A-99-40
II-A-4

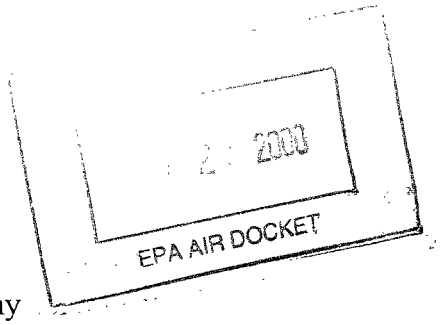
MEMORANDUM

TO: Docket A-99-40

FROM: Warren Johnson
U.S. Environmental Protection Agency (MD-13)

DATE: October19, 2000

SUBJECT: New Jersey Facility-Wide Permit for the Geon Company



The attached is a facility-wide state permit for the Geon Company operating in the State of New Jersey. The Geon Company operations in New Jersey includes polyvinyl chloride and copolymers production. Being a facility-wide permit, the majority of this permit relates to media outside of the scope of the MACT standard studies. Nonetheless, this permit was included in the studies for the development of the MACT standard for polyvinyl chloride and copolymer production and is being included in the docket as part of these EPA studies.

State of New Jersey
Department of Environmental Protection
401 East State Street
CN 402
Trenton, New Jersey 08625-0402

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner
Tel. (609) 292-2885
Fax. (609) 292-7695

January 30, 1997

Mr. Jim Kiel, Manager Environmental Affairs
The Geon Company
Route 130 and Porcupine Road
Pedricktown, New Jersey 08067

Dear Mr. Kiel:

The Department is happy to be presenting the attached Facility-Wide Permit (FWP) to The Geon Company (Geon). The Department would like to commend Geon for the hard work, dedication and spirit of cooperation that was so vital to the development of this permit.

The incorporation of pollution prevention into the operational and regulatory framework of a facility is a key element in the FWP process. Throughout this process, Geon has demonstrated a commitment to exploring innovative pollution prevention technologies to reduce the use and release of hazardous substances.

Additionally, the Department feels that a consolidated and streamlined permit process will help industries succeed in today's economic climate.

Also attached is the Department's response to written comments submitted by Geon regarding the draft FWP.

Sincerely,

Catherine W. Cowan
Assistant Commissioner

Robert C. Shinn, Jr.
Commissioner

Enclosure

FACILITY WIDE PERMIT COVER PAGE

Issued To: The Geon Company
Rte. 130 and Porcupine Road
Pedricktown, NJ 08067
Block 38, Lot 12

Permit Number: NJ0008
Issuance Date: January 30, 1997
Effective Date: March 1, 1997
Expiration Date: February 28, 2002

This Facility-Wide Permit is being issued in accordance with N.J.S.A. 13:1D-35 et seq., particularly N.J.S.A. 13:1D-48, N.J.A.C. 7:1K et seq., N.J.S.A. 13:1E-1 et seq., N.J.A.C. 7:26 et seq.,N.J.S.A. 58:10A-1 et seq., N.J.A.C. 7:14A et seq., and N.J.S.A. 26:2C-1 et seq., N.J.A.C. 7:27 et seq., The FWP will replace the following existing permits/certificates listed below.

i. New Jersey Pollutant Discharge Elimination System (NJPDES) Permit No. NJ0004286;

ii. NJDEP Air Pollution Control (APC) certificates listed in Attachment A;

The FWP contains provisions covering the following new activities:

i. Modification and revocation of the existing NJPDES permit (NJ0004286) for Discharge Serial Numbers 002, 003, 004, 005, and 006 for discharge of stormwater to an unnamed tributary of the Delaware River. Those discharges will now be regulated by a Basic Industrial Stormwater General Permit (NJ0088315) that establishes conditions for the development of a Stormwater Pollution Prevention Plan (SPPP) and implementation of Best Management Practices to control industrial site runoff.

ii. Reduction in surface water discharge sampling frequency for acrylonitrile, hexavalent chromium and lead from monthly to quarterly, and for phenol from quarterly to annual.

iii. The first time permitting of the following new source operations:

Process A
1-Silo Area Vacuum System

Process B
3-25,000-Gallon Blend Tanks, TK-5N, TK-6N, TK-7N
3-PVC Bagging Systems

Process C
1-Compound Area Vacuum Systems
1-Compound Rework Container

All of these sources with the exception of the Blend Tanks are served by the listed Dust Separator Control Devices.

iv. Approval and implementation of a Facility Specific NOx Emission Control Plan

iv. Approval and implementation of a Facility Specific NOx Emission Control Plan

The FWP contains provisions covering the following monitoring and reporting requirements:

i. Emission reporting and tracking requirements pursuant to N.J.A.C. 7:27, Air Pollution Control;

ii. Recordkeeping and reporting of monitoring results pursuant to N.J.A.C. 7:14A-2.9;

iii. Submittal of New Jersey Pollution Prevention and Release Reports pursuant to N.J.A.C. 7:1K-5.1 and 6.1;

iv. Submittal of a biennial report by March 1 of each even numbered year covering hazardous waste generators activities during the previous year pursuant to 40 C.F.R 262.41.

Prevention of Significant Deterioration (PSD)

i. For applicable VCM sources, the FWP requirements will constitute the (PSD)permit requirements.

Administrator
NJDEP, Air Quality Regulation

Director
NJDEP, Division of Water Quality

Director
NJDEP, Division of Solid and Hazardous Waste

SECTION I: GENERAL FACILITY CONDITIONS

1. The equipment covered by this permit shall not cause any air contaminant, including an air contaminant detectable by sense of smell, to be present in the outdoor atmosphere in such quantity and duration which is, or tends to be injurious to human health or welfare, animal or plant life or property, or would unreasonably interfere with the enjoyment of life or property, except in areas over which the owner or operator has exclusive use or occupancy. This condition is designated as not being Federally enforceable because it is based on an applicable state requirement only.

2. Any operation of the equipment covered by this permit which may cause off-property effects, including odors, shall be reported by the Permittee immediately, as required by the Air Pollution Control Act, N.J.S.A. 26:2C-19(e). Such report shall be made by calling the Environmental Action Hotline at (609) 292-7172.

3. The permittee shall not use the equipment covered by this permit, unless specified in the applicable process package, in a manner which will cause visible emissions, exclusive of water vapor to be emitted into the outdoor atmosphere. Compliance with this requirement shall be verified visually by use of New Jersey Test Method 2 (N.J.A.C. 7:27B-2), or equivalent, or by opacity monitoring. This provision shall not apply to smoke from the facility boilers which is visible for a period of not longer than three minutes in any 30-minute period.

4. In addition to the Office of Pollution Prevention, the permittee shall also submit a copy of all reports regarding surface water discharges to:

   The Delaware River Basin Commission
   P.O. Box 7360, 25 State Police Drive
   West Trenton, NJ 08628-0360

5. The Permittee shall report any non-compliance of permit requirements directly related to emission limits, including but not limited to pressure drops, changes in operating hours, flow rates or temperature, or any non-compliance specified in the conditions for the permit, in writing, within ten working days after the event, to the applicable program of the Southern Regional Enforcement Office, unless otherwise specified in writing by the Office of Pollution Prevention.

6. Any exceedances of VCM emission limits listed in this permit must also be reported by telephone within three working days to the Southern Regional Enforcement Office, (609)968-2600

7. All applicable reports submitted to the Department shall be certified as necessary in accordance with N.J.A.C. 7:27-1.39

8. The SPPP shall be prepared and implemented in accordance with the deadlines shown in Table 2, paragraph 14 below. The plan must address all areas where industrial activity takes place. The SPPP shall be prepared and implemented in accordance with good engineering practices, and shall include, at a minimum, all the items and information

identified in Attachment B. The SPPP shall identify existing BMPs and additional BMPs as necessary. Existing BMPs shall be continued or replaced with equally or more effective BMPs. The SPPP shall be signed by the permittee, an original retained at the facility for NJDEP inspection, and a copy submitted to the NJDEP, Southern Regional Water Compliance and Enforcement and the Department's Central File Room, by the compliance date shown in Table 2. Also, the SPPP Preparation Certification (Attachment C) shall be submitted in compliance with the schedule found in Table 2. The permittee may incorporate the SPPP into existing DPCC Plan, in order to have a consolidated release prevention plan.

9. The permittee shall be responsible for supervising and managing the operation and maintenance of this facility and any BMPs which are installed and used by the permittee to achieve compliance with the conditions of this permit and with the requirements identified in the stormwater pollution prevention plan. Proper operation and maintenance also requires the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit.

10. Once the SPPP has been implemented (18 months after the Effective Date of Permit) (EDP) in accordance with this permit, the permittee shall conduct annual inspections of the facility to assess all areas contributing to the stormwater discharge authorized by this permit and to evaluate whether the SPPP complies with, and is implemented in accordance with, this permit, and whether additional measures are needed to meet the conditions of this permit. A summary of each inspection shall be included in the SPPP as required under Attachment B, V.G.

11. The permittee shall prepare and submit an annual report summarizing the annual inspection performed pursuant to paragraph 11 above. This annual report shall include the date of inspection and name(s) and title(s) of the inspectors and shall be accompanied by an annual certification (Attachment D) that the facility is in compliance with its SPPP and this permit, except that if there are any incidents of non-compliance, those incidents shall be identified in the certification. If there are incidents of non-compliance, the report shall identify the steps being taken or taken to remedy the non-compliance and to prevent such incidents from recurring. The report and certification shall be signed by the permittee in accordance with Attachment B, VII.A to this permit, and a copy shall be maintained on-site for a period of five years. This period may be extended by written request by the Department at any time.

12. Notwithstanding any other condition of this permit, if the Department promulgates rules prescribing the minimum qualifications of persons qualified to review SPPPs, conduct annual inspections, and/or prepare annual reports, this permit may be modified upon the Department's initiative under N.J.A.C. 7:14A-7 and 8 to require the use of such persons in the development of SPPPs, the conduct of annual inspections, and/or the preparation of annual reports pursuant to paragraph 14 below.

13. The following tables describe the effluent limitation and monitoring requirements for the SPPP and the implementation schedule for the SPPP:

TABLE 2

PARAMETER	LIMITATION	MONITORING REQUIREMENTS
Industrial Activity	N/A	SPPP
Stormwater Discharge Associated with Industrial Activity	SPPP	Annual Inspection

TABLE 3

ACTIVITY	DEADLINE	CERTIFICATION REQUIRED(1)
Develop SPPP (see Attachment B)	EDP + 6 months(1)	SPPP Preparation Certification. Attachment C
Implement SPPP	EDP + 18 months(2)	SPPP Implementation and Inspection Certification. Attachment D
Inspection	Annual after EDP + 18 months	SPPP Implentation and Inspection Certification, Recertification. Attachment D

(1) EDP: Effective Date of Permit.
(2) Except for those BMPs (e.g. spill response, good housekeeping) that can be readily implemented in 30 days, in accordance with Attachment B, VI.

14. Unless otherwise specified all reports shall be submitted to the following address:

N.J. Department of Environmental Protection
Environmental Regulation
Office of Pollution Prevention
CN 423
Trenton, NJ 08625-0423

15. The equipment covered by this permit shall not be used in a manner which will cause audible noise beyond the property line in excess of the limits allowed by N.J.A.C. 7:29-1.

16. Modification Procedures

A. Any modification of this facility-wide permit will be limited to the specific provisions included in the modification. Modifications will not require that all conditions in the

facility-wide permit be reopened for each modification. All conditions in the facility-wide permit not subject to the modification will remain in full force and affect.

B. Modifications will be processed pursuant to N.J.A.C. 7:14A-2.12 and 7.5; N.J.A.C. 7:26C-12.6, 12.7 and 12.8. Any modification that meets the requirements of N.J.A.C. 7:27-8.3(c), requires only that the Department be notified of the change within 120 days of the change. Any modification that meets the requirements of N.J.A.C. 7:27-8.27(a)3, requires that the Department be notified within 120 days of the change and that the change be documented in a modification to a Pollution Prevention Plan, which satisfies the requirements of a Pollution Prevention Assessment as defined in N.J.A.C. 7:1K-1.5. The above referenced Pollution Prevention Plan modification or Assessment must also be submitted to the Department within 120 days of the change. Any change which does not meet the requirements on N.J.A.C. 7:27-8.3(c) or 8.27(a)3 shall meet the requirements of N.J.A.C. 7:27-8.3(a) and (b).

C. The Department may require the Permittee to modify the permit to include any new applicable requirements when they are promulgated.

D. The Permittee shall conduct any previously required stack or emission testing.

17. If any section, condition or requirement of this FWP is adjudged invalid or unconstitutional by a court of competent jurisdiction, the remainder of this FWP shall not be affected thereby, and shall remain in full force and effect.

18. The Permittee shall comply with all conditions of the Permit. Any non-compliance with a permit condition constitutes a violation of the New Jersey Air Pollution Control Act N.J.S.A. 26:2C-1 et seq., or the CAA 42 U.S.C. 7401 et seq., or both, and is grounds for enforcement action; for termination, revocation and reissuance, or for modification of the Permit; or for a denial of an application for a renewal of the Permit. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of it's Permit.

SECTION II: FACILITY RELEASE LIMITS

Facility-level Release Summary Table

Contaminant	Existing Facility Permits Limits Tons/Year	Facility Actual Emissions Tons/Year*	FWP Facility Emission Limits Tons/Year
PM10	63.826	3.5	56.23
Pb	0.293	0.0	0.092
Other Particulates	200.586	**	80.929
Total Particulates	264.705	78.7	137.159
HAP-VOC	37.467	**	25.646***
Other VOC	41.744	**	45.280
Total VOC	79.211	52.3	70.926****
CO	43.181	9.3	43.347
NOx	251.862	37.61	152.379
SOx	225.231	0.7	7.317
Other	17.570	**	19.275

* From 1993 Air Emission Statement

** These contaminants listed under Total VOC Category on Air Emission Statement

*** For Calendar year 1997. In calendar year 1998, this number will go down to 21.220. Afterwards will be a "sliding" limit based on production.

**** For calendar year 1997. In calendar year 1998, this number will go down to 66.500.

ATTACMENT A

APC Stack #	APC CT #	APC Stack #	APC CT #
002	077461	034	012502
005	077580	035	012503
007	001683	036	012504
011	098317	037	034875
012	068052	038	005940
013	068053	039	034874
015	017761	042	015737
019	001670	043	015738
020	001671	044	015740
021	001672	045	015741
022	035762	048	016365
023	001673	049	035764
024	001675	050	001715
025	077463	051	001716
028	001703	075	091114
029	001705	077	096445
030	005939	084	004477
031	035763	096	007015
032	001491	099	040057
033	012501	100	040058

APC Stack #	APC CT #	APC Stack #	APC CT #
101	040059	133	049310
102	040060	134	081321
105	042106	135	049312
106	042107	136	085639
107	042108	142	064399
108	098227	143	065457
109	042110	145	081130
110	042111	146	081322
116	042117	147	081758
118	042119	148	092153
119	092792	149	092154
120	042121	150	092155
121	042122	151	092793
122	042124	152	092794
123	042125	153	093392
124	042126	156	097663
125	099715	160	097667
126	076184	161	097668
127	042129	163	097892
128	042302	164	097893
130	044054	166	098128

APC Stack #	APC CT #	APC Stack #	APC CT #
169	112033	174	113477
170	112034	175	113478
171	112035	176	113807
172	112036	177	113808
173	113476	178	122738

ATTACHMENT B

CONTENTS OF THE
STORMWATER POLLUTION PREVENTION PLAN

I. Stormwater Pollution Prevention Plan

The following outline provides the key elements of an acceptable Storm Water Pollution Prevention Plan (SPPP). The purpose of the SPPP is to meet the following objectives:

A. to identify potential sources of pollution and source materials on-site which may reasonably be expected to affect the quality of stormwater discharges associated with industrial activity;

B. to describe and ensure that practices are implemented to eliminate and/or reduce pollutants from source materials in stormwater discharges associated with industrial activity; and

C. to ensure compliance with the terms and conditions of this permit.

II. Stormwater Pollution Prevention Team

The permittee shall form and identify a Stormwater Pollution Prevention Team in the SPPP. The SPPP shall name a specific individual or individuals within the facility organization who are members of the team. The team is responsible for developing the SPPP in accordance with good engineering practices, and in the plan's implementation, and maintenance. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's SPPP which are provided below.

III. Description of Existing Environmental Management Plans

The SPPP team shall evaluate the facility's existing environmental management plans and programs for consistency with this permit and determine which provisions, if any, from these other plans can be incorporated by reference into the SPPP.

Examples of plans which may be referred to when applicable to the site include: Discharge Prevention Containment and Countermeasure (DPCC), Discharge Cleanup and Removal (DCR), Preparedness Prevention and Contingency Plan (PPCP, 40 CFR Parts 264 and 265), the Spill Prevention Control and Countermeasures (SPCC) requirements (40 CFR Part 112), the National Pollutant Discharge Elimination System Toxic Organic Management Plan (NPDESTOMP, 40 CFR Parts 413, 433, and 469), and the Occupational Safety and Health Administration (OSHA) Emergency Action Plan (29 CFR Part 1910). A Copy of any plans referred to in the SPPP should be kept on-site with the SPPP.

IV. Site Assessment

The Site Assessment shall describe the physical facility and the potential pollutant sources (materials, activities and areas) which may be reasonably

expected to affect the quality of stormwater discharges. The key elements of the site assessment shall include, at a minimum, the following requirements:

A. Inventory Requirements

Each facility must develop and update annually, as appropriate, an inventory which includes, at a minimum, the following:

1. List of the general categories of source materials that have been used, loaded/unloaded, stored, treated, spilled, leaked and/or disposed on-site in a manner to allow exposure to stormwater; and

2. List of any domestic wastewater, non-contact cooling water, or process wastewater (as defined in N.J.A.C. 7:14A), that is generated at the facility and discharged through separate storm sewers (as defined in N.J.A.C. 7:14A) to surface waters. List any current NJPDES (New Jersey Pollutant Discharge Elimination System) permit or permit application that the facility may have for such discharges.

B. Mapping Requirements

A site map drawn to scale that clearly shows the following:

1. Buildings and other permanent structures;

2. Paved area and roadways;

3. Surface water bodies (e.g. rivers, lakes, streams, bays, estuaries) that are located on or about the property which receives or may receive stormwater from the site;

4. Location of all stormwater discharge points and outfalls;

5. Location of each point or sewer segment, where domestic wastewater, process wastewater, or non-contact cooling water generated by the facility enters storm sewers that discharge to surface waters;

6. Outline of the drainage area within the facility boundaries for each stormwater outfall and a depiction of flow direction (e.g. arrow head) of stormwater in each drainage area;

7. Locations where source materials are likely to be exposed to stormwater, and the following activities and/or storage, at a minimum; storage areas, palleted materials, outdoor handling, treatment or disposal areas, loading and/or unloading areas, manufacturing and/or processing areas, waste storage areas, vehicle/equipment maintenance areas, vehicle/equipment fueling areas, hazardous waste storage or disposal areas, areas of spills and/or leaks of source materials, and access routes;

8. Location of existing stormwater structural control measures (e.g. containment, berms, detention/retention basins, grassed swales); and

9. Areas of existing and potential soil erosion.

C. Narrative Description of Existing Conditions

The SPPP shall include a narrative description concerning the existing management of all source materials at the facility which are handled, treated, stored, disposed, or which otherwise exist in a manner allowing contact with stormwater. The narrative description shall address the following where appropriate:

1. Any discharges of domestic wastewater, non-contact cooling water, or process water that are listed in accordance with A.2 above (unless such discharges have been authorized by other NJPDES permits or identified in applications or requests for authorization submitted for other NJPDES permits);

2. Description of type of industrial activities and/or areas (e.g. fueling, material handling, manufacturing or processing areas) at the site;

3. The actual or potential pollutant categories associated with each industrial area and/or activity where source materials are likely be exposed to stormwater including, but not limited to: fueling stations, loading/unloading areas, maintenance shops, areas where spills and/or leaks of source materials frequently occur, equipment or vehicle cleaning areas, outdoor storage areas, outdoor manufacturing or processing areas, on-site waste disposal areas, above ground liquid storage tanks, outside storage of raw materials, by-products, or finished products, (e.g. fueling area -diesel fuels, gasoline, petroleum hydrocarbons); and

4. A description of existing management practices employed to: a) eliminate contact of source materials with stormwater; b) minimize or reduce pollutants from source materials through structural or non-structural measures; c) divert stormwater to specific areas on or off-site, including diversion to containment areas, holding tanks, treatment facilities, or sanitary or combined sewers; d) treat stormwater discharging from the site; and e) prevent or permit any discharges of domestic wastewater, non-contact cooling water, or process wastewater to surface water.

V. Best Management Practices (BMP) Selection and Plan Design

The permittee shall evaluate the information from the site assessment phase of this plan to identify potential and existing sources of stormwater contaminated by source material. All discharges of domestic wastewater, non-contact cooling water, and process wastewater must be eliminated or permitted. Based upon the site assessment performed, the permittee shall develop BMP's that will effectively eliminate or reduce pollutant loadings in stormwater discharges from the facility in accordance with the following sections. BMP's are measures used to prevent or mitigate pollution from any type of activity. The evaluation and selection of the BMP's addressing each area, and/or activity where source materials are exposed to stormwater discharging to surface water, shall be documented in the SPPP and shall include at a minimum the following BMPs:

A. Non-Stormwater Discharges into Storm Sewers

The facility shall ensure that it does not generate and discharge, through storm sewers to surface waters, any domestic wastewater, non-contact cooling water, or process wastewaters, unless that discharge is authorized by another NJPDES permit or identified in an application or request for authorization submitted for another NJPDES permit.

B. Removal, Cover or Control of Industrial Activities

Except as specified and required in Part I of the permit for certain, specific exposures of source materials, all other source materials shall be moved indoors, covered, used, handled, and/or stored in a manner so as to prevent contact with stormwater that is discharged to surface water. Each BMP that prevents such contact shall be identified and discussed in the SPPP.

C. Diverting Stormwater

Approved diversion of contaminated stormwater to either a domestic or industrial wastewater treatment plant may also be considered when choosing an appropriate BMP where feasible. (Diversion to groundwater may require a separate NJPDES permit. Consult the Department's Bureau of Operational Groundwater Permits.)

D. Spill Prevention and Response

Areas where actual or potential spills of source materials are exposed to stormwater discharges can occur, and their accompanying drainage points shall be identified clearly in the SPPP. Where appropriate, specific material handling procedures, storage requirements and use of equipment such as diversion valves shall be developed and practiced to prevent and/or eliminate spills and/or leaks of source materials from being exposed to stormwater. Procedures for cleaning up spills shall be specifically included in the plan and made available to the appropriate personnel through scheduled employee training. In addition, the facility shall provide or otherwise make available to its personnel the appropriate and necessary spill cleanup equipment to effect an immediate and thorough spill cleanup.

E. Good Housekeeping

The SPPP must include a good housekeeping program to help maintain a clean and orderly work place. For certain activities or areas, the discharge of stormwater exposed to source materials may be prevented merely by using good housekeeping methods. The following are some simple procedures that a facility can consider incorporating into an effective good housekeeping program:

1. Conduct cleanup immediately after discovery of leaks and spills;

2. Implement careful material storage practices;

3. Improve operation and maintenance of industrial machinery and processes;

4. Maintain up-to-date material inventory;

5. Maintain well organized work areas;

6. Provide regular pickup and disposal of waste materials;

7. Maintain dry and clean floors and ground surfaces by using brooms, shovels, vacuum cleaners, or cleaning machines; and

8. Train employees about good housekeeping practices.

F. Preventative Maintenance

The SPPP shall include a Preventative Maintenance Program to include timely and regular inspections and maintenance of stormwater management devices (e.g. cleaning oil/water separators, catch basins, drip pans, catch basins, detention basins, covers, treatment units) and routine inspections of facility equipment and operations to detect faulty equipment. Equipment (such as tanks, piping, containers, and drums) should be checked regularly for signs of deterioration.

G. Inspections and Regular Evaluation Process

1. Regular Inspections

The SPPP shall require regular inspections of the facility's equipment, exposed source materials and industrial areas to provide that all elements of the SPPP are in place and working properly. Inspections shall be conducted by qualified, trained plant personnel. Records of these inspections shall be kept on-site with the SPPP. These inspection records shall consist of the following, at a minimum: date of inspection; location of and problem(s) identified; steps taken to correct problem(s) and prevent reoccurrence; and, inspector's names and title. In addition, these inspection records shall record any incidents such as leaks or accidental discharges, and any failures or breakdowns of structural BMPs.

2. Annual Inspections

The SPPP shall also require an annual inspection and report of the entire facility in accordance with Section IV, paragraphs 14 and 15 of this permit.

3. Evaluation Process

The SPPP shall include a system to routinely and continually evaluate the SPPP for effectiveness, any flaws that may have developed, and maintenance that may be required. The routine evaluation must include, but not be limited to, regular and annual inspections, inspection logs and records, internal reporting, plan revisions to correct any flaws detected in the SPPP or to reflect changes/additions at the facility, and logs of preventative maintenance performed at the facility. In addition, the Annual Reports and Certifications required pursuant to Section IV, paragraphs 14, 15 and 18 of this permit are integral to the evaluation process.

VI. Implementation Schedule

The SPPP shall include an implementation schedule for all structural and non-structural BMP's including a schedule(s) for removal, coverage, minimization of exposure of source material to stormwater, and/or stormwater diversion or treatment. The schedule shall meet the deadlines established pursuant to Section IV, paragraph 18 of this permit

Upon completion of the initial SPPP, those BMP's (e.g. spill response, good housekeeping) that may readily be implemented shall be done so within 30 days, if not already practiced.

VII. General Plan Requirements

This section provides additional requirements on the administrative requirements related to finalizing your SPPP. It covers (1) required signatures, (2) requirements for plan location and access, and (3) required certifications.

A. Required Signatures for SPPP and Attachments C and D

The SPPP and Attachments 2 and 3 shall be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;

2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively;

3. For a municipality, State, Federal or other agency, by either a principal executive officer or a ranking official; or

4. For 1., 2., or 3. above, by a duly authorized representative, provided that: a) the representative is authorized by a person described in 1, 2, or 3 above; b) this authorization specifies either an individual or a position responsible for the overall operation of the regulated facility or activity (e.g. plant manager, superintendent); and c) the written authorization is submitted to the Department.

B. Plan location and Public Access

1. The SPPP and inspection and preventative maintenance records or logs shall be maintained on site at all times. These documents must be made available, upon request, to a representative of the Department and to the owner and operator of any municipal separate storm sewer receiving the stormwater discharge.

2. The SPPP shall be made available to the public upon request. The facility may claim any portion of the SPPP as confidential in accordance with the provisions set forth in N.J.A.C. 7:14A-11.

ATTACHMENT C

Stormwater Pollution Prevention Plan
Stormwater Pollution Prevention Plan Preparation Certification
(Facility Wide Permit for The Geon Company)

Facility Name: The Geon Company

"I certify under penalty of law that I have signed and personally examined and am familiar with the information in this Stormwater Pollution Prevention Plan (SPPP) Preparation Certification and all attached documents, and in the SPPP referred to in this certification.

"I further certify that this SPPP Preparation Certification, all attached documents, and SPPP were prepared by personnel under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate this information. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the information in this SPPP Preparation Certification, all attached documents, and SPPP is true, accurate and complete.

"I certify that the SPPP referred to in this SPPP Preparation Certification has been signed and a working copy is retained at the facility in accordance with the Facility-Wide Permit for The Geon Company, in Pedricktown, and that this SPPP will be fully implemented at the facility in accordance with the terms and conditions of that permit. The original SPPP for this permitted facility is hereby attached to this certificate. I am aware that pursuant to the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., there are significant civil and criminal penalties for making a false statement, representation, or certification in any application, record, or other document filed or required to be maintained under that Act, including fines and/or imprisonment."

Authorized Signature:

_____
(Vice President or Higher*)

_____
(Print Name and Date)

Notary Signature:

Sworn before me
This day of

_____

_____
(Notary Public)

*(FOR INFORMATION ON WHO MUST SIGN, SEE SECTION VII.A OF ATTACHMENT B)

ATTACHMENT D •
Stormwater Pollution Prevention Plan
Implementation and Inspection Certification
(Facility-Wide Permit for The Geon Company)

Facility Name: The Geon Company

"I certify under penalty of law that I have personally examined and am familiar with the information in this Stormwater Pollution Prevention Plan (SPPP) Implementation and Inspection Certification and all attached documents, and in the SPPP referred to in this certification.

"I certify that this SPPP Implementation and Inspection Certification all attached documents were prepared by personnel under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate this information. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the information in this SPPP Implementation and Inspection Certification and all attached documents is true, accurate and complete.

"I certify that the facility has been inspected to identify areas contributing to the stormwater discharge authorized under the Facility-Wide Permit and to evaluate whether the SPPP prepared under that permit complies with requirements and conditions of that permit and is being properly implemented.

"I certify that the SPPP referred to in this SPPP Implementation and Inspection Certification has been and will continue to be fully implemented at this facility in accordance with the terms and conditions of the Facility-Wide Permit for this facility. I also specifically certify that this facility does not generate and discharge, through storm sewers to surface water, any domestic wastewater, non-contact cooling water, or process wastewater (including leachate and contact cooling water) unless that discharge is authorized by another NJPDES permit or identified in an application (or request for authorization) submitted for another NJPDES permit.

"I also certify that this facility is not in violation of any conditions of the Facility-Wide Permit for preparation and implementation of a SPPP, except for any incidents of noncompliance (which are noted in the attached report). For any incidents of noncompliance identified in the annual inspection (or made known to me during the course of the past year), I have attached a report identifying these incidents, and identifying steps taken or being taken to remedy the noncompliance and to prevent such incidents from recurring. If the attached report identifies any incidents of noncompliance, I certify that any remedial or preventive steps identified therein were or will be taken in compliance with the schedule set forth in the attachment to this certification. I am aware that pursuant to the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., there are significant civil and criminal penalties for making false statement, representation, or certification in any application, record, or other document filed or required to be maintained under that Act, including fines and/or imprisonment. I hereby submit a

revised SPPP which includes changes made to the plan over the course of the year so certified to in this form. (If no changes to the SPPP were necessary, then do not attach SPPP)."

Authorized Signature:

_____
(Vice President or Higher*)

_____
(Print Name and Date)

Notary Signature:

Sworn before me this

_____ **day of**

_____**19**_____

_____
(Notary Public)

*(FOR INFORMATION ON WHO MUST SIGN, SEE SECTION VII.A OF ATTACHMENT B)

ATTACHMENT E

THE GEON COMPANY

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Lead

Chemical Name	CAS Number
Basic lead silicate sulfate	067711-86-8
Basic lead sulfate	012202-17-4
Dibasic lead phthalate	017976-43-1
Lead	007439-92-1
Lead chromate	007758-97-6
Lead complex	039455-01-1
Lead compounds	—
Lead Molybdenum oxide	010190-55-3
Lead oxide phosphonate	012141-20-7
Lead pigment	116565-73-2
Lead stearate	007428-48-0
Lead sulfate	007446-14-2
Lead(1,2-benzenedicarboxylato(2))dioxotri	069011-06-9

THE GEON COMPANY

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: PM10

Chemical Name	CAS Number
Pigment	—
Combustion particulates	—
Mica	012001-26-2
Carbon black	001333-86-4
Talc(containing no asbestos fibre)	014807-96-6
Inorganic compounds	—
Homopolymer resin	—
Copolymer resin	—
CPVC resin	—

THE GEON COMPANY

Facility Raw Material/Contaminant List
Category 1: Total Particulates
Sub Category: Other Particulates

Chemical Name	CAS Number
Hexadecanoic acid, cadmium salt	006427-86-7
Cadmium salt	—
Barium cadmium stabilizers	—
Cadmium complex	—
Cadmium carboxylates	—
Metal salts	—
Pentadecanoic acid	001002-84-2
4-nonyl phenol	000104-40-5
Heptamethylphenylcyclotetrasiloxane	010448-09-6
Benzenemethanol,alpha,-dimethyl-	104852-44-0
12-hydroxy-octadecanoic acid	000106-14-9
Benzoic acid	106276-78-2
Benzoic acid	106276-80-6
Carbonic acid, monoammonium salt	001066-33-7
Butadiene	000106-99-0
Octadecanoic acid,lead(2+)salt	001072-35-1
1,3-Benzenediol	—
Tetrahydrofuran	000109-99-9
2,2'-oxybis-ethanol	000111-46-6
Butyltrichoro-stannane	001118-46-3
2,2'-(1,2-ethanediylbis(oxy))bis-ethanol	000112-27-6

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Other Particulates

1-Decanol	000112-30-1
9-Octadecenoic acid	000112-80-1
1-Octadecanol	000112-92-5
dibutylbis(dodecylthio)-stannane	001185-81-5
1,3-Propanedione, 1,3-diphenyl	000120-46-7
4-hydroxy-3-methoxy-Benzaldehyde	000121-33-5
2-propenoic acid	123209-67-6
1,4-Benzenediol	000123-31-9
Phenol,2-(2H-benzotriazol-2-yl)-6-dodecyl-4methyl-,branche	125304-04-3
Acetic acid, sodium salt	000127-09-3
Butylated hydroxytoluene	000128-37-0
Perylo(3,4-cd:9,10-c'd)dipyran-1,3,8,10-tetrone	000128-69-8
Methanone,(2-hydroxy-4-methoxyphenyl) phenyl	000131-57-7
Hydroxy-octadecanoic acid	001330-70-7
Boric acid, zinc salt	001332-07-6
Silicic acid	001343-98-2
Bis(1-hydroxy-2(1H)pyridinethionate-O,S)-zinc	013463-41-7
2-ethyl-hexanoic acid, zinc salt	000136-53-8
9,10-Anthracenedione,1,4-bis-((1-methylethyl)amino)-	014233-37-5
Dodecanoic acid	000143-07-7
4-methoxy-phenol	000150-76-5
Benzoic acid,2-((2-hydroxy-3,6-disulfo-1-naphthalenyl)azo)-	015782-06-6
Benzenemethanaminium	015792-67-3
3H-Pyrazol-3-one	015793-73-4
1,3,2-dioxastannepin-4,7-dione,2,2-dioctyl	016091-18-2
Spiro(isobenzofuran-1(3H)	016423-68-0

THE GEON COMPANY

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Other Particulates

Methanone	001843-05-6
Peroxydicarbonic acid	019910-65-7
12H-phthaloperin-12-one	020749-68-2
Benzenepropanoic acid	002082-79-3
9-Hexadecenoic acid	002091-29-4
Organotin	---
7-Oxabicyclo(4.1.0)heptane-3-carboxylic acid	002386-87-0
Xanthylium	002390-63-8
Dodecanoic acid, ammonium salt	002437-23-2
Phenol,2-(2H-benzotriazol-2-yl)-4-methyl	002440-22-4
Methyl methacrylate	002495-27-4
Benzenesulfonic acid, dodecyl-, sodium salt	025155-30-0
Bis(2-ethylhexylcarbonylmethyl-thio)dibutylstannane	025168-24-5
Complex Organic Sodium Salt	---
Isodecanol	025339-17-7
2-Naphthalenesulfonic acid,6-hydroxy-5-((2-methoxy-5-methyl)	025956-17-6
Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1dimethylpropyl)	025973-55-1
1,2-Benzenedicarboxylic acid	026040-51-7
Complex Organic Cadmium Salt	---
5-chloro-2-methyl-2H-isothiazol-3-one	026172-55-4
Acetic acid,2,2'-((dioctylstannylene)bis(thio)bis-	026401-97-8
Phenol,nonyl-, phosphite (3:1)	026523-78-4
Acetic acid,2,2'-((dimethylstannylene)bis(thio)bis-	026636-01-1
2-methyl-2H-isothiazol-3-one	002682-20-4
Tetradecanoic acid,monoester with 1,2,3-propanetriol	027214-38-6
Phosphonic acid, (1-hydroxyethylidene)bis-	002809-21-4

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Other Particulates

Phenol,nonyl-, barium salt	028987-17-9
1H-Benzotriazole, 4(or 5)-methyl-	029385-43-1
Octadecanoic acid,monoester with 1,2,3-propanetriol	031566-31-1
Octadecyl methacrylate monomer	032360-05-7
Decanoic acid	000334-48-5
Perioxide,bis(2-methyl-1-oxopropyl)	003437-84-1
Dipropylene glycol methyl ether	034590-94-8
Phenol,2,2'-ethylidenebis(4,6-bis(1,1-dimethylethyl)-	035958-30-6
Benzenepropanoic acid,3-(1,1-dimethylethyl)-4-hydroxy-5-methyl	036443-68-2
1-Hexadecanol	036653-82-4
Peroxide,bis(3,5,5-trimethyl-1-oxohexyl)	003851-87-4
Phenol,2-(5-chloro-2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethyl)	003864-99-1
2-Naphthalenol,1-((2,5-dimethyl-4-((2-methylphenyl)azo)phenol	004477-79-6
Eicosyl methacrylate monomer	045294-18-6
Dodecanoic acid, barium salt	004696-57-5
3,3'-((2-methyl-1,3-phenylene)diimino)bis	005045-40-9
Heptadecanoic acid	000506-12-7
D-Glucitol	000050-70-4
2H-1,3,5-Thiadiazine-2-thione,tetrahydro-3,5-dimethyl-	000533-74-4
Pentane,2,2,4-trimethyl-	000540-84-1
Tetradecanoic acid	000544-63-8
Ester	---
Amide	---
Phosphoric Acid Ester	---
Phthalate	---
Copolymer Resin	---
Organo Phosphate	---
Phenol	---
Acrylate	---
Nitrile Elastomer	---

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Other Particulates

1,2,3-propanetriol	000056-81-5
Hexadecanoic acid	000057-10-3
Stearic acid	000057-11-4
1,2-Propanediol	000057-55-6
Phenoxarsine,10,10'-oxidi-	000058-36-6
1,3-eicosanedione,1-phenyl	058446-52-9
2,4-dimethylhexane	000589-43-5
2,2-dimethylhexane	000590-73-8
9-octadecenoic acid(Z)-	059118-79-5
2,5-dimethylhexane	000592-13-2
Ethanol, 2-mercapto-	000060-24-2
9,12-octadecadienoic acid (Z,Z)-	000060-33-3
Alkanes,chlorinated	---
Acetic acid,calcium salt	000062-54-4
1-eicosanol	000629-96-9
Phenol,2,6-dibromo-4-(1-(3-bromo-4-hydroxyphenyl)-1-methylene	006386-73-8
Hexadecanoic acid, cadmium salt	006427-86-7
Benzenepropanoic acid,3,5-bis-(1,1-dimethyl)-4-hydroxy-	006683-19-8
2-Propanol	000067-63-0
2-Propane	000067-64-1
Glycerides,C14-18	067701-27-3
Alcohols,C12-18	067762-25-8
Benzenesulfonic acid,5-chloro-4-ethyl-2-((2-hydroxy-1-naphtha	067801-01-8
Octadecenoic acid (Z)-,(dimethylstannylene)bis(thio-2,1,ethylene	000067-01-8
9,12-Ocyadecadienoic acid(Z,Z)-	067859-64-7
1,2,4-Benzenetricarboxylic acid	068130-50-7
Alkenes,ethylene-manuf-by product dicyclopentadiene-conc	068131-87-3
Ester Mixture	---
Antioxidant	---
Stearate	---

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Other Particulates

Butyl Glycolate	---
Metallic Pigment	---
Alcohols,C7-9-iso,C9-rich	068526-83-0
Alcohols, C18-32	068911-61-5
9,12-octadecadienoic acid (Z,Z)-	068928-40-5
2-Naphthalenecarboxylic acid	007023-61-2
Benzoxazole	007128-64-5
Benzoic acid	071566-54-6
Octadecanoic acid,tin salt	007637-13-0
1,3-Propanediol,2-ethyl-2-(hydroxymethyl)-	000077-99-6
Propanenitrile	000078-67-1
2-Propenoic acid	000079-10-7
1,4-benzenediol,2,5-bis(1,-1-dimethylpropyl)-	000079-74-3
Phenol,4,4'-(1-methylethylidene)bis(2,6-dibromo-	000079-94-7
4,4-isopropylidenediphenol	000080-05-7
Soybean oil, epoxidized	008013-07-8
Hydroperoxide,1-methyl-1-phenylethyl	000080-15-9
Linseed oil, epoxidized	008016-11-3
Ligroine	008032-32-4
White mineral oil,petroleum	008042-47-5
Stoddard solvent	008052-41-3
1,4-Benzenedicarboxylic acid,2,2'-((2,5-dimethyl-1,4-phenyl	080648-58-4
9,10-Anthracenedione,1-hydroxy-4-((4-methylphenyl)amino)-	000081-48-1
5,9,14,18-Anthrazinetetrone,6,15-dihydro-	000081-77-6
Decanedioic acid,methyl 1,2,2,6,6-pentamethyl-4-piperidinyl	082919-37-7
Phenol,2-(1-(4-hydroxyphenyl)-1-methylethyl)-	000837-08-1
Pyrrolo(3,4-c)pyrolle-1,4-dione,3,6-bis(4-chlorophenyl)-2,5	084632-65-5
1,2-dichlorobenzene	000095-50-1
Organo Pigment	---
Metal Hydrate	---

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Other Particulates

Benzene,(1-methylethyl)	000098-82-8
Alpha-methyl styrene	000098-83-9
Xanthylium,9-(2-(ethoxycarbonyl)phenyl)-3,6-bis(ethylamino)	000989-38-8
Alphatic solvent	----
Organic solvents	----
Phenyl alkyl phosphite	----
Complex mixture of fragrance materials	----
Aliphatic sulfonate	----
Polyester sebacate plasticizer	----
Polyester plasticizer	----
Polymeric plasticizer	----
Vinyl acetate/vinyl alcohol mixture	----
Ethanol,2,2'-(cocoimino)bis	----
Distilled monoglyceride made from edible,refined sunflower	----
Glycol ether	----
Styrene	000100-42-5
Magnesium nitrate	010377-60-3
Acrylonitrile	000107-13-1
Toluene	000108-88-3
Octadecanoic acid, lead (2+) salt	001072-35-1
Aluminate (Al(OH)63-),(OC-6-11)-,magnesium carbonate hydroxide	011097-59-9
Cadmium zinc sulfide	012442-27-2
Cadmium selenide sulfide	012626-36-7
Cadmium sulfide	001306-23-6
Cadmium selenide	001306-24-7
Chromium hydroxide	001308-14-1
Magnesium hydroxide	001309-42-8
Magnesium oxide	001309-48-4
Antimony trioxide	001309-64-4
Nickel oxide	001313-99-1
Antimony oxide	001314-60-9
Chromium trioxide	001333-82-0
Cadmium mercury sulfide	001345-09-1

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Other Particulates

Cadmium stearate	002223-93-0
Dodecanoic acid, cadmium salt	002605-44-9
Formaldehyde	000050-00-0
Aniline	000062-53-3
Methanol	000067-56-1
Benzene	000071-43-2
Fatty acids,C12-18,barium cadmium salts	070084-75-2
Hematite, chromium green black	068909-79-5
Mercury	007439-97-6
Nickel	007440-02-0
Arsenic	007440-38-2
Cadmium	007440-43-9
Chromium	007440-47-3
Cobalt	07440-48-4
Zinc	007440-66-6
Vinyl Chloride	000075-01-4
Vinylidene chloride	000075-35-4
Hydrochloric acid	007647-01-0
Selenium	007782-49-2
Arsenic compounds	---
Cadmium compounds	---
Hexavalent chromium compounds	---
Chromium compounds	---
Mercury compounds	---
Nickel compounds	---
Antimony compounds	---
Selenium compounds	---
Zinc compounds	---
Metal salts	---
Acrylic Acid	000079-10-7
Nitric Acid, Copper (2+) Salt	010031-43-3
Aluminum Sulfate	010043-01-3
Peroxide,bis(1-oxododecyl)	000105-74-8

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Other Particulates

Synthetic amorphous silicon dioxide hydrate	112926-00-8
Silicon dioxide (amorphous)	112945-52-5
Praseodymium oxide	012036-32-7
Iron Zinc Oxide	012063-19-3
Potassium oxide	012136-45-7
C.I. Pigment yellow 100	012225-21-7
C.I. Pigment black	012227-89-3
Sodium monoxide	012401-86-4
Isoindoline yellow 110	012679-90-2
C.I. Pigment violet 15	012769-96-9
Calcium oxide	001305-78-8
Cerium oxide	001306-38-3
Ferric oxide	001309-37-1
Sodium hydroxide	001310-73-2
Lanthanum oxide	001312-81-8
Neodymium oxide	001313-97-9
Zinc oxide	001314-13-2
Zirconium oxide	001314-23-4
Zinc sulfide	001314-98-3
Iron oxide	001317-61-9
Calcium carbonate	001317-65-3
Chlorite-group minerals	001318-59-8
C.I. Pigment green 7	001328-53-6
1H-Isoindole-1,3(2H)-dione	000133-06-2
Aluminum silicate	001332-58-7
Ammonium hydroxide	001336-21-6
Aluminum oxide	001344-28-1
C.I. Pigment yellow 34	001344-37-2
C.I. Pigment blue 28	001345-16-0
Titanium dioxide	013463-67-7
Mixture of hydrotalcite-like compound and zinc oxide	136618-52-5
Boric acid, barium salt	013701-59-2
Carbonic acid monosodium salt	000144-55-8
Silica, crystalline quartz	014808-60-7

THE GEON COMPANY

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Other Particulates

Calcium stearate	001592-23-0
Dolomite	016389-88-1
C.I. Pigment blue 63	016521-38-3
Tin oxide	018282-10-5
Aluminum hydroxide	021645-51-2
Polymeric Modifier	---
Sorbitan, monododecanoate	001338-39-2
Homopolymer	---
Acrylic polymer	025582-37-3
Acetic acid ethenyl ester, polymer with ethenol	025213-24-5
Phenol,2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)	003147-75-9
Calcium dodecyl benzene sulfonate	026264-06-2
Quadrosilan	033204-76-1
Igneous Rock	---
(1,1'-Biantracene)-9,9'10,10'-tetrone,4,4'-diamino-	004051-63-2
Anthra(2,1,9-def:6,5,10-d'e'f')diisoquinoline-	004948-15-6
18-Pentatriacontanone	000504-53-0
C.I. Pigment yellow 42	051274-00-1
Sulfamic acid	005329-14-6
Magnesium carbonate	000546-93-0
Anthra(2,1,9-def:6,5,10-d'e'f')diisoquinoline-1,3,8,10	005521-31-3
1H-Isoindol-1-one,3,3'-(1,4-phenylenediimino)bis	005590-18-1
Ultramarine blue	057455-35-5
C.I. Pigment blue 29	057455-37-5
Fatty aicds,tall-oil	061790-12-3
Solvent yellow 72	061813-98-7
Calcite(2-)	000062-33-9
Siloxanes and silicones, di-Me,Me Ph	063148-52-7
Hexaxanedioic acid,polymer with 1,3-butanediol,2-ethylhexyl	063149-79-1
Silica gel	063231-67-4
Phthalate-Adipate Mixture	---
Adipate	---
Butyl Cresol	---
Brominated Ester	---

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Other Particulates

Paraffin waxes and hydrocarbon waxes,chloro-	063449-39-8
Diindolo(3,2-b:3',2'-m)triphenodioxazine	006358-30-1
1H-pyrazole-3-carboxylic acid,4,4'-	006358-87-8
Naphtha,petroleum,heavy alkylate	064741-65-7
Distillates,petroleum,sweetened middle	064741-86-2
Heavy Paraffinic	---
Distillates,petroleum,solvent-refined light paraffinic	064741-89-5
Paraffin waxes,petroleum,clay-treated	064742-43-4
Distillates,petroleum,hydrotreated middle	064742-46-7
Distillates,petroleum,hydrotreated light	064742-47-8
Naphtha,petroleum,hydrotreated heavy	064742-48-9
Paraffin waxes,petroleum,hydrotreated	064742-51-4
Solvent,naphtha,petroleum,medium aliphatic	064742-88-7
Chlorinated Homopolymer	---
Rosin, hydrogenated	065997-06-0
Fiberglass	065997-17-3
Ceramic materials and wares,chemicals	066402-68-4
Fatty acids,C14-C18 and C16-C18, unsatd.	067701-06-8
Siloxanes and silicones,di-Me,di-Ph	068083-14-7
Hydrocarbon resin	068131-42-4
Naphtha,petroleum,light steam-cracked,debenzenized	068131-99-7
C.I. Pigment green 50	068186-85-6
C.I. Pigment brown 24	068186-90-3
C.I. Pigment Black 28	068186-91-4
C.I. Pigment yellow 163	068186-92-5
C.I. Pigment brown 35	068187-09-7
C.I. Pigment blue 36	068187-11-1
C.I. Pigment green 26	068187-49-5
C.I. Pigment yellow 119	068187-51-9
4,7-Methano-1H-indene,3a,4,7,7a-tetrahydro-, polymer	068240-01-7
Fatty acids,montan-wax, calcium salts	068308-22-5
C.I. Pigment yellow 164	068412-38-4
Sulfonic acids,C14-16-alkane hydroxy and C14-16-alkene,sod	068439-57-6
Ethene,homopolymer,oxidized	068441-17-8

THE GEON COMPANY

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Other Particulates

Fatty acids,montan-was	068476-03-9
Barium,carbonate nonylphenol complexes	068515-89-9
C.I. Pigment violet 47	068610-13-9
C.I. Pigment yellow 157	068610-24-2
Sodium alkyl aryl ethoxy sulfate	069022-84-3
12H-Phthaloperin-12-one	006925-69-5
C.I. Pigment black 30	071631-15-7
C.I. Pigment brown 39	071750-83-9
Chlorite	071949-90-1
Fatty acids,montan-wax,ethylene esters	073138-45-1
Aluminum	007429-90-5
Barium	007440-39-3
Carbon	007440-44-0
Disodium salt phosphoric acid	007558-79-4
Sodium perchlorate	007601-89-0
Peroxide,bis(1-oxodecyl)	000762-12-9
Amorphous silica	007631-86-9
Sulfurous acid,monsodium salt	007631-90-5
Sodium chloride	007647-14-5
Ammonia	007664-41-7
Sulfuric acid	007664-93-9
Hypochlorous acid, sodium salt	007681-52-9
Nitric acid	007697-37-2
Silicic acid	007699-41-4
Sulfur	007704-34-9
Hydrogen peroxide	007722-84-1
Barium sulfate	007727-43-7
Peroxudisulfuric acid ,diammonium salt	007727-54-0
Water	007732-18-5
Dibutyltin dilaurate	000077-58-7
Calcium salt phosphoric acid	007758-87-4
Sulfuric acid copper (2+) salt	007758-98-7
Graphite	007782-42-5
Chlorine	007782-50-5

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Other Particulates

Magnesium chloride	007786-30-3
Chloroxo-stibine	007791-08-4
Castor oil,hydrogenated	008001-78-3
Montan wax	008002-53-7
Paraffin waxes and hydrocarbon waxes	008002-74-2
C.I. Solvent black 7	008005-02-5
C.I. Pigment yellow 53	008007-18-9
Charcoal bone	008021-99-6
Calcium acetate	008743-26-0
Gelatins	009000-70-8
Oxirane, methyl-,polymer with oxirane	009003-11-6
Cellulose,2-hydroxypropyl ether	009004-64-2
Cellulose,2-hydroxypropyl methyl ether	009004-65-3
Poly(oxy-1,2-ethanediyl),alpha-(1-oxo-9-octadecenyl)-omega	009005-07-6
Sorbitan,monodecanoate,poly(oxy-1,2-ethanediyl)detrivs.	009005-64-5
Resin acids and rosin acids, calcium salts	009007-13-0
Acrylic copolymer	009010-86-2
Poly(oxy-1,2-ethanediyl),alpha-(nonphenyl)-omega-hydro	009016-45-9
Decaglycerol	009041-07-0
Phosphoric acid	007664-38-2
Nitrogen	007727-37-9
Sulfur Dioxide	007446-09-5
Hydrogen	001333-74-0
Carbon Dioxide	000124-38-9
Oxygen	007782-44-7
Cobalt compounds	---
Copper compounds	---
Manganese compounds	---
Molybdenum compounds	---
Barium compounds	---
CVPC Resin	---
Calcium Zinc Soap	---
Fluoropolymer	---
Carbonate Mixture	---

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Other Particulates

Organotin compounds	---
Mineral spirits/polyester	---
Alkytin mercaptide	---
Barium salt	---
Zinc salt	---
Barium complex	---
Zinc carboxylates	---
Barium carboxylates and alkylphenates	---
Barium carboxylates and alkylphenolates	---
Barium carboxylates	---
Phosphoric acid ester	---
Organo barium-magnesium-zinc	---
C.I. Pigment yellow 182	---
Solvent red 139	---
C.I. disperse orange 47	---
c.I. disperse violet 57	---
Dispersing aid and stabilizer	---
Additives	---
Pyrrolopyrrol red	---
Dispersing aid	---
Alkaline earth salts	---
Resin	---
Plasticizer	---
Stabilizer	---
Dispensing aid	---
Fatty acid	---
Cured,polyester,epoxy,or starch based size	---
Metal oxides	---
Sebacate polyester and hydrated amorphous silica	---
Stabilizers and lubricants	---
Water-based anionic polymer emulsion	---
Ethylene copolymer	---
Acrylic copolymer blend	---
Acrylic polymer	---

Facility Raw Material/Contaminant List
Category I: Total Particulates
Sub Category: Other Particulates

Methylmethacrylate butadiene styrene acrylic copolymer	---
Lubricant	---
Polymeric complex ester	---
Ester of fatty acids and farry alcohols	---
Mixed esters of saturated fatty acids	---
Complex esters of saturated fatty acids	---
Partial fatty acid ester	---
Ester of fatty acids	---
Complex ester	---
Stabilizers,fillers,colorantts	---
Emulsifiers	---
Oil	---
Related compounds	---
Dispersants	---
Ester adducts	---
Inert materials	---
Fluorescent plastic colorant	---
Fluorescent colorant	---
Oil red 234	---
Color concentrate	---
C.I. Pigment blue 15:3	---
Pigment red	---
Methacrylate butadiene styrene polymer	---
Polyethylene powder	---
Fatty acid esters	---
Potassium alkyl phosphate	---
Distilled monoglyceride	---
Blend of homopolymer and copolymer resins	---
Mixture of di-alkyl phthalates	---
Calcium soap of commercial stearic acid	---
Alberta yellow	---
Talc-Zinc Mixture	---
Metallic Silicate	---
Alkyl Ester	---
Mellitate	---
Organic Light Absorber	---

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Facility Raw Material/Contaminant List
Category II: Volatile Organic Compounds
Sub Category: HAP-VOC

Chemical Name	CAS Number
Styrene	000100-42-5
Acrylonitrile	000107-13-1
Toluene	001080-88-3
Octadecanoic acid,lead(2+)salt	001072-35-1
Phenol	000108-95-2
Dibutylphthalate	000084-74-2
Bis(2-ethylhexyl)phthalate	000117-81-7
Formaldehyde	000050-00-0
Aniline	000062-53-3
Methanol	000067-56-1
Benzene	000071-43-2
Vinyl chloride	000075-01-4
Vinylidene chloride	000075-35-4
Acrylic acid	000079-10-7
Dimethyl phthalate	000131-11-3
Ethylene glycol	000107-21-1
Hydrochloric acid	007647-01-0
Methyl Methacrylate	000080-62-6
Acrylamide	000079-06-1
Ethyl Acrylate	000140-88-5
Acrylic Acid	000079-10-7

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Facility Raw Material/Contaminant List
Category II: Volatile Organic Compounds
Sub Category: Other VOCs

Chemical Name	CAS Number
Pentadecanoic acid	001002-84-2
Ester	—
Adipate	—
Antioxidant	—
Heptamethylphenylcyclotetrasiloxane	010448-09-6
Benzenemethanol,alpha,-dimethyl-	104852-44-0
12-hydroxy-octadecanoic acid	000106-14-9
Phthalate	—
Benzoic acid	106276-78-2
Benzoic acid	106276-80-6
Carbonic acid, monoammonium salt	001066-33-7
Butadiene	000106-99-0
Octadecanoic acid,lead(2+)salt	001072-35-1
Amides	—
1,3-Benzenediol	—
Tetrahydrofuran	000109-99-9
2,2'-oxybis-ethanol	000111-46-6
Butyltrichoro-stannane	001118-46-3
2,2'-(1,2-ethanediylbis(oxy))bis-ethanol	000112-27-6
1-Decanol	000112-30-1
N-Butyl Acrylate	—
N-Methylol Acrylamide	—

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Facility Raw Material/Contaminant List
Category II: VOCs
Sub Category: Other VOCs

Organo Phosphate	----
Phosphoric Acid Ester	----
dibutylbis(dodecylthio)-stannane	001185-81-5
1,3-Propanedione, 1,3-diphenyl	000120-46-7
4-hydroxy-3-methoxy-Benzaldehyde	000121-33-5
2-propenoic acid	123209-67-6
1,4-Benzenediol	000123-31-9
Phenol,2-(2H-benzotriazol-2-yl)-6-dodecyl-4methyl-,branche	125304-04-3
Acetic acid, sodium salt	000127-09-3
Butylated hydroxytoluene	000128-37-0
Perylo(3,4-cd:9,10-c'd)dipyran-1,3,8,10-tetrone	000128-69-8
Hydroxy-octadecanoic acid	001330-70-7
Methanone,(2-hydroxy-4-methoxyphenyl) phenyl	000131-57-7
Boric acid, zinc salt	001332-07-6
Silicic acid	001343-98-2
Bis(1-hydroxy-2(1H)pyridinethionate-O,S)-zinc	013463-41-7
2-ethyl-hexanoic acid, zinc salt	000136-53-8
9,10-Anthracenedione,1,4-bis-((1-methylethyl)amino)-	014233-37-5
Dodecanoic acid	000143-07-7
4-methoxy-phenol	000150-76-5
Benzoic acid,2-((2-hydroxy-3,6-disulfo-1-naphthalenyl)azo)-	015782-06-6
Benzenemethanaminium	015792-67-3
3H-Pyrazol-3-one	015793-73-4
1,3,2-dioxastannepin-4,7-dione,2,2-dioctyl	016091-18-2
Spiro(isobenzofuran-1(3H) ::	016423-68-0
Methanone	001843-05-6
Peroxydicarbonic acid	019910-65-7

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Facility Raw Material/Contaminant List
Category II: VOCs
Sub Category: Other VOCs

7-Oxabicyclo(4.1.0)heptane-3-carboxylic acid	002386-87-0
Xanthylium	002390-63-8
Dodecanoic acid, ammonium salt	002437-23-2
Phenol,2-(2H-benzotriazol-2-yl)-4-methyl	002440-22-4
Methyl methacrylate	002495-27-4
Ester of Fatty Acids	----
Complex Esters	----
Benzenesulfonic acid, dodecyl-, sodium salt	025155-30-0
Bis(2-ethylhexylcarbonylmethyl-thio)dibutylstannane	025168-24-5
Poly(oxy-1,2-ethanediyl),alpha-hydro-omega-hydroxy-	025322-68-3
Isodecanol	025339-17-7
2-Naphthalenesulfonic acid,6-hydroxy-5-((2-methoxy-5-methyl)	025956-17-6
Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1dimethylpropyl)	025973-55-1
1,2-Benzenedicarboxylic acid	026040-51-7
Dodecanoic acid, cadmium salt	002605-44-9
5-chloro-2-methyl-2H-isothiazol-3-one	026172-55-4
Acetic acid,2,2'-((dioctylstanntlene)bis(thio)bis-	26401-97-8
Acetic acid,2,2'-((dimethylstannylene)bis(thio)bis-	026636-01-1
2-methyl-2H-isothiazol-3-one	002682-20-4
Phosphonic acid, (1-hydroxyethylidene)bis-	002809-21-4
Phenol,nonyl-, barium salt	028987-17-9
Butyl Cresol	----
Brominated Ester	----
Organic Light Absorber	----
Fluoropolymer	----
Phthalate-Adipate Mixture	----
Ester Mixture	----

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Facility raw Material/Contaminant List
Category II: VOCs
Sub Category: Other VOCs

2-Propenoic acid,2-methyl-,2-ethyl-2-(((2-methyl-1-oxo-2-p	003290-92-4
Decanoic acid	000334-48-5
Perioxide,bis(2-methyl-1-oxopropyl)	003437-84-1
Dipropylene glycol methyl ether	034590-94-8
Phenol,2,2'-ethylidenebis(4,6-bis(1,1-dimethylethyl)-	035958-30-6
Benzenepropanoic acid,3-(1,1-dimethylethyl)-4-hydroxy-5-methyl	036443-68-2
1-Hexadecanol	036653-82-4
Peroxide,bis(3,5,5-trimethyl-1-oxohexyl)	003851-87-4
Phenol,2-(5-chloro-2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethyl)	003864-99-1
2-Naphthalenol,1-((2,5-dimethyl-4-((2-methylphenyl)azo)phenol	004477-79-6
Eicosyl methacrylate monomer	045294-18-6
Dodecanoic acid, barium salt	004696-57-5
3,3'-((2-methyl-1,3-phenylene)diimino)bis	005045-40-9
Heptadecanoic acid	000506-12-7
D-Glucitol	000050-70-4
2H-1,3,5-Thiadiazine-2-thione,tetrahydro-3,5-dimethyl-	000533-74-4
Pentane.2,2,4-trimethyl-	000540-84-1
Tetradecanoic acid	000544-63-8
1,2,3-propanetriol	000056-81-5
9-Octadecenoic acid	000112-80-1
1-Octadecanol	000112-92-5
Butyl Glycolate	----
Acrylate	----
Organo Pigment	----
12H-phthaloperin-12-one	020749-68-2
Copolymer Resin	----

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Facility Raw Material/Contaminant List
Category II: VOCs
Sub Category: Other VOCs

Benzenepropanoic acid	002082-79-3
9-Hexadecenoic acid	002091-29-4
Organotin	----
1H-Benzotriazole, 4(or 5)-methyl-	029385-43-1
Octadecyl methacrylate monomer	032360-05-7
Hexadecanoic acid	000057-10-3
Stearic acid	000057-11-4
1,2-Propanediol	000057-55-6
Phenoxarsine,10,10'-oxidi-	000058-36-6
1,3-eicosanedione,1-phenyl	058446-52-9
2,4-dimethylhexane	000589-43-5
2,2-dimethylhexane	000590-73-8
9-octadecenoic acid(Z)-	059118-79-5
2,5-dimethylhexane	000592-13-2
Ethanol, 2-mercapto-	000060-24-2
9,12-octadecadienoic acid (Z,Z)-	000060-33-3
Alkanes,chlorinated	061788-76-9
Acetic acid,calcium salt	000062-54-4
Phenol,2,6-dibromo-4-(1-(3-bromo-4-hydroxyphenyl)-1-methylene	006386-73-8
1-eicosanol	000629-96-9
Hexadecanoic acid, cadmium salt	006427-86-7
Naphtha,petroleum,heavy alkylate	064741-65-7
Distillates,petroleum,sweetened middle	064741-86-2
Heavy Paraffinic	----
Distillates,petroleum,solvent-refined light paraffinic	064741-89-5
Paraffin waxes,petroleum,clay-treated	064742-43-4
Distillates,petroleum,hydrotreated middle	064742-46-7

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Facility Raw Material/Contaminant List
Category II: VOCs
Sub Category: Other VOCs

2-Propanol	000067-63-0
2-Propane	000067-64-1
Glycerides,C14-18	067701-27-3
Alcohols,C12-18	067762-25-8
Distillates,petroleum,hydrotreated light	064742-47-8
Naphtha,petroleum,hydrotreated heavy	064742-48-9
Paraffin waxes,petroleum,hydrotreated	064742-51-4
Solvent,naphtha,petroleum,medium aliphatic	064742-88-7
9-Octadecenoic acid(Z)-,hexaester with decaglycerol	065573-03-7
Benzenepropanoic acid,3,5-bis-(1,1-dimethyl)-4-hydroxy-	006683-19-8
Benzenesulfonic acid,5-chloro-4-ethyl-2-((2-hydroxy-1-naphtha	067801-01-8
Octadecenoic acid (Z)-,(dimethylstannylene)bis(thio-2,1,ethylene	000067-01-8
9,12-Ocyadecadienoic acid(Z,Z)-	067859-64-7
1,2,4-Benzenetricarboxylic acid	068130-50-7
Alkenes,ethylene-manuf-by product dicyclopentadiene-conc	068131-87-3
Alcohols,C7-9-iso,C9-rich	068526-83-0
1,2-Benzenedicarboxylic acid,mixed decyl,hexyl,octyl	068648-93-1
Alcohols, C18-32	068911-61-5
9,12-octadecadienoic acid (Z,Z)-	068928-40-5
2-Naphthalenecarboxylic acid	007023-61-2
Benzoxazole	007128-64-5
Benzoic acid	071566-54-6
Octadecanoic acid,tin salt	007637-13-0
1,3-Propanediol,2-ethyl-2-(hydroxymethyl)-	000077-99-6
Propanenitrile	000078-67-1
2-Propenoic acid	000079-10-7
1,4-benzenediol,2,5-bis(1,-1-dimethylpropyl)-	000079-74-3
Phenol,4,4'-(1-methylethylidene)bis(2,6-dibromo-	000079-94-7

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Facility Raw Material/Contaminant List
Category II: VOCs
Sub Category: Other VOCs

Hydrocarbons	---
Natural Gas including Methane	000074-82-8
White mineral oil,petroleum	008042-47-5
4,4-isopropylidenediphenol	000080-05-7
Soybean oil, epoxidized	008013-07-8
Hydroperoxide,1-methyl-1-phenylethyl	000080-15-9
Linseed oil, epoxidized	008016-11-3
Ligroine	008032-32-4
Stoddard solvent	008052-41-3
1,4-Benzenedicarboxylic acid,2,2'-((2,5-dimethyl-1,4-phenyl	080648-58-4
9,10-Anthracenedione,1-hydroxy-4-((4-methylphenyl)amino)-	000081-48-1
5,9,14,18-Anthrazinetetrone,6,15-dihydro-	000081-77-6
Decanedioic acid,methyl 1,2,2,6,6-pentamethyl-4-piperidinyl	082919-37-7
Phenol,2-(1-(4-hydroxyphenyl)-1-methylethyl)-	000837-08-1
Pyrrolo(3,4-c)pyrolle-1,4-dione,3,6-bis(4-chlorophenyl)-2,5	084632-65-5
1,2-dichlorobenzene	000095-50-1
Benzene,(1-methylethyl)	000098-82-8
Alpha-methyl styrene	000098-83-9
Xanthylium,9-(2-(ethoxycarbonyl)phenyl)-3,6-bis(ethylamino)	000989-38-8
Alphatic solvent	---
Organic solvents	---
Phenyl alkyl phosphite	---
Complex mixture of fragrance materials	---
Aliphatic sulfonate	---
1,2-Benzenedicarboxylic acid esters	---
di-(heptyl,nonyl,undecyl)phthalate	---
Phthalate,dipate,trimellitate ester	---
Polyester sebacate plasticizer	---
Polyester plasticizer	---
Polymeric plasticizer	---
Vinyl acetate/vinyl alcohol mixture	---
Ethanol,2,2'-(cocoimino)bis	---
Distilled monoglyceride made from edible,refined sunflower	---
Glycol ether	---

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Facility Raw Material/Contaminant List
Category III: Carbon Monoxide

Chemical Name	CAS Number
Carbon monoxide	000630-08-0

Facility Raw Material/Contaminant List
Category IV: Oxides of Nitrogen

Chemical Name	CAS Number
Oxides of Nitrogen	—

Facility Raw Material/Contaminant List
Category V: Oxides of Sulfur

Chemical Name	CAS Number
Oxides of Sulfur	—

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Facility Raw Material/Contaminant List
Category VI: Other

Chemical Name	CAS Number
Chlorodifluoromethane	000075-45-6
Dichlorodifluoromethane	000075-71-8
Chlorine	007782-50-5
Nitric acid, copper(2+)salt	010031-43-3
Ammonia	07664-41-7
Aluminum hydroxide	021645-51-2
Dodecanoic acid, barium salt	004696-57-5
Heptadecanoic acid	000506-12-7
Sulfamic acid	005329-14-6
Chlorine dioxide	010049-04-4
Chromium hydroxide	001308-14-1

ATTACHMENT F

CHRONIC TOXICITY TESTING SPECIFICATIONS

FOR USE IN THE NJPDES PERMIT PROGRAM

Version 2.0

February 1996

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VIII. REFERENCES

Notice: Mention of trade names or commercial products do not constitute endorsement or recommendation for use.

I. AUTHORITY AND PURPOSE

These methods specifications for the conduct of whole effluent chronic toxicity testing are established under the authority of the NJPDES permitting program, N.J.A.C. 7:14A-2.5(a)12 and 40 CFR 136. for discharges to waters of the State. The methods referenced herein are included by reference in 40 CFR 136, Table 1.A. and, therefore, consitute approved methods for chronic toxicity testing. The information contained herein serves to clarify testing requirements not sufficiently clarified in those methods documents and also serves to outline and implement the interlaboratory Standard Reference Toxicant Program until a formal laboratory certification program is established under N.J.A.C. 7:18. As such these methods are intended to be used to determine compliance with discharge permits issued under the authority of the NJPDES permit program. Tests are to be conducted in accordance with the general conditions and test organism specific method specifications contained in this document. All other conditions and specifications can be found in 40 CFR 136 and USEPA methodologies.

Until a subchapter on chronic toxicity testing within the regulations governing the certification of laboratories and environmental measurements (N.J.A.C. 7:18) becomes effective, tests shall be conducted in conformance with the methodologies as designated herein and contained in 40 CFR 136. The laboratory performing the testing shall be within the existing acute toxicity testing laboratory certification program established under N.J.A.C. 7:18, as required by N.J.A.C. 7:9B-1.5(c)5.

Testing shall be in conformance with the subchapter on chronic toxicity testing within the N.J.A.C. 7:18 when such regulations become effective. The laboratory performing the toxicity testing shall be within the chronic toxicity testing laboratory certification program to be established under that subchapter, when it becomes effective.

These methods are incorporated into discharge permits as enforceable permit conditions. Each discharge permit will specify in Part IV of the permit, the test species specific methods from this document that will be required under the terms of the discharge permit. Although the test species specific methods for each permit are determined on a case-by-case basis, the purpose of this methods document is to assure consistency among dischargers and to provide certified laboratories with information on the universe of tests to be utilized so that they can make the necessary preparations, including completing the required Standard Reference Toxicant testing. Please note that these methodologies are required for compliance testing only. Facilities and/or laboratories conducting testing under the requirements of a Toxicity Identification Evaluation or for informational purposes are not bound by these methods.

This document constitutes the second version of the NJDEP's interim chronic methodologies. This version contains no significant changes to the test methods themselves. However, in keeping with the Department's continued emphasis on good laboratory practices and quality control, the areas addressing the Standard Reference Toxicant Program, data analysis and data reporting, have been significantly revised.

II. GENERAL CONDITIONS

A. LABORATORY SAFETY, GLASSWARE, ETC.

All safety procedures. glassware cleaning procedures, etc., shall be in conformance with 40 CFR 136 and USEPA's "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms." "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" and N.J.A.C. 7:18.

B. TEST CONCENTRATIONS / REPLICATES

All testing is to be performed with a minimum of five effluent concentrations plus a dilution water control. A second reference water control is optional when a dilution water other than culture water is used. The use of both a 0.5 or 0.75 dilution factor is acceptable for the selection of test concentrations. If hypothesis testing will be used to determine the test endpoint. one effluent concentration shall be the chronic permit limitation. unless the existing data for the discharge indicate that the NOEC is expected to be significantly less than the permit limit. The use of the 0.5 dilution factor may require more than five dilutions to cover the entire range of effluent concentrations as well as the chronic permit limit, since the permit limit will often not be one of the nominal concentrations in a 0.5 dilution series. In such an instance, the 0.5 dilution series may be altered by including an additional test concentration equal to the permit limit in the dilution series, or by changing the concentration closest to the permit toxicity limit to be equal to that limit. The Department recommends the use of the 0.75 dilution factor using Table 1 to determine test concentrations. That table establishes test concentrations based on the chronic toxicity limitation.

For either the 0.5 or 0.75 dilution factor. there shall be at least one test concentration above the permit limitation and at least three test concentrations below the permit limit along with the dilution water control unless the permit limitation prohibits such (e.g.. limitations greater than 75% effluent). An effort shall be made to bracket the anticipated test result.

To use Table 1.0, locate the permit limit in column 4. The dilution series becomes the row that corresponds to the permit limit in column 4. For example, a permit limit of 41 would require a dilution series of the dilution water control, 17%, 23%, 31%, 41% and 55% effluent.

The number of replicates used in the test must, at a minimum, satisfy the specifications of the applicable methods contained herein. Increased data sensitivity can be obtained by increasing the number of replicates equally among test concentrations and thus an increased number of replicates is acceptable. Further, the use of nonparametric statistical analysis requires a minimum of four replicates per test concentration. If the data for any particular test is not conducive to parametric analyses and if less than four replicates were included. the test may not be considered acceptable for compliance purposes.

The use of single concentration tests consisting of the permit limitation as a concentration and a control is not permitted for compliance purposes, but may be used by a permittee in the conduct of a Toxicity Investigation Evaluation (TIE) or for information gathering purposes. Such a test would be considered a "pass" if there was no significant difference in test results, using hypothesis testing methods.

Table 1.9: 0.75 DILUTION SERIES INDEXED BY PERMIT LIMIT

Column #	1	2	3	Permit Limit* 4	5	Column #	1	2	3	Permit Limit* 4	5
	0.4	0.6	0.8	1	1.3		22	29	38	51	68
	0.8	1.1	1.5	2	2.7		22	29	39	52	69
	1.3	1.7	2.3	3	4		22	30	40	53	71
	1.7	2.3	3	4	5.3		23	30	41	54	72
	2.1	2.8	3.8	5	6.7		23	31	41	55	73
	2.5	3.4	4.5	6	8		24	32	42	56	75
	3	4	5	7	9		24	32	43	57	76
	3	5	6	8	11		24	33	44	58	77
	4	5	7	9	12		25	33	44	59	79
	4	6	8	10	13		25	34	45	60	80
	5	6	8	11	15		26	34	46	61	81
	5	7	9	12	16		26	35	47	62	83
	5	7	10	13	17		27	35	47	63	84
	6	8	11	14	19		27	36	48	64	85
	6	8	11	15	20		27	37	49	65	87
	7	9	12	16	21		28	37	50	66	88
	7	10	13	17	23		28	38	50	67	89
	8	10	14	18	24		29	38	51	68	91
	8	11	14	19	25		29	39	52	69	92
	8	11	15	20	27		30	39	53	70	93
	9	12	16	21	28		30	40	53	71	95
	9	12	17	22	29		30	41	54	72	96
	10	13	17	23	31		31	41	55	73	97
	10	14	18	24	32		31	42	56	74	99
	11	14	19	25	33		32	42	56	75	100
	11	15	20	26	35	24	32	43	57	76	
	11	15	20	27	36	24	32	43	58	77	
	12	16	21	28	37	25	33	44	59	78	
	12	16	22	29	39	25	33	44	59	79	
	13	17	23	30	40	25	34	45	60	80	
	13	17	23	31	41	26	34	46	61	81	
	14	18	24	32	43	26	35	46	62	82	
	14	19	25	33	44	26	35	47	62	83	
	14	19	26	34	45	27	35	47	63	84	
	15	20	26	35	47	27	36	48	64	85	
	15	20	27	36	48	27	36	48	65	86	
	16	21	28	37	49	28	37	49	65	87	
	16	21	29	38	51	28	37	50	66	88	
	16	22	29	39	52	28	38	50	67	89	
	17	23	30	40	53	28	38	51	68	90	
	17	23	31	41	55	29	38	51	68	91	
	18	24	32	42	56	29	39	52	69	92	
	18	24	32	43	57	29	39	52	70	93	
	19	25	33	44	59	30	40	53	71	94	
	19	25	34	45	60	30	40	53	71	95	
	19	26	35	46	61	30	41	54	72	96	
	20	26	35	47	63	31	41	55	73	97	
	20	27	36	48	64	31	41	55	74	98	
	21	28	37	49	65	31	42	56	74	99	
	21	28	38	50	67	32	42	56	75	100	

* Select the dilution series by finding the row which contains the permit limit in column #4.

NOTE: All values are in units of "% effluent" not toxic units.

C. DILUTION WATER

1. Marine and Estuarine Waters

A high quality natural water, such as the Manasquan River Inlet is strongly recommended as the dilution water source for chronic toxicity testing with marine and estuarine organisms. The use of the receiving water as the dilution water source is not required. Saline waters prepared with hypersaline brine and deionized water may also be used as dilution water. Hypersaline brines shall be prepared from a high quality natural seawater and shall not exceed a concentration of 100 ppt. The type of a dilution water for a permittee may not be changed without the prior approval of the Department.

The standard test salinity shall be 25 ppt. except for *Champia parvula*, which shall be tested at 30 ppt. Since most effluents are freshwater based, in most cases it will be necessary to adjust the salinity of the test concentrations to the standard test salinity.

2. Fresh Waters

A high quality natural water, such as Round Valley Reservoir (if access is allowed) or Lake Hopatcong, is strongly recommended as the dilution water source for chronic toxicity testing with freshwater organisms. It is not required to perform the toxicity testing with the receiving water as dilution water. Tests performed with a reconstituted water or up to 20% Diluted Mineral Water (DMW) as dilution water is acceptable. For testing with *Ceriodaphnia dubia*, the addition of 5 ug/l selenium (2 ug/l selenium with natural water) and 1 ug/l vitamin B12 is recommended (Keating and Dagbusan, 1984: Keating, 1985 and 1988). The source of a dilution water for a permittee may not be changed without the prior approval of the Department. Reconstituted water and DMW should be prepared with Millipore Super Q^R or equivalent, meet the requirements of N.J.A.C. 7:18-6 and should be aerated a minimum of 24 hrs prior to use, but not supersaturated.

D. EFFLUENT SAMPLE COLLECTION

Effluent samples shall be representative of the discharge being regulated. For each discharge serial number (DSN), the effluent sampling location shall be the same as that specified in the NJPDES permit for other sampling parameters unless an alternate sampling point is specified in the NJPDES discharge permit. For industrial dischargers with a combined process/sanitary waste stream, effluent sampling shall be after chlorination, unless otherwise designated in the permit.

For continuous discharges, effluent sampling shall consist of 24 hour composite samples consisting either of equal volumes taken once every hour or of a flow-proportionate composite sample, unless otherwise approved by the Department. At a minimum, three samples shall be collected as specified above, one every other day. The first sample shall be used for test initiation and the first renewal. The second sample for the next two renewals. The third sample shall be used for the final three renewals. For the *Champia* and *Selenastrum* tests, a single sample shall be collected not more than 24 hours prior to test initiation. No effluent sample shall be over 72 hours old at the time of its use to initiate or renew solutions in a test. It is acceptable to collect samples more frequently for chronic WET testing and if samples are collected daily for acute toxicity testing conducted concurrently, available samples may be used to renew the test solutions as appropriate.

For all other types of discharges, effluent sampling shall be conducted according to specifications contained within the discharge permit, methodology questionnaire or as otherwise specified by the Department. The use of grab samples or other special sampling procedures will be based on time of occurrence and duration of intermittent discharge events.

If a municipal discharger has concerns that the concentrations of ammonia and/or chlorine in an effluent are adequate to cause violations of the permit limit for chronic toxicity testing, the permittee should conduct analyses, as specified in USEPA's toxicity investigation methods documents, to illustrate the relationship between chronic effluent toxicity and chlorine and/or ammonia as applicable. This data may then be submitted to the Department as justification for a request to use modified test procedures, which account for ammonia and/or chlorine toxicity, in future chronic toxicity tests. The Department may, where adequate justification exists, permit the adjustment of these pollutants in the effluent sample if discharge limits for these pollutants are contained in the NJPDES permit and those permit limitations are adequate for the protection of water quality. Any proposed modified test procedures to adjust effluent chlorine and/or ammonia shall be approved by the Department prior to use of those test procedures for any compliance testing.

Except for filtration through a 2 mm or larger screen or an adjustment to the standard test salinity, no other adjustments to the effluent sample shall be made without prior written approval by the Department. Aeration of samples prior to test start shall be minimized where possible and samples shall not be aerated where adequate saturation exists to maintain dissolved oxygen.

E. PHYSICAL CHEMICAL MEASUREMENTS

At a minimum, the physical chemical measurements shall be as follows:

- pH and dissolved oxygen shall be measured at the beginning and end of each 24 hour exposure period, in at least one chamber, of the high, medium and low test concentrations and the control. In order to ensure that measurements for these parameter are representative of the test concentrations during the test, measurements for these parameters should be taken in a additional replicate chamber for such concentrations which contains no test organisms, but is subject to the same test conditions.

- Temperature shall either be monitored continuously, measured daily in at least two locations in the environmental control system, or measured at the beginning of each 24 hr exposure period in at least one replicate for each treatment.

- Salinity shall be measured in all salt water tests at the beginning of each 24 hour exposure period, in at least one replicate for each treatment.

- For all freshwater tests, alkalinity, hardness and conductivity shall be measured in each new sample (100% effluent) and control.

- Nitrite, nitrate and ammonia shall be measured in the control before each renewal in the mysid test only.

- For samples of discharges where concentrations of ammonia and/or chlorine are known or are suspected to be sufficient to cause toxicity, it is recommended that the concentrations of these pollutants be determined and submitted with the standardized report form. The laboratory is advised to consult with the permittee to determine if these parameters should be measured in the effluent. Where such measurements are deemed appropriate, measurements shall be conducted at the beginning of each 24 hour exposure period. Also, since a rise in the test pH can affect the toxicity of ammonia in the effluent, analysis of ammonia during the test may be appropriate if a rise in pH is accompanied by a significant increase in mortality.

F. STATISTICS

The use of both hypothesis testing techniques and point estimate techniques are currently in use by the Department or by permittees for compliance purposes. The NJPDES permit should be checked to determine which type of analysis is required and appropriate for each specific facility. It is not acceptable to simply evaluate any data by "visual data review" unless in the analysis of survival data, no mortality occurred in the test. All data sets must be appropriately statistically evaluated.

For hypothesis testing techniques, statistical analysis shall follow the protocols in USEPA (1988, 1989) to evaluate adverse effects. A significance level of 0.05 shall be utilized to evaluate such effects. Use of a protocol not contained in these documents must be accompanied by a reference and explanation addressing its applicability to the particular data set. Please note the following when evaluating data using hypothesis testing techniques.

Special attention should be given to the omission and inclusion of a given replicate in the analysis of mysid fecundity data (USEPA 1994, p. 275) and *Ceriodaphnia* reproduction data (USEPA 1994, page 174).

Determination of acceptability criteria and average individual dry weight for the growth endpoints in must follow the specifications in the applicable documents (e.g., p.84 for saltwater methods document.)

Use of nonparametric statistical analyses requires a minimum of four replicates per test concentration. If the data for any particular test are not conducive to parametric analyses and if less than four replicates were included, the test may not be acceptable to the Department.

Where hypothesis testing is used for compliance purposes, if the results of hypothesis testing indicates that a deviation from the dose response occurs such that two test concentrations are deemed statistically significant from the control but an intermediate test concentration is not, the test is deemed unacceptable and cannot be used for compliance testing purposes.

For point estimate techniques, statistical analysis should follow the protocol contained in "A Linear Interpolation Method for Sublethal Toxicity: The Inhibition Concentration (ICp) Approach (Version 2.0), July 1993, National Effluent Toxicity Assessment Center Technical Report 03-93." Copies of the program can be obtained by contacting the Department. The linear interpolation estimate ICp values and not the bootstrap mean ICp, shall be reported for permit compliance purposes. The ICp value reported on the Discharge Monitoring Report shall be rounded off as specified in the Department's "Discharge Monitoring Report (DMR) Instruction Manual, December 1993." IC25 values shall be reported under the parameter code listed as "NOEC" on the DMR, until the DMR's are adjusted accordingly.

If the result reported by the ICp method is greater than the highest concentration tested, the test result is reported as "greater than C" where "C" is the highest tested concentration. If the ICp is lower than the lowest concentration tested, the test result is reported as "less than C" where "C" is the lowest tested concentration.

If separate NOEC's/IC25's can be calculated from multiple test endpoints, for example a reproductive endpoint and a growth endpoint, the lowest NOEC/IC25 value expressed in units of "% effluent" will be used to determine permit compliance and should, therefore, be reported as the NOEC/IC25 value for the test. If the NOEC value for growth and/or reproduction is not lower than that for survival, the NOEC/IC25 value reported for the test shall be as survival. For saltwater tests, where additional controls are used in a test (i.e. brine and/or artificial sea salt control), a T-test shall be used to determine if there is a significant difference between the original test control and the additional controls. If there is a significant difference between any of the controls, the test may be deemed unacceptable and if so, will not be used for permit compliance.

III. TEST ACCEPTABILITY CRITERIA

Any test that does not meet these acceptability criteria will not be used by the Department for any purpose and must be repeated as soon as practicable, with a freshly collected sample.

1. Tests must be performed by a laboratory approved for the conduct of chronic toxicity tests and certified for acute toxicity testing under N.J.A.C. 7:18.

2. Test results may be rejected due to inappropriate sampling, including the use of less than three effluent samples in a test and/or use of procedures not specified in a permit or methodology questionnaire, use of frozen or unrefigerated samples or unnapproved pretreatment of an effluent sample.

3. Controls shall meet the applicable performance criteria specified in the Table 2.0 and in the individual method specifications contained herein.

4. Acceptable and applicable Standard Reference Toxicant Data must be available for the test.

5. No unnapproved deviations from the applicable test methodology may be present.

6. When using hypothesis testing techniques, a deviation from the dose response as explained in the statistical portion of this document shall not be present in the data.

Table 2.0: CONTROL PERFORMANCE

TEST ORGANISM	MINIMUM SURVIVAL	MINIMUM WEIGHT GAIN	MINIMUM FECUNDITY/ REPRODUCTION
Pimephales promelas	80%	0.25 mg avg	N/A
Ceriodaphnia dubia	80%	N/A	Average of ≥15 young per surviving female
Selenastrum capricornutum	Density $\geq 2 \times 10^5$ cells/ml	N/A	Variability in controls not to exceed 20%.
Cyprinodon variegatus	80%	0.60 mg (unpreserved) avg 0.50 mg (preserved) avg	N/A
Menidia beryllina	80%	0.50 mg (unpreserved) avg 0.43 mg (preserved) avg	N/A
Mysidopsis bahia	80%	0.2 mg per mysid avg	egg production by 50% of control females if fecundity is used as an endpoint.
Champia parvula	100%	N/A	≥10 cystocarps per plant Plants in controls and lower test concentrations shall not fragment so that individual plants cannot be identified.

THE DETERMINATION OF A TEST AS UNACCEPTABLE DOES NOT RELIEVE THE FACILITY FROM MONITORING FOR THAT MONITORING PERIOD

IV. STANDARD REFERENCE TOXICANT TESTING

All chronic testing shall be accompanied by testing with a Standard Reference Toxicant (SRT) as a part of each laboratory's internal quality control program. Such a testing program should be consistent with the quality assurance/quality control protocols described in the USEPA chronic testing manuals Laboratories may utilize the reference toxicant of their choice and toxicants such as cadmium chloride, postassium chloride, sodium dodecyl sulfate and copper sulfate are all acceptable. However, Potassium chloride has been chosen by several laboratories and is recommended by the Department. The concentration of the reference toxicant shall be verified by chemical analysis in the low and high test concentrations once each year or every 12 tests, whichever is less. It is not necessary to run SRT tests, for all species using the same SRT.

A. INITIAL STANDARD REFERENCE TOXICANT (SRT) TESTING REQUIREMENTS

At a minimum, this testing shall include an initial series of at least five SRT tests for each test species method. . Acceptable SRT testing for chronic toxicity shall be performed utilizing the short term chronic toxicity test methods as specified herein. Reference toxicant tests utilizing acute toxicity testing methods, or any method other than those contained in this document are not acceptable. The laboratory should forward of the initial SRT testing, including control charts, the name of the reference toxicant utilized, the supplier and appropriate chemical analysis of the toxicant to either address listed in the reporting requirements section herein.
The initial series of a least five SRT tests for a specific test species method shall be completed and approved in writing by the Department prior to the conduct of any chronic toxicity testing for compliance purposes.

B. SUBSEQUENT SRT TESTING REQUIREMENTS

After receiving the initial approval from the Department to conduct chronic toxicity tests for compliance purpose. subsequent SRT testing shall be conducted as follows:

1. Where organisms used in testing are cultured at the testing laboratory, SRT testing should be conducted once per month for each species/method.

2. Where the laboratory purchases organisms from a laboratory certified in New Jersey for the conduct of acute toxicity testing and approved for the conduct of chronic toxicity testing for the test organism in question (i.e. the "supplier laboratory"), SRT data provided by the "supplier laboratory" for each lot of organisms purchased is acceptable as long as the SRT test result falls within the control limits of the control chart established by the "supplier laboratory" for that organism. The laboratory using purchased organisms is responsible for the results of any compliance tests they perform.

3. A testing laboratory purchasing organisms from a supplier laboratory must still perform SRT testing on a quarterly basis at a minimum, for each species they test with, in order to adequately document their own interlaboratory precision.

4. If a testing laboratory purchasing organisms elects not to use the SRT data from a "supplier laboratory" or such data is unavailable or where organisms are purchased from another organism supplier, the testing laboratory must conduct SRT testing on each lot of organisms purchased.

5. For industrial laboratories certified under N.J.A.C. 7:18 to conduct acute toxicity tests, only the SRT testing conditions specified in 2. through 4. above apply. Where that laboratory/facility cultures their own test organisms, the frequency of SRT testing required will be determined on a case by case basis, based on the frequency of testing for that facility.

NOTE: Based on these requirements. SRT data is considered applicable to a compliance test when an the SRT test results are acceptable and the SRT test is conducted within 30 days of the compliance test. for the test species and SRT in question. Therefore, it is not necessary for an approved laboratory to run an SRT test every month if the laboratory is not conducting compliance tests for a particular species.

C. CHANGING OF AN ESTABLISHED REFERENCE TOXICANT

The SRT used for any species by a laboratory may be changed at any time provided that the following conditions have been satisfied:

1. A series of a least three reference toxicant tests are conducted with the new reference toxicant and the results of those tests are identified as satisfactory. in writing. by the Department.

2. Laboratories must continue using the already approved SRT in their ongoing QA/QC program. until such time as the letter referenced above. is received by the laboratory.

D. CONTROL CHARTS

Control charts shall be established from SRT test results in accordance with the procedures outlined in the USEPA methods documents. Control charts shall be constructed using IC25's using the following methods:

1. The upper and lower control limits shall be calculated by determining +/- two standard deviations above and below the mean.

2. SRT test results which exhibit an IC25 that is greater than the highest concentration tested or less than the lowest concentration tested (i.e. a definitive endpoint cannot be determined), shall not be used to establish control charts.

3. SRT tests which do not meet the acceptability criteria for a specific species shall not be used to establish control charts.

4. All values used in the control charts should be as nominal concentrations. However. the control charts shall be accompanied by a chart tabulating the test results as measured concentrations.

5. An outlier (i.e. values which fall outside the upper and lower control limits) should be included on the control chart unless it is determined that the outlier was caused by factors not directly related to the test organisms (e.g., test concentration preparation) as the source of variability would not be directly applicable to effluent tests. In such case, the result and explanation shall be reported to the Department within 30 days of the completion of the SRT test.

The control chart established for the initial series of SRT data submitted will be used by the laboratory and the Department to determine outliers from SRT test results reported in the "NJPDES Biomonitoring Report Form - Chronic Toxicity Test" submitted by the permittees for the test species. These initial control limits will remain unchanged until twenty SRT tests have been completed by the laboratory.

The following procedures shall be used for continually updating control charts after twenty acceptable SRT tests have been completed:

1. Once a laboratory has completed twenty acceptable SRT tests for a test species, the upper and lower control limits shall be recalculated with those twenty values.

2. For each successive SRT test conducted after these first twenty tests, a moving average shall be calculated and the control limits reevaluated using the last twenty consecutive test results.

3. The upper and lower control limits shall be reported on the "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" along with the SRT test result.

E. UNACCEPTABLE SRT TEST RESULTS

If a laboratory produces any SRT test results which are outside the established upper and lower control limits for a test species at a frequency greater than one test in any ten tests, a report shall be forwarded to the Department at the address contained herein. This report shall include any identified problem which caused the values to fall outside the expected range and the corresponding actions that have been taken by the laboratory. The Department may not accept or may require repeat testing for any toxicity testing that may have been affected by such an occurrence.

If a laboratory produces two consecutive SRT test results or three out of any ten test results which are outside the established upper and lower limits for a specific test species, the laboratory shall be unapproved to conduct chronic toxicity tests for compliance purposes for that test species. Reapproval shall be contingent upon the laboratory producing SRT test results within the established upper and lower control limits for that test species in two consecutive SRT tests. If one or both of those test results again fall outside the established control levels, the laboratory is unapproved for that test species until five consecutive test results within the established upper and lower control limits are submitted and approved by the Department.

F. ANNUAL SUBMITTALS

Control charts shall be forwarded to the Department on an annual basis, on the anniversary of approval for the test species.

The Department may request, at any time, any information which is essential in the evaluation of SRT results and/or compliance data.

V. TEST CANCELLATION / RESCHEDULING EVENTS

A lab may become aware of QA problems during or immediately following a test that will prevent data from being submitted or a lab may be unable to complete a tests due to sample collection or shipping problems. If for any reason a chronic toxicity test is initiated and then prematurely ended by the laboratory or at the request of the permittee, the laboratory shall submit the form entitled "Chronic Whole Effluent Toxicity Testing Test Cancellation / Rescheduling Event Form" contained herein. This form shall be used to detail the reason for prematurely ending the test. This completed form and any applicable raw data sheets shall be submitted to the appropriate biomonitoring program at the address above within 30 days of the cessation of the test.

Tests are considered to be initiated once test organisms have been added to all test chambers.

Submission of this form does not relieve the facility from monitoring for that monitoring period.

VI. REPORTING

The report form entitled "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" should be used to report the results of all NJPDES chronic compliance biomonitoring tests. Laboratory facsimiles are acceptable but must contain all information included on any recent revisions of the form by the Department. Statistical printouts and raw data sheets for all endpoints analyzed shall be included with the report submitted to the Department. Two copies of all chronic toxicity test report forms shall be submitted to the following address as applicable:

For Municipal permittees: Bureau of Watershed Permitting
For Industrial permittees: Bureau of Standard Permitting

New Jersey Department of Environmental Protection
Division of Water Quality
CN-029
Trenton, NJ 08625

It is not necessary to attach a copy of a test report form to the Discharge Monitoring Report (DMR) form when submitting this form to the Department. However, the results of all chronic toxicity tests conducted for compliance purposes must be reported on the DMR form under the appropriate parameter code in the monitoring period in which the test was conducted.

VII. METHOD SPECIFICATIONS

The following method specifications shall be followed as specified in the NJPDES permit. Any changes to these methods will not be considered acceptable unless they are approved in writing by the Department. prior to their use.

A. Fathead Minnow (*Pimephales promelas*), Larval Survival and Growth Test, method 1000.0
B. *Ceriodaphnia dubia*, Survival and Reproduction Test, method 1002.0
C. Algal. (*Selenastrum capricornutum*), Growth Test, method 1003.0
D. Sheepshead Minnow (*Cyprinodon variegatus*), Larval Survival and Growth Test, method 1005.0
E. Inland Silverside (*Menidia beryllina*), Larval Survival and Growth Test, method 1006.0
F. *Mysidopsis bahia*, Survival, Growth, and Fecundity Test, method 1007.0
G. *Champia parvula*, Sexual Reproduction Test, method 1009.0

Section 1A

Process Description

Process A: Suspension Polyvinyl Chloride Manufacturing

Suspension Polyvinyl Chloride (PVC) is manufactured in a closed loop process using propriatary technology developed by The Geon Company.

Vinyl Chloride monomer, ultra pure water, emulsifiers, and initiators are charged into a pressure reactor. The vinyl chloride monomer is polymerized to Polyvinyl Chloride. As part of the closed loop process, the unpolymerized vinyl chloride monomer is stripped from the PVC resin and recharged. The stripped PVC must meet the National Emission Standard for Hazardous Air Pollutants (NESHAP) requirements for vinyl chloride prior to leaving the closed loop process.

The stripped PVC slurry is then dewatered, dryed, and stored in bulk silos. The final PVC resin is either packaged or shipped in bulk. A small portion of the PVC resin is sent to Process C, Compounding.

Suspension PVC resin is typically used for pipe, siding, window trim, fabric, wire insulation, food packaging, and medical goods.

Stack number 153 represents 8 individual stacks grouped together. Each stack is identified on the first process flow diagram (PFD).

Additionally, the following Alternate Operating Scenarios apply to this Process:

Scenario A - Equipment in this scenario emit particulate emissions only, which must be exhausted through the listed control device(s).

Scenario B - Equipment in this scenario emit particulate and VOC emissions. Only the particulate emissions are controlled by listed control device(s). The VOC emissions are uncontrolled.

Scenario C - Equipment in this scenario require no emission controls.

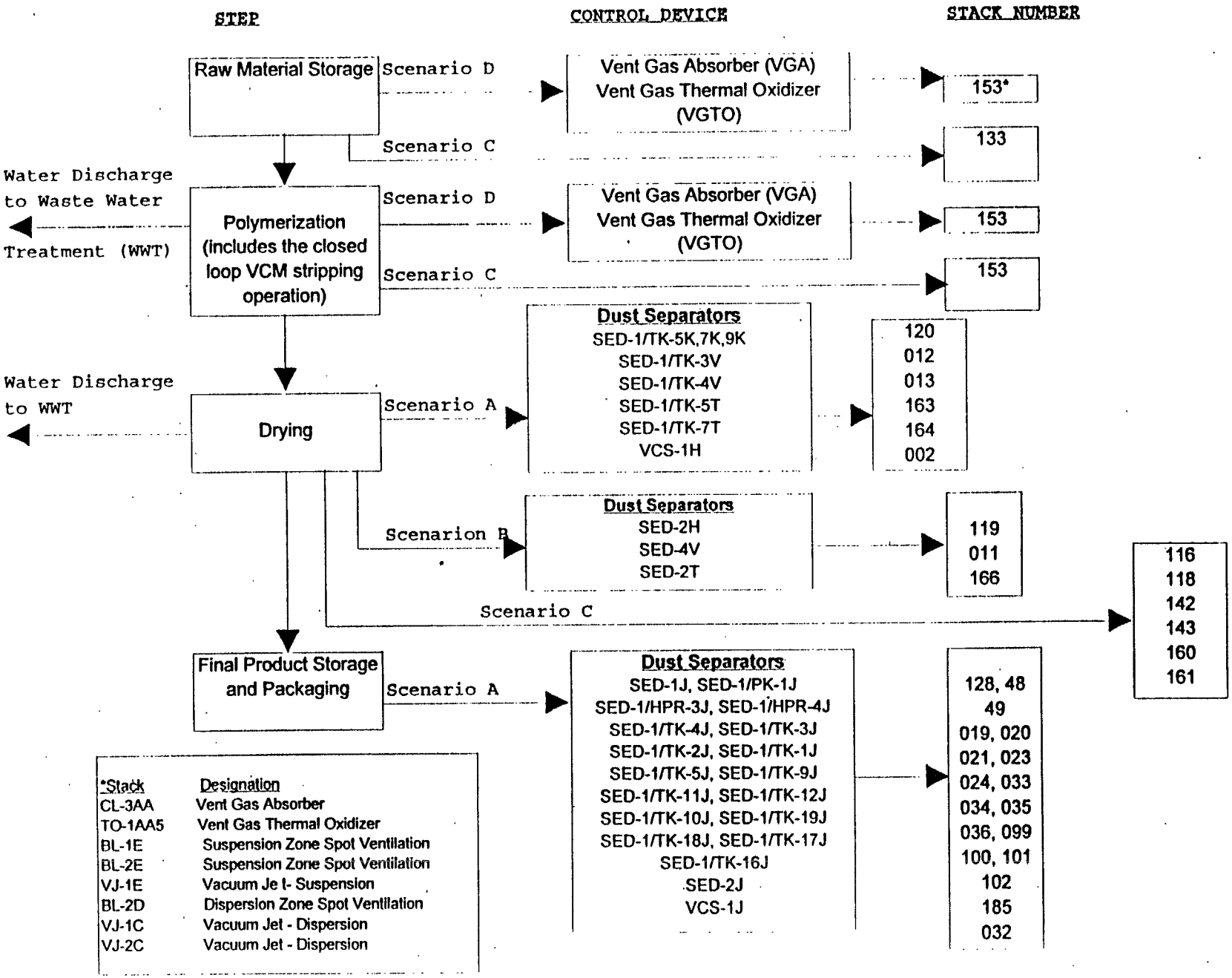
Scenario D - Equipment in this scenario emit VOC emissions only, which must be exhausted through the listed control device.

Section 1B

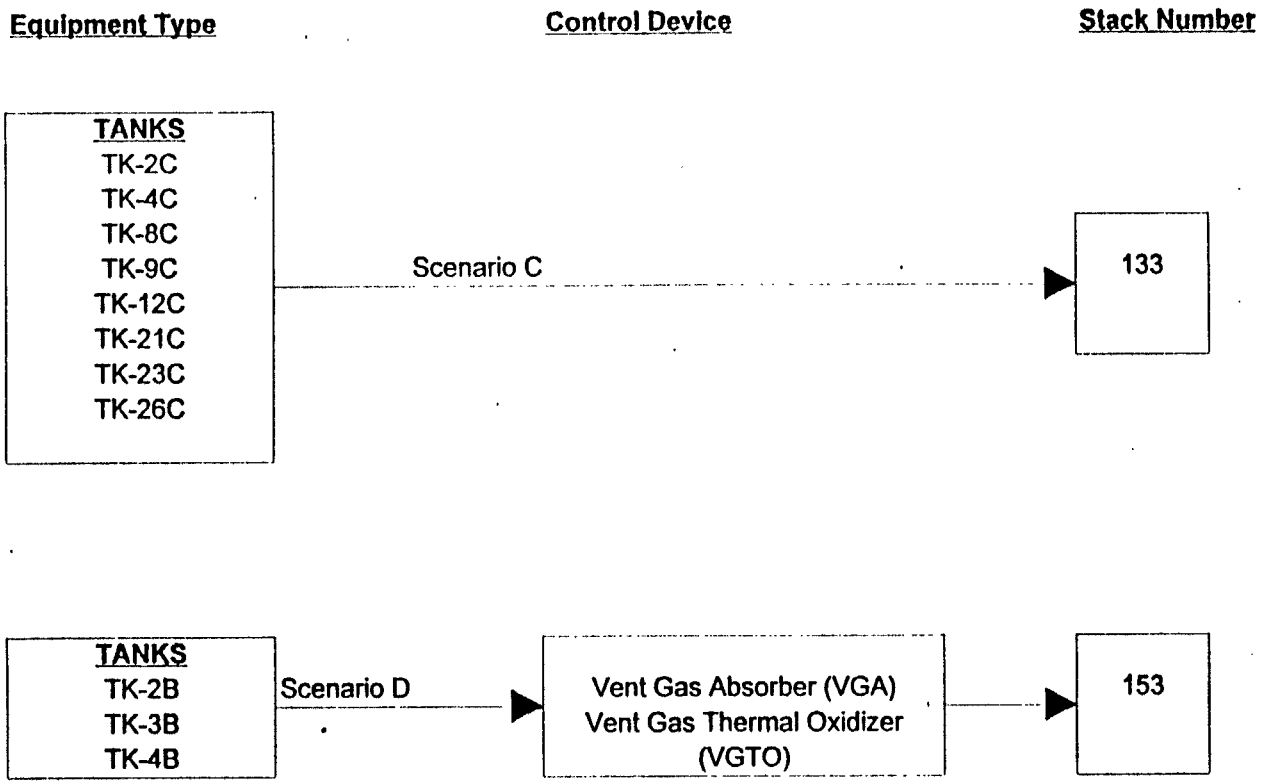
Process Flow Diagrams

Process A: Suspension Polyvinyl Chloride Manufacturing

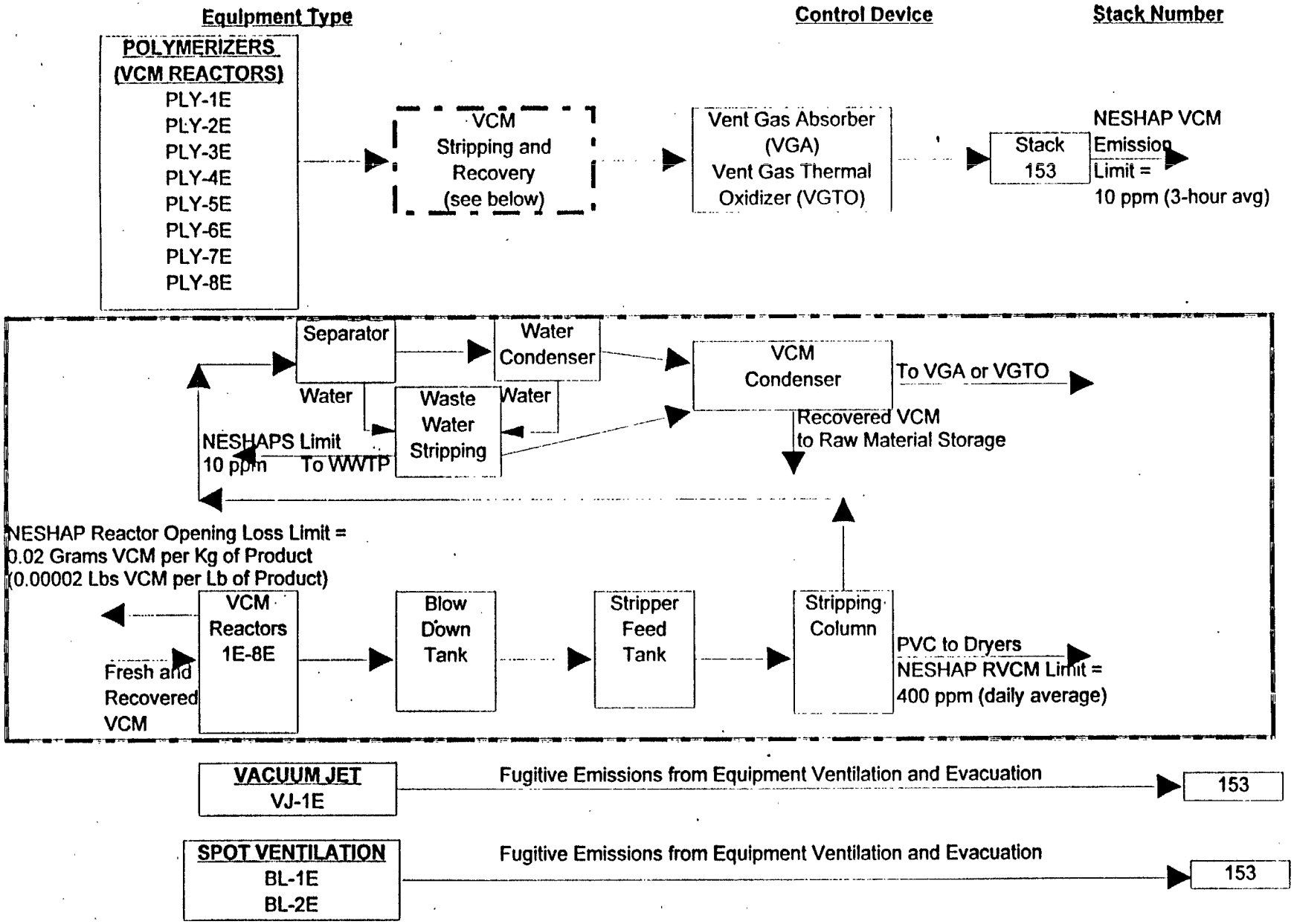
SUSPENSION PVC MFG PROCESS FLOW DIAGRAM



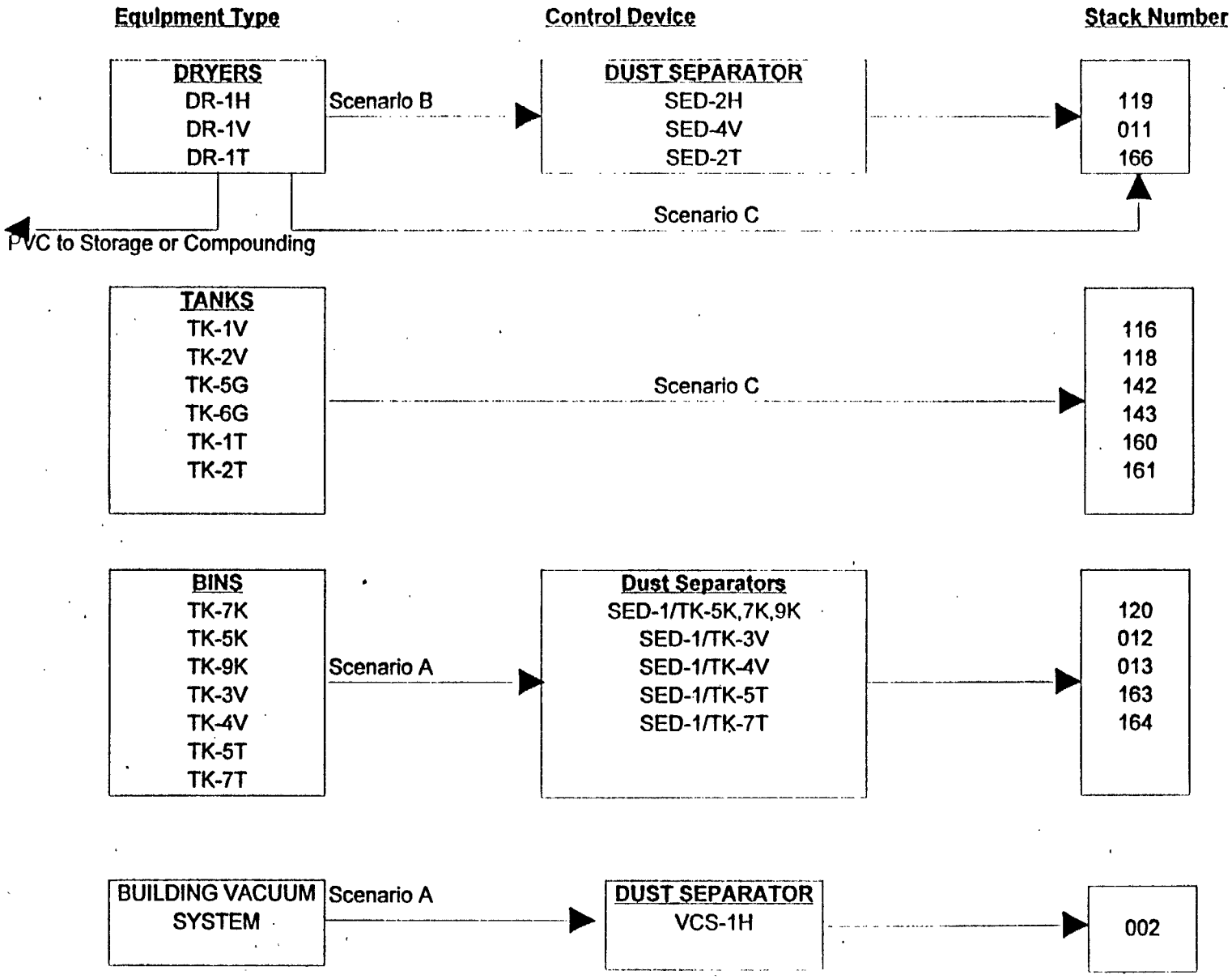
SUSPENSION PVC MFG RAW MATERIAL STORAGE STEP



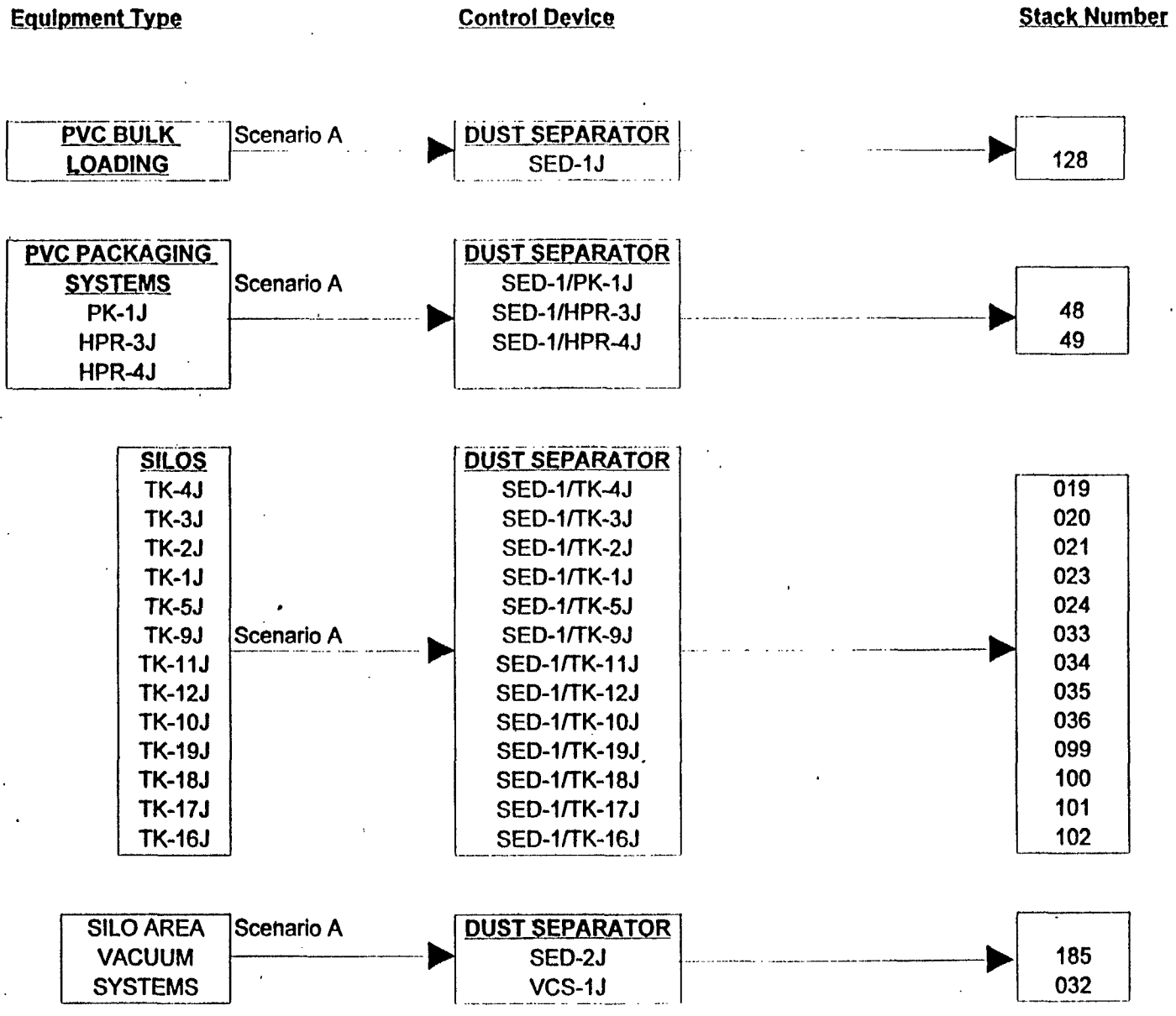
SUSPENSION PVC MFG POLYMERIZATION STEP



SUSPENSION PVC MFG DRYING STEP



SUSPENSION PVC MFG FINAL PRODUCT STORAGE AND PACKAGING STEP



Section 1C

Process Equipment/Control Device Lists

Process A: Suspension Polyvinyl Chloride Manufacturing

Step 1: Raw Material Storage

This Step includes weighing and filling equipment which can be located in Building 533, storage tanks associated with the process, and unloading from RR cars and, when operating would have area and tank ventilation exhausted to the control device(s) listed below.

CONTROL DEVICE(S)

No control device used

Equipment	Processing/Storage Capacity
Tanks	
TK-2C	800 - 2200 gal
TK-4C	800 - 2200 gal
TK-8C	800 - 2200 gal
TK-9C	800 - 2200 gal
TK-12C	800 - 2200 gal
TK-21C	800 - 2200 gal
TK-23C	800 - 2200 gal
TK-26C	800 - 2200 gal

CONTROL DEVICE(S)

Vent Gas Absorber (VGA)
Vent Gas Thermal Oxidizer (VGTO)

Equipment	Processing/Storage Capacity
Tanks	
TK-2B	390000 - 515000 gal
TK-3B	5000 - 10000 gal
TK-4B	5000 - 10000 gal

Step 2: Polymerization

Polymerization equipment which can be located in Building 531 makes up the Polymerization step of the Suspension Manufacturing Process. When this equipment is operating emissions are exhausted through the control device(s) listed below.

CONTROL DEVICE(S)

Vent Gas Absorber (VGA)
Vent Gas Thermal Oxidizer (VGTO)

Equipment	Processing/Storage Capacity
Polymerizers	
PLY-1E	15000 - 20000 gal
PLY-2E	15000 - 20000 gal

Step 2: Polymerization (cont)

CONTROL DEVICE(S)

Vent Gas Absorber (VGA)
Vent Gas Thermal Oxidizer (VGTO)

Equipment	Processing/Storage Capacity
PLY-3E	15000 - 20000 gal
PLY-4E	15000 - 20000 gal
PLY-5E	15000 - 20000 gal
PLY-6E	15000 - 20000 gal
PLY-7E	15000 - 20000 gal
PLY-8E	15000 - 20000 gal

CONTROL DEVICE(S)

No control device used

Equipment	Processing/Storage Capacity
Spot ventilation	
BL-1E	8000 cfm
BL-2E	2550 cfm

CONTROL DEVICE(S)

No control device used

Equipment	Processing/Storage Capacity
Vacuum Jet	
VJ-1E	800 - 1000 lb/hr

Step 3: Drying

Drying equipment which can be located in Building 515; and when operating emissions are exhausted through the control device(s) listed below. In addition, a vacuum system is connected to the control device(s) listed.

CONTROL DEVICE(S)

Dust Separator

SED-2H

Equipment	Processing/Storage Capacity
Dryer	
DR-1H	21.0 L/s

Step 3: Drying (cont)

CONTROL DEVICE(S)

Dust Separator

SED-4V

Equipment	Processing/Storage Capacity
Dryer	
DR-1V	10.3 L/s

CONTROL DEVICE(S)

Dust Separator

SED-2T

Equipment	Processing/Storage Capacity
Dryer	
DR-1T	21.0 L/s

CONTROL DEVICE(S)

No control device used

Equipment	Processing/Storage Capacity
Tanks	
TK-1V	15000 - 20000 gal
TK-2V	15000 - 20000 gal
TK-5G	40000 - 50000 gal
TK-6G	40000 - 50000 gal
TK-1T	40000 - 50000 gal
TK-2T	40000 - 50000 gal

CONTROL DEVICE(S)

Dust Separator

VCS-1H

Equipment	Processing/Storage Capacity
Building Vacuum System	250 ACFM

Step 3: Drying (Cont)

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-5K, 7K, 9K

Equipment	Processing/Storage Capacity
Bin	
TK-5K	120000 - 130000 lbs
TK-7K	120000 - 130000 lbs
TK-9K	120000 - 130000 lbs

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-3V

Equipment	Processing/Storage Capacity
Bin	
TK-3V	60000 - 70000 lbs

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-4V

Equipment	Processing/Storage Capacity
Bin	
TK-4V	60000 - 70000 lbs

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-5T

Equipment	Processing/Storage Capacity
Bin	
TK-5T	120000 - 130000 lbs

Step 3: Drying (Cont)

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-7T

Equipment	Processing/Storage Capacity
Bin	
TK-7T	120000 - 130000 lbs

Step 4: Final Product Storage and Packaging

Transferring, bulk loading and unloading, and packaging of final product when operating would be exhausted through the control device(s) listed below.

CONTROL DEVICE(S)

Dust Separator

SED-1J

Equipment	Processing/Storage Capacity
PVC Bulk Loading	1100 ACFM

CONTROL DEVICE(S)

Dust Separator

SED-2J

Equipment	Processing/Storage Capacity
Silo Area Vacuum System	420 ACFM

CONTROL DEVICE(S)

Dust Separator

SED-1/PK-1J

Equipment	Processing/Storage Capacity
PVC Packaging System	
PK-1J	2000 - 2500 lbs

Step 4: Final Product Storage and Packaging (Cont)

CONTROL DEVICE(S)

Dust Separator

SED-1/HPR-3J
SED-1/HPR-4J

Equipment	Processing/Storage Capacity
PVC Packaging System	
HPR-3J	2000 - 2500 lbs
HPR-4J	2000 - 2500 lbs

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-4J

Equipment	Processing/Storage Capacity
Silo	
TK-4J	175000 - 200000 lbs

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-3J

Equipment	Processing/Storage Capacity
Silo	
TK-3J	175000 - 200000 lbs

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-2J

Equipment	Processing/Storage Capacity
Silo	
TK-2J	175000 - 200000 lbs

Step 4: Final Product Storage and Packaging (Cont)

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-1J

Equipment	Processing/Storage Capacity
Tank	
TK-1J	175000 - 200000 lbs

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-5J

Equipment	Processing/Storage Capacity
Tank	
TK-5J	2000 - 2500 lbs

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-9J

Equipment	Processing/Storage Capacity
Silo	
TK-9J	450000 - 475000 lbs

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-11J

Equipment	Processing/Storage Capacity
Silo	
TK-11J	450000 - 475000 lbs

Step 4: Final Product Storage and Packaging (Cont)

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-12J

Equipment	Processing/Storage Capacity
Silo	
TK-12J	450000 - 475000 lbs

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-10J

Equipment	Processing/Storage Capacity
Silo	
TK-10J	450000 - 475000 lbs

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-19J

Equipment	Processing/Storage Capacity
Silo	
TK-19J	200000 - 230000 lbs

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-18J

Equipment	Processing/Storage Capacity
Silo	
TK-18J	1000000 - 1200000 lbs

Step 4: Final Product Storage and Packaging (Cont)

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-17J

Equipment	Processing/Storage Capacity
Silo	
TK-17J	1000000 - 1200000 lbs

CONTROL DEVICE(S)

Dust Separator

SED-1/TK-16J

Equipment	Processing/Storage Capacity
Silo	
TK-16J	1000000 - 1200000 lbs

CONTROL DEVICE(S)

Dust Separator

VCS-1J

Equipment	Processing/Storage Capacity
Vacuum Cleaning System	250 ACFM

CONTROL DEVICE(S)

Dust Separator

SED-2J

Equipment	Processing/Storage Capacity
Vacuum Cleaning System	250 ACFM

Section 1D

Source/Control Data Sheets

Process A: Suspension Polyvinyl Chloride Manufacturing

See Appendix A

FACILITY-WIDE PERMIT
PROCESS STACK INFORMATION SHEET

Company designation of Process: Suspension Manufacturing
Number of Sources in the Process: 120
Number of Stacks or Vents: 40

Stack Designation	NJ Stack Number	# of Sources	Previous CT #	Distance To nearest Property Line (Ft)	Diameter or Dimensions (Inches)	Discharge Height Above Ground (Ft)	Exit Temp (oF)	Gas Discharge Rate (ACFM)	Discharge Direction Up, Down Horizontal
VCS-1H	002	1	077461	310	6	2	85	250	Down
SED-4V	011	2	098317	300	36	56	150	24709	Hor
SED-1/TK-3V	012	1	068052	350	20	56	100	4000	Hor
SED-1/TK-4V	013	1	068053	340	20	56	100	4000	Hor
SED-1/TK-4J	019	1	001670	255	18	75	100	2200	Hor
SED-1/TK-3J	020	1	001671	265	18	75	100	2200	Hor
SED-1/TK-2J	021	1	001672	270	12	75	100	2200	Hor
SED-1/TK-1J	023	1	001673	275	12	75	100	2200	Hor
SED-1/TK-5J	024	1	001675	350	5	5	120	2200	Down
VCS-1J	032	1	001491	260	6	55	85	250	Up
SED-1/TK-9J	033	1	012501	360	10	78	100	1100	Down
SED-1/TK-11J	034	1	012502	390	10	78	100	1100	Down
SED-1/TK-12J	035	1	012503	410	10	78	100	1100	Down
SED-1/TK-10J	036	1	012504	375	10	78	100	1100	Down
SED-1/PK-1J	048	1	016365	220	8X8	30	80	800	Hor
SED-1/HPR-3J,4J	049	2	035764	215	12	30	85	1100	Hor
SED-1/TK-19J	099	1	040057	285	12	100	100	1100	Hor
SED-1/TK-18J	100	1	040058	415	12	115	100	1100	Hor
SED-1/TK-17J	101	1	040059	440	12	115	100	1100	Hor
SED-1/TK-16J	102	1	040060	465	12	115	100	1100	Hor
TK-5G	116	1	042117	365	10	27	150	29	Hor
TK-6G	118	1	042119	370	10	27	150	29	Hor
SED-2H	119	1	092792	335	60	55	150	66600	Hor
SED-1/TK-5K,7K,9K	120	1	042121	420	12X16	26	85	2800	Hor
SED-1J	128	1	042302	400	9X9	37	85	1100	Up
BL-1C	133	8	049310	145	14.5X12.25	22	70	2800	Hor
TK-1V	142	1	064399	375	4	22	150	14.6	Down
TK-2V	143	1	065457	400	4	22	150	14.6	Down
VGA/VGTO	153	INCLUDED UNDER PROCESS B: DISPERSION							
VJ-1E	153	72	093392	175	4	50	212	200	Hor
BL-1E	153	2	093392	150	12X16	43	70	2450	Hor
BL-2E	153	2	093392	150	10.125 x 9.5	36	70	1700	Hor
TK-1T	160	1	097667	420	10	27	150	29	Hor
TK-2T	161	1	097668	430	10	27	150	29	Hor
SED-1/TK-5T	163	1	097892	375	12X10	70	85	2800	Hor
SED-1/TK-7T	164	1	097893	390	12X10	70	85	2800	Hor
SED-2T	166	2	098128	390	60	60	150	66600	Up
SED-2J	185	1	N/A	340	4	8	120	420	Up
Total		120							

Section 1F

Process Raw Material/Contaminant List

Process A: Suspension Polyvinyl Chloride Manufacturing

See Attachment E

Section 2A

Release and Alteration/Amendment Limits

Process A: Suspension Polyvinyl Chloride Manufacturing

Table 1: PROCESS LIMITS IN TONS/YR
PROCESS: SUSPENSION MANUFACTURING

CATEGORY	SUBCATEGORY	TONS/YR
Particulates	Lead	0.000
	PM-10	0.903
	Other	52.952
1. TOTAL PARTICULATES		53.855
Volatile Organic Compounds	HAP-VOC	
	VCM	4.525*
	Other	1.074**
2. TOTAL VOC		5.599
3. Carbon Monoxide		5.317
4. NOx Total		19.829
NOx Dryer 1H		11.95
5. SOx		0.069
6. Other		1.000

* Dependent upon the Worst-Case Lb/Product and Production Limits (See Table 3).

** The cumulative emissions of Iso-Octane from Processes A and B shall not exceed 2.628 tons per calendar year.

This Table includes fugitive and insignificant source emissions

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: SUSPENSION MANUFACTURING

EQUIPMENT TYPE: TANKS (TK-2C,TK-4C,TK-8C,TK-9C,TK-12C,TK-21C, TK-23C,TK-26C)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	0.000
	Other	0.100
2. TOTAL VOC		0.100
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS
PROCESS: SUSPENSION MANUFACTURING
EQUIPMENT TYPE: TANK TK-2B

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	0.011
	Other	0.000
2. TOTAL VOC		0.011
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS
PROCESS: SUSPENSION MANUFACTURING
EQUIPMENT TYPE: TANK (TK-3B, TK-4B)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	0.004
	Other	0.000
2. TOTAL VOC		0.004
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: SUSPENSION MANUFACTURING

EQUIPMENT TYPE: POLYMERIZERS (PLY-1E, PLY-2E, PLY-3E, PLY-4E, PLY-5E, PLY-6E, PLY-7E, PLY-8E)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	0.082
	Other	0.000
2. TOTAL VOC		0.082
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: SUSPENSION MANUFACTURING

EQUIPMENT TYPE: SPOT VENTILATION (BL-1E)

CATEGORY	SUBCATEGORY	LB/HR
	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	1.967
	Other	0.000
2. TOTAL VOC		1.967
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: SUSPENSION MANUFACTURING

EQUIPMENT TYPE: SPOT VENTILATION (BL-2E)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	0.220
	Other	0.000
2. TOTAL VOC		0.220
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: SUSPENSION MANUFACTURING

EQUIPMENT TYPE: VACUUM JET (VJ-1E)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	0.844
	Other	0.000
2. TOTAL VOC		0.844
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: SUSPENSION MANUFACTURING

EQUIPMENT TYPE: DRYER DR-1H

CATEGORY	SUBCATEGORY	Natural Gas LB/HR	Propane LB/HR
Particulates	Lead	0.000	0.000
	PM-10	0.235	0.118
	Other	1.475	1.475
1. TOTAL PARTICULATES		1.710	1.592
Volatile Organic Compounds	HAP-VOC	7.000	7.000
	Other	0.048	0.098
2. TOTAL VOC		7.048	7.098
3. Carbon Monoxide		0.601	0.626
4. NOx		2.402	3.719
5. SOx		0.010	0.001
6. Other		1.000	1.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: SUSPENSION MANUFACTURING

EQUIPMENT TYPE: DRYER DR-1V

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	3.420
1. TOTAL PARTICULATES		3.420
Volatile Organic Compounds	HAP-VOC	7.000
	Other	0.000
2. TOTAL VOC		7.000
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		1.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: SUSPENSION MANUFACTURING

EQUIPMENT TYPE: DRYER DR-1T

CATEGORY	SUBCATEGORY	Natural Gas LB/HR	Propane LB/HR
Particulates	Lead	0.000	0.000
	PM-10	0.235	0.118
	Other	1.475	1.475
1. TOTAL PARTICULATES		1.710	1.592
Volatile Organic Compounds	HAP-VOC	7.000	7.000
	Other	0.048	0.098
2. TOTAL VOC		7.048	7.098
3. Carbon Monoxide		0.601	0.626
4. NOx		1.800	1.800
5. SOx		0.010	0.001
6. Other		1.000	1.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: SUSPENSION MANUFACTURING

EQUIPMENT TYPE: TANKS (TK-1V,TK-2V,TK-5G,TK-6G,TK-1T,TK-2T)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	0.010
	Other	0.000
2. TOTAL VOC		0.010
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: SUSPENSION MANUFACTURING

EQUIPMENT TYPE: BINS (TK-7K,TK-5K,TK-9K,TK-5T,TK-7T,TK-3V,TK-4V)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.500
1. TOTAL PARTICULATES		0.500
Volatile Organic Compounds	HAP-VOC	0.000
	Other	0.000
2. TOTAL VOC		0.000
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: SUSPENSION MANUFACTURING

EQUIPMENT TYPE: PVC BULK LOADING
PVC PACKAGING SYSTEM (PK-1J)
PVC PACKAGING SYSTEM (HPR-3J,HPR-4J)
SILOS (TK-4J,TK-3J,TK-2J,TK-1J,TK-5J,TK-9J,TK-11J,TK-12J,TK-10J,TK-19J,TK-18J,TK-17J,TK-16J)
SILO AREA VACUUM SYSTEMS (VCS-1J, SED-2J)
BUILDING VACUUM SYSTEM (VCS-1H)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.500
1. TOTAL PARTICULATES		0.500
Volatile Organic Compounds	HAP-VOC	0.000
	Other	0.000
2. TOTAL VOC		0.000
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 3: ADDITIONAL ALTERATION/AMENDMENT LIMITS
PROCESS: SUSPENSION MANUFACTURING

BASELINE LB/MILLION POUNDS PRODUCT VCM	BASELINE PRODUCTION
18.85	480 million pounds

Any increase in production of suspension PVC resin above the initial baseline of 480 million pounds as measured by percent, must be offset by a decrease, as measured by percent, in the initial baseline Lb/Million Pounds Product VCM.

As an example, a 10% increase in the initial baseline production to 528 million pounds will only be allowed if GEON is able to decrease the initial baseline LB/Million Pounds Product by 10% to 16.97.

A new Suspension PVC process tons/year emission limit for VCM will be calculated based upon the new production and lb/product (ie. 528 x 16.97 = 8960/2000 = new emission limit of 4.480 Tons/Year). The FWP will be amended to incorporate the new tons/year emission limit as the enforceable permit limit.

Whenever a production increase above the baseline in effect at the time of the increase is anticipated, the Permittee shall submit a Pollution Prevention update with information equivalent to satisfy the requirements of N.J.A.C. 7:1K-4.3(b)3 and 4, and N.J.A.C. 7:1K-4.5(a)5i. This update shall include the LB/Million Pounds Product reduction goal anticipated, and the pollution prevention technique to be implemented to achieve this goal. By January 30th of the year following any production baseline increase, the permittee shall submit a report listing the actual LB/Million Pounds Product reduction achieved for the prior calendar year.

Should the actual LB/Million Pounds Product VCM be less than the production increase, as measured by percent, the permittee shall lower production to be equivalent to the actual LB/Million Pounds Product reduction.

Should the EPA vinyl chloride unit risk factor (URF) decrease, the Department shall within 90 days of a request by Geon, review and revise the permit requirements based on the new URF. Should the URF increase, the Department reserves the right to modify the permit requirements based on the new URF.

Section 3

Compliance Plan

Process A: Suspension Polyvinyl Chloride Manufacturing

I. **Applicable Requirements**

A. Chapter 27 - **AIR POLLUTION CONTROL**

Subchapter 1.	General Provisions 7:27- 1.1, 1.2, 1.3, 1.4, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13,1.14,1.15,1.16,1.17,1.18
Subchapter 3.	Control and Prohibition of Smoke from Combustion of Fuel 7:27- 3.1, 3.2, 3.5, 3.6, 3.7
Subchapter 4.	Control and Prohibition of Particles from Combustion of Fuel 7:27-4.1, 4.2, 4.3, 4.4, 4.5, 4.6
Subchapter 5.	Prohibition of Air Pollution 7:27-5.1, 5.2
Subchapter 6.	Control and Prohibition of Particles from Manufacturing Processes 7:27-6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7
Subchapter 8.	Permits and Certificates 7:27-8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.26, 8.27, Appendix I
Subchapter 12.	Prevention and Control of Air Pollution Emergencies 7:27-12.1, 12.2, 12.3, 12.4, 12.5
Subchapter 13.	Ambient Air Quality Standards 7:27-13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8
Subchapter 16.	Control and Prohibition of Air Pollution by Volatile Organic Compounds 7:27-16.1, 16.1A, 16.2, 16.4, 16.16, 16.17, 16.18, 16.21, 16.24
Subchapter 18.	Control and Prohibition of Air Pollution from New or Altered Sources Effecting Ambient Air Quality (Emission Offset Rules) 7:27-18.1, 18.2, 18.3, 18.4, 18.5, 18.6, 18.7, 18.8, 18.9, 18.10
Subchapter 19.	Control and Prohibition of Air Pollution from Oxides of Nitrogen 7:27-19.1, 19.2, 19.3, 19.13, 19.14, 19.15, 19.16, 19.17, 19.19
Subchapter 21.	Emission Statements 7:27-21.1, 21.2, 21.3, 21.4, 21.5, 21.6, 21.7
Subchapter 22.	Operating Permits 7:27-22.1, 22.2, 22.3, 22.4, 22.5, 22.6, 22.8, 22.10, 22.13, 22.14, 22.16, 22.18, 22.19, 22.20, 22.23, 22.24, 22.31

B. Chapter 27A - **AIR ADMINISTRATIVE PROCEDURES AND PENALTIES**

Subchapter 3.	Civil Administrative Penalties and Requests for Adjudicatory Hearings

7:27A-3.1; 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12

C. Chapter 29 - NOISE CONTROL

Subchapter 1. General Provisions
7:29-1.1, 1.2, 1.5, 1.6

Subchapter 2. Procedures for the Determination of Noise from Stationary Sources
7:29-2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.1, 2.12

Federal NESHAP Standard
40 CFR 61.60, 61.64, 61.65

II. Recordkeeping, Monitoring and Reporting

A. Recordkeeping

1. The Permittee shall record the following information for all leaks detected by the vinyl chloride leak detection system:

   a. Concentration of vinyl chloride measured, analyzed and recorded
   b. Location of each measurement
   c. Date and approximate time of each measurement
   d. The calculation for determining fugitive emissions

TPY
½ of allowable

2. The Permittee shall record the following for each PVC reactor on a daily basis:

   a. Reactor pressure
   b. Reactor temperature

3. The Permittee shall record the following for each period that the VGTO is used:

   a. Date of Operation
   b. Operation start and end time
   c. Type of fuel used
   d. Name of the person making the entry
   e. The reason the VGTO is used

4. The Permittee shall record the following for VOC emissions for process raw materials other than VCM:

   a. The date of operation
   b. The total time in hours each VOC source operates
   c. Total pounds of VOC emitted from each VOC source

5. The Permittee shall record on a daily basis the weighted average residual vinyl chloride concentration measured immediately after the closed loop stripping operation.

6. The Permittee shall record for Dryer DR-1H the amount of fuel burned for each calendar year.

7. The Permittee shall record the following for Dryer DR-1H for the ozone season (May 1 to September 30)whenever propane is burned for each calendar year

a. The reason(s) for using propane and documentation that said reason(s) were beyond Geon's control;
b. The quantity, start/end time and total hours of each occurance of propane use;
c. The total cumulative hours of propane used;

All records shall be maintained on site for a minimum of five years after the last collection, in a permanently bound log book, readily accessible computer memory, or by another method acceptable to the Regional Enforcement Office. These records must also be available for inspection by representatives of the Department.

B. **Monitoring**

1. The following particulate control devices must have a pressure drop monitor installed and operating within six months of the effective date of this permit. Pressure drop ranges shall be as listed:

Control Designation	Pressure Drop (in. of W.C.) Min - Max
SED-1/TK-3V	1 - 10
SED-1/TK-4V	1 - 10
SED-1/TK-4J	1 - 10
SED-1/TK-3J	1 - 10
SED/TK-2J	1 - 10
SED-2/TK-1J	1 - 10
SED-1/TK-5J	1 - 10
VCS-1J	1 - 10
SED-1/TK-9J	1 - 10
SED-1/TK-11J	1 - 10
SED-1/TK-12J	1 - 10
SED-1/TK-10J	1 - 10
SED-1/PK-1J	1 - 10
SED-1/HPR-3J	1 - 10
SED-1/HPR-4J	1 - 10
SED-1/TK-19J	1 - 10
SED-2/TK-18J	1 - 10
SED-1/TK-17J	1 - 10
SED-1/TK-16J	1 - 10
SED-1/TK-7K	1 - 10
SED-1/TK-5K	1 - 10
SED-1J	1 - 10

Control Designation	Pressure Drop (in. of W.C.) Min - Max
SED-1/TK-9K	1 - 10
SED-1/TK-5T	1 - 10
SED-1/TK-7T	1 - 10

In addition the following particle size distribution tables apply to this process:

Suspension Polyvinyl Chloride Manufacturing
Process A
Particle Size Disctribution

%	Micron
0.2	<25
2	<50
5	<85
15	<100
60	<150
100	<400

2. The following scrubber control devices must have a continuous flow rate and pressure drop monitor installed and operating within six months of the effective date of this permit. The scrubber medium flow rates and pressure drops shall be:

Control Designation	Flow Rate (gpm)	Pressure Drop (in. of W.C.)
SED-4V	80 - 100	2.5 - 6.9
SED-2H	290 - 322	2.0 - 8.0
SED-2T	290 - 322	2.0 - 8.0

3. If not already conducted, within 180 days of initial operation, or as specified by the Department, the Permittee shall conduct initial emissions performance tests on Dryers DR-1H, DR-1T and DR-1V, as specified in this permit, in accordance with N.J.A.C. 7:27-8.4(c). All tests shall be conducted using New Jersey Air Test Method 3 (N.J.A.C. 7:27B) and USEPA test methods (40 CFR 60, Appendix A).

4. Within 90 days of initial operation under this permit, or as specified by the Department, the Permittee shall submit to the Chief, BTS, for approval, a pretest protocol. BTS may change or require additional pollutants to be stack tested in order to verify compliance with the permit.

5. The Permittee shall conduct all emission performance tests using the method approved by the Chief, BTS.

6. The Permittee shall contact the Chief, BTS, upon approval of the test protocol, to schedule a mutually acceptable test date.

7. The emissions performance tests for Dryers DR-1H, DR-1T and DR-1V shall be for VCM (lbs/hr) and Particulates (lbs/hr); and shall be within +/- 5% of the maximum permissible feedstock rate, which will be established

during testing and shall become an operating condition. An emission performance test for Dryer DR-1H shall be for NOx (lbs/hr) during natural gas usage. Within 90 days of the determination by Geon that propane usage will exceed 500 hours in a calendar year, an emission performance test for Dryer DR-1H shall be conducted for NOx (lbs/hr) for propane usage.

8. The feedstock flow rate for dryers DR-1H, DR-1V and DR-1T prevailing during stack testing shall not be exceeded. The feedstock flow rate shall be continuously monitored and shall be recorded twice per shift.

9. Within 60 days after completion of testing, the Permittee shall submit to the Chief, BTS, one copy of the emission test report. The test results shall be certified by a Licensed Professional Engineer or by a Certified Industrial Hygienist.

10. The permittee shall have in operation a system to measure VCM stack concentrations. These shall be used to calculate VCM mass emission rates emitted from the following:

DESCRIPTION	STACK
Spot Ventilation System	BL-1E
Spot Ventilation System	BL-2E

C. **Reporting**

1. The Permittee shall submit a quarterly report for excess emissions as required at 61.70 of the NESHAP regulations within 30 days of the close of each quarter, to the Regional Enforcement Office and the USEPA, at the addresses listed below. When no excess emissions have occurred, such information shall be stated in the report.

Regional Enforcement Officer
Southern Regional Enforcement Office
2 Riverside Drive
1 Port Center, Suite 201
Camden, NJ 08102

Chief
Air Monitoring Section
USEPA Region II
Edison, NJ 08817

2. The Permittee shall submit to the Department every six months, beginning January 1, 1997, a summary report listing the total tons emitted for each subcategory of contaminants from this process. The end of year report shall be a cummulative total of the tons emitted for each subcategory during the calendar year.

III. Special Conditions

A. Operating Conditions

1. The concentration of vinyl chloride exhausted to the atmosphere from the VGA/VGTO is not to exceed 10 parts per million (ppm) (average for a 3-hour period). The reactor opening loss from each polymerization reactor in the polymerization process shall not exceed 0.02

grams of vinyl chloride per kg of PVC product (.00002 pounds of vinyl chloride per pound of PVC product).

2. The residual vinyl chloride (RVC) weighted average concentration in suspension resin processed through the stripper on each calendar day, measured immediately after the stripping operation is completed shall not exceed 25 ppm by weight (ppmw) on an annual basis and 400 ppmw on a daily average. Measurement shall be made immediately after the stripping operation.

3. The vacuum jet ejectors shall only be operated to evacuate air after equipment has been opened and after all other NESHAP and FWP conditions have been met and shall not be used to obtain opening loss NESHAP compliance.

4. The spot ventilation systems shall only be operated to exhaust residual VCM from equipment after the NESHAP opening loss requirements have been satisfied or to exhaust fugitive VCM emissions from building air for personnel protection.

5. Fugitive VCM emissions from various processes shall be determined using the building VCM monitoring system. This system is composed of fixed monitoring points tied into a central gas chromatograph system. Fugitive emissions shall be controlled by reducing the frequency of equipment openings which release fugitive emissions, using a steam sweep and vacuum or water purge technology. Fugitive emissions from pumps, agitators, compressors, loading and unloading operations, gauges, and relief valve discharges and manual venting of gases from equipment other than reactors shall be controlled and monitored using equipment specified at 61.65 (b)1 through 8 of the NESHAPs regulations. VCM emissions from inprocess wastewater shall be reduced in accordance with the requirements of 61.65 (b)9 of the NESHAPS regulations.

6. Either the VGA or VGTO shall be operated at all times the material is being processed by any one of the sources connected to them. If the VGA malfunctions or is overloaded, sources connected must be diverted to the VGTO or the plant must shut down.

7. Dryer 1H shall be limited to natural gas as the primary fuel with propane as an emergency backup. Propane use shall be limited to no greater than 90-days per calendar year. During the ozone season (May 1 to September 30) of each year, only natural gas shall be used except during times when natural gas is unavailable.

8. The Permittee shall implement a program of maintenance, training and operational design review which will focus on premature rupture disc failure prevention. In addition, the Permittee shall use a computer reaction controller which will be capable of monitoring temperature and pressure of the reaction and of controlling the reaction by altering the cooling water and other process variables. An automatic sequence of corrective action for unusual reaction problems shall be adopted.

9. Prior to any alteration of Dryer DR-1H that will cause NOx emissions rates to increase above the limits specified in Table 1 or Table 2,

the Permittee shall submit an amended NOx Emission Control Plan to the Department for approval.

APPENDIX A

CONTROL DEVICE SUPPLEMENTAL FORM

PARTICULATE CONTROL- FILTRATION

PROCESS: A					
FACILITIES DESIGNATION (label)	VCS-1H	SED-1/TK-3V	SED-1/TK-4V	SED-1/TK-4J	SED-1/TK-3J
MANUFACTURER	Spencer	Flex-Kleen	Flex-Kleen	Torit	Torit
MODEL		100-WSBS-49	100-WSBS-49	TD-1150	TD-1150
BAGHOUSE	X	X	X		
CATRTRIDGE				X	X
OTHER					
# OF BAGS OR CARTRIDGES	7	49	49	6	6
SIZE OF BAGS OR CARTRIDGES	8"x51"	100"	100"	26"	26"
TOTAL BAG OR CARTRIDGE AREA (ft^2)	52	622	622	1104	1104
MAXIMUM CAPACITY (ACFM)	250	4000	4000	2200	2200
BAG FABRIC	Cotton Sateen	Polyester	Polyester	NA	NA
FABRIC WEIGHT (oz)	9.7	16	16	NA	NA
WEAVE	Sateen	Non-Woven	Non-Woven	NA	NA
FINISH	Plain	Plain	Plain	NA	NA
EFFICIENCY	>99	>99	>99	>99	>99
MAXIMUM TEMP. CAPABILITY (^0F)	180	200	200	325	325
MAXIMUM AIR FLOW CAP.(ACFM)					
AIR TO CLOTH RATIO	4.8	6.4	6.4	2	2
# OF SOURCES	1	1	1	1	1
OPERATING PRESSURE DROP (in. of W.C.)	NA*	1 to 10	1 to 10	1 to 10	1 to 10
TEMPERATURE OF INLET (^0F)	Ambient	100	100	Ambient to 130	Ambient to 130
MOISTURE CONTENT OF INLET (%)	<1	<1	<1	<1	<1
OPERATING PROCESS EXHAUST FLOW RATE (ACFM)					
TYPE OF PERFORMANCE MONITOR/RECORDER		Differential	Differential	Differential	Differential
		Pressure Gauge	Pressure Gauge	Pressure Gauge	Pressure Gauge
STACK #	2	12	13	19	20
METHOD OF CLEANING					
REVERSE AIR					
PULSE JET		X	X	X	X
MECHANICAL SHAKING	X				
OTHER (explain below)					
	*Operates Under				
	a Vacuum				

CONTROL DEVICE SUPPLEMENTAL FORM

PARTICULATE CONTROL- FILTRATION

PROCESS: A				
FACILITIES DESIGNATION (label)	SED-1/TK-2J	SED-1/TK-1J	SED-1/TK-5J	VCS-1J
MANUFACTURER	Flex Kleen	Flex Kleen	Torit	Spencer
MODEL	58-BV-16	58-BV-16	52RP8	
BAGHOUSE	X	X	X	X
CATRTRIDGE				
OTHER				
# OF BAGS OR CARTRIDGES	16 (Double)	16 (Double)	52	7
SIZE OF BAGS OR CARTRIDGES	105"	105"	8'	8"x 51"
TOTAL BAG OR CARTRIDGE AREA (ft^2)	381	381	480	52
MAXIMUM CAPACITY (ACFM)	2200	2200	2200	250
BAG FABRIC	Polyester	Polyester	Polyester	Cotton Sateen
FABRIC WEIGHT (oz)	16	16	16	9.7
WEAVE	Non-Woven	Non-Woven	Non-Woven	Sateen
FINISH	Plain	Plain	Plain	Plain
EFFICIENCY	>99	>99	>99	>99
MAXIMUM TEMP. CAPABILITY (^0F)	200	200	200	180
MAXIMUM AIR FLOW CAP.(ACFM)				
AIR TO CLOTH RATIO	5.8	5.8	4.8	4.6
# OF SOURCES	1	1	1	1
OPERATING PRESSURE DROP (in. of W.C.)	1 to 10	1 to 10	NA*	1 to 10
TEMPERATURE OF INLET (^0F)	Ambient to 130	Ambient to 130	Ambient to 130	Ambient to 130
MOISTURE CONTENT OF INLET (%)	<1	<1	<1	<1
OPERATING PROCESS EXHAUST FLOW RATE (ACFM)				
TYPE OF PERFORMANCE MONITOR/RECORDER	Differential	Differential	Differential	Differential
	Pressure Gauge	Pressure Gauge	Pressure Gauge	Pressure Gauge
STACK #	21	23	24	32
METHOD OF CLEANING				
REVERSE AIR				
PULSE JET	X	X	X	
MECHANICAL SHAKING				X
OTHER (explain below)				
			*Operates Under	
			a Vacuum	

CONTROL DEVICE SUPPLEMENTAL FORM

PARTICULATE CONTROL- FILTRATION

PROCESS: A					
FACILITIES DESIGNATION (label)	SED-1/TK-9J	SED-1/TK-11J	SED-1/TK-12J	SED-1/TK-10J	SED-1/PK-1J
MANUFACTURER	Flex Kleen	Flex Kleen	Flex Kleen	Flex Kleen	Flex Kleen
MODEL	58-BV-25	58-BV-25	58-BV-25	58-BV-25	84-BV-16
BAGHOUSE	X	X	X	X	X
CATRTRIDGE					
OTHER					
# OF BAGS OR CARTRIDGES	25	25	25	25	16
SIZE OF BAGS OR CARTRIDGES	58"	58"	58"	58"	84"
TOTAL BAG OR CARTRIDGE AREA (ft^2)	180	180	180	180	170
MAXIMUM CAPACITY (ACFM)	1100	1100	1100	1100	800
BAG FABRIC	Polyester	Polyester	Polyester	Polyester	Polyester
FABRIC WEIGHT (oz)	16	16	16	16	16
WEAVE	Non-Woven	Non-Woven	Non-Woven	Non-Woven	Non-Woven
FINISH	Plain	Plain	Plain	Plain	Plain
EFFICIENCY	>99	>99	>99	>99	>99
MAXIMUM TEMP. CAPABILITY (^0F)	200	200	200	200	200
MAXIMUM AIR FLOW CAP.(ACFM)					
AIR TO CLOTH RATIO	6.1	6.1	6.1	6.1	4.7
# OF SOURCES	1	1	1	1	1
OPERATING PRESSURE DROP (in. of W.C.)	1 to 10	1 to 10	1 to 10	1 to 10	1 to 10
TEMPERATURE OF INLET (^0F)	Ambient to 130	Ambient to 130	Ambient to 130	Ambient to 130	Ambient to 130
MOISTURE CONTENT OF INLET (%)	<1	<1	<1	<1	<1
OPERATING PROCESS EXHAUST FLOW RATE (ACFM)					
TYPE OF PERFORMANCE MONITOR/RECORDER	Differential	Differential	Differential	Differential	Differential
	Pressure Gauge	Pressure Gauge	Pressure Gauge	Pressure Gauge	Pressure Gauge
STACK #	33	34	35	36	48
METHOD OF CLEANING					
REVERSE AIR					
PULSE JET	X	X	X	X	X
MECHANICAL SHAKING					
OTHER (explain below)					

CONTROL DEVICE SUPPLEMENTAL FORM

PROCESS: A					
FACILITIES DESIGNATION (label)	SED-1/HPR-3J	SED-1/HPR-4J	SED-1/TK-19J	SED-1/TK-18J	SED-1/TK-17J
MANUFACTURER	Flex Kleen	Flex Kleen	Flex Kleen	Flex Kleen	Flex Kleen
MODEL	84-BVS-25	84-BVS-25	84-BV-25	84-BV-25	84-BV-25
BAGHOUSE	X	X	X	X	X
CATRTRIDGE					
OTHER					
# OF BAGS OR CARTRIDGES	25	25	25	25	25
SIZE OF BAGS OR CARTRIDGES	84"	84"	84"	84"	84"
TOTAL BAG OR CARTRIDGE AREA (ft^2)	265	265	265	265	265
MAXIMUM CAPACITY (ACFM)	1100	1100	1100	1100	1100
BAG FABRIC	Polyester	Polyester	Polyester	Polyester	Polyester
FABRIC WEIGHT (oz)	16	16	16	16	16
WEAVE	Non-Woven	Non-Woven	Non-Woven	Non-Woven	Non-Woven
FINISH	Plain	Plain	Plain	Plain	Plain
EFFICIENCY	>99	>99	>99	>99	>99
MAXIMUM TEMP. CAPABILITY (^0F)	200	200	200	200	200
MAXIMUM AIR FLOW CAP.(ACFM)					
AIR TO CLOTH RATIO	4.2	4.2	4.2	4.2	4.2
# OF SOURCES	1	1	1	1	1
OPERATING PRESSURE DROP (in. of W.C.)	1 to 10	1 to 10	1 to 10	1 to 10	1 to 10
TEMPERATURE OF INLET (^0F)	Ambient to 130	Ambient to 130	Ambient to 130	Ambient to 130	Ambient to 130
MOISTURE CONTENT OF INLET (%)	<1	<1	<1	<1	<1
OPERATING PROCESS EXHAUST FLOW RATE (ACFM)					
TYPE OF PERFORMANCE MONITOR/RECORDER	Differential	Differential	Differential	Differential	Differential
	Pressure Gauge	Pressure Gauge	Pressure Gauge	Pressure Gauge	Pressure Gauge
STACK #	49	49	99	100	101
METHOD OF CLEANING					
REVERSE AIR					
PULSE JET	X	X	X	X	X
MECHANICAL SHAKING					
OTHER (explain below)					

CONTROL DEVICE SUPPLEMENTAL FORM

PARTICULATE CONTROL- FILTRATION

PROCESS: A					
FACILITIES DESIGNATION (label)	SED-1/TK-16J	SED-1/TK-7K	SED-1/TK-5K	SED-1J	SED-1/TK-9K
MANUFACTURER	Flex Kleen	Flex Kleen	Flex Kleen	Flex Kleen	Flex Kleen
MODEL	84-BV-25	100-WRBC-48	100-WRBC-48	84-BV-25	100-WRBC-48
BAGHOUSE	X	X	X	X	X
CATRTRIDGE					
OTHER					
# OF BAGS OR CARTRIDGES	25	48	48	25	48
SIZE OF BAGS OR CARTRIDGES	84"	100"	100"	84"	100"
TOTAL BAG OR CARTRIDGE AREA (ft^2)	265	610	610	265	610
MAXIMUM CAPACITY (ACFM)	1100	2800	2800	1100	2800
BAG FABRIC	Polyester	Polyester	Polyester	Polyester	Polyester
FABRIC WEIGHT (oz)	16	16	16	16	16
WEAVE	Non-Woven	Non-Woven	Non-Woven	Non-Woven	Non-Woven
FINISH	Plain	Plain	Plain	Plain	Plain
EFFICIENCY	>99	>99	>99	>99	>99
MAXIMUM TEMP. CAPABILITY (^0F)	200	200	200	200	200
MAXIMUM AIR FLOW CAP. (ACFM)					
AIR TO CLOTH RATIO	4.2	4.6	4.6	4.2	4.6
# OF SOURCES	1	1	1	1	1
OPERATING PRESSURE DROP (in. of W.C.)	1 to 10	1 to 10	1 to 10	1 to 10	1 to 10
TEMPERATURE OF INLET (^0F)	Ambient to 130	Ambient to 130	Ambient to 130	Ambient to 130	Ambient to 130
MOISTURE CONTENT OF INLET (%)	<1	<1	<1	<1	<1
OPERATING PROCESS EXHAUST FLOW RATE (ACFM)					
TYPE OF PERFORMANCE MONITOR/RECORDER	Differential	Differential	Differential	Differential	Differential
	Pressure Gauge	Pressure Gauge	Pressure Gauge	Pressure Gauge	Pressure Gauge
STACK #	102	120	121	128	146
METHOD OF CLEANING					
REVERSE AIR					
PULSE JET	X	X	X	X	X
MECHANICAL SHAKING					
OTHER (explain below)					

CONTROL DEVICE SUPPLEMENTAL FORM

FACILITIES DESIGNATION (label)	SED-1/TK-5T	SED-1/TK-7T	SED-2J	
MANUFACTURER	Flex Kleen	Flex Kleen	Demarco MaxVac	
MODEL	100-WRBC-48	100-WRBC-48	XR25E	
BAGHOUSE	X	X		
CATRTRIDGE				
OTHER				
# OF BAGS OR CARTRIDGES	48	48	4	
SIZE OF BAGS OR CARTRIDGES	100"	100"	26"	
TOTAL BAG OR CARTRIDGE AREA (ft^2)	610	610	764	
MAXIMUM CAPACITY (ACFM)	2800	2800	420	
BAG FABRIC	Polyester	Polyester	NA	
FABRIC•WEIGHT (oz)	16	16	NA	
WEAVE	Non-Woven	Non-Woven	NA	
FINISH	Plain	Plain	NA	
EFFICIENCY	>99	>99	>99	
MAXIMUM TEMP. CAPABILITY (^0F)	200	200	325	
MAXIMUM AIR FLOW CAP.(ACFM)				
AIR TO CLOTH RATIO	4.6	4.6	0.55	
# OF SOURCES	1			
OPERATING PRESSURE DROP (in. of W.C.)	1 to 10	1 to 10	NA	
TEMPERATURE OF INLET (^0F)	Ambient to 130	Ambient to 130	Ambient to 130	
MOISTURE CONTENT OF INLET (%)	<1	<1	<1	
OPERATING PROCESS EXHAUST FLOW RATE (ACFM)				
TYPE OF PERFORMANCE MONITOR/RECORDER	Differential	Differential	NA*	
	Pressure Gauge	Pressure Gauge		
STACK #	163	164	185	
METHOD OF CLEANING				
REVERSE AIR				
PULSE JET	X	X	X	
MECHANICAL SHAKING				
OTHER (explain below)				
			*Vaccum Cleaning	
			System	

CONTROL DEVICE SUPPLEMENTAL FORM

SCRUBBERS

Process:A				
FACILITIES DESIGNATION (label)	SED-4V	SED-2H	SED-2H*	SED-2T
MANUFACTURER	Fisher Klosterman	Fischer Klosterman	Clean Gas Systems	Clean Gas Systems
TYPE OF SCRUBBER				
VENTURI		X	X	X
PACKED TOWER				
OTHER	Wet			
PARTICULATE CONTROL	X	X	X	X
GAS ABSORPTION				
ABSORPTION LIQUID	Water	Water	Water	Water
CHEMICAL ADDITIVES	NA	Ammonia Anhydrous	Ammonia Anhydrous	Ammonia Anhydrous
HOW MAINTAINED	NA	pH Control	pH Control	pH Control
pH OPERATING VALUES	NA	6-8	6-8	6-8
OXIDATION REDUCTION POTENTIAL VALUES (mV)	NA	NA	NA	NA
ONCE THROUGH SCRUBBING MEDIUM				
RECIRCULATED SCRUBBING MEDIUM	X	X	X	X
MIST ELIMINATOR	No	No	No	No
OPERATING FLOW RATE OF LIQUID (gal/min)	80-100	100-322	100-322	290-322
TYPE OF MONITOR	Pressure Gauge			
TYPE OF RECORDER	None			
GAS OPERATING FLOW RATE (CFM)	332-614	500-1110	500-1110	600-1110
OPERATING PRESSURE DROP (IN. W.C.)	2.5 to 6.9	2.0 to 8.0	2.0 to 8.0	2.0 to 8.0
TYPE OF MONITOR	Dwyer Gauge	Dwyer Gauge	Dwyer Gauge	Dwyer Gauge
TYPE OF RECORDER	None	None	None	None
RELATIVE DIRECTION OF GAS AND LIQUID FLOW	Co-Current	Counter-Current	Co-Current	Co-Current
VENTURI SCRUBBER				
LENGTH OF THROAT				
DIAMETER OF THROAT				
LIQUID INTRODUCTION MECHANISM	Nozzles	Nozzles	Nozzles	Nozzles
TYPE OF NOZZLE	BETE FOG			
INLET GAS TEMPERATURE (^{o}F)	120-175	120 - 175	120 - 175	120 - 175
OUTLET GAS TEMPERATURE (^{o}F)	110-140	110 - 140	110 - 140	110 - 140
OUTLET PARTICLE GRAIN LOADING(grains/dscf)	1.71 lbs/hr	1.71 lbs/hr	1.71 lbs/hr	1.71 lbs/hr

CONTROL DEVICE SUPPLEMENTAL FORM

SCRUBBERS

FACILITIES DESIGNATION (label)	SED-4V	SED-2H	SED-2H*	SED-2T
PACKED TOWER	NA	NA	NA	NA
HEIGHT OF PACKED SECTION (ft)				
TOTAL HEIGHT OF TOWER (ft)				
OPERATING TEMPERATURE OF EXHAUST GAS (^{0}F)				
* To replace existing SED-2H				

Section 1A

Process Description

Process B: Dispersion Polyvinyl Chloride Manufacturing

Dispersion Polyvinyl Chloride (PVC) is manufactured in a closed loop process using proprietary technology developed by The Geon Company.

Vinyl Chloride monomer, ultra pure water, emulsifiers, and initiators are charged into a pressure reactor. The vinyl chloride monomer is polymerized to Polyvinyl Chloride (PVC). As part of the closed loop process, the unpolymerized vinyl chloride monomer is stripped from the PVC resin and recharged. The stripped PVC must meet the National Emission Standard for Hazardous Air Pollutants (NESHAP) requirements for vinyl chloride prior to leaving the closed loop process.

The stripped PVC slurry is then dewatered, dryed, and packaged.

Dispersion PVC resin is typically used for flooring, wallpaper, molded products, and medical goods.

Stack number 153 represents 8 individual stacks grouped together. Each stack is identified on the first process flow diagram (PFD).

Additionally, the following Alternate Operating Scenarios apply to this Process:

Scenario A - Equipment in this scenario emit particulate emissions only, which must be exhausted through the listed control device(s).

Scenario B - Equipment in this scenario emit particulate and VOC emissions. Only the particulate emissions are controlled by listed control device(s). The VOC emissions are uncontrolled.

Scenario C - Equipment in this scenario require no emission controls.

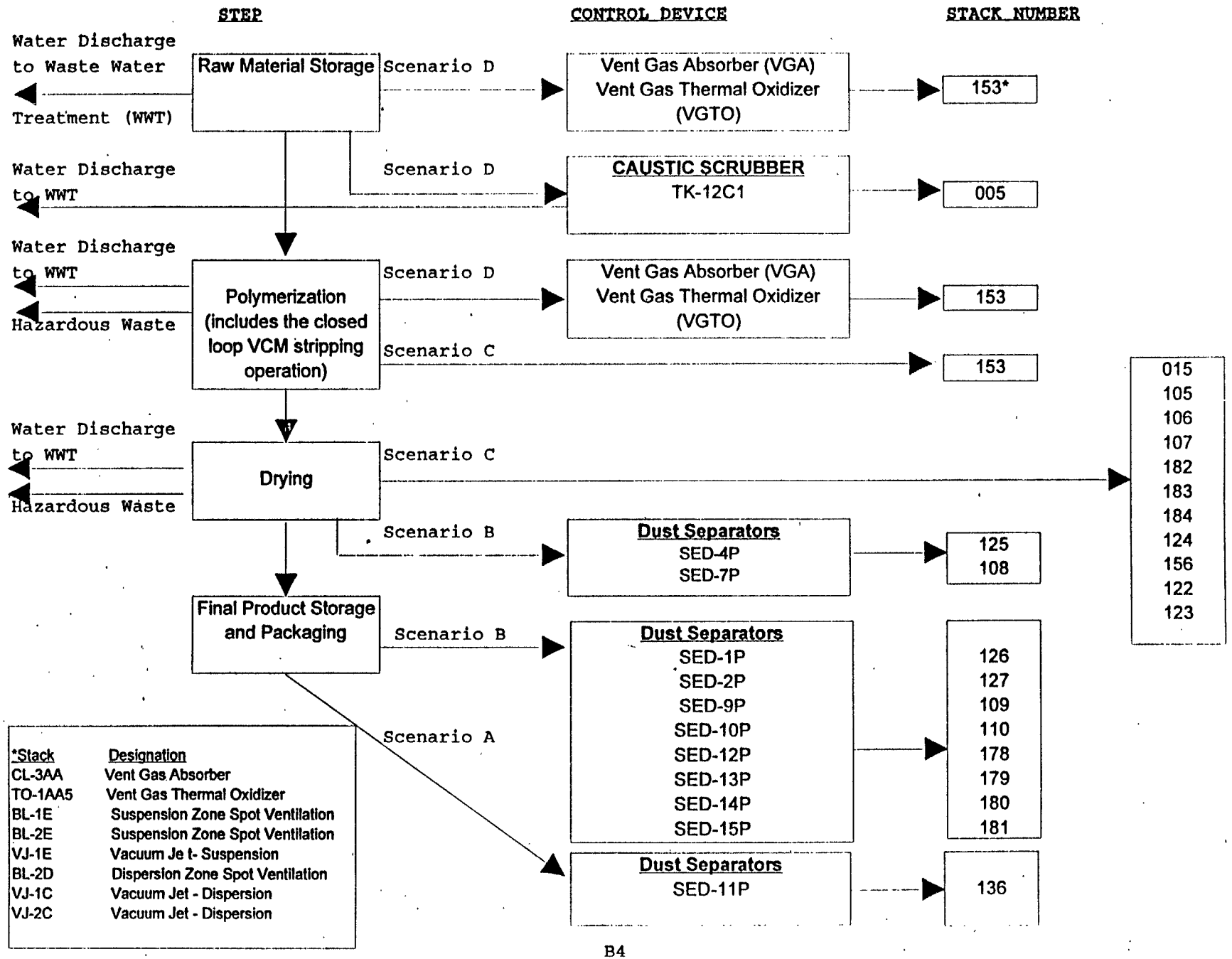
Scenario D - Equipment in this scenario emit VOC emissions only, which must be exhausted through the listed control device.

Section 1B

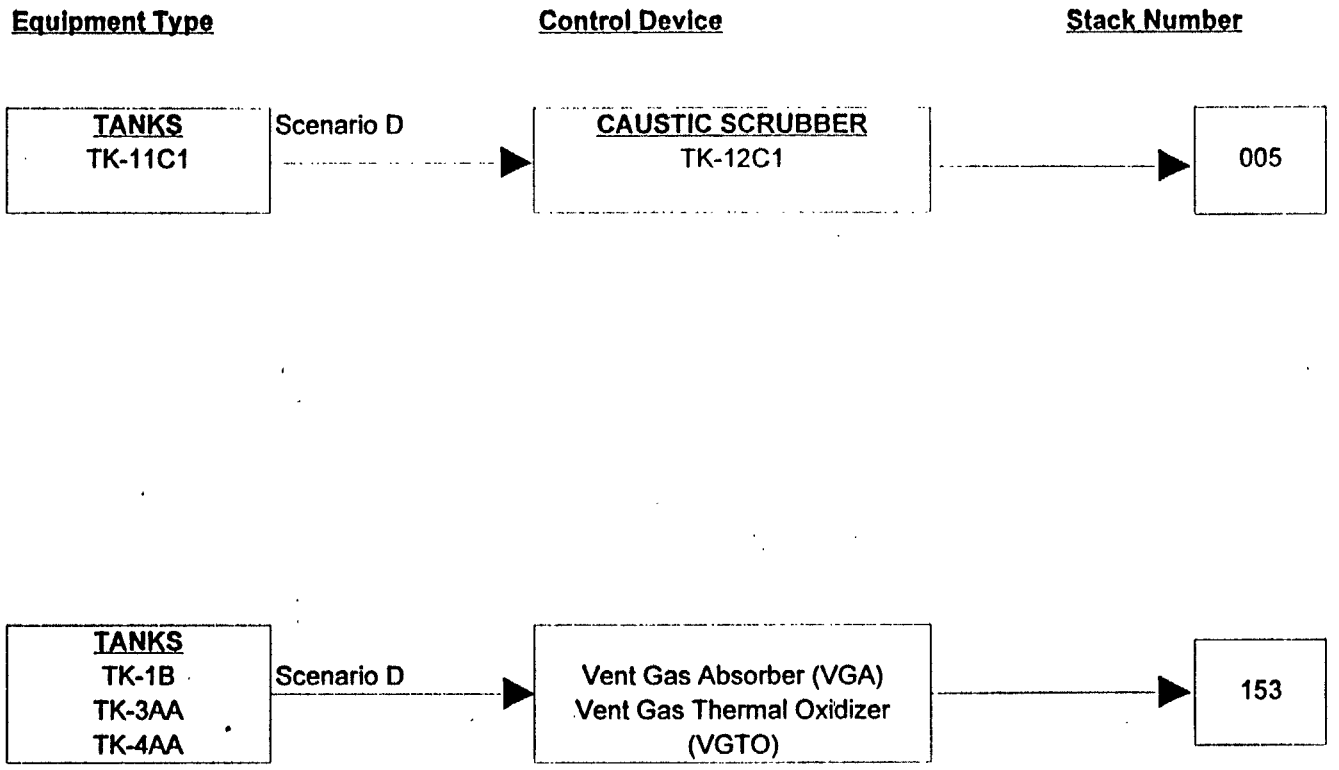
Process Flow Diagram

Process B: Dispersion Polyvinyl Chloride Manufacturing

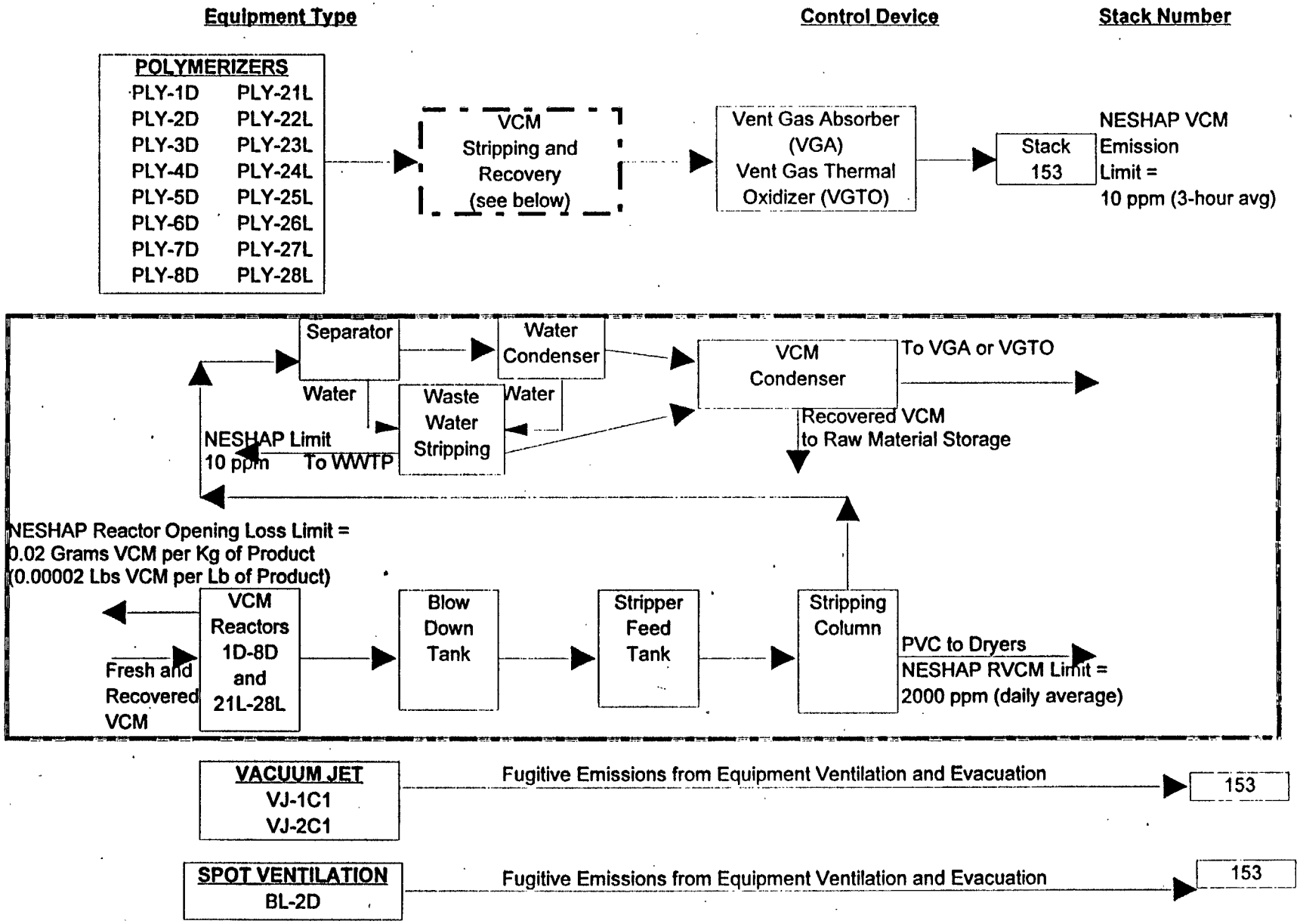
DISPERSION PVC MFG PROCESS FLOW DIAGRAM



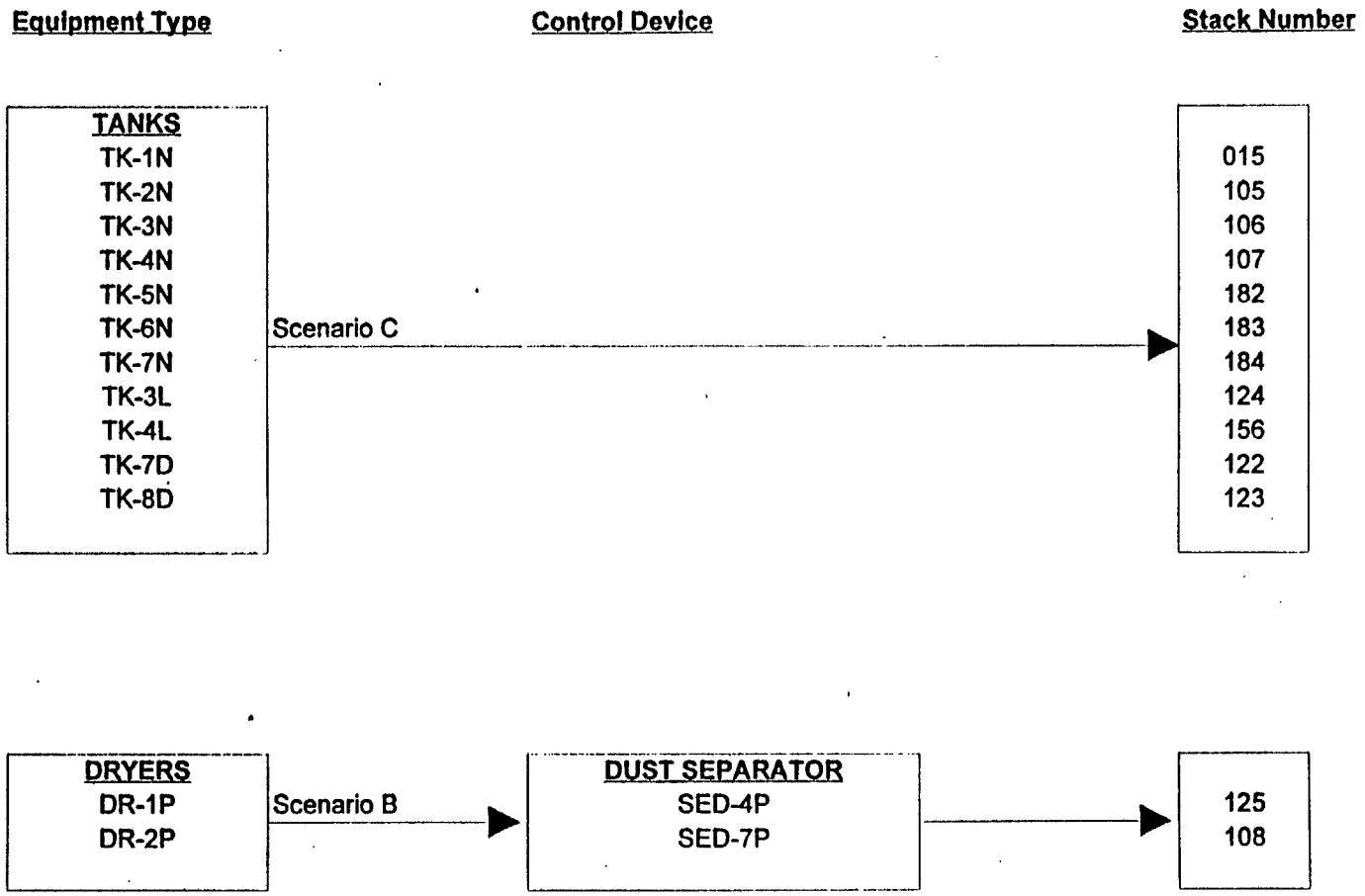
DISPERSION PVC MFG RAW MATERIAL STORAGE STEP



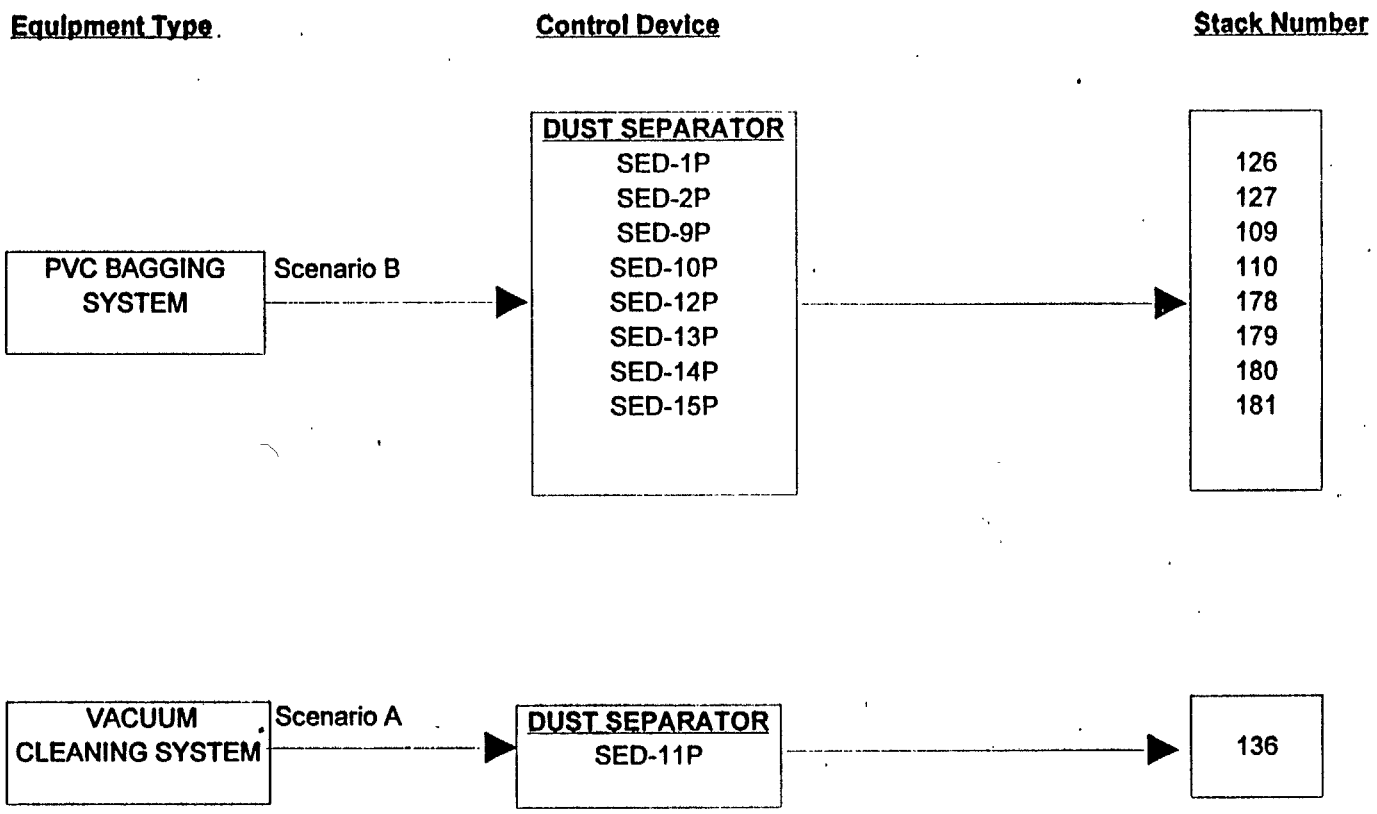
SUSPENSION PVC MFG POLYMERIZATION STEP



DISPERSION PVC MFG DRYING STEP



DISPERSION PVC MFG FINAL PRODUCT STORAGE AND PACKAGING STEP



Section 1C

Process Equipment/Control Device Lists

Process B: Dispersion Polyvinyl Chloride Manufacturing

Step 1: Raw Material Storage

This step includes weighing and filling equipment located in Building 513, storage tanks associated with the process, and unloading from RR cars have the control device(s) listed below.

CONTROL DEVICE(S)

Caustic Scrubber
TK-12C1

Equipment	Processing/Storage Capacity
Tank	
TK-11C1	0 - 8000 lbs

CONTROL DEVICE(S)

Vent Gas Absorber (VGA)
Vent Gas Thermal Oxidizer (VGTO)

Equipment	Processing/Storage Capacity
Tank	
TK-1B	200000 - 280000 gal
TK-3AA	4000 - 5000 gal
TK-4AA	4000 - 5000 gal

Step 2: Polymerization

This step includes polymerization equipment located in Building 513. When this equipment is operating emissions are exhausted through the control device(s) listed below.

CONTROL DEVICE(S)

Vent Gas Absorber (VGA)
Vent Gas Thermal Oxidizer (VGTO)

Equipment	Processing/Storage Capacity
Polymerizers	
PLY-1D	3000 - 5000 gal
PLY-2D	3000 - 5000 gal
PLY-3D	3000 - 5000 gal
PLY-4D	3000 - 5000 gal
PLY-5D	3000 - 5000 gal
PLY-6D	3000 - 5000 gal
PLY-7D	3000 - 5000 gal
PLY-8D	3000 - 5000 gal
PLY-21L	3000 - 5000 gal
PLY-22L	3000 - 5000 gal
PLY-23L	3000 - 5000 gal
PLY-24L	3000 - 5000 gal
PLY-25L	3000 - 5000 gal
PLY-26L	3000 - 5000 gal
PLY-27L	3000 - 5000 gal

Step 2: Polymerization (cont)

CONTROL DEVICE(S)

Vent Gas Absorber (VGA)
Vent Gas Thermal Oxidizer (VGTO)

Equipment	Processing/Storage Capacity
Polymerizers	
PLY-28L	3000 - 5000 gal

CONTROL DEVICE(S)

No control device used

Equipment	Processing/Storage Capacity
Spot Ventilation	
BL-2D	13800 ACFM

CONTROL DEVICE(S)

No control device used

Equipment	Processing/Storage Capacity
Vacuum Jet	
VJ-1C1	190 ACFM
VJ-2C1	190 ACFM

Step 3: Drying

This step includes drying equipment located in Building 515. When this equipment is operating, emissions are exhausted through the control device(s) listed below. In addition, a vacuum system is connected to the control device(s) listed.

CONTROL DEVICE(S)

No control device used

Equipment	Processing/Storage Capacity
Tank	
TK-1N	0 - 12000 gal
TK-2N	0 - 20000 gal
TK-3N	0 - 20000 gal
TK-4N	0 - 25000 gal
TK-5N	0 - 25000 gal
TK-6N	0 - 25000 gal
TK-7N	0 - 25000 gal
TK-3L	0 - 15000 gal
TK-4L	0 - 15000 gal
TK-7D	0 - 20000 gal
TK-8D	0 - 20000 gal

Step 3: Drying (cont)

CONTROL DEVICE(S)

Dust Separator
SED-4P

Equipment	Processing/Storage Capacity
Dryer DR-1P	50000 lbs/hr

CONTROL DEVICE(S)

Dust Separator
SED-7P

Equipment	Processing/Storage Capacity
Dryer DR-2P	50000 lbs/hr

Step 4: Final Product Storage and Packaging

This step includes transferring and packaging equipment used for the final product. When this equipment is operating it would be exhausted through the control device(s) listed below.

CONTROL DEVICE(S)

Dust Separator
SED-1P
SED-2P
SED-9P
SED-10P
SED-12P
SED-13P
SED-14P
SED-15P

Equipment	Processing/Storage Capacity
PVC Bagging System	0 - 600000 lb/day

CONTROL DEVICE(S)
Dust Separator
SED-11P

Equipment	Processing/Storage Capacity
Vacuum cleaning system	340 ACFM

The Geon Company
Process B: Dispersion Polyvinyl Chloride Manufacturing
Insignificant Sources*

#	Type
5500	feet of Piping
750	Valves
20	Filters
75	Pumps
10	Condensers
20	Tanks
10	Exchangers
10	Pressure Vessels
4600	Flanges
6	Compressors
10	Grinders
15	Strainers

* Emissions from these insignificant sources are included in Table 1, Process Limits in Tons/Year limits

Section 1D

Source/Control Data Sheets

Process B: Dispersion Polyvinyl Chloride Manufacturing

See Appendix B

Section 1E

Process Stack Sheet

Process B: Dispersion Polyvinyl Chloride Manufacturing

FACILITY-WIDE PERMIT
PROCESS STACK INFORMATION SHEET

Company designation of Process: Dispersion Polyvinyl Chloride Manufacturing
Number of Sources in the Process: 554
Number of Stacks or Vents: 28

Stack Designation	Stack Number	Number of Sources	Previous Certificate Numbers	Distance to Nearest Propoerty Line (ft)	Diameter or Dimensions (inches)	Discharge Height Above Ground (ft)	Exit Temp oF	Gas Discharge Rate (ACFM)	Discharge Direction Horizontal Up, Down
TK-12C1	005	1	077580	260	1	57	Ambient	36.55	Down
TK-1N	015	1	017761	310	6	55	125	13.4	Up
TK-2N	105	1	042106	195	12	40	125	13.4	Down
TK-3N	106	1	042107	195	12	40	125	13.4	Down
TK-4N	107	1	042108	195	12	45	125	13.4	Down
SED-7P	108	2	098227	225	60	76	200	67000	Up
SED-9P	109	1	042110	120	16	55	150	5000	Horizontal
SED-10P	110	1	042111	150	16	55	150	5000	Horizontal
TK-7D	122	1	042124	365	12	30	150	6.7	Horizontal
TK-8D	123	1	042125	365	12	30	150	6.7	Horizontal
TK-3L	124	1	042126	205	15	30	150	6.7	Up
SED-4P	125	2	099715	305	54	76	200	67000	Up
SED-1P	126	1	076184	270	24	60	150	5000	Horizontal
SED-2P	127	1	042129	285	24	60	150	5000	Horizontal
SED-11P	136	1	085369	150	3	20	Ambient	340	Horizontal
VGA	153	191	093392	300	1.5	40	50	14	Up
VGTO	153	191	093392	660	21.25	30.5	225	2935	Up
VJ-1C1	153	56	093392	300	3	57	212	190	Up
VJ-2C1	153	56	093392	275	3	57	212	190	Up
BL-2D	153	35	093392	300	30	115	85	13800	Up
TK-4L	156	1	097663	205	15	30	150	6.7	Up
SED-12P	178	1	122738	8	30	Ambient	1350	Up	
SED-13P	179	1	N/A	155	16	55	150	5000	Horizontal
SED-14P	180	1	N/A	295	16	55	150	5000	Horizontal
SED-15P	181	1	N/A	215	8	30	Ambient	1350	Up
TK-5N	182	1	N/A	235	12	40	125	13.4	Down
TK-6N	183	1	N/A	250	12	40	125	13.4	Down
TK-7N	184	1	N/A	265	12	45	125	13.4	Down

Total 554

Section 1F

Process Raw Material/Contaminant List

Process B: Dispersion Polyvinyl Chloride Manufacturing

See Attachment E

Section 2A

Release and Alteration/Amendment Limits

Process B: Dispersion Polyvinyl Chloride Manufacturing

Table 1: PROCESS LIMITS IN TONS/YR FOR CALENDAR YEAR 1997
PROCESS: DISPERSION POLYVINYL CHLORIDE MANUFACTURING

CATEGORY	SUBCATEGORY	TONS/YR
Particulates	Lead	0.000
	PM-10	42.273
	Other	0.000
1. TOTAL PARTICULATES		42.273
Volatile Organic Compounds	HAP-VOC	
	VCM	20.580
	Other	18.156**
2. TOTAL VOC		38.736
3. Carbon Monoxide		6.336
4. NOx		23.925
5. SOx		0.083
6. Other		17.520

** The cumulative emissions of Iso-Octane from Processes A and B shall ,not exceed 2.628 tons per calendar year.

Table 1: PROCESS LIMITS IN TONS/YR BEGINNING CALENDAR YEAR 1998*
PROCESS: DISPERSION POLYVINYL CHLORIDE MANUFACTURING

CATEGORY	SUBCATEGORY	TONS/YR
Particulates	Lead	0.000
	PM-10	42.273
	Other	0.000
1. TOTAL PARTICULATES		42.273
Volatile Organic Compounds	HAP-VOC	
	VCM	16.154
	Other	18.156**
2. TOTAL VOC		34.310
3. Carbon Monoxide		6.336
4. Nox Total		23.925
Dryer 2P		13.94
5. SOx		0.083
6. Other		17.520

* To provide flexibility for production increases and incentives for reduced emissions, the VCM limit will be recalculated using the baselines and requirements specified in Table 3, page B35

** The cumulative emissions of Iso-Octane from Processes A and B shall ,not exceed 2.628 tons per calendar year.

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: DISPERSION POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: Tank TK-11C1

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	
	VCM	0.100
	Other	0.100
2. TOTAL		0.200
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: DISPERSION POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: TANK (TK-1B)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	
	VCM	0.010
	Other	0.000
2. TOTAL		0.010
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: DISPERSION POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: TANK (TK-3AA,TK-4AA)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	
	VCM	0.002
	Other	0.000
2. TOTAL		0.002
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: DISPERSION POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: POLYMERIZERS (PLY-1D, PLY-2D, PLY-3D, PLY-4D, PLY-5D, PLY-6D, PLY-7D, PLY-8D, PLY-21L, PLY-22L, PLY-23L, PLY-24L, PLY-25L, PLY-26L, PLY-27L, PLY-28L)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	
	VCM	0.131
	Other	0.000
2. TOTAL		0.131
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: DISPERSION POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: SPOT VENTILATION (BL-2D)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	
	VCM	3.189
	Other	0.000
2. TOTAL		3.189
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: DISPERSION POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: VACUUM JET (VJ-1C1 and VJ-2C1)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC VCM	0.079
	Other	0.000
2. TOTAL		0.079
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: DISPERSION POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: TANK (TK-1N, TK-2N, TK-3N, TK-4N, TK-5N, TK-6N, TK-7N, TK-3L, TK-4L, TK-7D, TK-8D)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	
	VCM	0.080
	Other	0.000
2. TOTAL		0.080
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: DISPERSION POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: DRYER 1P

CATEGORY	SUBCATEGORY	Natural Gas LB/HR	Propane LB/HR
Particulates	Lead	0.000	0.000
	PM-10	2.570	2.570
	Other	0.000	0.000
1. TOTAL PARTICULATES		2.570	2.570
Volatile Organic Compounds	HAP-VOC		
	VCM	7.000	7.000
	Other	0.056	0.114
2. TOTAL		7.056	7.114
3. Carbon Monoxide		0.701	0.731
4. NOx		2.100	2.100
5. SOx		0.012	0.001
6. Other		3.000	3.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: DISPERSION POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: DRYER 2P

CATEGORY	SUBCATEGORY	Natural Gas LB/HR	Propane LB/HR
Particulates	Lead	0.000	0.000
	PM-10	2.570	2.570
	Other	0.000	0.000
1. TOTAL PARTICULATES		2.570	2.570
Volatile Organic Compounds	HAP-VOC		
	VCM	7.000	7.000
	Other	0.056	0.114
2. TOTAL		7.056	7.114
3. Carbon Monoxide		0.701	0.731
4. NOx		2.803	4.339
5. SOx		0.012	0.001
6. Other		3.000	3.000

In addition, the maximum allowable tons/year emission limit for Nox for Dryer 2P shall be 13.94.

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: DISPERSION POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: PVC BAGGING SYSTEM

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.500
	Other	0.000
1. TOTAL PARTICULATES		0.500
Volatile Organic Compounds	HAP-VOC	
	VCM	0.040
	Other	0.000
2. TOTAL		0.040
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS
PROCESS: DISPERSION POLYVINYL CHLORIDE MANUFACTURING
EQUIPMENT TYPE: VACUUM CLEANING SYSTEM

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.500
	Other	0.000
1. TOTAL PARTICULATES		0.500
Volatile Organic Compounds	HAP-VOC	
	VCM	0.000
	Other	0.000
2. TOTAL		0.000
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR CONTROL DEVICES IN VCM RECOVERY SERVICE

PROCESS: DISPERSION & SUSPENSION POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: VGTO

CATEGORY	SUBCATEGORY	Natural Gas LB/HR	3-Hour Average PPM	Propane LB/HR
Particulates	Lead	0.000	N/A	0.000
	PM-10	0.046	N/A	0.023
	Other	0.000	N/A	0.000
1. TOTAL PARTICULATES		0.046	N/A	0.023
Volatile Organic Compounds	HAP-VOC			
	VCM	0.240	10	0.240
	Other	0.009	N/A	0.019
2. TOTAL		0.249	10	0.259
3. Carbon Monoxide		0.117	N/A	0.122
4. NOx		0.467	N/A	0.723
5. SOx		0.002	N/A	0.000
6. Other		0.000	N/A	0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR CONTROL DEVICES IN VCM RECOVERY SERVICE

PROCESS: DISPERSION & SUSPENSION POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: VGA

CATEGORY	SUBCATEGORY	LB/HR	3-Hour Average PPM
Particulates	Lead	0.000	N/A
	PM-10	0.000	N/A
	Other	0.000	N/A
1. TOTAL PARTICULATES		0.000	N/A
Volatile Organic Compounds	HAP-VOC VCM	0.004	10
	Other	4.000	N/A
2. TOTAL		4.004	10
3. Carbon Monoxide		0.000	N/A
4. NOx		0.000	N/A
5. SOx		0.000	N/A
6. Other		0.000	N/A

Table 3: ADDITIONAL ALTERATION/AMENDMENT LIMITS
PROCESS: DISPERSION MANUFACTURING

BASELINE LB/MILLION POUNDS PRODUCT VCM	BASELINE PRODUCTION
269.23	120 million pounds

Any increase in production of dispersion PVC resin above the initial baseline of 120 million pounds as measured by percent, must be offset by a decrease, as measured by percent, in the initial baseline of 269.23 Lb/Million Pounds Product VCM.

As an example, a 10% increase in the initial baseline production to 132 million pounds will only be allowed if GEON is able to decrease the initial baseline LB/Million Pounds Product by 10% to 242.31.

A new Dispersion PVC process tons/year emission limit for VCM will be calculated based upon the new production and lb/product (ie. 132 x 242.31 = 31,985/2000 = new emission limit of 15.99 Tons/Year). The FWP will be amended to incorporate the new tons/year emission limit as the enforceable permit limit.

Whenever a production increase above the baseline in effect at the time of the increase is anticipated, the Permittee shall submit a Pollution Prevention update with information equivalent to satisfy the requirements of N.J.A.C. 7:1K-4.3(b)3 and 4, and N.J.A.C. 7:1K-4.5(a)5i. This update shall include the LB/Million Pounds Product reduction goal anticipated, and the pollution prevention technique to be implemented to achieve this goal. By January 30th of the year following any production baseline increase, the permittee shall submit a report listing the actual LB/Million Pounds Product reduction achieved for the prior calendar year.

Should the actual LB/Million Pounds Product VCM be less than the production increase, as measured by percent, the permittee shall lower production to be equivalent to the actual LB/Million Pounds Product reduction.

Should the EPA vinyl chloride unit risk factor (URF) decrease, the Department shall within 90 days of a request by Geon, review and revise the permit requirements based on the new URF. Should the URF increase, the Department reserves the right to modify the permit requirements based on the new URF.

Section 3

Compliance Plan

Process B: Dispersion Polyvinyl Chloride Manufacturing

I. **Applicable Requirements**

A. Chapter 27 - **AIR POLLUTION CONTROL**

Subchapter 1.	General Provisions 7:27-1.1, 1.2, 1.3, 1.4, 1.6, 1.7, 1.8, 1.9, 1.11, 1.12, 1.13, 1.14, 1.15, 1.16, 1.17, 1.18
Subchapter 3.	Control and Prohibition of Smoke from Combustion fuel 7:27-3.1, 3.2, 3.5, 3.6, 3.7
Subchapter 4.	Control and Prohibition of Particles from Combustion of Fuel 7:27-4.1, 4.2, 4.3, 4.4, 4.5, 4.6
Subchapter 5.	Prohibition of Air Pollution 7:27-5.1, 5.2
Subchapter 6.	Control and Prohibition of Particles from Manufacturing Processes 7:27-6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7
Subchapter 8.	Permits and Certificates 7:27-8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.26, 8.27, Appendix I
Subchapter 12.	Prevention and Control of Air Pollution Emergencies 7:27-12.1, 12.2, 12.3, 12.4, 12.5
Subchapter 13.	Ambient Air Quality Standards 7:27-13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8
Subchapter 16.	Control and Prohibition of Air Pollution by Volatile Organic Compounds 7:27-16.1, 16.1A, 16.2, 16.4, 16.16, 16.17, 16.18, 16.21, 16.24
Subchapter 18.	Control and Prohibition of Air Pollution from New or Altered Sources Effecting Ambient Air Quality (Emission Offset Rules) 7:27-18.1, 18.2, 18.3, 18.4, 18.5, 18.6, 18.7, 18.8, 18.9, 18.10
Subchapter 19.	Control and Prohibition of Air Pollution from Oxides of Nitrogen 7:27-19.1, 19.2, 19.3, 19.13, 19.14, 19.15, 19.16, 19.17, 19.19
Subchapter 21.	Emission Statements 7:27-21.1, 21.2, 21.3, 21.4, 21.5, 21.6, 21.7
Subchapter 22.	Operating Permits 7:27-22.1, 22.2, 22.3, 22.4, 22.5, 22.6, 22.8, 22.10, 22.13, 22.14, 22.16, 22.18, 22.19, 22.20, 22.23, 22.24, 22.31

B. Chapter 27A - **AIR ADMINISTRATIVE PROCEDURES AND PENALTIES**

Subchapter 3.	Civil Administrative Penalties and Requests for Adjudicatory Hearings 7:27A-3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12

C. Chapter 29 - **NOISE CONTROL**

Subchapter 1.	General Provisions 7:29-1.1, 1.2, 1.5, 1.6
Subchapter 2.	Procedures for the Determination of Noise from Stationary Sources 7:29-2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.1, 2.12

D. Federal NESHAP Standard

40 CFR 61.60, 61.64, 61.65

II. Recordkeeping, Monitoring and Reporting Requirements

A. Recordkeeping

1. The Permittee shall record the following information for all leaks detected by the vinyl chloride leak detection system:

a. Concentration of vinyl chloride measured, analyzed and recorded
b. Location of each measurement
c. Date and approximate time of each measurement
d. The calculation for determining fugitive emissions

2. The Permittee shall record the following for each PVC reactor on a daily basis:

a. Reactor pressures
b. Reactor temperatures

3. The Permittee shall record the following for each period that the VGTO is used:

a. Date of Operation
b. Operation start and end time
c. Type of fuel used
d. Name of the person making the entry
e. The reason the VGTO is used

4. The Permittee shall record the following for VOC emissions for process raw materials other than VCM:

a. The date of operation
b. The total time in hours each VOC source operates
c. Total pounds of VOC emitted from each VOC source

5. The Permittee shall record on a daily basis the weighted average residual vinyl chloride concentration measured immediately after the closed loop stripping operation.

6. The Permittee shall record for Dryer DR-2P the amount of fuel burned for each calendar year.

7. The Permittee shall record the following for Dryer DR-2P for the ozone season (May 1 to September 30) for each calendar year

a. The reason(s) for using propane and documentation that said reason(s) were beyond Geon's control;
b. The quantity, start/end time and total hours of each occurance of propane use;
c. The total cumulative hours of propane used;

All records shall be maintained on site for a minimum of five years after the last collection, in a permanently bound log book, readily accessible computer memory, or by another method acceptable to the Regional Enforcement Office. These records must also be available for inspection by representatives of the Department.

B. **Monitoring**

1. The following particulate control devices must have a pressure drop monitor installed and operating within six months of the effective date of this permit. Pressure drop ranges shall be as listed:

Control Designation	Pressure Drop (in. of W.C.) Min - Max
SED-7P	1 - 10
SED-9P	1 - 10
SED-10P	1 - 10
SED-4P	1 - 10
SED-1P	1 - 10
SED-2P	1 - 10
SED-11P	1 - 10
SED-12P	1 - 10
SED-13P	1 - 10
SED-14P	1 - 10
SED-15P	1 - 10

In addition the following particle size distribution tables apply to this process:

Dispersion Polyvinyl Chloride Manufacturing
Process B

Particle Size Distribution

%	Micron
95	<1
100	<10

2. The following scrubber control devices must have a continuous flow rate and pressure drop monitor installed and operating within six months of the effective date of this permit. The scrubber medium flow rates and pressure drops shall be:

Control Designation	Flow Rate (gpm)	Pressure Drop (in. of W.C.)
SR-1AA5	0 - 90	0 - 3
TK-12C1	0 - 10	0 - 100

3. If not already conducted, within 180 days of initial operation, or as specified by the Department, the Permittee shall conduct initial emissions performance tests on the Vent Gas Absorber (VGA), Vent Gas Thermal Oxidizer (VGTO) and Dryers DR-1P and DR-2P, as specified in this permit, in accordance with N.J.A.C. 7:27-8.4(c).

All tests shall be conducted using New Jersey Air Test Method 3 (N.J.A.C. 7:27B) and USEPA test methods (40 CFR 60, Appendix A).

4. Within 90 days of initial operation under this permit, or as specified by the Department, the Permittee shall submit to the Chief, BTS, for approval, a pretest protocol. BTS may change or require additional pollutants to be stack tested in order to verify compliance with the permit.

5. The Permittee shall conduct all emission performance tests using the method approved by the Chief, BTS.

6. The Permittee shall contact the Chief, BTS, upon approval of the test protocol, to schedule a mutually acceptable test date.

7. The emissions performance tests for the VGA and VGTO must be conducted when the recovery system is operating in the maximum emissions mode. Three tests using a 3-hour average time for VCM (ppmv and lbs/hr) shall be conducted on the VGA and VGTO. In addition, a 1-hour average time test for iso-octane (lbs/hr) shall be conducted on the VGA. The efficiency of the control device shall be determined for each test. The VGTO shall be maintained in standby mode at 1400 °F prior to conducting the stack test for the VGTO. The tests for Dryers DR-1P and DR-2P shall be for VCM (lbs/hr) and TSP (lbs/hr) and shall be within +/- 5% of the maximum permissible feedstock rate, which will be established during testing and shall become an operating condition. The emission performance test for Dryer DR-2P shall also be for NOx (lbs/hr) during natural gas usage. Within 90 days of the determination by Geon that propane usage will exceed 500 hours in a calendar year, an emission performance test for Dryer DR-1H shall be conducted for NOx (lbs/hr) for propane usage.

Test ports, meeting Department criteria, shall be installed before and after the VGA and VGTO.

8. Within 60 days after completion of testing, the Permittee shall submit to the Chief, BTS, one copy of the emission test report. The test results shall be certified by a Licensed Professional Engineer or by a Certified Industrial Hygienist.

9. Within 180 days of initial operation, or, as specified by the Department, continuous emission monitors (CEMs) and recorders for VCM shall be installed, calibrated, operated and maintained on the VGA Stack 153 (CL-3AA) and the VGTO stack 153 (TO-1AA5)in order to ensure and record the concentrations. In addition, within 180 days of initial operation, or, as specified by the Department, a monitoring system and recorder, approved by the Department, for either Carbon Monoxide (CO) or Total Hydrocarbons shall be installed, calibrated, operated and maintained on the VGTO stack 153 (TO-1AA5).

The CEMs must conform to USEPA performance and siting specifications in 40 CFR Part 60, Appendix B. The CEM shall verify instantaneous and continuous long term compliance with specified emission limits. Monitor output shall also be converted to pounds per hour and cumulative tons per year.

10. Within 180 days of initial operation of the CEMs or, as specified by the Department, tests shall be conducted for performance specification tests on the CEMs, as required and approved by the Chief, Bureau of Technical Services (BTS) pursuant to 40 CFR Part 60, Appendix B or F (as applicable) or by other methods approved by BTS.

11. The permittee shall have in operation a system to measure VCM stack concentrations. These shall be used to calculate VCM mass emission rates emitted from the following:

DESCRIPTION	STACK
Spot Ventilation System	BL-2D

12. The feedstock flow rate for dryer DR-1P and DR-2P prevailing during stack testing shall not be exceeded. The feedstock flow rate shall be continuously monitored and shall be recorded twice per shift.

C. **Reporting**

1. The Permittee shall submit quarterly reports for excess emissions as required at 61.70 of the NESHAP regulations within 30 days of the close of each quarter, to the Regional Enforcement Office and the USEPA, at the addresses listed below. When no excess emissions have occurred such information shall be stated in the report.

Regional Enforcement Officer
Southern Regional Enforcement Office
2 Riverside Drive 1 Port Center
Suite 201
Camden, NJ 08102

Chief
Air Monitoring Section
USEPA Region II
Edison, NJ 08817

2. The Permittee shall submit to the Department every six months, beginning January 1, 1997, a summary report listing the total tons emitted for each subcategory of contaminants from this process. The end of year report shall be a cummulative total of the tons emitted for each subcategory during the calendar year.

III. **Special Conditions**

A. **Operating Conditions**

1. The concentration of vinyl chloride exhausted to the atmosphere from the VGA/VGTO is not to exceed 10 parts per million (ppm) (average for a 3-hour period). The reactor opening loss from each polymerization reactor in the polymerization process shall not exceed 0.02 grams of vinyl chloride per kg of PVC product (.00002 pounds of vinyl chloride per pound of PVC product).

2. The residual vinyl chloride (RVC) weighted average concentration in dispersion resin processed through the stripper on each calendar day, measured immediately after the stripping operation is completed shall not exceed 1350 parts per million by weight (ppmw) on an annual basis

and 2000 ppmw on a daily basis. Measurement of the RVC concentration must be made immediately after the closed loop stripping in the polymerization step.

3. Fugitive VCM emissions from various processes shall be determined using the building VCM monitoring system. This system is composed of fixed monitoring points tied into a central gas chromatograph system. When determining annual fugitive emissions from the plant. Fugitive emissions shall be controlled by reducing the frequency of equipment openings which release fugitive emissions, using a steam sweep and vacuum or water purge technology. Fugitive emissions from pumps, agitators, compressors, loading and unloading operations, gauges, and relief valve discharges and manual venting of gases from equipment other than reactors shall be controlled and monitored using equipment specified at 61.65 (b)1 through 8 of the NESHAPs regulations. VCM concentrations and emissions from inprocess wastewater shall be reduced in accordance with the requirements of 61.65 (b)9 of the NESHAPS regulations.

4. The Vent Gas Absorber (VGA) shall have a minimum operating vinyl chloride monomer (VCM) removal efficiency of greater than 99 percent and is required to meet the NESHAP emission limit of 10 ppm (average for a 3-hour period).

5. The Vent Gas Thermal Oxidizer (VGTO) shall conform to the following parameters:

a. Designed to operate at a minimum destruction and removal efficiency (DRE) of greater than 99 percent and is required to meet the NESHAP emission limit of 10 ppm (average for a 3-hour period).

b. Minimum thermal oxidizer chamber temperature of 1600 °F measured at the exit of the secondary chamber.

c. Minimum residence time of gases entering the thermal oxidizer chamber of 0.9 seconds.

d. Shall be equipped with a continuous temperature monitor and recorder with an alarm or other operational warning system. The sensor shall be installed at or beyond the location which represents 0.9 second residence time and shall be shielded from direct contact with the flame.

e. Shall be operating at no less than the 1400 °F prior to start-up of the source(s) operation(s).

f. Shall not be shut down until all air contaminants have been purged from the air handling systems after source shutdown.

6. The vacuum jet ejectors shall only be operated to evacuate air after equipment has been opened and after all other NESHAP and FWP conditions have been met and shall not be used to obtain opening loss NESHAP compliance.

7. The spot ventilation systems shall only be operated to exhaust residual VCM from equipment after the NESHAP opening loss requirements

have been satisfied or to exhaust fugitive VCM emissions from building air for personnel protection.

8. Either the VGA or VGTO shall be operated at all times the material is being processed by any one of the sources connected to them. If the VGA malfunctions or is overloaded, sources connected must be diverted to the VGTO or Process A and B must shut down.

9. The VGTO shall only be operated a maximum of 2190 hours during any calendar year.

10. Dryers DR-1P and DR-2P shall be limited to natural gas as the primary fuel with propane as an emergency backup. Propane use shall be limited to no greater than 90-days per calendar year. During the ozone season (May 1 to September 30) of each year, only natural gas shall be used except during times when natural gas is unavailable.

11. The Permittee shall implement a program of maintenance, training and operational design review which will focus on premature rupture disc failure prevention. In addition, the Permittee shall use a computer reaction controller which will be capable of monitoring temperature and pressure of the reaction and of controlling the reaction by altering the cooling water and other process variables. An automatic sequence of corrective action for unusual reaction problems shall be adopted.

12. Prior to any alteration of Dryer DR-2P that will cause NOx emissions rates to increase above the limits specified in Table 1 or Table 2, the Permittee shall submit an amended NOx Emission Control Plan to the Department for approval.

APPENDIX B

CONTROL DEVICE SUPPLEMENTAL FORM

)N

PROCESS: B					
FACILITIES DESIGNATION (label)	SED-7P	SED-9P	SED-10P	SED-4P	SED-1P
MANUFACTURER	MikroPulsaire	MikroPulsaire	MikroPulsaire	MikroPulsaire	Sly Inc.
MODEL	340510 TRH	109-10-TRH	109-10-TRH	420-510-TRH	CTR-70-85-10
BAGHOUSE	X	X	X	X	X
CATRTRIDGE					
OTHER					
# OF BAGS OR CARTRIDGES	2100	109	109	1680	85
SIZE OF BAGS OR CARTRIDGES	4 5/8"x12 1/2"	10'x4 5/8"	10'x4 5/8"	4 5/8"x124"	10'x5.5"
TOTAL BAG OR CARTRIDGE AREA (ft^2)	25990	1282	1282	19790	1224
MAXIMUM CAPACITY (ACFM)	67000	5000	5000	67000	5000
BAG FABRIC	Polyester	Polyester	Polyester	Polyester	Polyester
FABRIC WEIGHT (oz)	16	16	16	16	16
WEAVE	Non-weave	Non-Woven	Non-Woven	Non-Woven	Non-Woven
FINISH	GEON Coated	Plain	Plain	Plain	Plain
EFFICIENCY %	>99	>99	>99	>99	>99
MAXIMUM TEMP. CAPABILITY (^oF)	200	200	200	200	200
MAXIMUM AIR FLOW CAP.(ACFM)					
AIR TO CLOTH RATIO	2.58	3.9	3.9	3.39	4.08
# OF SOURCES	1	1	1	1	1
OPERATING PRESSURE DROP (in. of W.C.)	1 to 10	1 to 10	1 to 10	1 to 10	1 to 10
TEMPERATURE OF INLET (^oF)	140	125	125	140	125
MOISTURE CONTENT OF INLET (%)	45-65	<1	<1	<1	<1
TYPE OF PERFORMANCE MONITOR/RECORDER	Differential	Differential			
	Pressure Gauge	Pressure Gauge			
STACK #	108	109			
METHOD OF CLEANING					
REVERSE AIR					
PULSE JET	X	X	X	X	X
MECHANICAL SHAKING					
OTHER (explain below)					

CONTROL DEVICE SUPPLEMENTAL FORM

PARTICULATE CONTROL- FILTRATION

PROCESS: B				
FACILITIES DESIGNATION (label)	SED-2P	SED-11P	SED-12P	SED-13P
MANUFACTURER	Sly Inc.	Ultra Kleen	Contech	MikroPulsaire
MODEL	CTR-70-85-10		84ACR3	109-10-TRH
BAGHOUSE	X		X	X
CATRTRIDGE		X		
OTHER				
# OF BAGS OR CARTRIDGES	85	25	39	109
SIZE OF BAGS OR CARTRIDGES	10'x5.5"	8'x4"	84"x6"	10'x4 5/8"
TOTAL BAG OR CARTRIDGE AREA (ft^2)	1224	105	453	1282
MAXIMUM CAPACITY (ACFM)	5000	340	1350	5000
BAG FABRIC	Polyester	NA	Polyester	Polyester
FABRIC WEIGHT (oz)	16	NA	16	16
WEAVE	Non-Woven	NA	Non-Woven	Non-Woven
FINISH	Plain	NA	Plain	Plain
EFFICIENCY %	>99	>99	>99	>99
MAXIMUM TEMP. CAPABILITY (^0F)	200	325	200	200
MAXIMUM AIR FLOW CAP. (ACFM)				
AIR TO CLOTH RATIO	4.08	3.24	2.95	3.9
# OF SOURCES	1	1	1	1
OPERATING PRESSURE DROP (in. of W.C.)	1 to 10	1 to 10	1 to 10	1 to 10
TEMPERATURE OF INLET (^0F)	125	Ambient	68	125
MOISTURE CONTENT OF INLET (%)	<1	<1	<1	<1
OPERATING PROCESS EXHAUST FLOW RATE (ACFM)				
TYPE OF PERFORMANCE MONITOR/RECORDER	Differential Pressure Gauge	Differential Pressure Gauge	Differential Pressure Gauge	Differential Pressure Gauge
STACK #	127	136	178	179
METHOD OF CLEANING				
REVERSE AIR				
PULSE JET	X	X	X	X
MECHANICAL SHAKING				
OTHER (explain below)				

CONTROL DEVICE SUPPLEMENTAL FORM

PARTICULATE CONTROL- FILTRATION

PROCESS: B					
FACILITIES DESIGNATION (label)	SED-14P	SED-15P			
MANUFACTURER	MikroPulsaire	Contech			
MODEL	109-10-TRH	84ACR3			
BAGHOUSE	X	X			
CATRTRIDGE					
OTHER					
# OF BAGS OR CARTRIDGES	109	39			
SIZE OF BAGS OR CARTRIDGES	10'x4 5/8"	84"x6"			
TOTAL BAG OR CARTRIDGE AREA (ft^2)	1282	453			
MAXIMUM CAPACITY (ACFM)	5000	1350			
BAG FABRIC	Polyester	Polyester			
FABRIC WEIGHT (oz)	16	16			
WEAVE	Non-Woven	Non-Woven			
FINISH	Plain	Plain			
EFFICIENCY %	>99	>99			
MAXIMUM TEMP. CAPABILITY (^0F)	200	200			
MAXIMUM AIR FLOW CAP.(ACFM)					
AIR TO CLOTH RATIO	3.9	2.95			
# OF SOURCES	1	1			
OPERATING PRESSURE DROP (in. of W.C.)	1 to 10	1 to 10			
TEMPERATURE OF INLET (^0F)	125	68			
MOISTURE CONTENT OF INLET (%)	<1	<1			
OPERATING PROCESS EXHAUST FLOW RATE (ACFM)					
TYPE OF PERFORMANCE MONITOR/RECORDER	Differential	Differential			
	Pressure Gauge	Pressure Gauge			
STACK #	180	181			
METHOD OF CLEANING					
REVERSE AIR					
PULSE JET	X	X			
MECHANICAL SHAKING					
OTHER (explain below)					

CONTROL DEVICE SUPPLEMENTAL SHEET
SCRUBBERS

PROCESS: B					
FACILITIES DESIGNATION (label)	TK-12C1	VGA	VGTO		
MANUFACTURER	Cryochem	Roark Mechanical	Brule'		
TYPE OF SCRUBBER					
VENTURI					
PACKED TOWER		X	X		
OTHER (Specify)	Liquid				
PARTICULATE CONTROL					
GASES BEING ABSORBED	Methyl Acrylate	Vinyl Chloride	HCL		
	Acrylic Acid				
ABSORPTION LIQUID	Water	Isooctane	Water		
CHEMICAL ADDITIVES	Sodium hydroxide	None	Sodium Hydroxide		
HOW MAINTAINED	pH Control	NA	pH Control		
pH OPERATING VALUES	2 to 11	3 to 7	2 to 12		
OXIDATION REDUCTION POTENTIAL VALUES (mV)	NA	NA	NA		
ONCE THROUGH SCRUBBING MEDIUM	X				
RECIRCULATED SCRUBBING MEDIUM		X	X		
MIST ELIMINATOR	No	No	Yes		
OPERATING FLOW RATE OF LIQUID (gal/min)	0 to 10	6 to 14	0 to 90		
TYPE OF MONITOR	None	Foxboro	NA		
TYPE OF RECORDER	None	Foxboro	NA		
GAS OPERATING FLOW RATE (CFM)	0 to 2439 lb/hr	0 to .23	0 to 49		
OPERATING PRESSURE DROP (IN. W.C.)	0 to 100	NA	3		
TYPE OF MONITOR	Pressure Gauge	NA	NA		
TYPE OF RECORDER	None	NA	NA		
RELATIVE DIRECTION OF GAS AND LIQUID FLOW	Co-current	Counter Current	Counter Current		
VENTURI SCRUBBER	NA	NA	NA		
LENGTH OF THROAT					
DIAMETER OF THROAT					
LIQUID INTRODUCTION MECHANISM					
TYPE OF NOZZLE					
INLET GAS TEMPERATURE (^{0}F)					
OUTLET GAS TEMPERATURE (^{0}F)					
OUTLET PARTICLE GRAIN LOADING(grains/dscf)					

CONTROL DEVICE SUPPLEMENTAL SHEET
SCRUBBERS

FACILITIES DESIGNATION (label)	TK-12C1	VGA	VGTO		
PACKED TOWER		X	X		
HEIGHT OF PACKED SECTION (ft)		60	6.5		
TOTAL HEIGHT OF TOWER (ft)		25/70	13.5		
OPERATING TEMPERATURE OF EXHAUST GAS (^{0}F)					

CONTROL DEVICE SUPPLEMENTAL FORM

THERMAL OXIDIZERS

Process:B					
FACILITIES DESIGNATION (label)	VGTO				
MANUFACTURER	Brule'				
MAKE	Brule'				
MODEL	LVF-20				
MINIMUM TO CHAMBER TEMPERATURE (^{0}F)	1600				
MINIMUM GASES CHAMBER RESIDENCE TIME (sec)	0.9				
AIR SUPPLY TO OXIDIZER (ACFM)	2935				
OXYGEN CONTENT IN OXIDIZER EXHAUST (%O_2)	NA				
PRIMARY FUEL	Natural Gas				
MAXIMUM GROSS HEAT INPUT (BTU/HR)	3.5 Million				
MINIMUM PERCENT EFFICIENCY OF					
CAPTURE	NA				
DESTRUCTION	NA				
OVERALL	>99				
EQUIPPED WITH CEM/RECORDER FOR					
OXYGEN	No				
MAKE					
MODEL					
CARBON MONOXIDE	No				
MAKE					
MODEL					
TEMPERATURE	Yes				
MAKE	Kent				
MODEL	P100				
CO CONCENTRATION (ppm)	NA				
TOTAL HYDROCARBON CONCENTRATION (ppm)	NA				

Section 1A

Process Description

Process C: Compound Polyvinyl Chloride Manufacturing

This process takes the PVC resin from processes A and B, along with stabilizers, pigments and other raw materials, and transform them into cubes or pellets of PVC mixture.

The raw materials are either added to a combination unit which mixes, heats, and forms pellets or to a combination of units which mixes, heat, mill, and cubes or dices the material.

This cooled material is then packaged in bags, boxes, bulk cars, or trucks.

Additionally, the following Alternate Operating Scenarios apply to this Process:

Scenario A - Equipment in this scenario emit particulate emissions only, which must be exhausted through the listed control device(s).

Scenario B - Equipment in this scenario emit particulate and VOC emissions. Only the particulate emissions are controlled by listed control device(s). The VOC emissions are uncontrolled.

Scenario C - Equipment in this scenario require no emission controls.

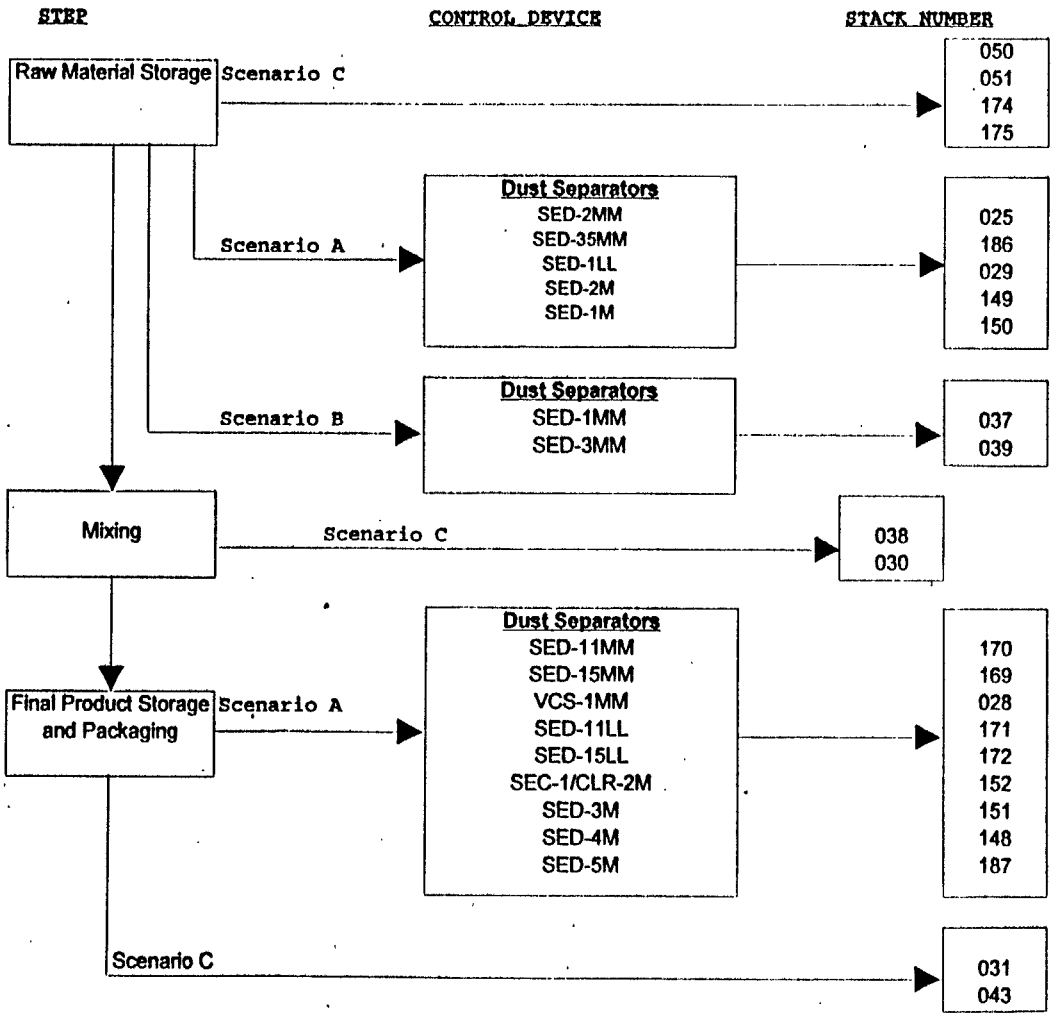
Scenario D - Equipment in this scenario emit VOC emissions only, which must be exhausted through the listed control device.

Section 1B

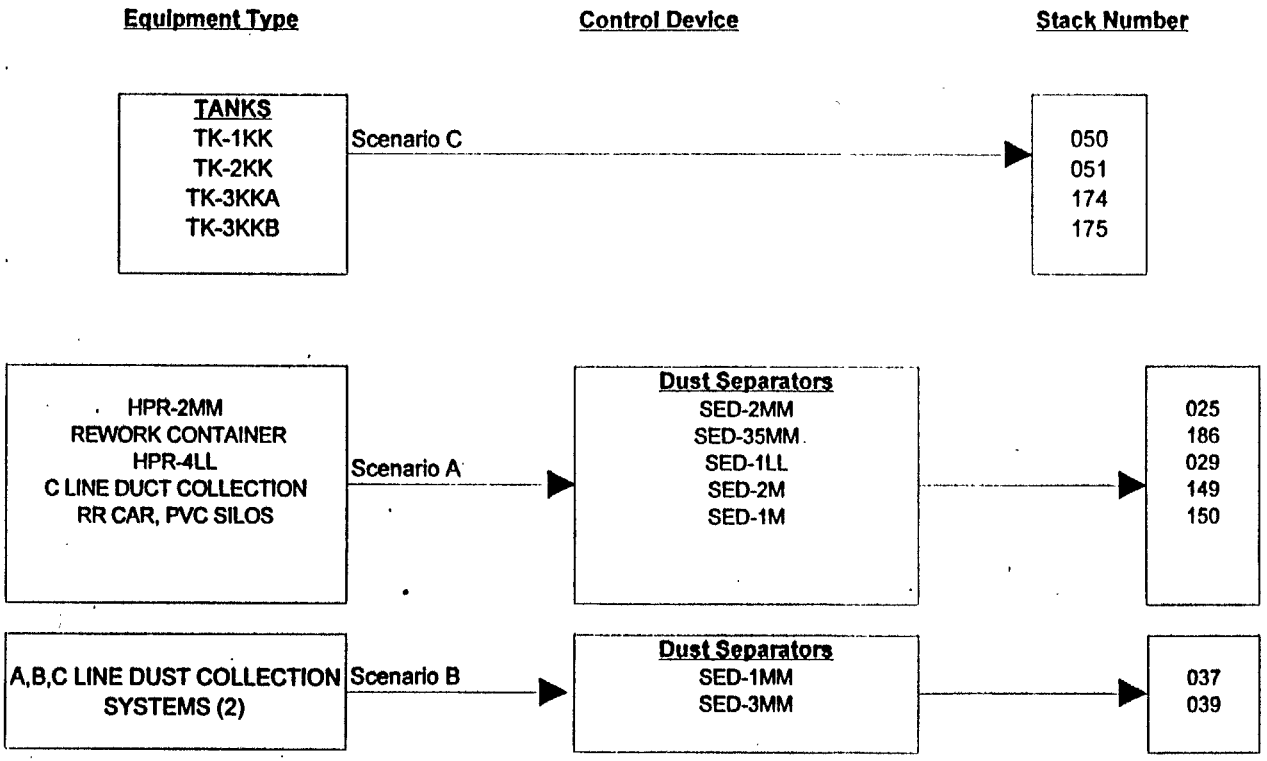
Process Flow Diagram

Process C: Compound Polyvinyl Chloride Manufacturing

COMPOUND PVC MFG PROCESS FLOW DIAGRAM



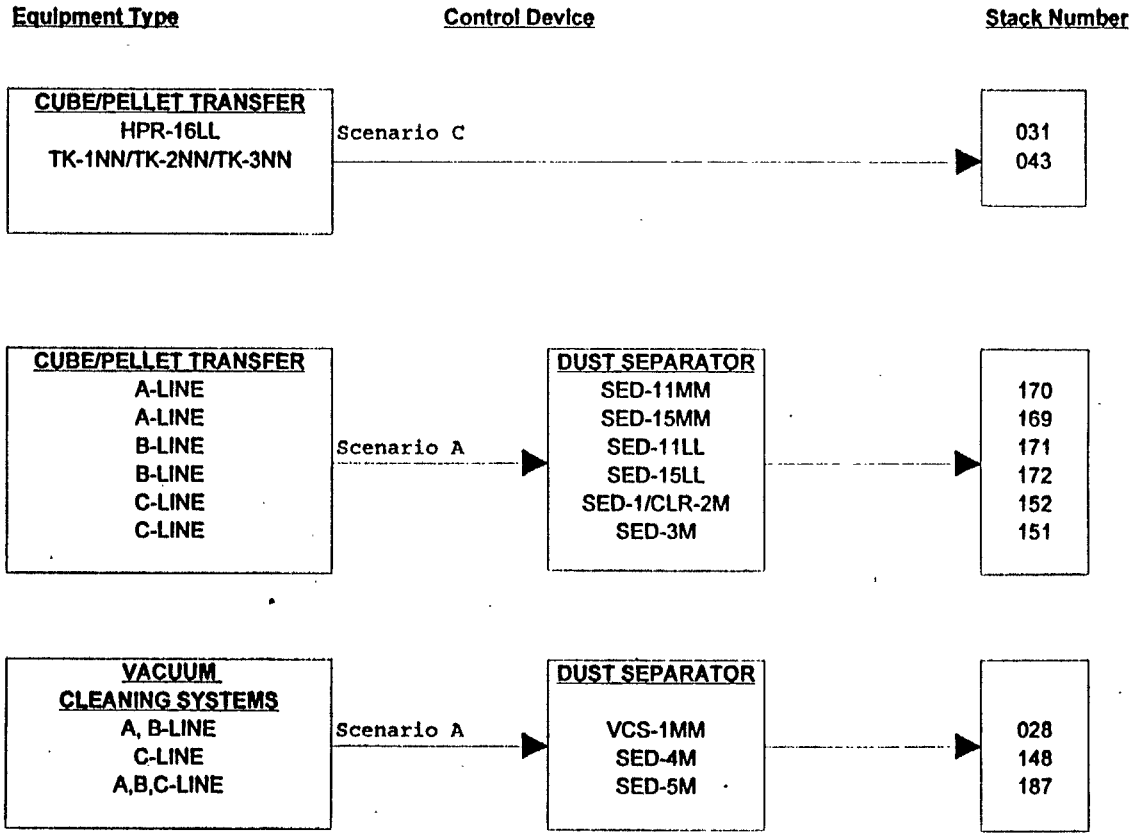
COMPOUND PVC MFG RAW MATERIAL STORAGE STEP



COMPOUND PVC MFG MIXING STEP

Equipment Type	Control Device	Stack Number
MILL ML-1MM ML-1LL	Scenario C	038 030

COMPOUND PVC MFG FINAL PRODUCT STORAGE AND PACKAGING STEP



Section 1C

Process Equipment/Control Device Lists

Process C: Compound Polyvinyl Chloride Manufacturing

Step 1: Raw Material Storage

This step includes weighing and filling equipment which can be located in Building 541, storage tanks associated with the process, and unloading from trucks. When this equipment is operating it would have area and tank ventilation exhausted to the control device(s) listed below.

CONTROL DEVICE(S)

No control device used

Equipment	Processing/Storage Capacity
Tank	
TK-1KK	30000 - 40000 gals
TK-2KK	30000 - 40000 gals
TK-3KKA	10000 - 15000 gals
TK-3KKB	10000 - 15000 gals

CONTROL DEVICE(S)

Dust Separator
SED-2MM

Equipment	Processing/Storage Capacity
Hopper	
HPR-2MM	8000 - 14000 lbs

CONTROL DEVICE(S)

Dust Separator
SED-1MM

Equipment	Processing/Storage Capacity
A,B,C Line Dust Collection	4000 - 8000 lbs

CONTROL DEVICE(S)

Dust Separator
SED-3MM

Equipment	Processing/Storage Capacity
A,B,C Line Dust Collection	4000 - 8000 lbs

CONTROL DEVICE(S)

Dust Separator
SED-1LL

Equipment	Processing/Storage Capacity
Hopper	
HPR-4LL	8000 - 14000 lbs

CONTROL DEVICE(S)

Dust Separator
SED-2M

Equipment	Processing/Storage Capacity
C Line Dust Collection	500 - 2000 lbs

Step 1: Raw Material Storage (cont)

CONTROL DEVICE(S)

Dust Separator
SED-1M

Equipment	Processing/Storage Capacity
RR car,PVC Silos	150000 - 1000000 lbs

CONTROL DEVICE(S)

Dust Separator
SED-35MM

Equipment	Processing/Storage Capacity
Rework Container	200 - 400 lbs

Step 2: Mixing

This step includes milling equipment which can be located in Building 541. When this equipment is operating emissions are exhausted through the control device(s) listed below.

CONTROL DEVICE(S)

No control device used

Equipment	Processing/Storage Capacity
Mill	
ML-1MM	0 - 15000 lbs per hr
ML-1LL	0 - 10000 lbs per hr

Step 3: Final Product Storage and Packaging

This step includes transferring, cooling, bulk loading, and packaging of final product. When operating this equipment would be exhausted through the control device(s) listed below.

CONTROL DEVICE(S)

No control device used

Equipment	Processing/Storage Capacity
Cube/Pellet Transfer	
HPR-16LL	6000 - 10000 lbs
TK-1NN/TK-2NN/TK-3NN	40000 - 60000 lbs

Step 3: Final Product Storage and Packaging (cont)

CONTROL DEVICE(S)
Dust Separator
SED-11MM

Equipment	Processing/Storage Capacity
Cube/Pellet Transfer	
A Line	0 - 15000 lbs per hr

CONTROL DEVICE(S)

Dust Separator
SED-15MM

Equipment	Processing/Storage Capacity
Cube/Pellet Transfer	
A Line	0 - 15000 lbs per hr

CONTROL DEVICE(S)

Dust Separator
SED-11LL

Equipment	Processing/Storage Capacity
Cube/Pellet Transfer	
B Line	0 - 10000 lbs per hr

CONTROL DEVICE(S)

Dust Separator
SED-15LL

Equipment	Processing/Storage Capacity
Cube/Pellet Transfer	
B Line	0 - 10000 lbs per hr

CONTROL DEVICE(S)

Dust Separator
SED-1/CLR-2M

Equipment	Processing/Storage Capacity
Cube/Pellet Transfer	
C Line	0 - 10000 lbs per hr

CONTROL DEVICE(S)

Dust Separator
SED-3M

Equipment	Processing/Storage Capacity
Cube/Pellet Transfer	
C Line	0 - 10000 lbs per hr

Step 3: Final Product Storage and Packaging (cont)

CONTROL DEVICE(S)

Dust Separator System
- VCS-1MM
- SED-4M
- SED-5M

Equipment	Processing/Storage Capacity
Vacuum Cleaning Systems	
A,B-line	500 - 1000 lbs
C-line	500 - 1000 lbs
A,B,C-line	500 - 1000 lbs

The Geon Company
Process C: Compound Polyvinyl Chloride Manufacturing
Insignificant Sources*

#	Type
14000ft	Piping
150	Valves
6	Filters
25	Pumps
20	Tanks/hoppers
15	Exchangers
4	Pressure Vessels
450	Flanges
10	Grinders/Dicers
12	Strainers
6	Mixers/Blenders
10	Blowers
10	Conveyors

* Emissions from these insignificant sources are included in Table 1, Process Limits in Tons/Year limits

Section 1D

Source/Control Data Sheets

Process C: Compound Polyvinyl Chloride Manufacturing

See Appendix C

Section 1E

Process Stack Sheet

Process C: Compound Polyvinyl Chloride Manufacturing

PROCESS STACK INFORMATION SHEET

Company designation of Process: Compound Polyvinyl Chloride Manufacturing
Number of Sources in the Process: 24
Number of Stacks or Vents: 24

Stack Designation	Stack Number	Number of Sources	Previous Certificate Number	Distance to Nearest Property Line (ft)	Diameter or Dimensions Inches	Discharge Height Above Ground Feet	Exit Temp (F)	Gas Discharge Rate (ACFM)	Discharge Direction Horizontal, Up, Down
SED-2MM	025	1	077463	345	6	80	85	1100	Horizontal
VCS-1MM	028	1	001703	260	6	55	85	250	Up
SED-1LL	029	1	001705	320	6	80	85	1100	Horizontal
ML-1LL	030	1	005939	310	36	25	120	15000	Up
HPR-16LL	031	1	035763	300	7 X 7	23	100	1500	Horizontal
SED-1MM	037	1	034875	280	12X36	29	85	5000	Horizontal
ML-1MM	038	1	005940	335	36	29	85	13000	Up
SED-3MM	039	1	034874	280	12X36	29	85	5000	Horizontal
TK-1NN/TK-2NN/TK-3NN	043	1	015738	330	10	46	100	440	Horizontal
TK-1KK	050	1	001715	40	3	20	85	10	Down
TK-2KK	051	1	001716	15	3	20	85	10	Down
SED-4M	148	1	092153	270	6	5	110	820	Horizontal
SED-2M	149	1	092154	300	26	20	Ambient	9200	Horizontal
SED-1M	150	1	092155	360	6	40	115	1100	Horizontal
SED-3M	151	1	092793	400	26	35	135	13000	Horizontal
SED-1/CLR-2M	152	1	092794	400	15	45	140	4000	Horizontal
SED-15MM	169	1	112033	375	20X20	37	100	5727	Horizontal
SED-11MM	170	1	112034	375	6	31	140	1239	Horizontal
SED-11LL	171	1	112035	340	6	31	140	1239	Horizontal
SED-15LL	172	1	112036	345	20X20	37	100	5727	Horizontal
TK-3KKA	174	1	113477	40	3	17	85	10	Down
TK-3KKAB	175	1	113478	40	3	17	85	10	Down
SED-35MM	186	1	NA	375	2	40	100	4	Down
SED-5M	187	1	NA	310	26	20	Ambient	9200	Horizontal
TOTAL		24							

Section 1F

Process Raw Material/Contaminant List

Process C: Compound Polyvinyl Chloride Manufacturing

See Attachment E

Section 2A

Release and Alteration/Amendment Limits

Process C: Compound Polyvinyl Chloride Manufacturing

TABLE I: PROCESS LIMITS IN TONS/YR
PROCESS: COMPOUND POLYVINYL CHLORIDE MANUFACTURING

CATEGORY	SUBCATEGORY		TONS/YR
Particulates	Lead		0.092
	PM10		0.978
	Other		27.539
1. TOTAL			28.609
Volatile Organic Compounds	HAP-VOC (Total)		0.000
	Other		20.595*
2. TOTAL			20.595
3. Carbon Monoxide		N/A	0.000
4. NOx		N/A	0.000
5. SOx		N/A	0.000
6. Other		N/A	0.200

* Includes tons/year emissions from VOC storage tanks.

TABLE 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: COMPOUND POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: TANK (TK-1KK,2KK,3KKA,3KKB)

Pound per hour emission limits are not required for VOC storage tanks. The only requirement is that the vapor pressure of the material being stored must be listed for each tank, as shown below. Tons/year emissions are included in the process total.

TK-1KK STORAGE MATERIAL VAPOR PRESSURE 8.124×10^{-7} psia
TK-2KK STORAGE MATERIAL VAPOR PRESSURE 2.128×10^{-7} psia
TK-3KKA STORAGE MATERIAL VAPOR PRESSURE 13.965×10^{-10} psia
TK-3KKB STORAGE MATERIAL VAPOR PRESSURE 1.934×10^{-7} psia

TABLE 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: COMPOUND POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: HOPPER (HPR-2MM,4LL)
RR CAR, PVC SILOS, REWORK CONTAINER
CUBE/PELLET TRANSFER (BOTH A,B and C LINES)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM10	0.000
	Other	0.500
1. TOTAL PARTICULATES		0.500
Volatile Organic Compounds	HAP-VOC	0.000
	Other	0.000
2. TOTAL VOC		0.000
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

TABLE 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS
PROCESS: COMPOUND POLYVINYL CHLORIDE MANUFACTURING
EQUIPMENT TYPE: A,B,C LINE DUST COLLECTION (2 SYSTEMS)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.020
	PM10	0.050
	Other	0.450
1. TOTAL PARTICULATES		0.520
Volatile Organic Compounds	HAP-VOC	0.000
	Other	0.050
2. TOTAL VOC		0.050
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

TABLE 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS
PROCESS: COMPOUND POLYVINYL CHLORIDE MANUFACTURING
EQUIPMENT TYPE: VACUUM CLEANING SYSTEMS - A,B LINE, C LINE, A,B,C LINE CUBE/PELLET TRANSFER (TK-1NN/TK-2NN/TK-3NN,HPR-16LL) C LINE DUST COLLECTION

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM10	0.050
	Other	0.450
1. TOTAL PARTICULATES		0.500
Volatile Organic Compounds	HAP-VOC	0.000
	Other	0.000
2. TOTAL VOC		0.000
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

TABLE 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: COMPOUND POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: MILL (ML-1MM)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM10	0.050
	Other	0.450
1. TOTAL PARTICULATES		0.500
Volatile Organic Compounds	HAP-VOC	0.000
	Other	2.460
2. TOTAL VOC		2.460
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

TABLE 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: COMPOUND POLYVINYL CHLORIDE MANUFACTURING

EQUIPMENT TYPE: MILL (ML-1LL)

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM10	0.050
	Other	0.450
1. TOTAL PARTICULATES		0.500
Volatile Organic Compounds	HAP-VOC	0.000
	Other	1.960
2. TOTAL VOC		1.960
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Section 3

Compliance Plan

Process C: Compound Polyvinyl Chloride Manufacturing

I. **Applicable Requirements**

A. Chapter 27 - **AIR POLLUTION CONTROL**

Subchapter 1. General Provisions
7:27-1.1, 1.2, 1.3, 1.4, 1.6, 1.7, 1.8, 1.9, 1.10,1.11,1.12,1.13,1.14,1.15,1.16,1.17,1.18

Subchapter 5. Prohibition of Air Pollution
7:27-5.1, 5.2

Subchapter 6. Control and Prohibition of Particles from Manufacturing Processes
7:27-6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7

Subchapter 8. Permits and Certificates
7:27-8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.26, 8.27
Appendix I

Subchapter 12. Prevention and Control of Air Pollution Emergencies
7:27-12.1, 12.2, 12.3, 12.4, 12.5

Subchapter 13. Ambient Air Quality Standards
7:27-13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8

Subchapter 18. Control and Prohibition of Air Pollution from New or Altered Sources Effecting Ambient Air Quality (Emission Offset Rules)
7:27-18.1, 18.2, 18.3, 18.4, 18.5, 18.6, 18.7, 18.8, 18.9, 18.10

Subchapter 21. Emission Statements
7:27-21.1, 21.2, 21.3, 21.4, 21.5, 21.6, 21.7

Subchapter 22. Operating Permits
7:27-22.1, 22.2, 22.3, 22.4, 22.5, 22.6, 22.8, 22.10, 22.13, 22.14, 22.16, 22.18, 22.19, 22.20, 22.23, 22.24, 22.31

B. Chapter 27A - **AIR ADMINISTRATIVE PROCEDURES AND PENALTIES**

Subchapter 3. Civil Administrative Penalties and Requests for Adjudicatory Hearings
7:27A-3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12

II. **Recordkeeping, Monitoring and Reporting Requirements**

A. **Recordkeeping**

1. The Permittee shall record the following for VOC emissions for process raw materials:

a. The date of operation;
b. The total time in hours each VOC source operates;
c. Total pounds of VOC emitted from each source;
d. The name and vapor pressure of each material stored in each tank;

e. The applicable control requirement range pursuant to N.J.A.C. 7:27-16.2(B);

These records shall be maintained on site for a minimum of five years after the last collection, in a permanently bound log book, readily accessible computer memory, or by another method acceptable to the Regional Enforcement Office. These records must also be available for inspection by representatives of the Department.

B. **Monitoring**

1. The following particulate control devices must have a pressure drop monitor installed and operating within six months of the effective date of this permit, or, for units not in operation, prior to start-up. Pressure drop ranges shall be as listed:

Control Designation	Pressure Drop (in. of W.C.) Min - Max
SED-2MM	1 - 10
VCS-1MM	1 - 10
SED-1LL	1 - 10
SED-1MM	1 - 10
SED-3MM	1 - 10
SED-4MM	1 - 10
SED-2M	1 - 10
SED-1M	1 - 10
SED-15MM	1 - 10
SED-11M	1 - 10
SED-11LL	1 - 10
SED-15LL	1 - 10
SED-35MM	1 - 10
SED-5M	1 - 10

In addition the following particle size distribution tables apply to this process:

Particle Size Distribution
Raw Materials

%	Micron
0.1	< 20
4.0	< 40
14.0	< 60
50.0	< 80
86.0	<100
96.0	<120
99.9	<140
100.0	<400

Particle Size Distribution
Product

%	Micron	Inches
negligible	< 45	< 0.0017
7.9	<100	< 0.0070
22.1	<355	< 0.0139
98.4		< 0.111
100.0		< 0.250

C. **Reporting**

1. The Permittee shall submit to the Department every six months, beginning January 1, 1997, a summary report listing the total tons emitted for each subcategory of contaminants from this process. The end of year report shall be a cummulative total of the tons emitted for each subcategory during the calendar year.

APPENDIX C

Section 1A

Process Description

Process D: Ammonia Refrigeration

This one process package covers the Ammonia Refrigeration System consisting of compressors, condensers, tanks, heat exchangers, and piping necessary to cool process fluids.

Fugitive emmisions can occur during recovery of the system for maintenance, and during normal operation thru valves, flanges, etc.

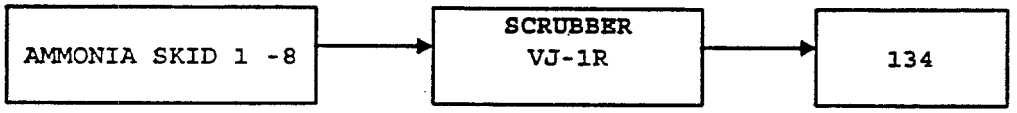
Section 1B

Process Flow Diagram

Process D: Ammonia Refrigeration

AMMONIA REFRIGERATION PROCESS FLOW DIAGRAM

STEP	CONTROL DEVICE	STACK NUMBER



Section 1C

Equipment and Control Device Lists

Process E: Ammonia Refrigeration

Step 1: Refrigeration

Recovering ammonia gases for maintenance would be exhausted through the control device(s) listed below.

Control Device(s)

Scrubber
VJ-1R

Equipment	Processing/Storage Capacity
Ammonia Skid 1-8	600 Tons to 1600 Tons

The Geon Company
Process D: Ammonia Refrigeration
Insignificant Sources*

#	Type
4000ft	Piping
250	Valves
35	Filters
5	Pumps
10	Condensers
15	Tanks
15	Exchangers
25	Pressure Vessels
650	Flanges
9	Compressors
10	Strainers

* Emissions from these insignificant sources are included in Table 1, Process Limits in Tons/Year limits

Section 1D

Control/Source Data Sheets

Process D: Ammonia Refrigeration

See Appendix D

Section 1E

Process Stack Sheet

Process D: Ammonia Refrigeration

FACILITY-WIDE PERMIT
PROCESS STACK INFORMATION SHEET

Company designation of Process: Ammonia Refrigeration
Number of Sources in the Process: 1
Number of Stacks or Vents: 1

Stack Designation	Stack Number	Number of Sources	Previous Certificate Number	Nearest Property Line (ft)	Distance to Diameter or Dimensions Inches	Discharge Height Above Ground Feet	Exit Temp (F)	Gas Discharge Rate (ACFM)	Discharge Direction Horizontal, Up,Down
VJ-1R	134	1	081321	180	2	30	100	29.6	UP

Section 1F

Process Raw Material/Contaminant Lists

Process D: Ammonia Refrigeration

PROCESS: AMMONIA REFRIGERATION
RAW MATERIAL/CONTAMINANT LIST
Category VI: Other

Chemical Names	CAS Number
Ammonia	007664-41-7

Section 2A

Release and Alteration/Amendment Limits

Process D: Ammonia Refrigeration

TABLE 1: PROCESS LIMITS IN TONS/YR
PROCESS: Ammonia Refrigeration

CATEGORY	SUBCATEGORY	TONS/YR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	0.000
	Other	0.000
2. TOTAL VOC		0.000
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.550

TABLE 2: WORST-CASE PERMIT ALLOWABLE UNCONTROLLED EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: Recovery for Maintenance

EQUIPMENT TYPE: Ammonia Skid 1-8

CATEGORY	SUBCATEGORY	LBS/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC	0.000
	Other	0.000
2. TOTAL VOC		0.000
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		1.000

Section 3

Compliance Plan

Process D: Ammonia Refrigeration

I. Applicable Requirements

A. Chapter 27 - **AIR POLLUTION CONTROL**

Subchapter 5.	Prohibition of Air Pollution 7:27-5.1, 5.2
Subchapter 8.	Permits and Certificates 7:27-8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.26, 8.27 Appendix I
Subchapter 12.	Prevention and Control of Air Pollution Emergencies 7:27-12.1, 12.2, 12.3, 12.4, 12.5
Subchapter 21.	Emission Statements 7:27-21.1, 21.2, 21.3, 21.4, 21.5, 21.6, 21.7
Subchapter 22.	Operating Permits 7:27-22.1, 22.2, 22.3, 22.4, 22.5, 22.6, 22.8, 22.10, 22.13, 22.14, 22.16, 22.18, 22.19, 22.20, 22.23, 22.24, 22.31

B. Chapter 27A - **AIR ADMINISTRATIVE PROCEDURES AND PENALTIES**

Subchapter 3.	Civil Administrative Penalties and Requests for Adjudicatory Hearings 7:27A-3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12

II. Recordkeeping, Monitoring and Reporting

There are no recordkeeping or monitoring requirements for the equipment in this process.

A. **Reporting**

1. The Permittee shall submit to the Department every six months, beginning January 1, 1997, a summary report listing the total tons emitted for each subcategory of contaminants from this process. The end of year report shall be a cummulative total of the tons emitted for each subcategory during the calendar year.

APPENDIX D

Section 1A

Process Description

Process E: Emergency Generators

This one process package covers all the emergency generators used to generate electricity or drive emergency equipment in the event the power supply to the Plant is interrupted. Each generator is diesel driven, has a maximum operating schedule of 500 hours/year and does not exceed 34MM BTU/hr for maximum rated gross heat input. They all burn commercial fuel. The following is a list of all emergency generators:

Standby Diesel Generator GEN-1EL	Stack 130
Standby Diesel Generator GEN-2EL	Stack 135
Standby Diesel Generator GEN-3EL	Stack 145
Emergency Air Compressor CM-2U	Stack 173
Emergency Fire Pump PU-17U	Stack 176
Emergency Fire Pump PU-1U	Stack 177

Section 1B

Process Flow Diagrams

Process E: Emergency Generators

THIS SECTION NOT APPLICABLE FOR THIS PROCESS

Section 1C

Equipment and Control Device Lists

Process E: Emergency Generators

THIS SECTION NOT APPLICABLE FOR THIS PROCESS

The Geon Company
Process E: Emergency Generators
Insignificant Sources*

#	Type
1500ft	Piping
75	Valves
10	Filters
6	Pumps
2	Condensers
6	Tanks
2	Exchangers
2	Pressure Vessels
200	Flanges
1	Compressors
10	Strainers

* Emissions from these insignificant sources are included in Table 1, Process Limits in Tons/Year limits

Section 1D

Control/Source Data Sheets

Process E: Emergency Generators

THIS SECTION NOT APPLICABLE FOR THIS PROCESS

Section 1E

Process Stack Sheet

Process E: Emergency Generators

FACILITY-WIDE PERMIT
PROCESS STACK INFORMATION SHEET

Company designation of Process: Emergency Generators
Number of Sources in the Process: 6
Number of Stacks or Vents: 6

Stack Designation	Stack Number	Number of Sources	Previous Certificate Number	Distance to Nearest Property Line (ft)	Diameter or Dimensions Inches	Discharge Height Above Ground Feet	Exit Temp (F)	Gas Discharge Rate (ACFM)	Discharge Direction Horizontal, Up,Down
Standby Diesel Generator GEN-1EL	130	1	044054	60	14	17	990	6255	UP
Standby Diesel Generator GEN-2EL	135	1	049312	15	14	12	920	9174	2 -HORIZONTAL
Standby Diesel Generator GEN-3EL	145	1	081130	35	12	11	920	4170	HORIZONTAL
Emergency Air Compressor CM-2U	173	1	113476	610	4	9	900	2228	UP
Emergency Fire Pump PU-17U	176	1	113807	370	6	16	900	2515	HORIZONTAL
Emergency Fire Pump PU-1U	177	1	113808	490	4	18	900	1025	UP
Total		6							

Section 1F

Process Raw Material/Contaminant Lists

Process E: Emergency Generators

PROCESS: EMERGENCY GENERATORS
RAW MATERIAL/CONTAMINANT LIST

Category I: **Particulates**

Sub Category: **PM10**

Chemical Names	CAS Number
Combustion particulates	NA

Category II: **Volatile Organic**

Sub Category: **Other**

Chemical Names	CAS Number
Hydrocarbons	NA

Category III: **Carbon Monoxide**

Chemical Names	CAS Number
Carbon Monoxide	000630-08-0

Category IV: **NOx**

Chemical Names	CAS Number
Oxides of Nitrogen	NA

Category V: **SOx**

Chemical Names	CAS Number
Sulfur Dioxide	007446-09-5

Section 2A

Release and Alteration/Amendment Limits

Process E: Emergency Generators

TABLE 1: PROCESS LIMITS IN TONS/YR
PROCESS: EMERGENCY GENERATORS

CATEGORY	SUBCATEGORY	TONS/YR
Particulates	Lead	0.000
	PM-10	1.916
	Other	0.000
1. TOTAL PARTICULATES		1.916
Volatile Organic Compounds	HAP-VOC	0.000
	Other	2.145
2. TOTAL VOC		2.145
3. Carbon Monoxide		5.834
4. NOx		26.825
5. SOx		1.785
6. Other		0.000

TABLE 2: WORST-CASE PERMIT ALLOWABLE UNCONTROLLED EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: Emergency Generator

EQUIPMENT TYPE: Standby Diesel Generator GEN-1EL

CATEGORY	SUBCATEGORY	LBS/HR
Particulates	Lead	0.000
	PM-10	1.951
	Other	0.000
1. TOTAL PARTICULATES		1.951
Volatile Organic Compounds	HAP-VOC	0.000
	Other	2.184
2. TOTAL VOC		2.184
3. Carbon Monoxide		5.942
4. NOx		27.319
5. SOx		1.817
6. Other		0.000

TABLE 2: WORST-CASE PERMIT ALLOWABLE UNCONTROLLED EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: Emergency Generator

EQUIPMENT TYPE: Standby Diesel Generator GEN-2EL

CATEGORY	SUBCATEGORY	LBS/HR
Particulates	Lead	0.000
	PM-10	2.776
	Other	0.000
1. TOTAL PARTICULATES		2.776
Volatile Organic Compounds	HAP-VOC	0.000
	Other	3.107
2. TOTAL VOC		3.107
3. Carbon Monoxide		8.451
4. NOx		38.857
5. SOx		2.585
6. Other		0.000

TABLE 2: WORST-CASE PERMIT ALLOWABLE UNCONTROLLED EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS
PROCESS: Emergency Generator
EQUIPMENT TYPE: Standby Diesel Generator GEN-3EL

CATEGORY	SUBCATEGORY	LBS/HR
Particulates	Lead	0.000
	PM-10	1.301
	Other	0.000
1. TOTAL PARTICULATES		1.301
Volatile Organic Compounds	HAP-VOC	0.000
	Other	1.456
2. TOTAL VOC		1.456
3. Carbon Monoxide		3.961
4. NOx		18.211
5. SOx		1.212
6. Other		0.000

TABLE 2: WORST-CASE PERMIT ALLOWABLE UNCONTROLLED EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: Emergency Generator

EQUIPMENT TYPE: Emergency Air Compressor CM-2U

CATEGORY	SUBCATEGORY	LBS/HR
Particulates	Lead	0.000
	PM-10	0.697
	Other	0.000
1. TOTAL PARTICULATES		0.697
Volatile Organic Compounds	HAP-VOC	0.000
	Other	0.780
2. TOTAL VOC		0.780
3. Carbon Monoxide		2.122
4. NOx		9.755
5. SOx		0.649
6. Other		0.000

TABLE 2: WORST-CASE PERMIT ALLOWABLE UNCONTROLLED EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: Emergency Generator

EQUIPMENT TYPE: Emergency Fire Pump PU-17U

CATEGORY	SUBCATEGORY	LBS/HR
Particulates	Lead	0.000
	PM-10	0.623
	Other	0.000
1. TOTAL PARTICULATES		0.623
Volatile Organic Compounds	HAP-VOC	0.000
	Other	0.698
2. TOTAL VOC		0.698
3. Carbon Monoxide		1.897
4. NOx		8.723
5. SOx		0.580
6. Other		0.000

TABLE 2: WORST-CASE PERMIT ALLOWABLE UNCONTROLLED EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: Emergency Generator

EQUIPMENT TYPE: Emergency Fire Pump PU-1U

CATEGORY	SUBCATEGORY	LBS/HR
Particulates	Lead	0.000
	PM-10	0.317
	Other	0.000
1. TOTAL PARTICULATES		0.317
Volatile Organic Compounds	HAP-VOC	0.000
	Other	0.354
2. TOTAL VOC		0.354
3. Carbon Monoxide		0.964
4. NOx		4.432
5. SOx		0.295
6. Other		0.000

Section 3

Compliance Plan

Process E: Emergency Generators

I. **Applicable Requirements**

A. Chapter 27 - **AIR POLLUTION CONTROL**

Subchapter 3.	Control and Prohibition of Smoke from Combustion of Fuel 7:27-3.1, 3.2, 3.5, 3.6, 3.7
Subchapter 4.	Control and Prohibition of Particles from Combustion of Fuel 7:27-4.1, 4.2, 4.3, 4.4, 4.5, 4.6
Subchapter 5.	Prohibition of Air Pollution 7:27-5.1, 5.2
Subchapter 8.	Permits and Certificates 7:27-8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.26, 8.27 Appendix I
Subchapter 9.	Sulfur in Fuels 7:27-9.1, 9.2, 9.3, 9.4, 9.5
Subchapter 12.	Prevention and Control of Air Pollution Emergencies 7:27-12.1, 12.2, 12.3, 12.4, 12.5
Subchapter 13.	Ambient Air Quality Standards 7:27-13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8
Subchapter 16.	Control and Prohibition of Air Pollution by Volatile Organic Compounds 7:27-16.1, 16.1A, 16.2, 16.10, 16.16
Subchapter 19.	Control and Prohibition of Air Pollution from Oxides of Nitrogen 7:27-19.1, 19.2, 19.3, 19.8
Subchapter 21.	Emission Statements 7:27-21.1, 21.2, 21.3, 21.4, 21.5, 21.6, 21.7
Subchapter 22.	Operating Permits 7:27-22.1, 22.2, 22.3, 22.4, 22.5, 22.6, 22.8, 22.10, 22.13, 22.14, 22.16, 22.18, 22.19, 22.20, 22.23, 22.24, 22.31

B. Chapter 27A - **AIR ADMINISTRATIVE PROCEDURES AND PENALTIES**

Subchapter 3.	Civil Administrative Penalties and Requests for Adjudicatory Hearings 7:27A-3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12

II. **Recordkeeping, Monitoring and Reporting**

A. **Recording Keeping**

1. The Permittee shall record the following for each generator:

   a. The hours of operation

These records shall be maintained on site for a minimum of five years after the last collection, in a permanently bound log book, readily

accessible computer memory, or by another method acceptable to the Regional Enforcement Office. These records must also be available for inspection by representatives of the Department.

B. **Monitoring**

1. Each generator shall be equipped with an engine hour meter to verify the total operating time.

C. **Reporting**

1. The Permittee shall submit to the Department every six months, beginning January 1, 1997, a summary report listing the total tons emitted for each subcategory of contaminants from this process. The end of year report shall be a cummulative total of the tons emitted for each subcategory during the calendar year.

III. **Special Conditions**

A. **Operating Conditions**

1. The generators listed in this process shall not be used in a manner which will cause emissions greater than 20 percent opacity, exclusive of water vapor for ten consecutive seconds.

2. The total operating time of each generator shall not exceed 500 hours during any calendar year.

Section 1A

Process Description

Process F: Boilers

This one process package will cover the two boilers located at the facility. The two boilers, BOS-1S and BOS-2S, are each 75,000 lb/hr steam generating boilers with a design input of 90.4 million BTU/hr gross heat input. Both units burn natural gas as the primary fuel with kerosene as the secondary fuel. Emission controls are not used for this equipment.

The boilers also thermally oxidize a low VOC concentration vent gas stream from both Geon and BFGoodrich.

The boiler emissions are calculated based on compliance with N.J.A.C. 7:27-19 Control and Prohibition of Air Pollution from Oxides of Nitrogen and N.J.A.C. 7:27-16 Control and Prohibition of Air Pollution by Volatile Organic Compounds.

Additionally, the following Alternate Operating Scenarios apply to this Process:

Scenario C - Equipment in this scenario require no emission controls.

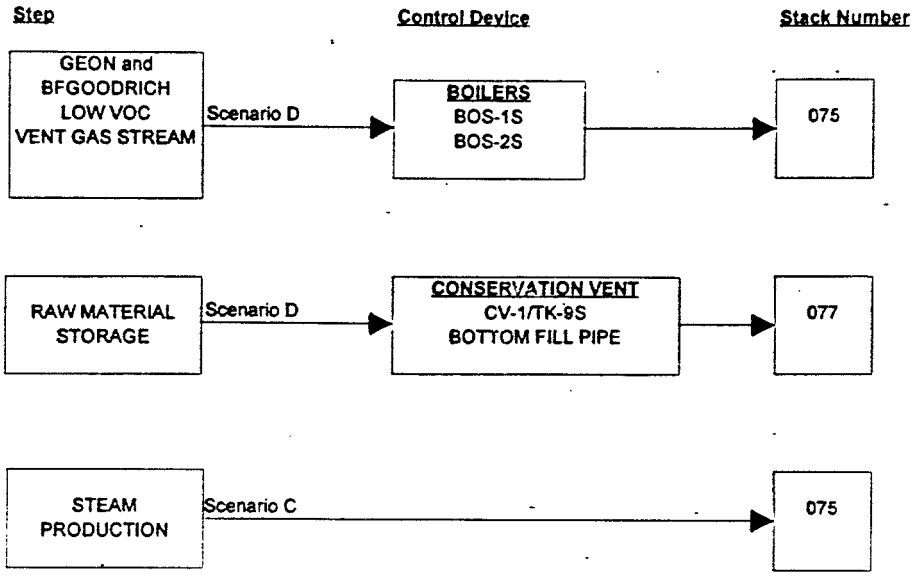
Scenario D - Equipment in this scenario emit VOC emissions only, which must be exhausted through the listed control device.

Section 1B

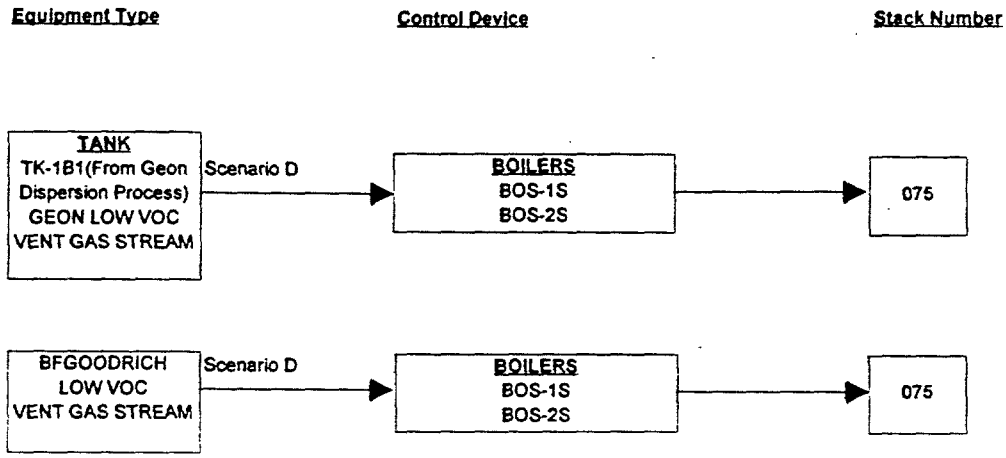
Process Flow Diagrams

Process F: Boilers

BOILER PROCESS FLOW DIAGRAM

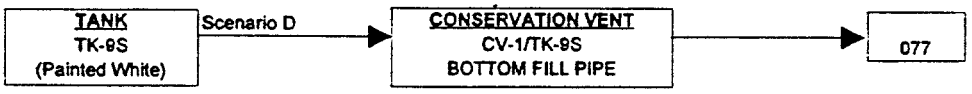


BOILER VENT GAS STREAM STEP



BOILER RAW MATERIAL STORAGE STEP

Equipment Type	Control Device	Stack Number



BOILER STEAM PRODUCTION STEP

Equipment Type	Control Device	Stack Number
BOILERS BOS-1S BOS-2S	Scenario C	075

Section 1C

Equipment and Control Device Lists

Process F: Boilers

Step 1: Vent Gas Stream

In this step a low VOC gas stream from GEON and BFGoodrich is thermally oxidized in the boilers.

CONTROL DEVICE(S)

Boilers
BOS-1S
BOS-2S

Equipment	Processing/Storage Capacity
BFGoodrich Vent Gas Stream	0 to 22 lb/hr

CONTROL DEVICE(S)

Boilers
BOS-1S
BOS-2S

Equipment	Processing/Storage Capacity
Tank	
TK-1B1 (GEON Vent Gas Stream)	10,000 to 15,000 gal

Step 2: Raw Material Storage

This step consists of the secondary fuel storage tank for the boilers which is painted white and equipped with a conservation vent and bottom fill pipe.

CONTROL DEVICE(S)

Conservation Vent CV-1/TK-9S
Bottom Fill

Equipment	Processing/Storage Capacity
Tank	
TK-9S	500,000 gal

Step 3: Steam Production

In this step the boilers burn natural gas and kerosene to produce building heat and steam for production.

CONTROL DEVICE(S)

No Control Device

Equipment	Processing/Storage Capacity
Boilers	
BOS-1S	90,400,000 BTU/hr
BOS-2S	90,400,000 BTU/hr

The Geon Company
Process F: Boilers
Insignificant Sources*

#	Type
2500ft	Piping
150	Valves
5	Filters
5	Pumps
6	Tanks
4	Exchangers
3	Pressure Vessels
400	Flanges
10	Strainers

* Emissions from these insignificant sources are included in Table 1, Process Limits in Tons/Year limits

Section 1D

Control/Source Data Sheets

Process F: Boilers

THIS SECTION NOT APPLICABLE FOR THIS PROCESS

Section 1E

Process Stack Sheet

Process F: Boilers

FACILITY-WIDE PERMIT
PROCESS STACK INFORMATION SHEET

Company designation of Process: Boilers
Number of Sources in the Process: 5
Number of Stacks or Vents: 3

Stack Designation	Stack Number	Number of Sources	Previous Certificate Number	Distance to Nearest Property Line (ft)	Diameter or Dimensions Inches	Discharge Height Above Ground Feet	Exit Temp (F)	Gas Discharge Rate (ACFM)	Discharge Direction Horizontal, Up,Down
BOS-1S	75	3*	091114	670	48	60	320	23700	Up
BOS-2S	75	3*	091114	670	48	60	320	23700	Up
TK-9S	77	1	096445	320	12	41	Ambient	14.5	Up

* Two of the three sources for each boiler consist of the GEON and BFGoodrich low VOC vent gas streams.

Section 1F

Process Raw Material/Contaminant Lists

Process F: Boilers

Category I: Particulates

Sub Category: PM10

Chemical Names	CAS Number
Combustion particulates	NA

Sub Category: Other Particulates

Chemical Names	CAS Number
Methyl Acrylate	00096-33-3
Butyl Acrylate	00141-32-2
N-methylol Acrylamide	00924-42-5
2-Ethyl Hexyl Acrylate	00818-61-1
Ethyl Acrylate	00140-88-5
Methyl Methacrylate	00080-62-6
Styrene	00100-42-5
Acrylamide	00079-06-1
Acrylonitrile	00107-13-1
Acrylic Acid	00079-10-7
Combustion Particulates	NA

Category II: Volatile Organic

Sub Category: HAP-VOC

Chemical Names	CAS Number
Ethyl Acrylate	00140-88-5
Methyl Methacrylate	00080-62-6
Styrene	00100-42-5
Acrylamide	00079-06-1
Acrylonitrile	00107-13-1
Acrylic Acid	00079-10-7

Sub Category: Other VOCs

Chemical Names	CAS Number
Kerosene	08008-20-6
Hydrocarbons	NA
Natural Gas including Methane	00074-82-8
Methyl Acrylate	00096-33-3
Butyl Acrylate	00141-32-2
N-methylol Acrylamide	00924-42-5
2-Ethyl Hexyl Acrylate	00818-61-1

Category III: Carbon Monoxide

Chemical Names	CAS Number
Carbon Monoxide	000630-08-0

Category IV: NOx

Chemical Names	CAS Number
Oxides of Nitrogen	NA

Category V: SOx

Chemical Names	CAS Number
Sulfur Dioxide	007446-09-5

Category VI: Other

Chemical Names	CAS Number
Ammonia	07664-41-7

Section 2A

Release and Alteration/Amendment Limits

Process F: Boilers

Table 1: PROCESS LIMITS IN TONS/YR
TOTAL EQUIPMENT IN PROCESS
PROCESS: BOILERS

CATEGORY	SUBCATEGORY	TONS/YEAR KEROSENE
Particulates	Lead	0.000
	PM-10	10.160
	Other	0.438
1. Total Particulates		10.598
Volatile Organic Compounds	HAP-VOC	0.090
	Other	2.190
2. Total VOC		2.280
3. Carbon Monoxide		25.860
4. NOx		81.800
5. SOx		5.380
6. Other		0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: BOILERS

EQUIPMENT TYPE: BOS-1S, BOS-2S

CATEGORY	SUBCATEGORY	NATURAL GAS LB/HR	KEROSENE LB/HR
Particulates	Lead	0.000	0.000
	PM-10	1.150	1.210
	Other	0.050	0.050
1. Total Particulates		1.200	1.260
Volatile Organic Compounds	HAP-VOC	0.020	0.020
	Other	0.240	0.160
2. Total VOC		0.260	0.180
3. Carbon Monoxide		2.940	3.020
4. NOx		9.040	10.850
5. SOx		0.050	3.480
6. Other		0.000	0.000

Table 2: WORST-CASE PERMIT ALLOWABLE EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: BOILERS

EQUIPMENT TYPE: TANK TK-9S

CATEGORY	SUBCATEGORY	LB/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
1. Total Particulates		0.000
Volatile Organic Compounds	HAP-VOC	0.000
	Other	0.010
2. Total VOC		0.010
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

Section 3

Compliance Plan

Process F: Boilers

1. **Applicable Requirements**

A. Chapter 27 - **AIR POLLUTION CONTROL**

Subchapter 3. Control and Prohibition of Smoke from Combustion of Fuel
7:27-3.1, 3.2, 3.5, 3.6, 3.7

Subchapter 4. Control and Prohibition of Particles from Combustion of Fuel
7:27-4.1, 4.2, 4.3, 4.4, 4.5, 4.6

Subchapter 5. Prohibition of Air Pollution
7:27-5.1, 5.2

Subchapter 8. Permits and Certificates
7:27-8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.26, 8.27

Subchapter 9. Sulfur in Fuels
7:27-9.1, 9.2, 9.3, 9.4, 9.5
Appendix I

Subchapter 12. Prevention and Control of Air Pollution Emergencies
7:27-12.1, 12.2, 12.3, 12.4, 12.5

Subchapter 13. Ambient Air Quality Standards
7:27-13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8

Subchapter 16. Control and Prohibition of Air Pollution by Volatile Organic Compounds
7:27-16.1, 16.1A, 16.2, 16.8,16.16, 16.21, 16.23, 16.24

Subchapter 18. Control and Prohibition of Air Pollution from New or Altered Sources Effecting Ambient Air Quality (Emission Offset Rules)
7:27-18.1, 18.2, 18.3, 18.4, 18.5, 18.6, 18.7, 18.8, 18.9, 18.10

Subchapter 19. Control and Prohibition of Air Pollution from Oxides of Nitrogen
7:27-19.1, 19.2, 19.3, 19.7

Subchapter 21. Emission Statements
7:27-21.1, 21.2, 21.3, 21.4, 21.5, 21.6, 21.7

Subchapter 22. Operating Permits
7:27-22.1, 22.2, 22.3, 22.4, 22.5, 22.6, 22.8, 22.10, 22.13, 22.14, 22.16, 22.18, 22.19, 22.20, 22.23, 22.24, 22.31

B. Chapter 27A - **AIR ADMINISTRATIVE PROCEDURES AND PENALTIES**

Subchapter 3. Civil Administrative Penalties and Requests for Adjudicatory Hearings
7:27A-3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12

II. Record keeping, Monitoring and Reporting

A. Record Keeping

1. The Permitte shall record the following for each boiler:

a. Amount of Natural Gas and Kerosene burned in each calendar year.
b. The hours of operation

These records shall be maintained on site for a minimum of five years after the last collection, in a permanently bound log book, readily accessible computer memory, or by another method acceptable to the Regional Enforcement Office. These records must also be available for inspection by representatives of the Department.

The Permittee shall record any test data collected pursuant to the monitoring requirements, and maintain it for at least five years after the date on which the testing was conducted.

B. Monitoring

1. If not already conducted, within 180 days from the initial operation of the low NOx burners for Boiler BOS-2S, the Permittee shall conduct stack emissions performance tests on the boilers in accordance with N.J.A.C. 7:27-8.4(c). Stack tests shall be conducted on each boiler at plus or minus five percent of the maximum heat input rate of each boiler as specified in the permit, for CO, NOx and VOC. The stack testing shall be conducted to determine compliance with N.J.A.C. 7:27-19.7, 16.8 and 9.2.

2. At least 60 days prior to the stack test date, the Permittee shall submit to the Chief, BTS, for approval, a pretest protocol. BTS may change or require additional pollutants to be stack tested.

3. The Permittee shall conduct all emission performance tests using the method approved by the Chief, BTS.

4. The Permittee shall contact the Chief, BTS, and the Chief, Regional Enforcement Office upon approval of the test protocol, to schedule a mutually acceptable test date.

5. Within 60 days after completion of testing, the Permittee shall submit to the Chief, BTS, and the Chief, Regional Enforcement Office one copy of the emission test report. The test results shall be certified by a Licensed Professional Engineer or by a Certified Industrial Hygienist.

C. **Reporting**

1. The Permittee shall submit to the Department every six months, beginning January 1, 1997, a summary report listing the total tons emitted for each subcategory of contaminants from this process. The end of year report shall be a cummulative total of the tons emitted for each subcategory during the calendar year.

III. Special Conditions

A. Operating Conditions

1. The Permittee shall adjust the combustion process of each boiler in accordance with the requirements of N.J.A.C 7:27-19.16.

2. Boiler BOS-2S shall not be operated until it complies with N.J.A.C.7:27-19. The permittee shall submit compliance documentation to the Department prior to operating this Boiler.

Section 1A

Process Description

Process G: Wastewater Treatment

The Geon Company has its own on-site wastewater treatment system as permitted under NJPDES NJ0004286. Wastewater from The Geon Company, The BFGoodrich Company, and Pedricktown Cogeneration Limited Partnership are treated and then discharged to the Delaware River. A large percentage of the treated effluent is recycled for reuse at the site. This recycled water offsets groundwater that would have to be pumped from on-site wells.

The majority of the treated process wastewater discharged through DSN 001 is generated from the manufacture of polyvinyl chloride resins and compounds, and acrylic latex as well as from utility waters consisting of well water treatment backwash and regenerates, recycle/reuse filter backwash, steam generation blowdown and cooling tower blowdown. All treated wastewater discharged through DSN 001 undergoes physical, chemical, and biological treatment. Sanitary wastewater is treated, combined with influent process water, and is then treated and discharged through the treatment works. Contaminated stormwater (stormwater holding basin DSN 002) is also combined with influent process water prior to discharge to the main treatment system. The maximum discharge through DSN 001 is 2.1 million gallons per day (MGD) when recycling is not used with an average of 1.6 MGD when recycling is used.

The facility has been classified as a major discharger by the New Jersey Department of Environmental Protection in accordance with the USEPA rating criteria.

Description of Process

The Geon Company was formed as a wholly owned subsidiary corporation of the BFGoodrich Company becoming an independent publicly-owned corporation in April, 1993. While BFGoodrich continues to own and operate the Acrylic Latex manufacturing operations at the above location, The Geon Company owns and operates the polyvinyl chloride resins and polyvinyl chloride compounds operations at the same site. These manufacturing activities are classified under SIC 2821. Also existing at the site is a 117 MeW cogeneration plant which is owned and operated by Pedricktown Cogeneration Limited Partnership (PCLP); the wastestreams generated from this plant are routed through The Geon Company's treatment system (formerly owned and operated by BFGoodrich), combined with Geon's and BFGoodrich's wastewater, and subsequently discharged to the Delaware River through DSN 001. The cogeneration plant uses natural gas as a primary source of fuel and cogenerates steam and electricity for use by The Geon Company and the BFGoodrich Company with the excess sold to Atlantic Electric.

Primary treatment (chemical coagulation) and secondary treatment (activated sludge) exist at the facility, with supplementary clarification tanks and an above ground holding tank for recycling water and for use as supplemental firewater storage. The package sanitary system includes treatment by an aerobic digester and is followed by chlorination. The treated sanitary wastewater is combined with all other wastewaters and treated again in the main treatment system.

As previously discussed in the Fact Sheet, stormwater discharges from DSN 002, 003, 004, 005 and 006 with projected average flows from 0.006 to 0.034 MGD will be covered under a Stormwater Pollution Prevention Plan (SPPP). The

stormwater projected average flow is based on the 1994 average annual rainfall.

This process package has been prepared in accordance with

The "Regulations Concerning the New Jersey Pollutant Discharge Elimination System" (N.J.A.C. 7:14A-1 et seq.), which were promulgated pursuant to the authority of the New Jersey "Water Pollution Control Act" (N.J.S.A. 58:10A-1 et seq.)

40 CFR 414, EPA Effluent Guidelines and Standards for Organic Chemicals, Plastics, and Synthetic Fibers

The Delaware River Basin Commission (DRBC) Section 3.8 of the Delaware River Basin Compact

Classification

Zone 5 (Delaware River)
FW2-NT (an unnamed tributary of the Delaware River)

Description of Wastewater and Treatment for DSN 001

Influent Composition

The wastewater discharged through DSN 001 is comprised of the following:

Manufacturing

BFGoodrich

Acrylic Latex: This wastestream will include acrylic latex from equipment cleaning plus trace amounts of key raw materials including Ethyl Acrylate, Methyl Methacrylate, N-Butyl Acrylate, Styrene, Acrylonitrile, Acrylamide, N-Methylol Acrylamide, Acrylic Acid, Aqua Ammonia, Sodium Hydroxide, Sodium Lauryl Sulfate plus trace amounts of other materials.

GEON

Polyvinyl Chloride Resin: This wastestream will include polyvinyl chloride from equipment cleaning plus trace amounts of key raw material including vinyl chloride, acrylic acid, methyl acrylate, sodium hydroxide, aqua ammonia, sodium lauryl sulfate, lauryl steryl alcohol, sodium alkyl aryl ethoxy sulfate, methyl cellulose, polyvinyl alcohol, plus trace amounts of other materials.

Polyvinyl Chloride Compound: This wastestream will include polyvinyl chloride from equipment cleaning plus trace amounts of plasticizers, stabilizers and color pigments.

Utilities Well water treatment backwash and regenerates, Recycle/reuse filter backwash, Steam generation blowdown, Cooling tower blowdown

This waste stream will include well minerals, well regenerates (sulfuric acid and sodium hydroxide), filter backwash (iron and biological pin floc), treatment chemicals (zinc, organic phosphates, chlorine, chlorine dioxide, aluminum chloride, potassium permanganate, potassium hydroxide, bromine biocide, sulfuric acid, phosphoric acid, sodium sulfite, amine chemicals, boiler and steam corrosion control phosphate chelants, flocculents, plus trace amounts of other treatment chemicals).

Other Wastestreams

Sanitary wastewater is treated, chlorinated, combined with process waste water, and is treated and discharged through the treatment works. Contaminated stormwater is also combined with process waste water prior to discharge to the treatment works.

Cogeneration

The cogeneration wastewater stream will be similar in composition to the utility wastestreams and will also have detergent gas turbine wash.

Wastewater Treatment

The chemicals introduced as part of the waste treatment system includes ferric chloride, sodium hydroxide, phosphoric acid and aqua ammonia (for nutrients) and polymers.

The Wastewater Treatment System Treatment Capability Consists of the Following:

The existing primary treatment (chemical coagulation) and secondary treatment (activated sludge) has the ability to treat a wide variety of waste flows and characteristics.

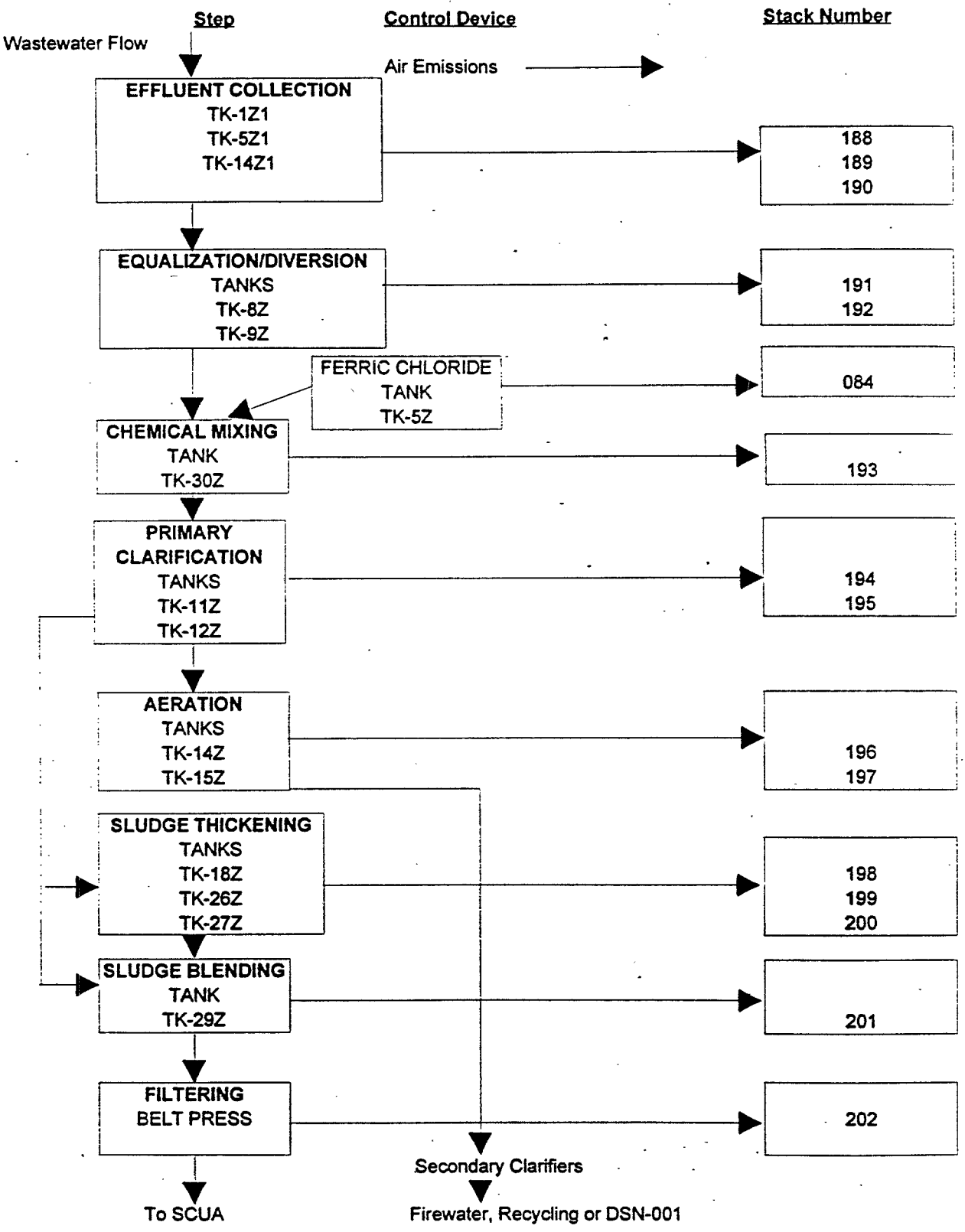
Solid particles removed in the primary system, comprised of polyvinyl chloride resin, acrylic latex particles, wasted activated sludge, iron oxide and other trace materials, are dewatered with a belt filter press and are currently disposed of in the Salem County Utilities Authority landfill, Permit Number 0062049. The package sanitary system includes treatment by an aerobic digester and is followed by chlorination. The waste treatment system is staffed 24 hours a day, 7 days a week.

There is also one 16,000-gallon ferric chloride storage tank associated with this process.

Section B

Process Flow Diagrams

WASTEWATER TREATMENT PLANT PROCESS FLOW DIAGRAM



Section 1C

Equipment and Control Device Lists

Process G: Wastewater Treatment

Wastewater Treatment Plant

CONTROL DEVICE(S)

No Control Utilized

Equipment	Processing/Storage Capacity
Effluent Collection Sumps	
TK-1Z1	25,000 Gallons
TK-5Z1	25,000 Gallons
TK-14Z1	20,000 Gallons
Equalization Tank	
TK-8Z	1,000,000 Gallons
Diversion Tank	
TK-9Z	300,000 Gallons
Chemical Mixing Tank	
TK-30Z	15,000 Gallons
Primary Clarification Tanks	
TK-11Z	115,000 Gallons
TK-12Z	100,000 Gallons
Aeration Tanks	
TK-14Z	180,000 Gallons
TK-15Z	180,000 Gallons
Sludge Thickening Tanks	
TK-18Z	35,000 Gallons
TK-26Z	2,000 Gallons
TK-27Z	35,000 Gallons
Sludge Blending Tank	
TK-29Z	16,000 Gallons
Filter Press	7,000 Lbs/Hr
Ferric Chloride Tank	
TK-5Z	16,000 Gallons

The Geon Company
Process G: Wastewater Treatment
Insignificant Sources*

#	Type
2500ft	Piping
225	Valves
5	Filters
35	Pumps
7	Tanks
600	Flanges
1	Grinders
5	Strainers

* Emission from these insignificant sources are included in Table 1, Process Limits in Tons/Year.

Section 1D

Control/Source Data Sheets

Process G: Wastewater Treatment

This Section Not Applicable

Section 1E

Process Stack Sheet

Process G: Wastewater Treatment

FACILITY-WIDE PERMIT
PROCESS STACK INFORMATION SHEET

Company designation of Process: Wastewater Treatment
Number of Sources in the Process: 16
Number of Stacks or Vents: 16

ck ignation	Stack Number	Number of Sources	Previous Certificate Number	Distance to Nearest Property Line (ft)	Discharge Diameter or Dimensions (Feet)	Discharge Height Above Ground (Feet)	Exit Temp (F)	Gas Discharge Rate (ACFM)	Gas Discharge Direction Up, Down, Horizontal
5Z	084	1	004477	520	0.33	2	Ambient	8	Down
1Z1	188	1	None	650	12 X 16	1	70-95	350	Up
5Z1	189	1	None	630	12 X 16	1	70-120	470	Up
14Z	190	1	None	400	0.5 X 1.7	1	70-120	230	Up
8Z	191	1	None	390	90	20	70-100	540	Up
9Z	192	1	None	330	50	20	70-100	240	Up
30Z	193	1	None	420	12 X 17	21	70-100	230	Up
11Z	194	1	None	490	40	16	70-100	160	Up
12Z	195	1	None	460	37	16	70-100	160	Up
14Z	196	1	None	370	55	15	70-100	210	Up
15Z	197	1	None	310	55	15	70-100	210	Up
18Z	198	1	None	470	20	17	70-100	70	Up
26Z	199	1	None	490	20	17	70-100	80	Up
27Z	200	1	None	460	17	12	60-90	70	Up
29Z	201	1	None	520	2.5	26	60-90	40	Up
TER PRESS 1Z	201	1 16	None	440	8	6	70-100	20	Up

Section 1F

Process Raw Material/Contaminant Lists

Process G: Wastewater Treatment

See Process Description pages G2, G3 and G4, and Attachment E

Section 2

Release and Alteration/Amendment Limits

Process G: Wastewater Treatment

TABLE 1: PROCESS LIMITS IN TONS/YR
PROCESS: Wastewater Treatment

CATEGORY	SUBCATEGORY	AIR TONS/YR	WATER TONS/YR
Particulates	Lead	0.000	0.319
	PM-10	0.000	NA
	Other	0.000	2.429
	TSS	NA	319.630
1. TOTAL PARTICULATES		0.000	322.378
Volatile Organic	HAP-VOC (Total)	0.451	3.083
	Acrylamide	0.001	
	Acrylonitrile	0.050	
	Acrylic Acid	0.050	
	Ethyl Acrylate	0.100	
	Methyl MethAcrylate	0.100	
	Styrene	0.100	
	Vinyl Chloride	0.050	
Compounds	Other (Total)	1.120	6.692
2. TOTAL VOC		1.571	9.775
3. Carbon Monoxide		0.000	NA
4. NOx		0.000	NA
5. SOx		0.000	NA
6. Other		0.005	NA
7. BOD5		NA	72.270
8. TDS		NA	3789.91
9. Oil and Grease		NA	31.963
10.Acid Extractables/Base Neutrals		NA	5.032

TABLE 2: WORST-CASE PERMIT ALLOWABLE UNCONTROLLED EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS

PROCESS: Wastewater Treatment

EQUIPMENT TYPE: Effluent Collection Tanks (TK-1Z1, TK-5Z1, TK-14Z1)
Equalization Tank (TK-8Z)
Diversion Tank (TK-9Z)
Chemical Mixing Tank (TK-30Z)
Primary Clarifier Tanks (TK-11Z, TK-12Z)
Aeration Tanks (TK-14Z, TK-15Z)
Sludge Thickening Tankls (TK-18Z, TK-26Z, TK-27Z)
Sludge Blend Tanks (TK-29Z)
Filter Press (FP-1Z)

CATEGORY	SUBCATEGORY	LBS/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
	TSS	NA
1. TOTAL PARTICULATES		0.000
Volatile Organic	HAP-VOC (Total)	0.550
	Acrylamide	0.050
	Acrylonitrile	0.050
	Acrylic Acid	0.050
	Ethyl Acrylate	0.100
	Methyl MethAcrylate	0.100
	Styrene	0.100
	Vinyl Chloride	0.100
Compounds	Other (Total)	2.950
2. TOTAL VOC		3.500
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.000

TABLE 2: WORST-CASE PERMIT ALLOWABLE UNCONTROLLED EMISSION LIMITS FOR EACH PIECE OF EQUIPMENT IN THE PROCESS
PROCESS: Wastewater Treatment
EQUIPMENT TYPE: Ferric Chloride Tank (TK-5Z)

CATEGORY	SUBCATEGORY	LBS/HR
Particulates	Lead	0.000
	PM-10	0.000
	Other	0.000
	TSS	NA
1. TOTAL PARTICULATES		0.000
Volatile Organic Compounds	HAP-VOC (Total)	0.000
	Other (Total)	0.000
2. TOTAL VOC		0.000
3. Carbon Monoxide		0.000
4. NOx		0.000
5. SOx		0.000
6. Other		0.001

Table 3. Effluent Limitations

Parameter	Effluent Limitation		LB/Day Equivalent		Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Frequency	Sample Type
CONVENTIONALS and NON-CONVENTIONALS						
Ammonia (as N) mg/l	35	NL	612.99	NL	Monthly	Grab
BOD5 % removal	87.5 (Min)	NL	NA	NA	Monthly	Calculated
BOD5 (kg/day)	68	180	149.6	396	Weekly	Composite
BOD5 mg/l	NL	NL	NA	NA	Weekly	Composite
Chlorine Produced Oxidants (mg/l)	NL	NL	NA	NA	Monthly	Grab
COD (kg/day)	NL	NL	NL	NL	Weekly	Composite
Color (PtCoU)	NL	100	NA	NA	Quarterly	Grab
Fecal Coliform (MPN/100 ml)	200/100	NL	NA	NA	Monthly	Grab
Flow (MGD)	NL	2.1	NA	NA	Continuous	Measured
Oil and Grease (mg/l)	NL	10	NL	175.14	Quarterly	Grab
pH Range (S.U.)	6.0 Min	9.0 Max	NA	NA	Daily	Grab
Temperature 0C (0F)	NL	35.6(96)	NA	NA	Daily	Grab
Total dissolved solids(TDS)(mg/l)	5000	15000	87570	262710	Two/Week	Grab
TDS (kg/day)	NL	NL	NL	NL	Two/Week	Grab
TSS (mg/l)	30	100	66	220	Weekly	Composite
7-day average (mg/l)	45	NA	788.13	NA		
kg/day	113	367	248.6	807.4	Weekly	Composite
7-day average (kg/day)	136	NA	299.2	NA		
TSS % removal	90% min	NL	NA	NA	Monthly	Calculated

Table 3, Effluent Limitations (continued)

Parameter	Effluent Limitation		Lb/Day Equivalents		Monitoring Requirements	
	Monthly	Daily	Monthly	Daily	Frequency	Sample Type
	Average	Maximum	Average	Maximum		
VOLATILE ORGANICS,kg/day (unless otherwise noted)						
1,1 Dichloroethane	0.062	0.166	0.136	0.365	Annual	Grab
1,1 Dichloroethylene	0.045	0.070	0.099	0.154	Annual	Grab
1,1,1 Trichloroethane	0.059	0.152	0.130	0.334	Annual	Grab
1,1,2 Trichloroethane	0.059	0.152	0.130	0.334	Annual	Grab
1,2 Dichloroethane	0.192	0.595	0.422	1.309	Annual	Grab
1,2 Dichloropropane	0.431	0.649	0.948	1.428	Annual	Grab
1,2 Trans-dichloroethylene	0.059	0.152	0.130	0.334	Annual	Grab
1,3 Dichloropropylene	0.082	0.124	0.180	0.273	Annual	Grab
Acrylonitrile, (mg/l)	NL	0.050	NL	0.876	Quarterly	Grab
Acrylonitrile	0.271	0.682	0.596	1.500	Quarterly	Grab
Benzene	0.104	0.383	0.229	0.843	Annual	Grab
Carbon Tetrachloride	0.051	0.107	0.112	0.235	Annual	Grab
Chlorobenzene	0.042	0.079	0.092	0.174	Annual	Grab
Chloroethane	0.293	0.756	0.645	1.663	Annual	Grab
Chloroform	0.059	0.130	0.130	0.286	Annual	Grab
Ethylbenzene	0.090	0.305	0.198	0.671	Annual	Grab
Methyl Chloride	0.243	0.534	0.535	1.175	Annual	Grab
Methylene Chloride	0.113	0.251	0.249	0.552	Annual	Grab
Tetrachloroethylene	0.062	0.158	0.136	0.348	Annual	Grab
Toluene	0.073	0.226	0.161	0.497	Annual	Grab
Trichloroethylene	0.059	0.152	0.130	0.334	Annual	Grab
Vinyl Chloride	0.293	0.756	0.645	1.663	Monthly	Grab
Vinyl Chloride (mg/l)	NL	0.050	NL	0.876	Monthly	Grab

Table 3, Effluent Limitations (continued)

Parameter	Effluent Limitation		Lb/Day Equivalents		Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Frequency	Sample Type
ACID EXTRACTABLES/BASE NEUTRAL,kg/day (unless otherwise noted)						
1,2 Dichlorobenzene	0.217	0.459	0.477	1.010	Annual	Composite
1,2,4 Trichloroebenzene	0.192	0.395	0.422	0.869	Annual	Composite
1,3 Dichlorobenzene	0.087	0.124	0.191	0.273	Annual	Composite
1,4 Dichlorobenzene	0.042	0.079	0.092	0.174	Annual	Composite
2,4 Dichlorophenol	0.109	0.316	0.240	0.695	Annual	Composite
2,4 Dimethylphenol	0.051	0.102	0.112	0.224	Annual	Composite
2,4 Dinitrophenol	0.200	0.347	0.440	0.763	Annual	Composite
2,4 Dinitrotoluene	0.319	0.803	0.702	1.767	Annual	Composite
2,6 Dinitrotoluene	0.719	1.810	1.582	3.982	Annual	Composite
2-Chlorophenol	0.087	0.276	0.191	0.607	Annual	Composite
2-Nitrophenol	0.116	0.195	0.255	0.429	Annual	Composite
3,4 Benzofluoranthene	0.065	0.172	0.143	0.378	Annual	Composite
4,6 Dinitro-o-cresol phenol	0.219	0.781	0.482	1.718	Annual	Composite
4-Nitrophenol	0.203	0.349	0.447	0.768	Annual	Composite
Acenapthene	0.062	0.166	0.136	0.365	Annual	Composite
Anthracene	0.062	0.166	0.136	0.365	Annual	Composite
Benzo(a)anthracene	0.062	0.166	0.136	0.365	Annual	Composite
Benzo(a)pyrene	0.065	0.172	0.143	0.378	Annual	Composite
Benzo(k)fluoranthene	0.062	0.166	0.136	0.365	Annual	Composite
Bis(2-chloroisopropyl) ether	0.849	2.130	1.868	4.686	Annual	Composite
Bis(2-ethylhexyl) phthalate	0.290	0.787	0.638	1.731	Monthly	Composite
Bis(2-ethylhexyl)phthalate (mg/l)	NL	0.100	NL	1.751	Monthly	Composite
Chrysene	0.062	0.166	0.136	0.365	Annual	Composite
Di-n-butyl phthalate	0.076	0.160	0.167	0.352	Annual	Composite
Diethyl phthalate	0.228	0.572	0.502	1.258	Annual	Composite
Dimethyl phthalate	0.054	0.133	0.119	0.293	Annual	Composite
Fluoranthene	0.070	0.192	0.154	0.422	Annual	Composite

Table 3, Effluent Limitations (continued)

Parameter	Effluent Limitation		Lb/Day Equivalents		Monitoring Requirements	
	Monthly	Daily	Monthly	Daily	Frequency	Sample Type
	Average	Maximum	Average	Maximum		
ACID EXTRACTABLES/BASE NEUTRAL (Cont),kg/day (unless otherwise noted)						
Fluorene	0.062	0.166	0.136	0.365	Annual	Composite
Hexachlorobenzene	0.042	0.079	0.092	0.174	Annual	Composite
Hexachlorobutadiene	0.056	0.138	0.123	0.304	Annual	Composite
Hexachloroethane	0.059	0.152	0.130	0.334	Annual	Composite
Napthalene	0.062	0.166	0.136	0.365	Annual	Composite
Nitrobenzene	0.076	0.192	0.167	0.422	Annual	Composite
Phenanthrene	0.062	0.166	0.136	0.365	Annual	Composite
Pyrene	0.070	0.189	0.154	0.416	Annual	Composite

Effluent Limitations (continued)

Parameter	Effluent Limitation		Lb/Day Equivalents		Monitoring Requirements	
	Monthly	Daily	Monthly	Daily	Frequency	Sample Type
	Average	Maximum	Average	Maximum		
METALS, CYANIDE, PHENOL, TOXICITY						
Antimony,Total Recoverable,mg/l	NL	NL	NL	NL	Quarterly	Composite
Chromium, Hexavalent, mg/l	NL	0.100	NL	1.751	Quarterly	Composite
Cyanide, Total, mg/l	NL	0.050	NL	0.875	Monthly	Composite
Lead, Total Recoverable, mg/l	NL	0.100	NL	1.751	Quarterly	Composite
Mercury, Total Recoverable, mg/l	NL	0.010	NL	0.175	Quarterly	Composite
Phenol kg/day	0.042	0.073	0.019	0.033	Annual	Composite
Zinc, Total Recoverable, mg/l	NL	0.600	NL	10.508	Monthly	Composite
Acute Toxicity (% Effluent)	NA	N.M.A.T*	NA	NA	Twice/Year	Composite
*No Measurable Acute Toxicity which equals not greater than 10 percent mortality						
in any effluent concentration, including 100 percent effluent.						

Section 3

Compliance Plan

Process G: Wastewater Treatment

I. **Applicable Requirements**

A. Chapter 27 - **AIR POLLUTION CONTROL**

Subchapter 8. Permits and Certificates
7:27-8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.26, 8.27, Appendix I

Subchapter 16. Control and Prohibition of Air Pollution by Volatile Organic Compounds
7:27-16.1, 16.1A, 16.2, 16.4, 16.16

Subchapter 21. Emission Statements
7:27-21.1, 21.2, 21.3, 21.4, 21.5, 21.6, 21.7

B. Chapter 8 - **STORM WATER MANAGEMENT**

Subchapter 1. General Provisions
7:8-1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7

Subchapter 2. Procedures for Preparation of Plans and Ordinances
7:8-2.1, 2.2, 2.7, 2.8

Subchapter 3. Elements of Plan and Ordinance
7:8-3.1, 3.2, 3.3, 3.4, 3.5, 3.6

C. Chapter 9 - **WATER POLLUTION CONTROL**

Subchapter 5. Wastewater Discharge Requirements
7:9-5.1, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8

D. Chapter 9B - **SURFACE WATER QUALITY STANDARDS**

Subchapter 1. Surface Water Quality Standards
7:9b-1.1, 1.4, 1.5, 1.6, 1.12, 1.13, 1.14, 1.15

E. Chapter 14 - **WATER POLLUTION CONTROL ACT**

Subchapter 2. Construction of Wastewater Treatment Facilities
7:14-2.3, 2.6

Subchapter 3. Sludge Quality Assurance
7:14-4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.10, 4.11

F. Chapter 14A - **POLLUTANT DISCHARGE ELIMINATION SYSTEM**

Subchapter 1. General Information
7:14A-1.1, 1.2, 1.3, 1.4, 1.7, 1.8, 1.9, 1.10

Subchapter 2. General Requirements for the NJPDES Permit
7:14A-2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.11, 2.12, 2.13, 2.14, 2.15

Subchapter 3. Additional Requirements Applicable to Discharges to Surface Water (DSW)
7:14A-3.1, 3.2, 3.3, 3.8, 3.9, 3.10, 3.11, 3.12, 3.13, 3.14, 3.15, 3.17

Subchapter 14. Oil and Grease Effluent Limitations
7:14A-14.1, 14.2, 14.4, 14.5, 14.6, 14.7, 14.8

Subchapter 22. Treatment Works Approvals, Sewer Bans, Sewer Ban Exemptions
7:14A-22.1, 22.2, 22.3, 22.5, 22.6, 22.24

Subchapter 23. Technical Requirements for Treatment Works Approval Applications
7:14A-23.1, 23.2, 23.3, 23.4, 23.5, 23.13, 23.14, 23.18, 23.21, 23.23, 23.27, 23.30

G. Chapter 18 - **REGULATIONS GOVERNING LABORATORY CERTIFICATION AND STANDARDS OF PERFORMANCE**

Subchapter 1. General Provisions
7:18-1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9

Subchapter 2. Program Procedures and Requirements
7:18-2.1, 2.2, 2.3, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.11, 2.12, 2.15

Subchapter 4. Criteria and Procedures for Chemical Testing and Analysis
7:18-4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8

II. Record Keeping, Monitoring and Reporting

A. Recordkeeping

1. The permittee shall keep copies of all sample results pertaining to the surface water discharge from DSN-001 for a minimum of five years from the date of sampling.

2. The Permittee shall record the following for VOC emissions:

   a. The date of operation
   b. The total time in hours each VOC source operates
   c. Total pounds of VOC emitted from each VOC source

All records shall be maintained on site for a minimum of five years after the last collection, in a permanently bound log book, readily accessible computer memory, or by another method acceptable to the Regional Enforcement Office. These records must also be available for inspection by representatives of the Department.

B. Monitoring

1. Monitoring requirements for surface water discharges are contained in Section 2, Table 3.

2. The permittee may request a modification of their permit to decrease monitoring frequencies for limited surface water parameters if site specific conditions indicate applicability of such a modification. The Department will consider reducing the monitoring frequency of a limited parameter provided that:

a. ELGs applicable to the facility do not specify the required monitoring frequency;
b. the frequency reduction conditions are included in the public notice of the draft permit;
c. the permittee has shown consistent compliance with all permit conditions for the affected parameter(s) for:
    (1) a minimum period of one year for a monitoring frequency of weekly;
    (2) a minimum period of two years for a monitoring frequency of twice per month;
    (3) a minimum period of three years for a monitoring frequency of monthly;
    (4) a minimum period of five (5) years for a monitoring frequency of quarterly; and
    (5) a minimum period of four tests for Whole Effluent Toxicity (WET) limitations.
d. A monitoring frequency can be reduced as follows:
    (1) from weekly to monthly;
    (2) from twice monthly to monthly;
    (3) from monthly to quarterly;
    (4) from quarterly to semi-annually or annually.
    (5) For WET limitations, monitoring frequencies can be a minimum of twice per year for major dischargers and a minimum of annually for minor dischargers.

Reduction of monitoring frequency is not automatic; the Department shall determine whether or not a reduction is warranted. Monitoring reports shall be reviewed to verify consistent compliance with permit limitations and conditions for the affected parameter(s). The Department agrees to review within 90 days the monitoring reports, verify that Geon has or has not met the requirements for reduced monitoring frequency and modify the FWP accordingly to change the monitoring frequency of the affected parameter(s).

The monitoring frequency for the affected parameter(s) cannot be reduced below annual frequency, in accordance with N.J.A.C. 7:14A-3.13.

A request for a modification of the monitoring frequency should be sent to:

The Office of Pollution Prevention
401 East State Street
CN-423
Trenton, New Jersey 08625

3. All monitoring shall be conducted in accordance with the Department's most current " Field Sampling Procedures Manual" Copies of this manual are available from:

NJDEP's Maps and Publications Sales Office
Bureau of Revenue
CN 417
Trenton NJ 08625-0417
(609)777-1038.

4. Monitoring is not required for air releases.

C. **Reporting**

1. Sample results for the parameters listed in Section 2, Table 3 shall be submitted by the 25th day of the month following the sampling to:

The Office of Pollution Prevention
401 East State Street
CN-423
Trenton, New Jersey 08625

2. The Permittee shall comply with the Sludge Quality Assurance Regulations, N.J.A.C. 7:14-4. Where quality information is required by these regulations, analyses must reflect the quality of the final sludge which the permittee must remove. Any reports required pursuant to N.J.A.C. 7:14-4 shall be submitted to the address listed above on the 25th day of the second month following the last day of the reporting period.

3. The Permittee shall submit to the Department every six months, beginning January 1, 1997, a summary report listing the total tons of contaminants emitted/released for each subcategory of contaminants from this process. The end of year report shall be a cumulative total of the tons emitted for each subcategory during the calendar year.

III. Special Conditions

A. **Operating Conditions**

1. The permittee has informed the Department that it uses a zinc phosphate system, plus biocides and dispersants, as cooling tower treatment and Chlorine Produced Oxidants for it's sanitary water pretreatment. The permittee also uses or intends to use the following materials as corrosion inhibitors or biocides: boiler and steam corrosion control phosphate chelants, sodium sulfite, amine chemicals, chlorine dioxide, chlorine, aluminum chloride, potassium chloride,

potassium permanganate and flocculants: sodium hypochlorite, sodium bromide, nitrite compounds, molybdate compounds, ozone, sodium bisulfite, organic phosphate, sulfuric acid, sodium hydroxide, phosphoric acid, organic coagulants, ferric chloride, polyaluminum chloride, sodium bisulfide and organic corrosion inhibitors.

If the permittee decides to begin using any additional agents in the future, the permittee must notify the Department at least 180 days prior to use so that the permit may be reopened to incorporate any additional limitations deemed necessary.

2. There shall be no visible sheen, or discharge of floating or visible foam, in other than trace amounts, through DSN 001.

3. The permittee shall comply with the applicable provisions of N.J.A.C. 7:1E (Department Rules entitled "Discharges of Petroleum and Other Hazardous Substances") relevant to the Stormwater discharges at the facility. No discharge of hazardous substances (as defined in N.J.A.C. 7:1E-1.6) shall be deemed to be "pursuant to and in compliance with (this) permit" within the meaning of the Spill Compensation and Control Act at N.J.S.A. 58:10-23.11c.

4. Pursuant to N.J.A.C. 7:14A-3.13(a)3iv., the Department may modify or revoke and reissue any permit to incorporate limitations or requirements to control the discharge of toxic pollutants, including whole effluent, chronic and acute toxicity requirements, chemical specific limitations or toxicity reduction requirements, as applicable.

5. The operation of the wastewater treatment system shall be under the supervision of a licensed operator. The operator(s) shall meet the requirements of the NJDEP for a N3 license or equivalent for the existing treatment system, pursuant to the provisions of N.J.S.A. 58:11-64 and amendments thereto.

If subsequent to the issuance of this permit the permittee proposes to install additional treatment or modify the existing treatment works, the permittee shall submit to the Department, for approval of the treatment works and determination of the operator's appropriate license classification, a complete application for Treatment Works Approval pertaining to the proposed treatment works installation/modification pursuant to N.J.A.C. 7:14A-12.1 et seq. A Treatment Works Approval is required to be obtained from the Department prior to beginning construction. Applications for a Treatment Works Approval shall be submitted to the following address:

Office of Pollution Prevention
401 East State Street
CN-423
Trenton, New Jersey 08625

The permittee shall obtain the services of a licensed operator of the appropriate classification in accordance with the "Rules Governing the Examination and Licensing of Operators", N.J.A.C. 7:10-13.1 et seq., which became effective July 2, 1984, for any treatment works installed.

6. The wastewaters, prior to discharge from DSN 001 into Zone 5 of the Delaware River, shall be treated to a degree providing, as a minimum, 87.5 percent reduction of BOD in conformity with the Delaware River Basin Commission's (DRBC) "Water Quality Standards" and shall not exceed the DRBC's Zone 5 allocation to Geon Company of 201 pounds/day of first stage ultimate carbonaceous oxygen demand (equivalent to 147 pounds/day of five day BOD) as a 30-day average, whichever is more stringent.

7. The effluent limitation for Fecal Coloform shall be as a geometric average. This limitation shall also not exceed 1000 per 100 ml in more than 10 percent of the samples taken over a period of 30 consecutive days.

8. For BOD5 and TSS percent removal, the Permittee shall calculate percent removal based on mass loadings.

9. N.M.A.T. equals not greater than 10 percent mortality in any effluent concentration, including 100 percent effluent.

10. Collected grit and screenings, scums, sand beds, slurries and sludges, and all other solids from the treatment process shall be managed in such a manner as to prevent such materials from entering the ground and/or surface waters of the State except in accordance with this permit. If for any reason such materials are placed in the water or on the lands where they may cause pollutants to enter the ground and/or waters of the State, or for any other noncompliance which may endanger public health or the environment, the following information shall be reported to the Office of Pollution Prevention and the Water and Hazardous Waste Enforcement Element.

a. Dates of Occurrence;
b. The nature and volume of the noncomplying discharge;
c. The cause of the noncompliance;
d. The steps taken to reduce and eliminate the noncomplying discharge;
e. The steps taken to prevent the recurrence of the condition of noncompliance

11. The Permittee shall not store residuals on-site beyond the capacity of the structural treatment and storage components of the treatments works, nor in any manner which is not in accordance with Solid Waste Management Rules N.J.A.C. 7:26. The Permittee shall manage all residuals generated from the treatment works in compliance with the New Jersey Solid Waste Management Act N.J.S.A. 13E-1 et seq. and the New Jersey Quality Planning Act N.J.S.A. 58:11A-1 et seq., which require conformance with District Solid Waste Management Plans, and Water Quality Management Plans. The permittee shall also comply with all applicable rules and regulations promulgated pursuant to the federal Resource Conservation and Recovery Act.

B. Toxicity Testing

1. The permittee shall conduct acute toxicity tests and chronic toxicity tests on its wastewater discharge DSN 001A in accordance with the

provisions in this section. Such testing will determine if appropriately selected effluent concentrations adversely affect the test species.

C. Acute Toxicity

1. Acute toxicity tests shall be conducted using the Fathead Minnow (*Pimephales promelas*), 96 hr. test. Any test that does not meet the specifications of N.J.A.C. 7:18, the laboratory certification regulations, must be repeated within thirty days of the completion of the initial test. That test shall not replace subsequent testing required in Table 3.

D. Chronic Toxicity

1. Chronic toxicity testing shall initially consist of concurrent chronic toxicity tests, with two species on a split effluent sample. Chronic toxicity tests shall be conducted using the fathead minnow (*Pimephales promelas*), 7 day larval survival and growth test (Method 1000.0) and/or the *Ceriodaphnia dubia*, 3 brood survival and reproduction test (Method 1002.0). This chronic toxicity characterization study will be considered complete when two sets of acceptable concurrent tests, using split samples on the two species, have been completed and that data has been deemed sufficient to designate a more sensitive species for the discharge. If that data is deemed insufficient, testing shall continue with two species until such designation is possible. If a test does not meet the specifications specified in the Department's "Chronic Toxicity Testing Specifications For Use In The NJPDES Permit Program," that test must be repeated within thirty days of the completion of the initial test. That test shall not replace subsequent testing required by this permit.

2. After the initial characterization period, testing shall be conducted using the test species which has been identified by the Department, as being that which is more sensitive to the effluent discharge.

3. Test results shall be expressed as both the NOEC (No Observable Effect Concentration), the LOEC (Lowest Observable Effect Concentration), and the IC25 for each test endpoint. Where a chronic toxicity testing methodology yields NOECs/IC25s from more than one test endpoint, the most sensitive endpoint will be used to determine permit compliance.

E. Toxicity Monitoring Frequency

1. The monitoring frequency for acute toxicity, or chronic toxicity, if applicable shall be twice per year.

2. If the results of an acute toxicity or chronic toxicity test indicate violation of the applicable permit limitation, an additional toxicity test shall be conducted within 30 days of notification from the laboratory of the violation.

F. Toxicity Reporting Requirements

1. The information specified below shall be submitted, to the address listed below within two months of the effective date of this permit.

a. A fully completed "Methodology Questionnaire for Acute Toxicity Tests," form AND a completed "Methodology Questionnaire for Chronic Toxicity Tests," which includes an identification of the toxicity testing laboratory responsible for the testing. Copies of these forms are provided to certified laboratories, and may also be obtained by contacting the address below.

b. Acute and Chronic toxicity test results shall be reported on the "NJPDES Biomonitoring Report Form - Acute Bioassays," "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests", copies of which are provided to certified laboratories. Copies of these report forms may also be obtained by contacting the address below. TWO COPIES of each completed report form shall be submitted within 60 days of test completion to:

Division of Water Quality, Bureau of Standard Permitting
CN-029
Trenton, New Jersey 08625
Attention: Industrial Biomonitoring Program

One copy of each completed report form shall be submitted within 60 days of test completion to:

Delaware River Basin Commission
P.O. Box 7360
West Trenton, NJ 08628

c. The test results shall also be reported on the permittee's Discharge Monitoring Report (DMR) for the monitoring period during which the test was conducted.

G. Toxicity Reduction Implementation Requirements

1. The permittee shall initiate the Toxicity Characterization Phase (TCP) of monitoring identified below if exceedances of the acute toxicity limit contained in the permit indicate that the applicable triggers specified below are met. The results of the TCP will determine if Toxicity Investigation/ Reduction alternatives are necessary and appropriate.

a. If, at any time during this permit term, two (2) of any six (6) consecutive test results, conducted under the monitoring frequency specified in Table 3 of this permit, excluding any test conducted at any increased monitoring frequency required under any phase or step in these Toxicity Reduction Implementation Requirements, indicate an exceedance of the acute toxicity limit, the TCP specified in condition H.1 below shall be initiated upon the occurrence of the second exceedance.

b. Any exceedances which are a result of a plant upset as defined in N.J.A.C 7:14A-1.9 or other event which has been identified and appropriately remedied by the permittee, or any tests which are found unacceptable by the Department, will not be considered toward triggering the TCP or any other phase or step contained in these Toxicity Reduction Implementation Requirements. Any such exclusion of a test result must be approved in writing by the Department.

H. Toxicity Characterization Phase

1. Within 30 days of triggering this phase of monitoring, the permittee shall initiate bi-monthly toxicity tests, until a maximum of twelve acceptable tests have been conducted under this more frequent phase of monitoring. Although not required at this time, the permittee is encouraged to initiate a Preliminary Toxicity Investigation (PTI) concurrent with the TCP. The data collected in the TCP will be used to characterize effluent variability and to identify the magnitude and frequency of toxicity. If toxicity test results during this period of more frequent monitoring meet the criteria specified below, the permittee shall conduct a PTI consistent with condition H.2 below.

a. For a *Major Facility as defined in N.J.A.C 7:14A-1.9 and as stated in the fact sheet of the draft permit*: The permittee shall initiate the PTI as specified in B. below upon the third exceedance of the toxicity limitation conducted on a bi-monthly basis, during this phase of monitoring. Once the permittee is triggered into a PTI, the permittee may return to the monitoring frequency specified in Table 3 of this permit. However, based on the amount of data available at this time, a permittee may elect to obtain additional toxicity data on the discharge to better determine the pattern of toxicity.

2. If the results of four consecutive tests conducted during the TCP on a bi-monthly basis indicate no additional exceedances of the limit in this permit, the permittee may return to the original monitoring frequency specified in Table 3 of this permit and the Toxicity Reduction Implementation Requirements of this permit are considered completed by the permittee. If in the future, however, two of any six consecutive, acceptable test results conducted at the frequency specified in Table 3 of this permit again indicate toxicity in excess of the acute toxicity limit contained in this permit, the Toxicity Characterization Phase above shall again be initiated within three months of that second violation.

3. If toxicity is demonstrated but does not meet the criteria specified in condition H.1(a),(i.e., episodic toxicity is found), the Department may require some other modified approach to address the toxicity present in the discharge, including but not limited to a partial PTI.

I. Preliminary Toxicity Investigation (PTI)

1. The permittee shall initiate a PTI within three months of meeting the criteria specified in condition H.1 above. The PTI shall consist of a plant performance evaluation using in-house data and evaluating its relationship to the toxicity of the discharge. The PTI shall be completed within 15 months of meeting the criteria specified in condition H.1. All information collected during the PTI shall be submitted to the Department. The PTI shall, at a minimum, include the following items where applicable:

- Treatment Plant performance
- Pretreatment Program Information
- Levels of ammonia and chlorine
- Evaluation of chemical use/processes at facility
- Evaluation of facility housekeeping

2. During the PTI, the permittee shall, at a minimum, return to the monitoring frequency for acute toxicity specified in Table 3 of this permit. A permittee may elect to conduct testing at a higher frequency to obtain additional data.

3. If at any time during the PTI or at the completion of the PTI, the cause of the toxicity is identified and necessary corrective actions are implemented by the facility, the PTI is considered complete. The permittee shall then initiate the more frequent monitoring specified in condition H.2 to demonstrate consistent compliance, as specified in that condition. If toxicity test results indicate consistent compliance as defined above, the permittee may return to the monitoring frequency specified in Table 3 of this permit.

4. If at the completion of the PTI, the cause of the toxicity is demonstrated, to the Department's satisfaction, to be ammonia, and the levels of ammonia causing the toxicity are below the levels established by a water quality based limit for ammonia, the permittee shall submit a plan to the Department identifying the procedures to be used in future WET testing to account for ammonia toxicity, prior to WET test initiation. These modified test procedures to remove effluent ammonia shall be submitted to the Department for approval prior to the use of those procedures. Results of the "Graduated pH Test" as specified in Section 6.6 of USEPA's "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, EPA/600/6-91/005F, May 1992" document, shall be included in the basis for such a demonstration. NOTE: This provision may not be applicable to an industrial facility.

5. If at the completion of the PTI, the cause of the toxicity is demonstrated, to the Department's satisfaction, to be chlorine added due to disinfection and the levels of chlorine causing the toxicity are below the levels established by a water quality based limit for chlorine, the permittee shall submit a plan to the Department identifying the procedures to be used in future WET testing to account for chlorine toxicity, prior to WET test initiation. These modified test procedures to remove effluent chlorine shall be submitted to the Department for approval prior to the use of those procedures. NOTE: This provision may not be applicable to an industrial facility.

6. If at the completion of the PTI, the cause of the toxicity cannot be identified and/or remedied or if the demonstration of consistent compliance in condition I.3 above cannot be met, the permittee shall initiate a Comprehensive Toxicity Investigation (CTI).

J. Comprehensive Toxicity Investigation (CTI)

1. Within six months of completion of a PTI investigation above which has been unsuccessful in appropriately identifying and/or remediating a toxicity problem, the permittee shall submit to the Department a plan for conducting a CTI. The plan shall include: an identification of the investigator performing the study, appropriate measures to identify the causative toxicants and/or factors, measures to be used in a treatability investigation and a schedule for completing such measures. USEPA published documents on TIE/TRE protocols may be used as guidance in preparing this plan; however, the use of those protocols is not mandatory.

2. During the CTI the permittee shall return to the monitoring frequency for acute toxicity specified in Table 3 of this permit.

3. Upon written notice that the Department has reviewed the plan and approved the schedule, the permittee shall initiate the CTI in accordance with the plan and approved schedule.

4. Within 90 days of the CTI completion, the permittee shall submit to the Department the final results. These results shall include the corrective actions identified as necessary to reduce the toxicity to permit limitation levels and a schedule for completion of the identified actions.

5. Upon receipt of written approval from the Department of the corrective action schedule, the permittee shall implement those corrective actions consistent with that schedule. If, for any reason, the implemented measures do not result in consistent compliance with the toxicity limitation as defined above, the permittee shall submit to the Department a plan for resuming the CTI.

6. The CTI shall not be complete until the permittee has demonstrated consistent compliance with the toxicity limitation in the permit as defined above in condition H.3, using the more frequent period of monitoring specified therein. The Department may extend the time frame for completing the investigation where reasonable justification exists. A request for an extension must be made in writing to the address specified in the Toxicity Testing Requirements portion of this permit and must include justification and supporting data for such a request.

K. Toxicity Reporting Requirements

1. Progress reports detailing all activities undertaken, including all data collected in connection with the Toxicity Reduction Implementation Requirements, shall be submitted to the Department beginning 90 days after initiating the more frequent monitoring as specified in conditions I.3 and/or I.4. Progress reports shall then be submitted once each permit quarter until consistent compliance with the limit is achieved. A copy of

the cover letter for each submittal shall also be sent to the appropriate enforcement Bureau.

L. Dilution Study Requirements

The DRBC is currently preparing a proposal to set a uniform policy to address toxics in the estuary. This policy will specifically address the methods used to establish dilution factors for the estuarine dischargers. Therefore, in order to not duplicate those efforts, the Department will accept the methods (i.e., data and model), and dilutions factors which the DRBC approves. Please note that this does not preclude the facility from obtaining site specific data nor from utilizing other methods acceptable to the Department and the DRBC.

If the permittee chooses to conduct a dilution study after the dilution factors are determined by the DRBC methods, that study shall determine the critical Instream Waste Concentration (IWC) for the DSN 001 discharge from the facility into the receiving water utilizing applicable scientific methods, including, but not limited to, plume mapping using a conservative day and plume models. The permittee is required to submit a plan of study prior and receive approval to implementation of the study.