

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III

IN THE MATTER OF:

Central Chemical Site	:	
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	:	
	:	
AlliedSignal Inc.	:	
FMC Corporation	:	
Novartis Corporation	:	
Olin Corporation	:	
Shell Oil Company	:	
Union Carbide Corporation	:	
Wilmington Securities, Inc.	:	
	:	
Respondents	:	
	:	
Proceeding under sections 104	:	
and 122 of the Comprehensive	:	
Environmental Response,	:	Docket No. 97-105-DC
Compensation, and Liability Act	:	
of 1980, as amended, 42 U.S.C.	:	
§§ 9604 and 9622	:	

ADMINISTRATIVE ORDER ON CONSENT
FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY

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ADMINISTRATIVE ORDER ON CONSENT
FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY

The parties to this Administrative Order on Consent ["Consent Order"] AlliedSignal Inc., FMC Corporation, Novartis Corporation, Olin Corporation, Shell Oil Company, Union Carbide Corporation, and Wilmington Securities, Inc. ["Respondents"] and the U.S. Environmental Protection Agency ["EPA"], have agreed to the issuance of this Consent Order, and the Respondents agree to undertake all actions required by this Consent Order. This Consent Order concerns the preparation of, performance of, and reimbursement for all costs incurred by EPA in connection with a Remedial Investigation/Feasibility Study ["RI/FS"] for the Central Chemical Site located in Hagerstown, Maryland. It is therefore ordered that:

I. JURISDICTION

- A. This Consent Order is issued pursuant to the authority vested in the President of the United States by sections 104 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ["CERCLA"], 42 U.S.C. §§ 9604 and 9622, and delegated to the Administrator of the EPA

on January 23, 1987 by Executive Order 12580, 52 Fed.Reg. 2926, and further delegated to the Regional Administrators of EPA by EPA Delegation Nos. 14-14-A and 14-14-C.

- B. The Respondent consents to and will not contest EPA jurisdiction regarding this Consent Order.

II. STATEMENT OF PURPOSE

- A. In entering into this Consent Order, the mutual objective of EPA and Respondents is to complete satisfactorily an RI/FS for the Central Chemical Site [the "Site"], as hereinafter described. The Remedial Investigation shall characterize the geology and hydrogeology of the Site, determine the nature and extent of the contamination at or from the Site, characterize all ecological zones, including terrestrial, riparian, wetlands, aquatic/marine, and transitional, and characterize background environmental conditions in the vicinity of the Site. Respondents shall prepare, for inclusion with the RI and FS Reports, a determination of the nature and extent of the threat to the public health or welfare or the environment caused by the release or threatened release of any hazardous substances, pollutants, or contaminants at or from the Site ["Risk Assessment"]. The Feasibility Study shall determine and evaluate (based on treatability testing, where appropriate) alternatives for remedial action to prevent, mitigate or otherwise respond to or remedy the release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site consistent with the Risk Assessment (including any adverse impacts to human health or the environment that may result from the activities associated with remediation). The alternatives evaluated must include, but shall not be limited to, the range of alternatives described in the National Oil and Hazardous Substances Pollution Contingency Plan ["NCP"], 40 C.F.R. Part 300, and shall include remedial actions that utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In evaluating the alternatives, the Respondent shall address the factors required to be taken into account by section 121 of CERCLA, 42 U.S.C. § 9621, and section 300.400(e) of the NCP, 40 C.F.R. § 300.400(e).
- B. The activities conducted pursuant to this Consent Order are subject to approval by EPA and shall be consistent with the NCP, 40 C.F.R. Part 300, and shall be conducted in compliance with all applicable EPA guidances, policies, and procedures. Respondent shall be responsible for preparing a Risk Assessment as permitted in EPA's September 1, 1993 Memorandum entitled "New Policy on Performance of Risk Assessments During

RI/FS conducted by PRPs."

- C. The activities conducted under this Consent Order shall provide all necessary information for the RI/FS, the Risk Assessment, and for a record of decision ["ROD"] for selection of a remedial action that is consistent with CERCLA and the NCP.

III. FINDINGS OF FACT

EPA has made the following Findings of Fact, which Respondents specifically do not admit:

- A. Each of the Respondents is a corporation.
- B. From the early 1930's until the mid-1960's, the chemical plant at the Site functioned as a blender of agricultural pesticides and fertilizers. An insecticide plant was located on the northern portion of the Site. A fertilizer plant was located on the southern portion of the Site. Raw pesticides manufactured at other locations were blended with inert materials to produce commercial grade products using air and hammer mills and wetting agents. In 1965, the air mills at the plant were destroyed by fire. Much but not all pesticide production at the plant ceased at that time. Central Chemical Corporation continued its fertilizer operations at the plant until 1984. Waste materials from the manufacturing processes, including waste generated during the cleaning of the processing equipment, were disposed of onsite. A former Central Chemical Corporation employee also stated under oath that raw pesticides were buried onsite.
- C. The Site consists of a 19 acre parcel of land owned by Central Chemical Corporation and located on Mitchell Avenue within the city limits of Hagerstown in Washington County, Maryland (see Figure 1), at 39° 39' 24" north latitude and 77° 43' 25" west longitude, and all areas where hazardous substances from the Central Chemical Corporation property have come to be located. Land use in the area is a mixture of residential, commercial and industrial uses; residential development has occurred in close proximity to the Site.
- D. The Central Chemical Company obtained the Site property from the Citizens Development Company of Hagerstown, Washington County on April 4, 1911. This land was conveyed to the Central Chemical Company, Incorporated on February 13, 1930; to The Davison Chemical Corporation on April 21, 1937; to Franklin M. Thomas, his heirs and

assigns on May 3, 1937; and to Central Chemical Corporation of Maryland on May 12, 1937. Central Chemical Corporation currently leases building space at the Site to several tenants who conduct unrelated businesses, such as automobile repair, storage, and paper recycling.

- E. All Respondents arranged for the disposal of hazardous substances at the Site. Central Chemical Corporation was the owner/operator of the Site during the time of disposal and is the current owner of the Site.
- F. On June 16, 1996, the Site was proposed for inclusion on the National Priorities List.
- G. State records indicate the State began monitoring the Site for contamination in 1976. Samples from Antietam Creek and two of its tributaries showed DDT at 2.06 parts per million ["ppm"] and lead at 1070 ppm downstream of surface water drainage from the Site. Soil samples collected onsite during October of 1976 contained DDT concentrations ranging from 0.2 to 1,646 ppm, lead concentrations ranging from 14.8 to 395 ppm, and arsenic ranging from 2.2 to 300 ppm. Under contract to Central Chemical Corporation, Baker and Wibberly studied the Site in April of 1977. This study concluded that lead, arsenic and DDT were present onsite.
- H. In 1987 a third party unearthed a portion of a dump (which had been formerly created by Central Chemical Corporation) during excavation for a sewer line. Several pesticides, naphthalene, and volatile organic compounds ["VOCs"] were discovered during the excavation. As a result, the Maryland Department of the Environment ["MDE"] requested that Central Chemical Corporation conduct a Site evaluation. Central Chemical Corporation engaged Roy F. Weston to conduct the requested investigation in 1988 and 1989. This study, which focused on alleged disposal areas, found volatile, semi-volatile, and inorganic compounds, as well as pesticides, in Site soil and water.
- I. In December 1989, MDE completed a Screening Site Investigation for EPA. Soil, sediment, and ground water samples were found to contain pesticides, metals and hydrocarbons; further study was recommended. MDE completed a Preliminary Assessment for EPA in 1991. In June of 1994, MDE completed a comprehensive Expanded Site Inspection for EPA. This study confirmed the findings of previous studies. Additional sampling conducted in 1995 showed the presence of DDT and its breakdown products,

DDE and DDD, in the tissue of fish caught downstream of the Site. In August 1996, EPA conducted additional sampling at the Site; sample results revealed DDT in the soil at levels between 360 ppm and 1700 ppm.

- J. During the studies described in Section III.G, H and I, above, the following hazardous substances were found in Site soil and/or ground water, in surface water and/or sediment in drainage pathways from the Site, and/or in the tissue of fish caught downstream of the Site: arsenic, lead, mercury, benzene, benzo(a)pyrene, aldrin, α -chlordane, γ -chlordane, DDD, DDE, DDT, dieldrin, and methoxychlor. All are hazardous substances listed at 40 C.F.R. Table 302.4.
- K. A complaint and order were issued to Central Chemical Corporation by the Maryland Water Resources Administration in 1977, after a U.S. Geological Survey study indicated that Antietam Creek, which receives drainage from the Site, contained DDT. Under the terms of a consent agreement with the State of Maryland, Central Chemical Corporation stabilized the Site with a vegetative cover and was issued a Notice of Compliance in 1979. Following the discovery of an onsite dump area in 1987, MDE began negotiating a consent order with Central Chemical Corporation. Although Central Chemical Corporation did not sign the order, they did undertake a study of Site soil and ground water. Federal, State and local officials requested that Central Chemical Corporation install a fence around the dump area in 1992. The company agreed, and construction was completed by October of 1992. On December 23, 1996, the Associate Director of EPA Region III's Hazardous Waste Management Division determined that a threat to public health, welfare and/or the environment exists due to the potential releases of hazardous substances from the Site. In February of 1997, Central Chemical Corporation and EPA entered into Administrative Order on Consent III-97-08-DC, which requires the company to provide Site security sufficient to restrict access to a portion of the Site.
- L. The principal source of potable water in the Hagerstown area is the Hagerstown/Williamsport Municipal System. However, over 1,000 homes within a four-mile radius of the Site rely on private wells for water. Surface drainage from the Site enters an onsite sinkhole that provides a direct connection to ground water. Surface drainage that does not enter the sinkhole enters a storm drain located to the south of the Site. Water from this drain discharges through a box culvert into an open stream that runs through City Park. This stream

discharges into Antietam Creek approximately 1.9 miles downstream from the box culvert. Antietam Creek is used for fishing and recreational purposes.

- M. Hazardous substances found onsite include human and environmental toxins as well as known or suspected carcinogens and mutagens. They have been shown to cause a variety of adverse effects to exposed populations, including the following. Arsenic is a known human carcinogen implicated in skin cancer in humans. Lead is a probable human carcinogen that also affects children's neurobehavioral development. Growth, IQ, and hearing can be affected by low-level exposures. Mercury affects the peripheral nervous system and kidneys. Prenatal exposure to mercury can cause brain damage. Benzene is a known human carcinogen that can cause eye and skin irritation, headache, nausea, convulsions, coma and death. Benzo(a)pyrene is a probable human carcinogen that has been associated with lung and scrotal cancer. Aldrin is a probable human carcinogen that can cause birth defects, damage to the reproductive system, liver toxicity, and central nervous system abnormalities and is highly toxic to aquatic organisms. DDT is a probable human carcinogen that accumulates in fatty tissue and damages the reproductive system, central nervous system, and liver. It is also highly toxic to aquatic organisms, and is believed responsible for the decreased reproductive success of many bird species.

IV. CONCLUSIONS OF LAW

EPA has made the following Conclusions of Law, which Respondents do not admit:

- A. The Central Chemical Site is a "facility" as defined by section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
- B. The Respondents are "persons" as defined by section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
- C. "Hazardous substances", as defined in section 101(14) of CERCLA, 42 U.S.C. § 9601(14), have been disposed of at the Site and are currently present there.
- D. The presence of hazardous substances at the Site and the past, present, and/or potential migration of hazardous substances at or from the Site constitutes an actual and/or threatened "release" as defined in section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

- E. The Respondents are liable under section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

V. DETERMINATIONS

Based on the Findings of Fact and Conclusions of Law set forth above, EPA has determined that:

- A. The actions required by this Consent Order are necessary to protect the public health and welfare and the environment.
- B. EPA has determined that the Respondents are qualified to conduct the RI/FS, including the Risk Assessment, within the meaning of section 104(a) of CERCLA, 42 U.S.C. § 9604(a), and will carry out the work properly and promptly if the Respondents comply with Section VIII of this Consent Order.

VI. PARTIES BOUND

- A. This Consent Order shall apply to and be binding upon EPA, upon Respondents and their successors and assigns, and upon all persons, contractors and consultants acting under or for the Respondents. No change in ownership or corporate or partnership status of the Respondents or the Site will in any way alter the Respondents' obligations under this Consent Order.
- B. In the event of any change in ownership or control of any of the Respondents, that Respondent shall notify EPA in writing, no later than seven (7) business days after the change. Respondents shall provide a copy of this Consent Order to their successors before the proposed change becomes irrevocable.
- C. In the event of any change in ownership or control of the Site, Respondents shall notify EPA within seven (7) business days of the date Respondents learn of the change, of the fact of the change, and, if known to Respondents, the name, address and telephone number of the transferee in interest.
- D. The Respondents shall provide a copy of this Consent Order to all contractors, subcontractors, laboratories, consultants, and supervisory personnel retained to conduct or monitor any portion of the work performed pursuant to this Consent Order within seven (7) calendar days of the effective date of this Consent Order or on their date of retention, whichever is later, and shall condition all such contracts on compliance with the terms of this Consent Order. Notwithstanding the terms of any contract, Respondents are responsible for

complying with this Consent Order and for ensuring that their contractors, subcontractors, laboratories, consultants, supervisory personnel, and agents comply with this Consent Order.

VII. NOTICE TO THE STATE

EPA is notifying the State of Maryland that this Consent Order is being issued by providing a copy to the State.

VIII. WORK TO BE PERFORMED

- A. Respondents shall perform an RI/FS (including a Risk Assessment) for the Site in accordance with the requirements of CERCLA, the NCP, this Consent Order (including any EPA-approved documents submitted as a requirement of this Consent Order), and relevant guidance documents.
- B. All response work performed pursuant to this Consent Order shall be under the direct supervision of qualified personnel.
 1. Within fourteen (14) calendar days after the effective date of this Consent Order, Respondents shall notify EPA in writing of the identity and qualifications of the primary contractor(s) and/or supervisory personnel to be used in carrying out the work to be performed pursuant to this Consent Order. Respondents have a continuing obligation to notify EPA of the identity and qualifications of any contractors, subcontractors, and supervisory personnel that will perform or oversee work required by this Consent Order within ten (10) calendar days after their retention.
 2. EPA may, in its discretion, disapprove of the use of any contractor, subcontractor, or supervisory personnel EPA considers to be unqualified or otherwise unable to perform the work, or to continue to perform any part of the work required by this Consent Order. In the event of a disapproval, Respondents shall notify EPA within ten (10) calendar days of receipt of such disapproval of the identity and qualifications of the person, contractor, subcontractor, or supervisory personnel that will replace the one that was disapproved.
 3. In the event EPA subsequently disapproves of any replacement contractor, subcontractor, or supervisory personnel, EPA reserves the right to conduct a complete RI/FS (including a Risk Assessment), or any portion thereof, in accordance with the requirements of CERCLA

and the NCP, and to seek reimbursement of its costs and/or to seek any other appropriate relief.

4. EPA will provide a notice of acceptance of the prime contractor to the Respondents. Nothing herein shall limit EPA's right to subsequently disapprove of such contractor.

C. Work shall be performed in accordance with the terms, conditions, and schedule of an RI/FS work plan ["Work Plan"] to be submitted by Respondents for approval pursuant to Section IX of this Consent Order within sixty (60) calendar days after Respondents receive a notice of contractor acceptance from EPA. The work and Work Plan shall be consistent with the CERCLA, the NCP, this Consent Order, and with all relevant EPA guidance and regulations. The Work Plan shall include, but need not be limited to:

1. a comprehensive summary of known Site conditions and a summary of background environmental conditions in the vicinity of the Site;
2. a discussion of data gaps;
3. methodology and logistics for obtaining information in order to meet the objectives of the RI/FS;
4. data quality objectives;
5. format (i.e., computer disc or equivalent) for presentation and transmittal of RI data to EPA;
6. a sampling and analysis plan (including a Field Sampling Plan and a Quality Assurance Project Plan);
7. health and safety plan;
8. a plan for identifying and characterizing all ecological zones and potential receptors, and the laboratory testing methods (e.g., bioassays) to be used to evaluate impacts to biological systems;
9. strategy for identifying the need for and carrying out treatability studies, the elements of which are described in paragraph D.3 of this Section;
10. a preliminary listing and discussion of applicable and relevant and appropriate requirements ["ARARs"]; other advisories, criteria, and guidance to be considered pursuant to section 300.400(g)(3) of the NCP, 40 C.F.R. § 300.400(g)(3) ["TBCs"]; and a plan for refinement of

ARARs and TBCs throughout the RI/FS process, including proposed clean-up levels; and

11. a schedule for expeditious completion of the RI and FS Reports, including projected start-up and delivery dates for milestone field work, treatability studies, written reports (including draft and final RI and FS Reports); and for meetings with EPA to present progress information about the Site.

Upon request of Respondents, EPA will confer with the Respondents for the purpose of "pre-scoping" the Work Plan and for the discussion of or distribution of relevant EPA guidance documents and policies regarding the performance of an RI/FS, and to discuss the data which needs to be collected by the Respondents in order to complete a risk assessment for the Site. Any delays in the holding of such a meeting shall not excuse any delay in Respondents' obligation to comply with the project schedule.

- D. Respondents shall implement the Work Plan according to its approved terms, conditions, and schedules, and shall prepare and submit the RI and FS Reports and the Risk Assessment for EPA's review as specified in the Work Plan and its accompanying schedule. Respondents shall prepare and submit for approval pursuant to Section IX of this Consent Order, the following:

1. An RI Report which includes, but is not necessarily limited to, (a) a Site history (including past operations and releases), (b) a summary of previous investigations and cleanup actions, (c) a Site description (including physical setting, climate, surface water hydrology and quality, geology, soils, hydrogeology and groundwater quality, fractures and groundwater movement, and ecology), (d) all chemical concentration data collected during the RI (including data collection methods, maps of sample locations, summary data tables, and a copy of chemical data in a computer-readable format), and (e) a summary of potentially exposed populations (including locations, current land uses, alternative future land uses, activity patterns, and subpopulations of potential concern).
2. An FS Report which utilizes the Risk Assessment and which develops proposed cleanup levels and an appropriate range of waste management options that are evaluated through the development and screening of alternatives. The report shall contain a comparative analysis of the remedial alternatives against the nine evaluation

criteria as described in the NCP and EPA's RI/FS guidance.

3. Treatability Studies: Respondents shall conduct treatability studies, except where Respondents can demonstrate to EPA's satisfaction that they are not needed. Major components of the treatability studies include determination of the need for and scope of studies, the design of the studies, and the completion of the studies. Respondents shall provide EPA with the following deliverables:
 - a. Identification of Candidate Technologies Memorandum. Respondents shall identify candidate remedial technologies.
 - b. Treatability Testing Statement of Work. If EPA determines that treatability testing is required, Respondents shall submit a treatability testing statement of work.
 - c. Treatability Testing Work Plan. If EPA determines that treatability testing is required, Respondents shall submit a treatability testing work plan, including an expeditious schedule, sampling and analysis plan, and a health and safety plan.
 - d. Treatability Study Evaluation Report. Respondents shall submit a treatability study evaluation report.
- E. Beginning thirty (30) calendar days subsequent to the date on which the Work Plan identified in Section VIII.C of this Consent Order is approved by EPA, Respondents shall provide EPA with a progress report for each preceding calendar month. At a minimum, these progress reports shall include:
 1. a description of the actions that have been taken toward achieving compliance with this Consent Order and the tasks set forth in the approved Work Plan;
 2. all results of sampling, tests, analytical data (whether or not it has undergone Quality Assurance/Quality Control review and interpretations) and all other information received by the Respondents;
 3. a description of all data anticipated and activities scheduled for the next thirty (30) calendar day period; and
 4. a description of any problems encountered, any actions

taken or to be taken to remedy or mitigate such problems, and a schedule of when such actions will be taken.

- F. 1. The Respondents shall meet and/or consult with EPA technical representatives within fourteen (14) days after receiving approval of the Work Plan to facilitate execution of the Work Plan. EPA may, in its discretion, waive the meeting and/or consultation if it determines that the technical issues were resolved during the pre-scoping or the scoping meetings.
2. Not less than thirty (30) calendar days prior to submittal of the draft RI Report to EPA, Respondents shall meet with EPA to discuss Respondents' data and findings. The Respondents shall, at such meeting, present to EPA (a) a summary of their data and findings and (b) documentation supporting such information. Subject to Section XIV.E of this Consent Order, Respondents shall supply additional documentation requested by EPA relative to the RI Report within thirty (30) calendar days of any such request.
- G. 1. In accordance with the schedule in the approved Work Plan, Respondents shall prepare and submit to EPA for approval a Risk Assessment that includes contaminant identification, exposure assessment, toxicity assessment, and human health and ecological risk characterization. The Risk Assessment shall be consistent with CERCLA, the NCP, and this Consent Order (including any documents approved by EPA pursuant to this Consent Order). Respondents shall conduct the Risk Assessment in accordance with (a) U.S. EPA "Ecological Assessment of Hazardous Waste Sites: A Field and Laboratory Reference," EPA Doc. No. EPA/600/3-89/013 (March 1989); (b) U.S. EPA, "Review of Ecological Risk Assessment Methods," EPA Doc. No. EPA/230-10-88-041 (1988); (c) U.S. EPA, "Superfund Exposure Assessment Manual," Office of Emergency and Remedial Response (1988); (d) U.S. EPA, "Risk Assessment Guidance for Superfund: Volumes I & II," EPA Doc. Nos. EPA/540/1-89-002 and EPA/540/1-89-001 (1989); (e) U.S. EPA, "Framework for Ecological Risk Assessment," EPA Doc. No. EPA/630/R-92/001 (1992); (f) U.S. EPA Region III, "Exposure Point Concentrations in Groundwater," EPA Doc. No. EPA/903/8-91/002 (1991); (g) U.S. EPA Region III, "Selecting Exposure Routes and Contaminants of Concern by Risk-Based Screening," EPA Doc. No. EPA/903/R-93-001; (h) U.S. EPA Region III, "Use of Monte Carlo Simulation in Risk Assessments," EPA Doc. No. EPA/903/F-94-001; (i) U.S. EPA Region III "Interim Ecological Risk Assessment Guidelines" (1994); and (j) other applicable and/or relevant EPA guidance documents

provided by EPA.

- H. EPA and Respondents recognize that, while undertaking an RI/FS, certain information and/or knowledge about the Site or technology or investigative methods may arise from public meetings, data collection, and other sources that may require modification to the Work Plan or to the field work. Any such modifications must be made in conformance with Section XXVI of this Consent Order.
- I. EPA reserves its right to disapprove of work performed by the Respondents and reserves its right to request that Respondents perform response actions in addition to those required by, or as modified in, the approved Work Plan, if EPA determines that such actions are necessary and that Respondents are qualified and can carry out such actions properly and promptly. In the event that Respondents decline to perform such additional and/or modified actions, EPA reserves the right to undertake such action(s) and to seek reimbursement of its costs and/or to seek any other appropriate relief.
- J. EPA reserves the right to undertake removal and/or remedial actions at any time that such actions are appropriate under CERCLA and the NCP, and to seek reimbursement for any costs incurred or seek any other appropriate relief.
- K. 1. A "responsible official" of Respondents, or his/her duly authorized representative participating in the oversight of RI/FS activities, shall sign a certification to the final RI Report, Risk Assessment and FS Report in accordance with the requirements of this provision.
2. For a corporation, a "responsible official" means a president, secretary, treasurer, vice president in charge of a principal business function, other person who performs similar policy or decision-making functions for the corporation, or, if authority to sign documents has been assigned or delegated to him/her in accordance with written corporate procedures, an individual with the authority to bind the corporation. For a partnership or sole proprietorship, "responsible official" means a general partner or the proprietor, respectively.
3. A person is a "duly authorized representative" within the meaning of this subsection only if:
- (a) The authorization is made in writing by a responsible official, and
 - (b) The authorization specifies an individual or a position responsible for overseeing performance of

the RI/FS, and

(c) The written authorization has been approved by EPA prior to the certification.

4. The certification required by this provision shall be in the following form:

"Except as provided below, I certify that the information contained in or accompanying this [type of submission] is true, accurate and complete.

"As to those portions of this [type of submission] for which I cannot personally verify their accuracy, I certify that this [type of submission] and all attachments were prepared at my direction and with my review, in accordance with a system designed to assure that qualified personnel gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is true, accurate, and complete to the best of my knowledge, information, and belief.

"This certification shall not apply to information contained herein that was inserted into this [type of submission] by EPA, or was required by EPA to be inserted into this [type of submission], over my objection."

L. 1. In the event EPA elects to perform all or any portion of the Work required by this Consent Order or to oversee performance of such Work by a party other than Respondents, EPA shall so notify Respondents in writing. Such notification ["Takeover Notice"] shall identify the Work required by this Consent Order which Respondents shall not perform ["Takeover Work"]. Upon receipt of any such Takeover Notice from EPA, Respondents shall be released from any further obligation under this Consent Order to complete such Takeover Work. Respondents shall not be released, however, from any other obligations under this Consent Order and shall specifically remain liable for, among other things,:

(a) stipulated penalties for violations of this Consent Order which occurred prior to Respondents' receipt of any such Takeover Notice; provided, however, that stipulated penalties for violations of this Consent Order relating to Takeover Work shall continue to accrue only until (1) EPA, or another party pursuant to an agreement with or order by EPA, commences performance of such Work, or (2)

sixty (60) days from the date of Respondents' receipt of the Takeover Notice, whichever is less; and

- (b) oversight costs incurred prior to Respondents' receipt of the Takeover Notice.
- (2) Unless otherwise provided in the Takeover Notice, Respondents shall not be released from their obligations under this Consent Order to perform any Work required by this Consent Order other than the Takeover Work and shall remain subject to stipulated penalties and responsible for reimbursement of oversight costs relating to all such Work.

IX. SUBMISSIONS REQUIRING EPA APPROVAL

- A. After review of any plan, report, or other document submitted for EPA approval pursuant to this Consent Order ["Submission"], EPA may: (1) approve, in whole or in part, the Submission; (2) approve the Submission upon specified conditions; (3) modify and approve the Submission to cure the deficiencies; (4) direct Respondents to modify the Submission; (5) disapprove, in whole or in part, the Submission; (6) disapprove the Submission as substantially deficient; or (7) any combination of the above.
- B. In the event EPA approves the Submission in whole, Respondents shall take all actions required by the Submission. In all other cases, Respondents shall take all actions required by portions of the Submission which are approved by EPA.
- C. Except as otherwise provided in paragraph D of this Section, Respondents shall, upon receipt of a notice of disapproval or notice requiring modification of the Submission, correct the deficiencies and resubmit the Submission for approval within fourteen (14) days of such receipt or such other additional time as may be granted by EPA in the notice.
- D. In the event that (1) any Submission is disapproved by EPA as substantially deficient, or (2) a resubmitted Submission, or portion thereof, is disapproved by EPA, Respondents shall be in violation of this Consent Order. EPA may, under such circumstances, conduct a complete RI/FS (including a Risk Assessment), or any portion thereof, and seek reimbursement of its costs; take any action described in paragraph A of this Section; and/or seek any other appropriate relief.
- E. All Submissions, or portions thereof, shall, upon approval by EPA, be enforceable as requirements of this Consent Order.

- F. No failure by EPA to approve, disapprove, or otherwise respond to a Submission shall be construed as an approval of such Submission.

X. PUBLIC COMMENT

The administrative record file for the proposed remedial action, including the RI and FS Reports, the Risk Assessment, and documents considered by EPA in developing the Proposed Plan, will be available for public review and comment pursuant to 40 C.F.R. § 300.430. Following the public review and comment period, EPA will notify the Respondents of the remedial action alternative(s) selected by EPA for implementation at the Site.

XI. DESIGNATED PROJECT MANAGERS

- A. Within seven (7) days of the effective date of this Consent Order, EPA and the Respondents shall each designate a Project Manager. Each Project Manager shall be responsible for overseeing the implementation of this Consent Order. To the maximum extent possible, communications between the Respondents and EPA, and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to this Consent Order, shall be directed to the Project Managers by controlled or certified mail, with copies to such other persons as EPA and Respondents may respectively designate.
- B. EPA and the Respondents shall each have the right to change their respective Project Manager(s). Such change shall be accomplished by notifying the other party in writing at least seven (7) days prior to the change.
- C. EPA's Project Manager shall have the authorities specified in 40 C.F.R. §§ 300.120 and 300.430 and shall have the authority to, inter alia, halt, modify, conduct, or direct any tasks required by this Consent Order and/or undertake any response actions or portions thereof when conditions present or may present a threat to public health or welfare or the environment as set forth in 40 C.F.R. § 300.415.
- D. The absence of the EPA Project Manager from the area under study pursuant to this Consent Order shall not be cause for the stoppage or delay of work.
- E. On or before the effective date of this Consent Order, EPA will arrange for a qualified person to assist it in overseeing and reviewing the conduct of the RI/FS as required by section

104(a) of CERCLA, 42 U.S.C. § 9604(a) ["Oversight Representatives"].

XIII. SITE ACCESS

- A. To the extent that property included in the area under study pursuant to this Consent Order is presently owned or controlled by parties other than Respondents, the Respondents shall use best efforts to obtain Site access agreements from the present owners as soon as possible but no later than thirty (30) days of receipt of approval of the Work Plan. Such agreements shall provide reasonable access as detailed in paragraph C of this Section, for performance of RI/FS activities for EPA, its authorized representatives, Oversight Representatives, representatives of the State and the Respondents and their authorized representatives. In the event that the property owner refuses to provide such access or access agreements are not obtained within the time designated above, whichever occurs sooner, the Respondents shall so notify EPA, in writing and within ten (10) calendar days, of all efforts undertaken to obtain access agreements as required by this Consent Order. EPA, solely in its discretion, may then take steps to obtain such access.
- B. Best efforts, as used in this Section shall include, but shall not be limited to, a certified letter from Respondents to the present owners of such property requesting access agreements to permit Respondents and EPA and its authorized and designated representatives to access such property. For purposes of this Paragraph, "best efforts" includes the payment of reasonable sums of money in consideration of access to parties other than those identified by EPA as potentially responsible parties for the Site.
- C. EPA and the State and their authorized and designated representatives shall have the authority to enter and freely move about all property owned or controlled by Respondents subject to this Consent Order at all reasonable times for the purpose of, inter alia: inspecting records, operating logs, and contracts related to the Site; reviewing the progress of the Respondent in carrying out the terms of this Consent Order; conducting such tests as EPA deems necessary; using a camera, sound recording, or other documentary type equipment; and verifying the data submitted to EPA by the Respondents. In addition, EPA and/or its representatives shall have, for the purposes specified above, the authority to enter, at all reasonable times, all areas at which records related to the performance of the RI/FS are retained. The Respondents shall permit such persons to inspect and copy all non-privileged records, files, photographs, documents, and other writings,

including all sampling and monitoring data, in any way pertaining to work undertaken pursuant to this Consent Order. Confidentiality claims for any material so copied may be asserted in accordance with Section XIV of this Consent Order. A document shall be considered privileged only if it would be covered by a privilege recognized by federal courts in actions involving the United States. Respondents shall identify any records, files, photographs, documents or other writings not provided to EPA based on an alleged privilege by providing the information listed in Paragraph A of Section XV with respect to each such record, file, photograph, document or other writing. Such information shall be provided to EPA within fourteen (14) calendar days of Respondents asserting a privilege pursuant to this Paragraph. Nothing herein shall be interpreted as limiting the inspection and information gathering authority of EPA under Federal law.

- D. In the event that EPA takes over the work pursuant to this Consent Order, Respondents agree to allow EPA and its authorized representatives access to the Site and to any portions of the Site under their ownership or control for the purpose of conducting the RI/FS and performance of activities identified in paragraph C of this Section.
- E. If Respondents acquire title to or control over any portion of the Site to which they do not presently hold title or control, Respondents agree that EPA shall have access rights to such property as specified in this Section.

XIII. QUALITY ASSURANCE

- A. While conducting sampling and analysis pursuant to this Consent Order, the Respondents shall implement quality assurance, quality control, and chain of custody procedures including, but not limited to, those described in:
1. "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (OSWER Directive No. 9355.3-01 (1988));
 2. "EPA NEIC Policies and Procedures Manual" (No. EPA 330/978-001-R (revised November 1984));
 3. "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans" (No. QAMS-005/80 (December 1980));
 4. "A Compendium of Superfund Field Operations Methods" (OSWER Directive No. 9355-0-14 (December 1987));

5. "Data Quality Objectives for Remedial Response Activities" (OSWER Directive No. 9355.0-7B (March 1987)); and
 6. Technical direction received from EPA at the meeting(s) described in Section VIII.F of this Consent Order.
- B. The Respondents shall consult with EPA in planning for, and prior to, all sampling and analysis required by the approved Work Plan. Further, as set forth in Section VIII of this Consent Order, Respondents shall not commence sampling until EPA approves of the Work Plan.
- C. In order to provide quality assurance and maintain quality control regarding all samples collected pursuant to this Consent Order, Respondents shall at a minimum:
1. Use a laboratory(s) which has a documented Quality Assurance Program that complies with EPA guidance document QAMS-005/80;
 2. Ensure that EPA personnel and EPA authorized representatives are allowed access during normal business hours to the laboratory(s), records, and personnel utilized by the Respondents for analysis of samples collected pursuant to this Consent Order.
 3. Prepare a Quality Assurance Project Plan ["QAPjP"] for the sample collection and analysis to be conducted pursuant to this Consent Order. The QAPjP is to be submitted to the EPA Project Manager for review and approval prior to initiating any field investigations. The QAPjP and Field Sampling Plan ["FSP"] must be submitted to EPA as part of the RI/FS Work Plan required in Section VIII.C.6 of this Consent Order. The purpose of the plan is to present, in detail, the data quality objectives, sample collection procedures, and data analysis processes and the procedures to ensure that the objectives are met. The guidances referenced in paragraph A of this Section shall be used as guidance in the preparation of the QAPjP; additional guidance may be provided by EPA as requested.
 4. Ensure that the laboratory(s) analyzing samples required by this Consent Order use the methods and submit deliverables delineated in the current "Statement of Work" for the EPA Contract Lab Program (current copies are available from the Environmental Services Division QA Section, Annapolis, Maryland [(410) 573-6837]). If any parameter to be analyzed for is not one of the parameters for which CLP methods are available, or with respect to

non-CLP samples as provided in paragraph C.9 of this Section, the laboratory shall use methods which are EPA-approved (and which are to be described in the QAPjP).

5. Except with respect to non-CLP samples as provided in paragraph C.9 of this Section, ensure that the laboratory(s) analyzing samples pursuant to this Consent Order agrees to demonstrate its capability to perform analysis in compliance with Contract Lab Program requirements through the analysis of Performance Evaluation ["PE"] samples prior to conducting any analysis. Analysis of PE samples may be waived if the laboratory has satisfactorily analyzed PE samples submitted by EPA or the appropriate state agency within the past six (6) months. Documentation of such PE sample analysis must be submitted to the EPA Project Manager for verification.
6. Conduct an audit of the laboratory(s) that will analyze samples from the Site at some point during the time the laboratory(s) is conducting analyses (to be specified in the QAPjP). The audit will be conducted to verify analytical capability. Auditors shall conduct lab audits according to procedures available from the ESD QA Section. Audit reports must be submitted to the EPA Project Manager within fifteen (15) days of completion of the audit. The Respondents must report serious deficiencies, including all those which adversely impact data quality, reliability or accuracy, and take corrective actions to correct such deficiencies within two (2) business days of the time the Respondents knew or should have known of the deficiency. Laboratories which are Superfund Contract Labs ["CLP" Labs] need not be audited.
7. Conduct at least one appropriate field audit (to be described in the QAPjP) during initial sampling activities to verify that field samplers are correctly following sampling procedures described in the quality assurance and/or sampling plans. A report of the field audit must be sent to the EPA Project Manager within fifteen (15) days of completion of the audit. Respondents must report deficiencies and take corrective actions to correct such deficiencies within two (2) business days of the time the Respondents knew or should have known of the deficiency.
8. Provide data validation of analyses done by the laboratory(s) (to be described in the QAPjP). This data validation shall determine data usability and shall be performed in accordance with the Functional Guidelines

for Data Review (available from ESD QA Section) for data derived by CLP methods, or if another method is used, the data validation shall be performed in accordance with the QA/QC data validation criteria set forth in that method. For methods lacking QA/QC data validation protocols the Respondents must establish validation criteria such as those in 40 C.F.R. Part 136, Appendix A. The appropriate quality assurance data validation summary reports shall be submitted along with sample data and summary sheets, to the EPA Project Manager at the time sample results are provided to EPA.

9. Respondents shall be permitted to use non-CLP methods and procedures only as provided in "Data Quality Objectives for Remedial Response Activities" (OSWER Directive No. 9355.0-7B (March 1987)).
- D. In the event that the Respondents fail to use the QA/QC practices and procedures as outlined herein, EPA reserves the right to conduct a complete RI/FS or any portion thereof pursuant to its authority under CERCLA and the NCP and to seek reimbursement from the Respondents for the costs thereof and/or to seek any other appropriate relief.

XIV. SAMPLING AND DATA/DOCUMENT AVAILABILITY

- A. The Respondents shall make available to EPA the results of all sampling and/or tests or other data generated by the Respondents, or on the Respondents' behalf, with respect to the implementation of this Consent Order, and shall submit all such results on which validation has been performed and completed no later than the date that the next monthly progress report is due. At the request of EPA, Respondents shall make available to EPA the results of all sampling and/or tests or other data generated by Respondents, or on the Respondents' behalf, with respect to the implementation of this Consent Order, regardless of whether or not validation has been completed on such samples, tests or other data, within five calendar days of EPA's request.
- B. At the request of EPA, the Respondents shall allow split or duplicate samples to be taken by EPA and/or its authorized representatives, of any samples collected by the Respondents pursuant to the approved Work Plan. The Respondents shall notify EPA not less than thirty (30) days in advance of any such sample collection activity.
- C. EPA will determine the contents of the administrative record file for the selection of the remedial action. Respondents

shall submit to EPA all non-privileged documents developed during the course of the RI/FS which may be relevant to the selection of the response action. Respondents shall, on or before the date of submission of the final FS Report, submit to EPA all documents and information which Respondents wish EPA to consider in the development of the Proposed Plan.

- D. At the request of EPA, Respondents shall provide any of the raw data and/or field notes under its custody or control relating to samples taken at the Site within thirty (30) days of receipt of such request.
- E. All data, factual information, and documents submitted by the Respondents pursuant to this Consent Order shall be subject to public inspection unless at the time of submission Respondents asserts a confidential business information or trade secret claim pursuant to applicable Federal law. Except as provided below, Respondents may assert such a claim covering information or documentation requested by or provided under this Consent Order in the manner described in 40 C.F.R. § 2.203(b). Such an assertion shall be adequately substantiated in accordance with 40 C.F.R. § 2.204(e)(4) at the time the assertion is made. Information subject to such a claim of confidentiality will be handled in accordance with the procedures set forth in 40 C.F.R. Part 2, Subpart B. If no such claim of business confidentiality accompanies the information or documentation when it is submitted or made available to EPA, it may be made available to the public by EPA without further notice to the Respondents. Respondents shall not assert a claim of confidentiality over physical, sampling, monitoring, or analytical data or the RI or FS Reports.
- F. Nothing in this Order shall limit EPA's information gathering authority under Federal law.

XV. RECORD PRESERVATION

- A. The Respondents agree to preserve, during the pendency of this Consent Order and for a minimum of six (6) years after Respondents' receipt of the Notice of Completion issued pursuant to Section XXVIII.B of this Consent Order, all records and documents in its possession or in the possession of any of its divisions, officers, directors, employees, agents, contractors, consultants, successors, and assigns that relate to implementation of this Consent Order, or to hazardous substance management and/or disposal at the Site, including raw data, despite any document retention policy to the contrary. Respondents will use their best efforts to obtain copies of all such documents in the possession of their

- employees, agents, accountants, contractors, or attorneys. After this six-year period, the Respondents shall notify EPA at least sixty (60) calendar days prior to the destruction of any such documents. EPA will then provide written notification to Respondents whether or not EPA wants to take possession of any such documents. Upon request by EPA, the Respondents shall provide EPA with the opportunity to take possession of any such documents, except that Respondents may assert: (1) that any such documents (other than documents required to be created or generated pursuant to the requirements of this Consent Order) are privileged under any privilege recognized by federal courts in actions involving the United States. If the Settling Defendants assert such a privilege, they shall provide EPA with the following: (1) the title of the document; (2) the date of the document; (3) the name and title of the author of the document; (4) the name and title of each addressee and recipient; (5) a description of the contents of the document; (6) the nature of the privilege asserted by the Respondents; and (7) the actions taken by Respondent to preserve the privilege.
- B. Within fourteen (14) days of the effective date of this Consent Order Respondents shall designate a custodian for all documents required to be preserved pursuant to paragraph A of this Section ["Custodian"] and shall notify EPA of the identity of that Custodian. Respondents may change their Custodian upon written notification to EPA of such change.
- C. Any agreement between Respondents and an agent, contractor, or consultant relating to performance of work under this Consent Order shall require in writing that said agent, contractor, or consultant maintain and preserve during the pendency of this Consent Order, and for a minimum of six (6) years after its termination, all data, records, and documents within its respective possession which relate in any way to implementation of this Consent Order or to hazardous substance management and/or disposal at the Site.
- D. Respondents shall not destroy any records relating to this Consent Order until notified by EPA, in accordance with this Section, that EPA has waived its right to obtain such records from Respondents.

XVI. DELAY IN PERFORMANCE AND STIPULATED PENALTIES

- A. For each day or any portion thereof that Respondents fail to submit a report or document or otherwise fails to comply with

the requirements of this Consent Order at the time and in the manner set forth herein (including all documents submitted hereunder and approved by EPA and including any modifications made in accordance with Section XXVI), Respondents shall be liable for and Respondents shall pay, upon demand by EPA, the sums set forth below as stipulated penalties to EPA. Payment shall be due and owing within thirty (30) days from receipt of EPA's demand letter. Interest at the rate of the current annualized treasury bill rate shall begin to accrue on the unpaid balance at the end of the thirty-day period in conformance with 40 C.F.R. § 13.11(a). EPA intends to make "best efforts" to inform Respondents about any alleged deficiency as soon as practicable after EPA becomes aware of the existence of the alleged deficiency; provided, however, that the adequacy of EPA's efforts in this regard shall not be used by the Respondents or deemed relevant, in any manner or for any purpose in any proceeding, including but not limited to any dispute pursuant to this Consent Decree.

- B. Checks in payment of stipulated penalties shall be made payable to the Hazardous Substance Superfund and shall be addressed to:

EPA--Hazardous Substances Superfund
U.S. EPA, Region III
ATTENTION: Superfund Accounting
P.O. Box 360515
Pittsburgh, PA 15251-6515

All payments shall reference the name of the Site, the Respondents' names and addresses, and the EPA docket number of this Consent Order. Copies of the transmittal letter and check shall be sent simultaneously to the EPA Project Manager and to the:

Regional Hearing Clerk (3RC00)
U. S. Environmental Protection Agency
841 Chestnut Building
Philadelphia, PA 19107

- C. Stipulated penalties shall accrue in the amount of \$500 per day for the first week, and \$1000 per day for each day thereafter.
- D. The stipulated penalties set forth in this Section do not preclude EPA from pursuing other penalties or sanctions available to EPA for failure to comply with the requirements of this Consent Order.

- E. All penalties and interest shall begin to accrue on the date that performance is due or a violation occurs, and shall continue to accrue through the final day of correction of the noncompliance; provided, however, that if Respondents formally dispute any violations, stipulated penalties for such disputed violations shall not accrue for the time period beginning on the sixtieth day after EPA receives a Notice of Dispute (pursuant to Subsections XVIII.B.1 and 2) until and including the date on which EPA issues an EPA Resolution Notice (pursuant to Subsection XVIII.B.3) with respect to such disputed violations.
- F. Nothing herein shall prevent the simultaneous accrual of separate stipulated penalties for separate violations of this Consent Order.
- G. If the Respondents in good faith objects to the imposition of stipulated penalties, they may invoke the dispute resolution procedures under Section XVIII of this Consent Order. Respondents shall not dispute stipulated penalty rates established in paragraph C of this Section. To the extent Respondents do not prevail upon resolution of the dispute, Respondents shall pay the penalties owed within thirty (30) days of receipt of notice of the resolution of the dispute. These penalties shall include all penalties which accrued prior to and during the period of dispute.
- H. Neither the filing of a petition to resolve a dispute nor the payment of penalties shall alter in any way Respondents' obligation to comply with the requirements of this Consent Order.

XVII. FORCE MAJEURE AND NOTIFICATION OF DELAY

- A. 1. A failure by Respondents to comply with any requirement of this Consent Order in the manner or in the time required by this Consent Order ["Compliance Failure"] shall constitute a violation of this Consent Order unless such Compliance Failure has resulted from a Force Majeure Event within the meaning of paragraph B of this Section. To the extent that a delay is caused by a Force Majeure Event, the schedule for performance of work affected by the delay will be extended by EPA for the time necessary to complete such work on an expedited basis, up to the period of the delay directly resulting from the Force Majeure Event. Except as may be specifically provided by EPA, no such schedule extension shall affect the schedule

for completion of any other tasks required by this Consent Order.

2. A Force Majeure Event is any event which EPA agrees:
 - (a) arises from causes not reasonably foreseeable and beyond the control of Respondents, and
 - (b) results in delays or prevents performance by a date or manner required by this Consent Order,

provided that Respondents have used best efforts to perform as required by this Consent Order. "Best efforts" as used in this Paragraph shall include, but not be limited to, efforts to expedite the performance of activities in order to minimize delays to the extent practicable. Neither increased costs of performance; changed economic circumstances; difficulties caused by reasonably foreseeable weather conditions which could have been overcome by best efforts; nor failure to obtain Federal, State, or local permits shall be considered a Force Majeure Event.

3. Respondents shall have the burden of proving that a Force Majeure Event has occurred.

- B. The Respondents shall notify EPA of any delay or anticipated delay in achieving compliance with any requirement of this Consent Order. Such notification shall be made orally as soon as possible but no later than two (2) business days after Respondents or any of their agents or contractors becomes aware of such delay, or through the exercise of due diligence should have become aware of such delay, and in writing no later than seven (7) days after Respondents or any of their agents or contractors becomes aware, or through the exercise of due diligence should have become aware, of such a delay or anticipated delay. The written notification shall describe fully the nature of the delay; the reasons the delay is beyond the control of Respondents (if applicable); the actions that will be taken to mitigate, prevent, and/or minimize further delay; the anticipated length of the delay; and the timetable according to which the actions to mitigate, prevent, and/or minimize the delay will be taken. The Respondents shall adopt all reasonable measures to avoid and minimize any such delay. Failure of the Respondents to comply with the notice requirements of this Section shall constitute a waiver of the Respondents' right to invoke the benefits of paragraph A of this Section with respect to that event.

- C. In the event that EPA and the Respondents cannot agree that a particular delay in achieving compliance with the requirements of this Consent Order has been or will be caused by a Force Majeure Event, the dispute shall be resolved in accordance with the provisions of Section XVIII of this Consent Order. The Respondents shall have the burden of proving that the delay was caused by a Force Majeure Event.
- D. Modifications to this Consent Order following a Force Majeure Event shall be made in accordance with Section XXVI of this Consent Order.

XVIII. DISPUTE RESOLUTION

- A. The resolution of any dispute between EPA and Respondents concerning this Consent Order shall be conducted in accordance with this Section.
- B. 1. If the Respondents object to any EPA notification or action under this Consent Order, the Respondents shall notify EPA in writing of its objection(s) within fourteen (14) days of such action or receipt of such EPA notification.
2. The written notification of objections from Respondents referred to in paragraph B.1 of this Section ["Notice of Dispute"] shall identify the issue(s) in dispute, the position Respondents maintain should be adopted by EPA, the basis for Respondents' position, and any matters Respondents consider necessary for EPA's determination.
3. Except as provided herein, EPA and the Respondents shall have fourteen (14) days from EPA's receipt of the Notice of Dispute to resolve the dispute. As to any issue for which agreement is not reached during this period, EPA will provide a written statement of its decision to Respondents ["EPA Resolution Notice"]. The EPA Resolution Notice shall be signed by the Chief of the EPA Region III Superfund Remedial Branch. EPA may extend the fourteen (14) day period up to an additional fourteen (14) days if EPA determines that more time is necessary for resolution. Respondents shall not invoke this Section to object to a EPA Resolution Notice.
4. Following resolution of the dispute by agreement (in the event the dispute has been resolved by agreement) or Respondents' receipt of the EPA Resolution Notice (in the

event EPA and Respondents are unable to reach agreement), Respondents shall perform the work that was the subject of the dispute in accordance with the agreement (if applicable) or the EPA Resolution Notice.

- C. Notwithstanding any other provisions of this Consent Order, no action or decision by EPA pursuant to this Consent Order shall constitute final agency action giving rise to any right to judicial review prior to EPA's initiation of judicial action to compel compliance with this Consent Order.
- D. Unless otherwise agreed in writing by the parties, neither invocation of the procedures set forth in this Section, nor EPA's consideration of matters placed into dispute, shall excuse, toll or suspend any compliance obligation or deadline required pursuant to this Consent Order during the pendency of the dispute resolution process.
- E. The existence of a dispute under this Section shall not by itself expand the time frame for completing any work under this Consent Order. Thus, in the event the Respondents prevail in the dispute, the task must be completed in the remaining amount of time originally specified in the Consent Order unless the time frame is formally modified by EPA. Any such modifications to this Consent Order shall be made in accordance with Section XXVI of this Consent Order.
- F. The accrual of stipulated penalties shall continue notwithstanding the existence of a dispute or invocation of the procedures set forth in this Section; provided, however, that if Respondents formally dispute any violations, stipulated penalties for such disputed violations shall not accrue for the time period beginning on the sixtieth day after EPA receives a Notice of Dispute (pursuant to Subsections XVIII.B.1 and 2) until and including the date on which EPA issues an EPA Resolution Notice (pursuant to Subsection XVIII.B.3) with respect to such disputed violations..
- G. In order to prevail in any dispute concerning costs under Section XX of this Consent Order, Respondents shall have the burden of proving that such costs have been calculated incorrectly or have been incurred in a manner inconsistent with the NCP.

XIX. RESERVATION OF RIGHTS

- A. Except as expressly provided in this Consent Order, (1) each party reserves all rights and defenses it may have, (2) nothing herein shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Consent Order; to seek injunctive relief; to seek imposition of statutory penalties, fines, and/or punitive damages; or any other appropriate relief, (3) Respondents reserve their rights to oppose statutory penalties which are in addition to the stipulated penalties provided for herein, and (4) Respondents expressly reserve all claims, if any, they may have against the United States as an alleged potentially responsible party for the actions of federal agencies (other than EPA) in connection with those federal agencies' alleged dealings in connection with the Site. The United States reserves the right to contest or defend against such claims. Nothing in this Consent Order shall affect EPA's response authorities including, but not limited to, EPA's right to seek injunctive relief, stipulated penalties, statutory penalties, punitive damages, and/or reimbursement of response costs.
- B. Compliance by Respondents with the terms of this Consent Order shall not relieve Respondents of their obligation to comply with applicable local, State, or Federal laws and regulations.
- C. As provided by this Consent Order, EPA expressly reserves its right to disapprove of actions taken by the Respondents pursuant to this Consent Order and work performed by the Respondents, and reserves its right to request that the Respondents perform response actions in addition to those required by this Consent Order if it determines that such actions are necessary. In the event that Respondents choose to perform such additional tasks, the approved Work Plan shall be reviewed and revised accordingly and the schedule for completion of the work set forth in the Work Plan shall be extended to the extent necessary to accommodate the performance of additional tasks. In the event that the Respondents decline to perform such additional actions, EPA reserves the right to undertake such actions. In addition, EPA reserves the right to undertake removal and/or remedial actions at any time that such actions are appropriate under the NCP, to seek reimbursement for any costs incurred, and/or to seek any other appropriate relief, including requiring Respondents to perform such actions. Further, EPA reserves the right to bring an action against Respondents under section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of all response costs, including oversight costs, incurred by the United

States at the Site not reimbursed by the Respondents.

- D. If EPA requests, Respondents shall incorporate and integrate information supplied by EPA into the final RI and FS reports and the final Risk Assessment.

XX. REIMBURSEMENT OF COSTS

- A. EPA will periodically submit to the Respondents a summary report of response costs, including oversight costs, paid by the U.S. Government in connection with this Consent Order. Oversight costs shall include administrative, enforcement, inspection, and investigative costs paid by EPA, its agents, or contractors in connection with EPA's oversight of the work performed by the Respondents under the terms of this Consent Order and shall include, but not be limited to, time and travel costs of EPA personnel and associated indirect costs, contractor costs, costs of compiling cost documentation, compliance monitoring, collection and analysis of split samples, inspection of RI/FS activities, site visits, interpretation of Consent Order provisions, discussions regarding disputes that may arise as a result of this Consent Order, and review and approval or disapproval of reports. At the time that EPA submits its summary report, EPA agrees to make available copies of the accounting records used by EPA to prepare the summary report, including MARS reports and portions of contractor work orders, relating to oversight costs for which EPA seeks reimbursement and which are in EPA's custody. All confidential documents provided to Respondents by EPA pursuant to this Paragraph shall be handled in the manner set forth in paragraph C of this Section.

Respondents reserve the right to contest oversight costs claimed by EPA on the grounds that they have been calculated incorrectly and/or have been incurred in a manner not consistent with the NCP. The Respondents shall, within thirty (30) calendar days of receipt of the above-referenced summary report, do one of the following:

1. ~~Notify EPA in writing that Respondents are contesting some of the costs, identify which specific costs are being contested, state the reasons for contesting those costs and remit a check for the uncontested costs;~~
2. ~~Notify EPA in writing that Respondents are contesting all of the costs and state the reasons for contesting such costs; or~~

3. Remit a check for all such costs.

In the event that Respondents contest some or all of the costs, EPA shall determine if those contested costs were calculated incorrectly and/or were incurred in a manner not consistent with the NCP. EPA's determination shall be subject to the dispute resolution provisions of Section XVIII of this Consent Order. If EPA determines that some or all of the contested costs were calculated incorrectly or were incurred in a manner not consistent with the NCP, then those costs, including interest accrued thereon, shall not become payable under this Order. If EPA determines that some or all of the contested costs were calculated correctly and were incurred in a manner not inconsistent with the NCP, then those costs, including interest accrued thereon, shall become payable under this Order within thirty (30) days of the notice to Respondents' Project Coordinator of EPA's determination.

- B. Payments made under this Section shall be made by check payable to the Hazardous Substances Superfund. Interest shall begin to accrue on the unpaid balance thirty (30) calendar days from receipt of the summary report referred to in Paragraph A of this Section, even if there is a dispute or an objection to any portion of the costs. Checks should specifically identify the site name and be forwarded to:

EPA--Hazardous Substances Superfund
U.S. EPA, Region III
ATTENTION: Superfund Accounting
P.O. Box 360515
Pittsburgh, PA 15251-6515

A copy of the transmittal letter and check shall be sent to the EPA Project Manager and to the EPA Region III Regional Hearing Clerk at the address specified in Section XVI.B of this Consent Order.

- C. Respondents acknowledge that documents provided by EPA pursuant to paragraph A of this Section may include documents which have been submitted to EPA by various contractors and which contain certain information which may be entitled to confidential treatment under 40 C.F.R. Part 2. EPA and Respondents agree that limitation on the disclosure of such documents is necessary in order to protect the interests of the submitters in the confidentiality of their business information. Accordingly, documents provided by EPA pursuant to paragraph A of this Section shall be subject to the following:

1. EPA shall provide the documents containing information which may be entitled to confidential treatment to Respondents and such documents shall be handled in accordance with the requirements of this Section.
2. As used in this Section, the term "confidential information" means trade secrets or commercial or financial information submitted by a person to EPA and which may be entitled to confidential treatment under 40 C.F.R. Part 2. Such "confidential information" has not been determined by EPA under 40 C.F.R. Part 2, Subpart B, not to be entitled to confidential treatment.
3. Any information to be produced by EPA pursuant to paragraph A of this Section and which may be entitled to confidential treatment under 40 C.F.R. Part 2 shall be stamped conspicuously with the word "CONFIDENTIAL" by EPA at the top of each page of each document prior to transmittal to Respondents. The transmittal of information designated as confidential shall be done by letter from EPA stating that the information is designated as confidential and is subject to this Consent Order.
4. Information designated as confidential under this Section shall not be used or disclosed by Respondents or any person subject to paragraph (7) below for any purpose other than reimbursement of costs in accordance with this Consent Order.
5. Respondents and their counsel who obtain information designated as confidential hereunder, and any nonparty subject to this Section, shall not disclose or permit disclosure of this information to any other person including, without limitation, any officer, director, employee, agent, or representative of Respondents, Respondents' counsel, or any nonparty, except in the following circumstances:
 - a. Disclosure may be made to employees of Respondents or of Respondents' counsel who have responsibility for reimbursement of costs pursuant to this Consent Order. Any employee to whom disclosure is made shall be advised of, and become subject to, this Section prior to such disclosure by signing a Confidentiality Agreement which reads substantially as follows:

"CONFIDENTIALITY AGREEMENT. The undersigned is

currently working at _____ which is located at _____ . During the past year the undersigned has been employed or otherwise engaged as a contractor or consultant by the following companies located at the corresponding addresses: _____ . The undersigned hereby acknowledges that he/she has read Section XX.C of the Consent Order between EPA and _____ [EPA Docket No. _____] ["Consent Order"], understands the terms thereof, and agrees to be bound by such terms. The undersigned understands that disclosure of information which has been designated as confidential by EPA may cause substantive harm to the affected business' competitive position. Accordingly, among other responsibilities, the undersigned shall share such information only with persons specifically authorized to receive the information pursuant to the Consent Order, shall retain the information in a secure manner, and shall use such information only for the purposes authorized by the Consent Order. The undersigned understands that this pledge of confidentiality continues for an indefinite term. Furthermore, the undersigned understands that a breach of this Confidentiality Agreement may subject him/her to damages and to criminal prosecution under 42 U.S.C. § 9604(e) (7) (B).

"Signed: _____"

"Dated: _____."

Employees do not include persons, firms, or corporations engaged by Respondents or Respondents' counsel on a contract basis, who shall be subject to the requirements of subparagraph b of this Paragraph.

- b. Disclosure may be made to consultants, witnesses, experts, or employees of experts ["Experts"] employed or otherwise engaged by Respondents or Respondents' counsel to assist in complying with this Consent Order or in pursuing any dispute pursuant to Section XVIII. Prior to disclosure to any Expert, the Expert must agree to be bound to the terms of this Section by executing a Confidentiality Agreement substantially in the form set

forth in subparagraph (a) above. A copy of each executed Confidentiality Agreement shall be furnished to EPA not less than five (5) business days prior to disclosure to the Expert of the business information.

6. Respondents, Respondents' counsel, and any other person subject to this Section who obtains information designated as confidential hereunder shall take all necessary and appropriate measures to maintain the confidential nature of the information, shall share such information only with persons authorized to receive it pursuant to this Section, and shall retain the information in a secure manner. Except as provided in paragraph (5) above, no other person shall be permitted access to the information.
7. Any person who obtains access to information designated as confidential under this Section may make copies, duplicates, extracts, summaries, or descriptions of the information or any portion thereof only for the purpose of complying with this Consent Order. All copies, duplicates, extracts, etc. shall be handled in the manner set forth in this Section to the same extent and manner as original documents.
8. Any unauthorized disclosure of information designated as confidential hereunder shall not result in a waiver of any submitter's claim of confidentiality.
9. Within sixty (60) days following payment of the amount identified in each summary report provided pursuant to paragraph A of this Section, any person who obtained information designated as confidential hereunder shall assemble and return such information to EPA, including all copies, extracts, summaries, or descriptions of the information or portions thereof. Such return shall be certified in writing by the person who obtained the information from EPA. All such information covered by this Section which constitutes the work product of counsel or Respondents shall be destroyed promptly.
10. Ninety calendar days prior to the beginning of each year, the EPA shall provide the Respondents with an estimate of the amount of Oversight Costs for the year. The estimate provided by EPA cannot be introduced or used in any manner by Respondents in any proceeding, including but not limited to any dispute pursuant to this Consent

Decree. Any failure by EPA to provide such estimate shall not affect Respondents' obligations under this Decree, including but not limited to their obligations pursuant to this Section XX.

XXI. OTHER CLAIMS

- A. Nothing in this Consent Order shall constitute or be construed as a release from any claim, cause of action, or demand in law or equity against any person, firm, partnership, or corporation not bound by this Consent Order for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, hazardous wastes, pollutants, or contaminants found at, taken to, or taken from the Site.
- B. This Consent Order does not constitute any decision on preauthorization of funds under section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2).
- C. By consenting to the issuance of this Consent Order, the Respondent waives any claim to reimbursement for all work performed and expenses incurred under this Consent Order it may have under section 106(b) of CERCLA, 42 U.S.C. § 9606(b).

XXII. OTHER APPLICABLE LAWS

- A. All actions required to be taken pursuant to this Consent Order shall be undertaken in accordance with the requirements of all applicable local, State, and Federal laws and regulations.
- B. Except as provided herein, Respondents shall, prior to any off-site shipment of hazardous substances from the Site to an out-of-state waste management facility, provide written notification to the appropriate state environmental official in the receiving state and to the EPA Project Coordinator of such shipment of hazardous substances. The requirements of this paragraph shall not apply to any such off-site shipments when the total volume of such shipments will not exceed 10 cubic yards.
 - 1. The notification shall be in writing, and shall include the following information, where available: (1) the name and location of the facility to which the hazardous

substances are to be shipped; (2) the type and quantity of the hazardous substances to be shipped; (3) the expected schedule for the shipment of the hazardous substances; and (4) the method of transportation. Respondents shall notify the receiving state of major changes in the shipment plan, such as a decision to ship the hazardous substances to another facility within the same state, or to a facility in another state.

2. The identity of the receiving facility and state will be determined by Respondents following the award of the contract for the remedial investigation and feasibility study. Respondents shall provide all relevant information on the off-site shipments, including information under the categories noted in paragraph B.1 of this Section, as soon as practical after the award of the contract and before the hazardous substances are actually shipped.

XXIII. INDEMNIFICATION OF THE UNITED STATES GOVERNMENT

Respondents agree to indemnify and save and hold harmless the United States Government, its agencies, departments, agents, and employees, from any and all claims or causes of action arising from or on account of acts or omissions of Respondents or their agents, independent contractors, receivers, trustees and assigns in carrying out activities required by this Consent Order. This indemnification shall not be construed in any way as affecting or limiting the rights or obligations of Respondent or the United States under their various contracts. Respondents expressly decline to indemnify the United States for all claims, if any, against the United States as an alleged potentially responsible party at the Site for its actions in connection with any federal agencies' alleged dealings in connection with the Site.

XXIV. LIABILITY OF THE UNITED STATES GOVERNMENT

Neither the United States Government nor any agency thereof shall be liable for any injuries or damages to persons or property resulting from acts or omissions of Respondents, or of their employees, agents, servants, receivers, successors, or assignees, or of any persons, including, but not limited to firms, corporations, subsidiaries, contractors, or consultants, in carrying out activities pursuant to this Consent Order, nor shall the United States Government or any

agency thereof be held as a party to any contract entered into by Respondents in carrying out activities pursuant to this Order.

XXV. MISCELLANEOUS

- A. Except as otherwise provided in this Consent Order, the term "days" shall mean calendar days. If a due date for any task or deliverable falls on a Federal holiday or weekend, the due date for that task or deliverable shall be the next working day.
- B. In the event of conditions posing an immediate threat to human health or welfare or the environment, Respondents shall notify EPA and the State immediately. In the event of unanticipated or changed circumstances at the Site, Respondents shall notify the EPA Project Coordinator by telephone within twenty-four (24) hours of discovery of the unanticipated or changed circumstances. In the event that EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the Work Plan, EPA shall modify or amend the Work Plan in writing accordingly. Respondents shall perform the Work Plan as modified or amended.

XXVI. ADMISSIONS

- A. This Order shall not be admissible as evidence in any proceeding except to enforce the terms of this Order or to prove the existence thereof. Entry into this Order, including the Work Plan, shall not constitute an admission against interest by the Respondents as to their liability or as to the facts set forth herein, nor shall it constitute a waiver of defenses by the Respondents for any purpose, other than enforcement of this Order. The Respondents specifically do not admit any fact or law set forth herein including that the conditions at the Site present an imminent and substantial endangerment to public health, welfare or the environment, or that such conditions constitute a release or threat of release of a hazardous substance. However, Respondents shall not challenge EPA's findings of fact, conclusions of law, or determinations set forth in this Order, or EPA's jurisdiction to issue this Order, in any action by EPA to enforce this Order.
- B. No fact or opinion developed by Respondents contractor pursuant to this Order shall be deemed an admission by the

Respondents, except as to Respondents' compliance or noncompliance with this Order. Nothing in this section shall be deemed to preclude admission into evidence by EPA of any information, fact or opinion developed by Respondents' contractor pursuant to this Order in any proceeding, or to use such information, facts or opinion for any purpose.

XXVII. SUBSEQUENT MODIFICATION

- A. This Consent Order may be amended by mutual agreement of EPA and the Respondents. Such amendments shall be in writing and shall have as their effective date, the date on which such amendments are signed by EPA.
- B. 1. Minor modifications to the requirements of the Work Plan, specifically those which do not materially or significantly affect the nature, scope, or timing of the work to be performed, may be made by mutual agreement of the Project Managers. Any such modifications must be in writing and signed by both Project Managers. The effective date of the modification shall be the date on which the letter from EPA's Project Manager is signed.
2. Modifications to the requirements of the Work Plan that are not minor modifications as described in paragraph B.1 of this Section may be made by mutual agreement of EPA and the Respondents. Any such modifications must be in writing and signed by Respondents' Project Manager and the Chief of the Chief of the General Remedial Section in the Hazardous Waste Division of EPA Region III. The effective date of the modification shall be the date on which the modification is signed by EPA.
- C. Respondents agree that any request for modification of this Consent Order shall be accompanied by a statement of how such modification shall affect the Work Plan schedule.
- D. Following EPA approval of a modification to a schedule, Respondents agree, within seven (7) days of receipt of the modification, to supply to EPA a revised Work Plan schedule and accompanying charts which shall reflect the approved modifications to such schedule.
- E. Any reports, plans, specifications, schedules, or other submissions required by this Consent Order and any modifications thereto are, upon approval by EPA, enforceable

as requirements of this Consent Order. Any non-compliance with such EPA-approved or modified reports, plans, specifications, schedules, or other submissions shall be considered non-compliance with the requirements of this Consent Order and shall subject the Respondents to, among other things, the requirements of Section XVI of this Consent Order.

- F. No informal advice, guidance, suggestions, or comments by EPA, other than a formal approval as specified in Section XXVI.A or .B of this Consent Order, regarding reports, plans, specifications, schedules, and any other writing submitted by the Respondents or regarding any other requirement of this Consent Order will be construed as relieving the Respondents of their obligation to obtain formal approval when required by this Consent Order, and to comply with requirements of this Consent Order, unless formally modified.

XXVIII. EFFECTIVE DATE

The effective date of this Consent Order shall be three (3) business days following the date on which EPA forwards a fully executed true and correct copy to Respondents.

XXIX. NOTICE OF COMPLETION

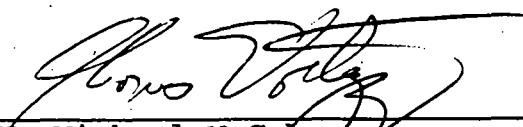
- A. When Respondents believe that (1) the RI and FS have been fully performed in accordance with the requirements of this Consent Order, (2) all costs reimbursable under Section XX of this Consent Order have been paid to EPA, and (3) all penalties assessed by EPA pursuant to this Consent Order have been paid to EPA, Respondents shall so notify EPA in writing ["Respondents' Completion Petition"].
- B. If, following receipt of Respondents' Completion Petition, EPA determines that (1) the RI and FS have been fully performed in accordance with the requirements of this Consent Order, (2) all costs reimbursable under Section XX of this Consent Order have been paid to EPA, and (3) all penalties assessed by EPA pursuant to this Consent Order have been paid to EPA, EPA shall so notify Respondents in writing ["Notice of Completion"]. EPA issuance of a Notice of Completion shall not alter or affect any provision of this Consent Order including, without limitation, Sections XV (Record Preservation), XIX (Reservation of Rights), XXI (Other Claims), XXIII (Indemnification of the United States

Government), and XXIV (Liability of the United States Government).

- C. If EPA does not agree that (1) the RI and FS have been fully performed in accordance with the requirements of this Consent Order, (2) all costs reimbursable under Section XX of this Consent Order have been paid to EPA, or (3) all penalties assessed by EPA pursuant to this Consent Order have been paid to EPA, EPA shall notify Respondents in writing of the activities that must be undertaken to complete such work. If applicable, EPA will set forth a schedule for performance of such activities consistent with this Consent Order or may require Respondents to submit a schedule for EPA approval. Respondents shall perform all activities described in EPA's notice in accordance with the specifications and schedules established pursuant to this paragraph, subject to Respondents' right to invoke dispute resolution under Section XVIII of this Consent Order, and shall submit a Completion Petition to EPA in accordance with paragraph A of this Section.

IT IS SO AGREED AND ORDERED:

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY:



W. Michael McCabe
Regional Administrator
EPA Region III

8/29/97

Date

(General Chemical Site)
EPA Docket No. 97-105-DC

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FOR THE RESPONDENTS:

The undersigned hereby certifies that he or she is authorized to execute this Consent Order No. 97-105-DC on behalf of the Respondent for whom he or she is signing and to bind such Respondent to the terms and conditions herein:

Robert T. Forbes
[Signature]

8/7/97
Date

Print Name: Robert T. Forbes

Title: Director Remediation

For Respondent: FMC CORPORATION

FOR THE RESPONDENTS:

The undersigned hereby certifies that he or she is authorized to execute this Consent Order No. 97-105-DC on behalf of the Respondent for whom he or she is signing and to bind such Respondent to the terms and conditions herein:

SKR
7/29/97

Curt M. Richards

[Signature]

8/4/97

Date

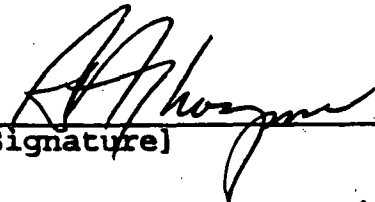
Print Name: Curt M. Richards

Title: Corporate Director, Environment, Health & Safety

For Respondent: Olin Corporation

FOR THE RESPONDENTS:

The undersigned hereby certifies that he or she is authorized to execute this Consent Order No. 97-105-DC on behalf of the Respondent for whom he or she is signing and to bind such Respondent to the terms and conditions herein:



[Signature]

July 31, 1997
Date

Print Name: GARY A. THOMPSON

Title: MR. REMEDIATION

For Respondent: SHELL OIL COMPANY

FOR THE RESPONDENTS:

The undersigned hereby certifies that he or she is authorized to execute this Consent Order No. 97-105-DC on behalf of the Respondent for whom he or she is signing and to bind such Respondent to the terms and conditions herein:

M. John A. Licata
[Signature]

8/1/97
Date

Print Name: John A. Licata

Title: Director, Environmental & Public Affairs

For Respondent: Novartis Corporation

FOR THE RESPONDENTS:

The undersigned hereby certifies that he or she is authorized to execute this Consent Order No. 97-105-DC on behalf of the Respondent for whom he or she is signing and to bind such Respondent to the terms and conditions herein:

Ri Van Mynen 7-31-97
[Signature] Date

Print Name: Ronald Van Mynen

Title: Vice-president, Health, Safety & Environmental Affairs

For Respondent: Union Carbide Corporation

FOR THE RESPONDENTS:

The undersigned hereby certifies that he or she is authorized to execute this Consent Order No. 97-105-DC on behalf of the Respondent for whom he or she is signing and to bind such Respondent to the terms and conditions herein:

Paul Arbesman T. Bygn
[Signature]

8/4/97
Date

Print Name: Paul Arbesman

Title: Leader, Remediation & Evaluation Services

For Respondent: Allied Signal Inc.

FOR THE RESPONDENTS:

The undersigned hereby certifies that he or she is authorized to execute this Consent Order No. 97-105-DC on behalf of the Respondent for whom he or she is signing and to bind such Respondent to the terms and conditions herein:

WILMINGTON SECURITIES, INC.

BY: Richard H. Brown

[Signature] Richard H. Brown

Date

Print Name: Richard H. Brown

Title: Assistant Vice President and Assistant Secretary

For Respondent: Wilmington Securities, Inc.