comply with this Administrative Consent Order (including any operation and maintenance costs) for such site, and the reason for any changes from the previous cost review submitted by PPG for the Garfield Avenue Site and each of the Non-Residential and Residential Sites.

92. Simultaneous with the submission of any cost review required above, PPG may request the Department's approval to reduce the amount of the financial assurance to reflect the remaining costs of performing its obligations under this Administrative Consent Order.

93. Upon PPG's receipt of the Department's written response to PPG's request, PPG shall either maintain compliance with the then existing financial assurance requirement or amend the financial assurance in accordance with the Department's written response. If the Department grants written approval of PPG's cost review request, PPG may amend the amount of the then existing financial assurance so that it is equal to or greater than the estimated remaining costs of performing the obligations required by this Administrative Consent Order.

D. Oversight Cost Reimbursement

94. Within thirty (30) calendar days after PPG's receipt from the Department of a summary of the costs, including cost documentation that verifies that the claimed costs were incurred and that the amount of the costs was properly calculated, and will include the amount, date, entity or person to whom the costs were paid or by whom the costs were incurred in connection with its oversight functions of this Administrative Consent Order for a fiscal year, or any part thereof, PPG shall submit to the Department a cashier's or certified check payable to the "Treasurer, State of New Jersey" for the full amount of the Department's oversight costs.

E. Stipulated Penalties

95. Within thirty (30) calendar days after PPG's receipt of a written demand made by the Department, PPG shall pay stipulated penalties to the Department for PPG's failure to comply with any of the deadlines or schedules applicable to it and required by this Administrative Consent Order including those established and approved by the Department in writing pursuant to this Administrative Consent Order. Each deadline or schedule not complied with shall be considered a separate violation and stipulated penalties shall begin to accrue on the first calendar day following the day that performance is due or noncompliance accrue and shall continue to accrue through the final day of correction of the non-compliance. The Department may determine that a submittal of insufficient quality constitutes a non-compliance. Stipulated penalties for such violations shall only accrue for sixty (60) calendar days unless the Department provides PPG written notice that stipulated penalties continue to accrue from the date of receipt by PPG until PPG corrects the non-compliance. Interest shall accrue on any unpaid stipulated penalties commencing on the first day following the end of the thirty (30) day pay period. The interest rate shall be that rate set forth in the New Jersey Court Rules, R. 4:42-11(a)1. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Administrative Consent Order. In addition, failure to pay a stipulated penalty on time shall be an additional violation of this Administrative Consent Order subject to stipulated penalties.

96. PPG's payment of stipulated penalties for PPG's failure to comply with the deadlines and schedules associated Remedial Action for Residential Sites required by this Administrative Consent Order, as identified below, shall be made according to the following schedule, unless the Department has modified the compliance date pursuant to the force majeure provisions set forth herein:

<u>Calendar Days for Due Date</u>	<u>Stipulated Penalties for Residential Sites</u>
1 - 7	\$ 2,000 per calendar day
8 - 14	\$ 4,000 per calendar day
15 - 21	\$ 6,000 per calendar day
22 - 28	\$ 10,000 per calendar day
29 - over	\$ 20,000 per calendar day

97. PPG's payment of stipulated penalties for PPG's failure to comply with the deadlines and schedules associated with the major deliverables and tasks for the Garfield Avenue Site, and the Non-Residential Sites required by this Administrative Consent Order, as identified below, shall be made according to the following schedule, unless the Department has modified the compliance date pursuant to the force majeure provisions set forth herein:

Major Deliverables and Tasks

- timely delivery of all draft and final workplans
- timely delivery of all draft and final reports and designs

- performance of remedial activities including interim remedial measures
- implementation of all approved workplans
- compliance with financial assurance requirements
- payments of penalty settlements and timely reimbursement of prior costs
- timely payment of oversight costs

<u>Calendar Days After Due Date</u>	<u>Stipulated Penalties for Non-Residential Sites and Garfield Avenue Site</u>
1 - 7	\$ 1,000 per calendar day
8 - 14	\$ 2,000 per calendar day
15 - 21	\$ 3,000 per calendar day
22 - 28	\$ 5,000 per calendar day
29 - over	\$ 10,000 per calendar day

98. Payment of stipulated penalties for all violations for the Garfield Avenue Site and Non-Residential Sites other than set out in paragraph 97 above, shall be made according to the following schedule unless the Department has modified the compliance date pursuant to the force majeure provisions set forth herein:

<u>Calendar Days After Due Date</u>	<u>Stipulated Penalties for Non-Residential Sites and Garfield Avenue Site</u>
1 - 7	\$ 100 per calendar day
8 - 14	\$ 500 per calendar day
15 - 21	\$ 1,000 per calendar day
22 - 28	\$ 2,500 per calendar day
29 - over	\$ 5,000 per calendar day

99. Payment of stipulated penalties shall be made by a cashier's or certified check payable to the "Treasurer, State of New Jersey" and shall be accompanied by a letter referencing this Administrative Consent Order and the alleged violations for which the penalty is submitted.

100. PPG agrees that it shall not seek to take as a tax deduction any payments submitted pursuant to the above paragraphs.

101. PPG's failure to pay stipulated penalties pursuant to a written demand issued by the Department in accordance with paragraphs 95 thru 98 above, shall constitute a violation of this Administrative Consent Order.

102. The payment of stipulated penalties does not alter the responsibility of PPG to complete any requirement of this Administrative Consent Order.

## IX. Force Majeure

103. If any event as specified in the following paragraph occurs which PPG believes or should believe will or may cause delay in the compliance with any provision of this Administrative Consent Order, PPG shall notify the Department in writing within seven (7) calendar days of the delay or anticipated delay, as appropriate, referencing this paragraph and describing the anticipated length of the delay, the precise cause or causes of the delay, any measures taken or to be taken to minimize the delay, and the time required to take any such measures to minimize the delay. PPG shall take all necessary action to prevent or minimize any such delay.

104. If the Department finds that: (i) PPG has complied with the notice requirements of the preceding paragraph; (ii) any delay or anticipated delay has been or will be caused by fire, flood, riot, strike or other circumstances beyond the control of PPG; and, (iii) PPG has taken all actions that were reasonably necessary to prevent or minimize any such delay, the Department shall extend the time for performance hereunder for a period no longer than the delay resulting from such circumstances. If the Department determines that (a) PPG has not complied with the notice requirements of the preceding paragraph; (b) the event causing the delay is not beyond the control of PPG; or (c) PPG has not taken all necessary actions that were reasonable to prevent or minimize the delay, this paragraph shall not be applicable and failure to comply with the provisions of this Administrative Consent Order shall constitute a breach of the requirements of this Administrative Consent Order. The burden of proving that any delay is caused by circumstances beyond the control of PPG and the length of any such delay attributable to those circumstances shall rest with PPG. Delay in an interim requirement shall not automatically constitute force majeure with respect to the attainment of subsequent requirements. Force majeure shall not include the following: nonattainment of the goals, standards, guidelines and requirements set forth in the appendices attached hereto or otherwise applicable to the site; increases in the costs or expenses incurred by PPG in fulfilling the requirements of this Administrative Consent Order; and, contractor's breach, unless such breach falls within the requirements of (i), (ii) and (iii) of this paragraph.

## X. Reservation of Rights

105. The Department reserves the right to unilaterally terminate this Administrative Consent Order in the event PPG violates the terms or fails to meet the obligations of this Administrative Consent Order.

106. Except as provided for in paragraph 26 above, nothing in this Administrative Consent Order shall preclude the Department from seeking civil or administrative penalties or any other legal or equitable relief against PPG for matters not set forth in the FINDINGS of this Administrative Consent Order.

107. This Administrative Consent Order shall not be construed to affect or waive the claims of federal or State natural resource trustees



against any party for damages or injury to, destruction of, or loss of natural resources.

108. The Department reserves the right to require PPG to take or arrange for the taking of, any and all additional measures should the Department determine that such actions are necessary to protect human health or the environment. Nothing in this Administrative Consent Order shall constitute a waiver of any statutory or common law right of the Department to require PPG to undertake such additional measures should the Department determine that such measures are necessary; nor shall anything in this Administrative Consent Order constitute a waiver by PPG of any statutory or common law defenses, if any, to any attempted action by the Department as to such additional measures.

109. Nothing in this Administrative Consent Order, including PPG's payment of stipulated penalties, shall preclude the Department from seeking civil or civil administrative penalties or any other legal or equitable relief against PPG for violations of this Administrative Consent Order. In any action brought by the Department under this Administrative Consent Order, PPG may raise, inter alia, a defense that PPG failed to comply with a decision of the Department, made pursuant to this Administrative Consent Order, on the basis that the Department's decision was arbitrary, capricious or unreasonable. If PPG is successful in establishing such a defense, then PPG shall not be liable for stipulated penalties for failure to comply with that particular Department decision. Similarly, in the event that PPG prevails in any proceeding in which PPG alleges that the Department acted arbitrarily, capriciously or unreasonably in exercising its right under paragraph 85, above, to draw on the financial assurance, the Department agrees to refund, to the account of the financial assurance, the funds so drawn relative to the contested enforcement action. This provision shall not be construed to provide for reimbursement of the account of the financial assurance for monies drawn for any activity other than that which is the subject of the contested enforcement proceeding in which PPG prevails. PPG shall not seek pre-enforcement review of any decision made or to be made by the Department pursuant to this Administrative Consent Order. Without otherwise affecting any rights which the PPG may have, it is agreed that nothing in this Administrative Consent Order shall preclude PPG from exercising whatever rights it may have, if any, to challenge any determination by the Department which results in the draw down by the Department of PPG's financial assurance under paragraph 85 above, after correction by the Department of the alleged violation(s) which led the Department to draw down the financial assurance and to use such monies to correct the alleged violation(s).

#### XI. General Provisions

110. This Administrative Consent Order shall be binding on PPG's respective agents, successors, assignees and any trustee in bankruptcy or receiver appointed pursuant to a proceeding in law or equity.

111. PPG shall perform all work conducted pursuant to this Administrative Consent Order in accordance with prevailing professional standards.

112. All site operations shall be conducted by PPG in accordance with the Health and Safety plan developed as set forth in Appendix B. All site activities shall be conducted in accordance with all general industry (29 CFR 1910) and construction (29 CFR 1926) standards of the federal Occupational Safety and Health Administration (OSHA), U.S. Department of Labor, as well as any other State or municipal codes or ordinances that may apply. PPG shall comply with those requirements set forth in OSHA's final rule entitled "Hazardous Waste Operations and Emergency Response", Section 1910.120 of Subpart H of 29 CFR (published March 6, 1989, Volume 54, Number 42, Federal Register).

113. In accordance with N.J.S.A. 45:8-45, all plans or specifications involving professional engineering, submitted pursuant to this Administrative Consent Order, shall be submitted affixed with the seal of a professional engineer licensed pursuant to the provisions of N.J.S.A. 45:8-1 et seq.

114. All appendices referenced in this Administrative Consent Order, as well as all reports, work plans and documents required under the terms of this Administrative Consent Order that have received approval from the Department, are incorporated into and made a part of this Administrative Consent Order.

115. Each field activity to be conducted pursuant to this Administrative Consent Order shall be coordinated by an on-site professional(s) with experience relative to the particular activity being conducted at the site each day, such as experience in the area of hydrogeology, geology, environmental controls, risk analysis, health and safety or soils.

116. Upon the receipt of a written request from the Department, PPG shall submit to the Department all data and information developed pursuant to this Administrative Consent Order in PPG's possession or control, or which PPG can reasonably bring under their control, concerning pollution at and/or emanating from the Garfield Avenue Site or the Non-Residential Sites or the Residential Sites, or which has emanated from the Garfield Avenue Site and the Non-Residential Sites or the Residential Sites, including raw sampling and monitoring data, whether or not such data and information was developed pursuant to this Administrative Consent Order. PPG reserves whatever rights if any, to assert a privilege regarding such documents.

117. PPG shall make available to the Department all technical records and contractual documents maintained or created by PPG or its agents in connection with this Administrative Consent Order. PPG reserves whatever rights if any, to assert a privilege regarding such documents. The Department shall hold confidential the commercial terms, including rates and payment terms, of any contractual documents made available pursuant to this paragraph; and PPG may delete such commercial terms from any copies supplied to the Department.

118. Except as provided for in the previous paragraph, in order to assert a claim of confidentiality or privilege for any information submitted

by the PPG pursuant to this Administrative Consent Order, PPG asserting such a claim PPG shall follow the Department's procedures in N.J.A.C. 7:14A-11.

119. PPG shall preserve, during the pendency of this Administrative Consent Order and for a minimum of six (6) years after its termination, all data, records and documents in its possession or in the possession of its divisions, employees, agents, accountants, contractors, or attorneys which relate in any way to the implementation of work under this Administrative Consent Order, despite any document retention policy to the contrary. After this six (6) year period, PPG may make a written request to the Department to discard any such documents. Such a request shall be accompanied by a description of the documents involved. The Department will respond in writing to PPG within ninety (90) calendar days after such request, as to its determination and with the specific basis for any denial. Upon written approval by the Department, PPG may discard only those documents that the Department specifically determines are not required to be preserved for a longer time period. Upon receipt of a written request by the Department, PPG shall submit to the Department all records or copies of any such records. PPG reserves whatever rights if any, to assert a privilege regarding such documents. In any event PPG may deliver to the Department any or all records required to be kept longer than six (6) years.

120. Except as provided otherwise in schedules expressly set forth in this Administrative Consent Order or in approved workplans hereunder, upon a written request from the Department, PPG shall submit, according to a time schedule established by the Department, any information necessary for the implementation of this Administrative Consent Order. PPG reserves whatever rights if any, to assert a privilege regarding such documents.

121. Obligations of this Administrative Consent Order are imposed pursuant to the police powers of the State of New Jersey for the enforcement of law and the protection of the public health, safety and welfare and are not intended to constitute debt or debts which may be limited or discharged in a bankruptcy proceeding.

122. In addition to the Department's statutory and regulatory rights to enter and inspect, PPG shall provide the Department and its authorized representatives access to all sites under this Administrative Consent Order at all times under the same conditions under PPG has access for the purpose of monitoring PPG's compliance with this Administrative Consent Order and/or to perform any remedial activities PPG fails to perform as required by this Administrative Consent Order. The Department's and its authorized representatives' access hereunder shall be conditioned upon their compliance with the applicable site's Health and Safety Plan to the maximum extent practicable as determined by the Department.

123. PPG shall not construe any informal advice, guidance, suggestions, or comments by the Department, or by persons acting on behalf of the Department, as relieving PPG of its obligations to obtain written approvals as required herein, unless the Department specifically relieves PPG of such obligations in writing.

124. No modification or waiver of this Administrative Consent Order shall be valid except by written amendment to this Administrative Consent Order duly executed by PPG and the Department.

125. PPG hereby consents to and agrees to comply with the provisions of this Administrative Consent Order applicable to it, which shall be fully enforceable as an Order in the New Jersey Superior Court upon the filing of a summary action for compliance pursuant to N.J.S.A. 13:1D-1 et seq., the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.

126. PPG waives its rights to an administrative hearing concerning the entry of this Administrative Consent Order.

127. PPG agrees not to contest the authority or jurisdiction of the Department to issue this Administrative Consent Order; PPG further agrees not to contest the terms or conditions of this Administrative Consent Order except as to interpretation or application of such terms and conditions in any action brought by the Department to enforce the provisions of this Administrative Consent Order.

128. Within thirty (30) calendar days after the effective date of this Administrative Consent Order, PPG will withdraw its January 23, 1990 petition to the Department without prejudice, and take the necessary steps to dismiss with prejudice all civil cases against the Department, including but not limited to the following civil cases in the Superior Court of New Jersey, Appellate Division:

- (1) Ultramar Petroleum, Inc. and PPG Industries, Inc. v. New Jersey Department of Environmental Protection, Docket No. A-3389-89T5, filed March 13, 1990;
- (2) Ultramar Petroleum, Inc. and PPG Industries, Inc. v. New Jersey Department of Environmental Protection, Docket No. A-4988-89T5, filed May 30, 1990;
- (3) PPG Industries, Inc. v. New Jersey Department of Environmental Protection, Docket No. A-5054-89T2, filed May 31, 1990 (ROD challenge); and
- (4) PPG Industries, Inc. v. New Jersey Department of Environmental Protection, Docket No. (not assigned), filed July 2, 1990 (Residential Sites Directive challenge).

In no event shall PPG's dismissal of these actions bar PPG from raising any legal or technical challenges to ~~any legal or technical challenges to~~ any future actions of the Department not otherwise prohibited by this Administrative Consent Order that rely on the information or conclusions contained in the administrative records of the prior actions challenged in the above-mentioned civil cases.

129. In the event that the Department determines that a public meeting concerning the cleanup of any of the sites under this Administrative Consent Order is necessary at any time, PPG shall ensure that its appropriate representatives are prepared, available, and participate in any



such meeting upon reasonable notification from the Department of the date, time and place of any such meeting.

130. PPG shall provide a copy of this Administrative Consent Order to each chief contractor and chief subcontractor retained to perform the work required by this Administrative Consent Order. Chief contractor or subcontractor shall be those whose contracts hereunder have a total planned or actual value exceeding \$25,000. PPG shall be responsible to the Department for ensuring that their contractors and subcontractors perform the work herein in accordance with this Administrative Consent Order.

131. PPG agrees not to bring an action or maintain any existing or future claim or demand upon any State fund(s), established for the purpose of remediating or responding to environmental contamination, including the New Jersey Spill Compensation Fund, N.J.S.A. 58:10-23.11i and the Sanitary Landfill Facility Contingency Fund, N.J.S.A. 13:1E-100 et seq., for the cost of investigation and remediation or any other actions required by this Administrative Consent Order and for damages sustained by PPG, its predecessor's or its successors and assigns as a result of contamination attributable to PPG or its predecessors' at sites under this Administrative Consent Order provided however, PPG does not release or waive any right it may have to seek damages otherwise from any other responsible party for such costs or damages.

132. PPG shall provide to the Department written notice of a dissolution of its corporate identity or liquidation of its assets at least thirty (30) calendar days prior to such dissolution or liquidation. PPG shall also provide written notice to the Department of a filing of a petition for bankruptcy no later than the time for giving notice of such filing to creditors or as otherwise required by law. Upon receipt of notice of dissolution of corporate identity, or liquidation of assets, except in the case of a bankruptcy filing, the Department may require that PPG apply to obtain additional financial assurance and thereafter submit to the Department additional financial assurance.

133. As soon as reasonably possible, but not greater than thirty (30) calendar days following the execution of this Administrative Consent Order, PPG shall submit to the Department, along with the executed original Administrative Consent Order, the appropriate documentary evidence (such as a corporate resolution) that the signatory for PPG has the authority to bind PPG, to the terms of this Administrative Consent Order. PPG's representative, however, certifies that he or she is fully authorized by PPG to enter into the terms and conditions of this Administrative Consent Order and to bind that entity to it.

134. Except as to paragraph 117, and the December 2, 1988 Directive to the extent that the Department notified PPG in writing that PPG completed the IRMs in satisfaction of the December 2, 1988 Directive, the requirements of this Administrative Consent Order shall be deemed satisfied upon the receipt by PPG of written notice from the Department that PPG has demonstrated, to the satisfaction of the Department, that the obligations imposed by this Administrative Consent Order have been completed by PPG.

135. Except as provided for in paragraph 26 above, by entering into this Administrative Consent Order, the Department does not waive its right to assess or collect civil or civil administrative penalties for past, present and future violations by the PPG of any New Jersey environmental statutes or regulations.

136. The obligations and liabilities of any non-signatories to this Administrative Consent Order shall not be discharged or extinguished by this Administrative Consent Order.

137. PPG admits that it has agreed to comply with the terms of this Administrative Consent Order. Neither the entry into this Administrative Consent Order nor the conduct of PPG hereunder, shall be construed as any admission of fact, fault or liability by PPG under any applicable laws or regulations.

138. This Administrative Consent Order shall become effective upon the execution by all parties hereto.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Date:

July 19, 90

By:

Ronald T. Corcory

Ronald T. Corcory, Assistant Director  
Responsible Party Cleanup Element  
Division of Hazardous Waste Management

Date: July 19, 1990

PPG INDUSTRIES, INC.

By:

Richard M. Rompala

Richard M. Rompala  
Group Vice President, Chemicals

ATTACHMENT TWO  
RESIDENTIAL SITES

SITE #**	SITE NAME	LOCATION	BLOCK	LOT
001	Bramhall Ave.	597 Bramhall Ave.	1960	65
006	Communipaw 1	378 Communipaw Ave.	2054	1
010	Grand St. 4	383 Grand St.	339	84,86
011	Grand St. 5	267,269,271 Grand St.	233	204, 205, 206
012	Grand St. 6	539-547 Grand St.	2087	27,28A 29,30
013	Halladay St.	215 Halladay St.	2042	L
014	Kearny Ave.	30-32 Kearny Ave.	1996	11,12
018	Pacific 1	421-425, 443-47 Pacific Ave.	2091	3A,3B, 4A
022	Woodward St.	299-301 Woodward St.	2087	12,13
023	Communipaw 2,3	499-501 Communipaw Ave.	1942	C
024	Communipaw 4	839, 841-843 Communipaw Ave.	1744	9,10
028	Dwight St. #1b	194 Dwight St.	1326	86
029	Dwight St. #1c	190 Dwight St.	1326	85A
037	Martin Luther King Dr. (Jackson Ave.)	143-147 Martin Luther King Dr. (Jackson Ave.)	1328	11F, 11K
038	Cambridge Ave.	51 Cambridge Ave.	753	14
039	Pine St.	260 Pine St.	2070	A
074	Dwight St. #10	188 Dwight St.	1326	83.A
075	Dwight St. #12	121 Dwight St.	1330	16
080	Grand St. #1	223-225 Grand St.	198	14,15
081	Grand St. #2	215-217 Grand St.	198	18,19
082	Grand St. #3	237 Grand St.	198	8



## ATTACHMENT TWO (continued)

SITE #**	SITE NAME	LOCATION	BLOCK	LOT
083	Grand St. #7	235 Grand St.	198	9
084	Grand St. #8	219 Grand St.	198	17
085	Grand St. #9	381 Grand St.	339	86
089	Martin Luther King Dr. #3 (Jackson Ave.)	149 Martin Luther King Dr. (Jackson Ave.)	1328	11L
096	Ninth St. Firehouse	211 Ninth St. near Grove	1051	28
102	Woodlawn St.	124A Woodlawn	1335	34B, 35A
118	La Point Park	DeKalb St.	1839	38,39
123	Stegman St.	136 Stegman St.	1318	41A
127	Pine St. 2	262-266 Pine St.	2070	81,82
128	Monitor St.	65-71 Monitor St.	2070	15,16 17,18
129	Dwight St.	Dwight St.	1326	82A

\* Site number as designated by the Department.

## ATTACHMENT ONE

## NON-RESIDENTIAL CHROMATE CHEMICAL PRODUCTION WASTE SITES

SITE #**	SITE NAME	LOCATION	BLOCK	LOT
121	Garfield Auto Parts	942 Garfield Avenue Jersey City	2040	B1,K,H
143	F. Talarico Auto	846 Garfield Avenue Jersey City	2007	1-15
002	Caven Point 1	80 Caven Point Road Jersey City	1497	2L
003	Caven Point 2	Rear of 80 Caven Point Road, Jersey City	1497	2R
004	Caven Point 3	90 Caven Point Road Jersey City	1497	2N
005	Caven Point 4	Rear of 90 Caven Point Road, Jersey City	1497	2K
016	Linden East	Linden Avenue East Jersey City	1507	4L,4J
063	Baldwin Oils & Commodities, Inc.	Caven Point Road at Burma Road, Jersey City	2154.2	4
107	Fashionland	18 Chapel Avenue Jersey City	1505	Z.1
108	Albanil Dyestuff	20 E. Linden Avenue Jersey City	1505	Y
112	Ultramar Petroleum #1	Caven Point Road and Linden Avenue East Jersey City	1507 1494 1497	10F, 4DDV, 1H,1E, 2,2V, 2B,2E, 2G
114	Garfield Avenue Site	880 Garfield Avenue Jersey City	2026A,2 016	A11
132	Town & Country Linen Warehouse	808 Garfield Avenue Jersey City	2006.1	2
133	Ross Wax	22 Halladay Street Jersey City	2017	1K

ATTACHMENT ONE (continued)

SITE #*	SITE NAME	LOCATION	BLOCK	LOT
135	Vitarroz	51-99 Pacific Avenue Jersey City	2017	1
137	Rudolf Bass, Inc.	45 Halladay St. Jersey City	2016	A2
147	Hartz Mountain (Douglas Holdings Corp.)	Baldwin Avenue Weehawken	36D	5B, 6B
008	DEP Green Acres Site	East of Ultramar, North of Port Liberte Jersey City	1497	12
065	Burma Road	West side of Burma Rd. Near Caven Point Rd. Jersey City	1497	
066	Caven Point 5 (aka Site 2 & 3)	Government Road Jersey City	1497	2L, 2R
146	Commerce Street Site	Foot of Commerce St. Bayonne		

\* Site number as designed by the Department.

LIST OF APPENDICES

<u>APPENDIX</u>	<u>TITLE</u>
A	INTERIM REMEDIAL MEASURES SCOPE OF WORK
B	REMEDIAL INVESTIGATION SCOPE OF WORK
C	QUALITY ASSURANCE REQUIREMENTS
D	MONITOR WELL SPECIFICATIONS
E	FEASIBILITY STUDY SCOPE OF WORK
F	REMEDIAL ACTION SCOPE OF WORK
G	LETTER OF CREDIT WORDING AND PERFORMANCE BOND WORDING DOCUMENT
H	STANDBY TRUST WORDING DOCUMENT
I	RESERVED
J	FIELD SAMPLING PLAN - QUALITY ASSURANCE PROJECT PLAN FOR RESIDENTIAL SITES
K	REMEDIAL ACTION DESIGN FOR RESIDENTIAL SITES
L	REMEDIAL ACTION CONSTRUCTION FOR RESIDENTIAL SITES