KALAMAZOO RIVER SITE INVESTIGATION - MDNR LETTER

KALAMAZOO RIVER SITE INVESTIGATION

MDNR LETTER

PAPERBOARD DIVISION

MENASHA CORPORATION

August 3, 1995

Mr. Scott Cornelius
Michigan Department of Natural Resources
Environmental Response Division
Superfund Section
301 S. Capitol
Lansing, MI 48933

Re: Request for Information Pursuant to the Michigan Environmental Response Act

Dear Scott:

The following responds to the Michigan Department of Natural Resources' ("MDNR") March 28, 1995, letter to Menasha Corporation ("Menasha") requesting information and documents pursuant to Section 10d(1) of the Michigan Environmental Response Act, now Part 201 of the Natural Resources and Environmental Protection Act ("NREPA"), regarding the Kalamazoo River Superfund site, as limited by Jeffrey Woolstrum's May 19, 1995, letter to Paul Novak, the Assistant Attorney General handling this matter for MDNR (the "Information Request").

This response demonstrates that Menasha is not a responsible party for contamination in the Kalamazoo River under NREPA or the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"). Menasha manufactures food-grade corrugating medium at its Otsego, Michigan, paper mill (for the purposes of this letter, further refered to as the "Otsego Mill"). Menasha has *never* recycled carbonless paper or other secondary stock containing PCBs and, most importantly, has *never* deinked PCB-containing carbonless paper at the Otsego Mill. Menasha does not use PCB-containing materials in its processes, and Menasha's final product fully complies with the Food and Drug Administration rules on PCB content in food-packaging material. Menasha's spent liquor, wastewater treatment sludge, and wastewater discharges to the Kalamazoo River are consistently below applicable detection levels for PCBs. Menasha has systematically removed and arranged for the proper disposal of its PCB-containing capacitors, transformers, and other equipment. Moreover, the Otsego Mill cannot possibly be the source of any contamination upstream of Menasha's facility. Therefore, Menasha is not a responsible party for contamination in the Kalamazoo River.

Menasha's response contains several terms which are unique to the paper-making industry, as well as to the Otsego Mill. These terms are briefly defined as follows:

Otsego Mill
320 N Farmer St
PO Box 155
Otsego MI 49078 0155
: 616-692-6141
1-616-692-2060 (Fax)

- **Ash Silo** - A tank or chest which holds coal ash residue remaining after coal has been burned in a boiler used to generate steam.

- **Batch Cookers** - A vessel, loaded in a batch fashion, used for pulping wood chips into paper-making fibers using heat and cooking chemicals. The batch digesters are dumped to a screw system for transport to a tank when the "cook" is complete.

- **Biosolids** - Also known as sludge. A material composed of dead bacterial bodies from the aerobic digestion of dissolved solids, as well as other suspended solids such as paper-making fibers, sand, and bark.

- **Box Converting** - The process of combining corrugating medium with linerboard using starch as a glue in order to convert the two materials into corrugated boxboard, or what is more commonly known as cardboard. Box Converting is generally performed at a box plant.

- **Box Plant Clippings** - Also known as DLK. Corrugated boxboard materials, such as corrugator or press trim, left over from Box Converting.

- **Broke** - Any paper made during the paper-making process that is either unsuitable for conversion into corrugated boxboard or unsuitable for best production efficiency. At the Otsego Mill, Broke is recycled into usable paper by being pulped, and converted into what is called Broke pulp, and then metered in small amounts back into the Furnish.

- **Chest** - A Chest is a concrete or block vessel, sometimes tile lined, which contains process water or other materials used in the paper-making process.

- **Chips** - Wood chips made from trees or as a byproduct of a sawmill lumber operation.

- **Chipyard** - The area at the Otsego Mill where wood chips are stored on an asphalt pad for later use in the pulping process to produce virgin wood pulp.

- **Corrugating Medium** - The fluted paper between the outside sheets of linerboard in a corrugated box, which provides the box its unique stacking strength.

- **Deinking** - A process using flotation cells or dispersion and washing to remove ink particles from carbonless or ink printed papers in a recycling process of secondary fibers. This process has never been needed or used at the Otsego Mill because only brown paper corrugating medium is produced at the Otsego Mill.

- **Digester** - At the Otsego Mill, a pressure vessel which holds steam, chips, water, and a sodium carbonate cooking chemical to break down the lignin, holding paper-making fibers together in a wood chip so they can be separated and used in the production of paper.

- **Digester Squeezings Rejects** - A mixture of sand, grit, bark, leaves, and wood fines that is washed from raw wood chips prior to cooking in the Digester.

- **DLK** - Acronym for double lined kraft, a special grade of paper similar to OCC in content of fiber types (both hardwood and softwood fibers). DLK does not contain post-consumer recyclable paper or the contaminants (tape, etc.) and materials associated with the post-

consumer origin of OCC. Generally, DLK is comprised of box plant clippings (leftover from the manufacture of corrugated board trimmed from the boxes) or other clean paper waste from the Box Converting operations. DLK does not require any special treatment such as cleaning or Deinking to be used for papermaking. It is generally placed into a hydrapulper and agitated with hot process water until the fibers are separated from the dry DLK.

- **Evaporator** - A pressure vessel used to boil water out of the liquor washed from virgin pulp in a brown stock washer and intended for recovery of spent cooking chemical. A heat source heats the inside tubes or plates, and the spent liquor flows over the outside. The heat is transferred into the liquor causing water to boil off. The resulting liquor solids are concentrated to a state where they can be burned and the inorganic salts recovered for recycling to the Digester.

- **Fluidized Bed Reactor** - Also known as a Spent Liquor Incinerator. The Fluidized Bed Reactor is a vessel where concentrated spent liquor solids are burned for recovery of the inorganic cooking chemical for reuse within the Digester. The organic material present in the liquor provides the BTU value to allow the liquid to burn and regenerate the cooking chemical sodium carbonate.

- **Fresh Water Wells** - Wells pumping fresh water from the surrounding aquifers into a header system in the Otsego Mill for use in the papermaking process.

- **Furnish** - Also known as stock or pulp. A papermaking term for the fibers used to make paper. For example, the Furnish for the Otsego Mill paper is recycle pulp, virgin wood pulp, and Broke.

- **Hydrapulper** - A vessel used to break down dry OCC or other recyclable papers into a liquid, pumpable form. At the Otsego Mill, heated water is added to this open-top vessel along with whole bales of OCC. The OCC and water are mixed by a large rotor on the bottom of the vessel, and the individual fibers and contaminants such as wire and tape are separated from the dry OCC. The resulting mixture is then pumped to the various stages of cleaning and screening needed to remove the unwanted materials.

- **Isopar** - A trade name class of solvents used in the Otsego Mill for many years to remove sticky or tacky deposits of wax or latex from rolls transporting or pressing the wet paper during the papermaking process.

- **Mixed Waste** - A grade of recycled paper generally defined as mixed recyclable post-consumer paper suitable for the manufacture of corrugating medium. This grade includes many different forms of recyclable paper as the name suggests and can include different percentages of OCC, computer paper, old newsprint, sackpaper, magazines, carrier carton, coated boxboard, etc. Mixed Waste was used as a small percentage of the Furnish (under 5%) for the first time at the Otsego Mill in 1993.

- **OCC** - A specific grade of recyclable post-consumer waste paper suitable for manufacture of corrugating medium and linerboard after cleaning and screening to remove materials such as tape, glue, latex binders, styrofoam, wire, and other materials unsuitable for the manufacture of paper. The primary fibers recovered in OCC are about 70% long softwood fibers and 30% short hardwood fibers.

- **Paper Machine** - The paper making equipment (including headbox, refiners, fourdrinier, press section, dryers, and winder) which form, dry and wind the paper into its final roll form before shipping.

- **Polymers** - Long chain organic molecules used in the retention of small colloidal or suspended particles from any water stream, including wastewater or papermaking systems.

- **Process Water** - Also known as White Water. The primary water used in the Pulping, Secondary Fiber recovery and papermaking processes. Process Water is generally recovered water already used in the process and contains some amount of dissolved organic solids and suspended solids, but is suitable for use as dilution in the papermaking process.

- **Pulp** - Also known as Furnish or Stock. A slurry of Process Water and papermaking fibers.

- **Road Binder** - At one time, Menasha applied its spent liquor, which was lignin and sodium carbonate washed from the virgin Pulp after digesting, to private entities and also to counties for use as dirt road dust control and upkeep. The polymeric action of the lignin and sealing action of the sodium carbonate salts made it an excellent solution to capping and hardening dusty or crumbling dirt roads.

- **Secondary Fiber** - Generically, Secondary Fibers are paper grades which have already been used, or are not suitable for consumer use, and thus are post-consumer materials or are a byproduct of the paper converting process. Secondary Fiber is said to be "recyclable" for use in papermaking. For the Otsego Mill, this means primarily OCC-grade paper. DLK has also been used in the past. Mixed Waste grade has been used intermittently since 1993.

- **Sludge** - Also known as Biosolids. Composed of dead bacterial bodies from the aerobic digestion of dissolved solids as well as other suspended solids such as papermaking fibers, sand, and bark.

- **Softener System** - Sodium zeolite hardness exchange equipment. These units use a resin exchange medium regenerated with sodium chloride (salt) to take primarily calcium and magnesium hardness salts out of water to soften it before use as boiler feed water in the manufacture of steam in a boiler.

- **Spent Liquor** - A liquid washed from virgin Pulp to remove and recover the cooking chemical, sodium carbonate, from the liquor for reuse in the digesting process. The Spent Liquor is part of a virtual closed loop of chemical use in the digesting process. The Pulp is washed with water, and the dissolved organic and inorganic materials in the Pulp are removed as "liquor". The liquor contains lignin, the glue that held the fibers together in the original wood chip, as well as wood sugars, such as hemicellulose, and the spent sodium carbonate cooking chemical, which helps to modulate and buffer the chemical reactions during the cooking process. Water is evaporated from the liquor, the organic lignin is burnt as a fuel, and the sodium carbonate is regenerated during the combustion as a solid. The solid cooking chemical, now called SLI product, is placed back in the Digester where it is reused to cook more wood chips into Pulp.

- **Stock** - Also known as Pulp or Furnish. A slurry of Process Water and papermaking fibers.

- **Truck Dumpers** - A large piece of equipment that physically raises the front of a semi-tractor and trailer to allow wood chips to be dumped into a reclaim unit for processing onto a storage pile in the Chipyard before digesting.

- **Vacuum Pump Seal Water** - Water used to cool and seal vacuum equipment which provides vacuum to the various pieces of equipment in the papermaking process. This water can be fresh water or recycled fresh water from within the process.

- **Valley Beaters** - An old technology for treating papermaking fibers to soften them and develop their strength potential for papermaking. This technology has been replaced with equipment known as refiners, which do the same effective treatment of the fibers more quickly and in a smaller space.

- **Virgin Pulp** - Also known as wood Pulp. A term used to describe papermaking fibers that have never been made into paper before and are newly made from digested wood chips.

- **White Water** - Also known as Process Water. The primary water used in the Pulping, Secondary Fiber recovery, and papermaking processes. It is generally recovered water already used in the process and contains some amount of dissolved organic solids and suspended solids but is suitable for use as dilution in the papermaking process.

- **Wood Pulp** - Also known as virgin Pulp. Wood Pulp is made from the sodium carbonate digesting of hardwood chips in the Digester system. Wood Pulp is part of the fiber Furnish used in the production of corrugating medium at the Otsego Mill.

- **Wood Pulping** - The process of converting hardwood chips to virgin Wood Pulp suitable for papermaking. The process involves wood chips being placed in a continuous Digester vessel with steam, water, and sodium carbonate cooking chemical to soften the lignin "glue" which holds papermaking fibers together in the wood chip. After softening, the fibers can be separated and used to make paper.

For purposes of clarity, Menasha has prepared this response using the following protocol:

- Terms that are defined above are Capitalized.

- **MDNR's questions are in bold.**

- *Clarifications to MDNR's information request as defined by discussions between Paul Novak, Scott Cornelius, Jeff Woolstrum, and Keith Kling on May 19, 1995, and documented in Jeff Woolstrum's May 19, 1995, letter to Paul Novak, are in italics.*

- Menasha's response to individual questions are in 10 point font.

Although Menasha intends to cooperate fully with MDNR regarding its investigation of the Kalamazoo River and is providing this response voluntarily, Menasha is not

waiving its rights to object to the Information Request, or future information requests, to the extent such requests: (1) exceed MDNR's authority under NREPA or other applicable law; or (2) seek confidential or privileged information. Further, Menasha's response is based on and limited by the records in existence and thus far discovered, and may be subject to inadvertent or undiscovered errors or omissions. Subject to the foregoing objections and limitations, Menasha provides the following response to the Information Request:

1. **List the Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA) Identification Numbers of the Respondent, if any, and identify the corresponding units, facilities, or vessels assigned these numbers.**

   The EPA ID number for the Otsego Mill is MID006012405. Menasha is only a small quantity generator of hazardous waste and does not otherwise treat, store or dispose of hazardous waste at the Otsego Mill.

2. **Describe the acts or omissions of any persons, other than your employees, agents, or those persons with whom you had a contractual relationship, that may have caused the release or threat of release of hazardous substances at the facility.**

   In addition:

   a. **Describe all precautions that you took against foreseeable acts or omissions of any such third parties, including, but not limited to, Bardeen Paper Mill, Otsego Falls Paper Company, and David Green and the consequences that could foreseeably result from such acts or omissions.**

   b. **Describe the care you exercised with respect to the hazardous substances found at the facility.**

   MDNR has withdrawn this question, pending further review.

   No response is required.

3. **Identify all persons, including Respondent's employees, who have knowledge, information, or documents about the generation, use, purchase, treatment, storage, disposal, or other handling of materials at or transportation of materials to the property.**

This question shall be limited as follows: (1) the term "persons" shall mean Menasha employees with primary responsibility for handling hazardous materials at the property; (2) the term "materials" shall mean "hazardous materials" as that term is defined in Section 3(p) of Act 307, M.C.L. § 299.603(p); and (3) this question shall relate only to materials handled at the property after 1950.

Purchasing Managers
- Les Phillips (1940-1984) (deceased)
- Reg Beverage (approx. 1967-1974) (deceased)
- Jack Ryndbrand (1970-1973)
- Dave Richardson (1973-1984)
- Hank Deveck (1984-1987)
- Jerry Mayrand (1985-present)
- Jeff Burleigh (1987-present)

Technical Managers
- Ken Lowe (1967-1973)
- Ed Timelowski (1972-1973) (deceased)
- Norm Johnstone (1973-1975)
- Bruce Buchanan (1979-1980)
- John Blauwkamp (1980-1984)
- Bill Shepard (1984-1986)
- Mark Reed (1985-1986)
- John Bonham (1986-1991)
- Paul Jachim (1991-1993)
- David Merkel (1993-present)

Technical Chemists/ Process Engineers
- Ed Timelowski (1958-1973) (deceased)
- Livingston Cole (approx. 1972-1974) (deceased)
- Gary Roys (1976-1990)
- John Blauwkamp (1973-1980)
- Bruce Buchanan (1974-1979)
- Richard Reames (1977-1979)
- Mark Reed (1981-1983)
- Dave Schweizer (1983 for 3 months)
- David Merkel (1987-1993)
- John Henry (1991-1993)
- Mike Schreiter (1993-present)
- Dan Soderman (1994-present)

Lab Technicians
- Fred Katje (1983-1992)
- Keith Kling (1976-1982)

- Gary Roys (1972-1975, 1990-present)
- Bill Youtzy (1987-present)

Lab Utility Personnel
- Jim Folk (1987-1988)
- Don LaFountain (1975-1986)
- Don Rop (1988-present)
- Jack Forbes (1988-present)

Waste Treatment Personnel
- Ed Timelowski (1958-1968) (deceased)
- Art Brindley (1968-1981)
- Keith Kling (1983-1987)
- Al Switzenberg (1987-present)

Environmental Group
- Keith Kling (1987-present)
- Len Myers (1989-present)

Corporate Environmental Staff
- Pete DeRossi (1990-present)
- John Blauwkamp (1984-present)
- Dave Prieto (1989-present)
- Sandra Jones-Hoffbeck (1984-1990)

Engineering Managers
- Frank Sabastian (unknown-1969)
- Al Bickel (1969-1973)
- Dave Seiler (1969-1976)
- Norbert Zundel (1973-1975) (deceased)
- Clancy Clegg (1975 for 1 year)
- George Wagner (1977 for 6 months)
- Ed Bennett (1977-1978 for 9 months)
- Bob Gulbranson (1978-present)
- Tom Clemmons (1981-1988)
- John Bonham (1988-1991)
- Paul Jachim (1991-1993)
- Jim Szaroletta (1994-present)

General Managers
- David Greene (1934-1953) (deceased)
- Roman Suess (1953-1969)
- Joe Cutro (1969-1972)
- Dick Thorne (1973-1975)
- Al Schenck (1975-1977)
- Jim Adams (1977)
- Bruce Buchanan (1978-1987)
- Jim Porter (1987-1993)
- John Bonham (1993-present)

Miscellaneous
- Wally Boettcher (1938-1976)

- George McConney (1939-1978)
- Elgin Fuller (1943-1978) (deceased)
- Mickey Morey (1969-1986)
- Steve Rosenthal (1973-1986)
- Jim Johnson (1976-1977)
- SJ Rosenthal (1976-present)
- Ron VanNoord (1977-present)
- Al Coleman (1978-present)
- Ken Vosters (1980-present)
- Len Hatton (1989-present)

Maintenance Superintendents
- Ben Budzinski (1951-1977)
- Ken Hartman (1980-1990) (deceased)
- Phil Allen (1990-1992)
- Andrè Fischbach (1993-1994)

Secondary Fiber Managers
- Russ Fisher (1974-1991)
- Jim Porter (1982-1987)
- Mike denOtter (1987-1989)
- Jay Thiessen (1989-1992)
- Tom Oldham (1993-present)
- Andrè Fischbach (1990-1993)

The foregoing persons' last known or present business address is: Menasha Corporation, 320 N. Farmer, Otsego, MI 49078. Menasha objects to MDNR's request for home phone numbers and addresses because this request does not relate to the identification, nature and quantity of materials at the Otsego Mill, or to the nature or extent of a release at the Otsego Mill and, therefore, is beyond MDNR's authority under NREPA . Menasha further considers such information confidential.

4. Describe all arrangements that Respondent may have or may have had with each of the following persons: Bardeen Paper Mill, Otsego Falls Paper Company, and David Green.

Menasha may answer this question by providing a short, general description of Menasha's relationship with Bardeen Paper Mill, Otsego Falls Paper Company, and David Greene.

The following is general history of Menasha's arrangements with Bardeen Paper Mill, Otsego Falls Paper Company, and David Greene:

In 1887, George Bardeen built what would eventually be known as the Otsego Mill, as the first of seven paper mills in the City of Otsego. Its common reference was Bardeen Mill #1. In 1921, Bardeen Mill #1 became a part of the Allied Mills of Kalamazoo. Bardeen Mill #1 operated until the Great Depression, at which time it closed. In 1934, Bardeen Mill #1 was sold to David Greene, and the mill was restarted as the Otsego Falls Paper Mill.

David Greene was sole owner of the Otsego Falls Paper Mill until 1939 when Menasha's corporate predecessor, Menasha Wooden Ware Company, acquired a majority interest in the Otsego Mill. David Greene remained as the General Manager of the Otsego Mill from 1935 to 1953.

In 1953, Roman Suess replaced David Greene as General Manager of the Otsego Mill.

David Greene remained a minority owner of the Otsego Mill until 1955, when the Otsego Falls Paper Mill became a wholly-owned division of Menasha Wooden Ware Company, which was renamed as Menasha Corporation in 1962.

5. For each and every current owner, operator, lessor, or lessee of any portion of the property:

a. Identify such person and the nature of their activities at the property.

b. Describe the portion of the property, owned, operated, or leased by each such person and state the dates during which each portion was owned, operated, or leased.

c. Provide copies of all documents evidencing or relating to such ownership, operation, or lease, including (but not limited to) purchase and sale agreements, deeds, leases, etc.

Menasha is not required to define its relationship with the developer of the co-generation power plant currently under construction on Menasha's property. Further, Menasha is not required to produce documents relating to Consumers Power Company's ownership or operation of a substation on Menasha's property.

There are only three current owners or operators of the Otsego Mill: (1) Menasha Corporation, Paperboard Division; (2) Consumers Power Company, and (3) Solar Turbines, Inc. These entities are described below:

Menasha Corporation, Paperboard Division. Menasha is the current owner and operator of the Otsego Mill, which consists of parcels both north and south of River Road. Menasha manufactures food-grade corrugating medium at the Otsego Mill. The Otsego Mill parcel south of River Road generally consists of: (1) two Paper Machines; (2) a Virgin Pulp Digester; (3) two Hydrapulpers used to prepare Secondary Fiber by agitating the fiber in heated Process Water; (4) two coal-fired boilers used to produce steam; (5) one gas-fired package boiler used as backup for the coal-fired boilers; (6) one Spent Liquor Fluidized Bed Reactor with associated Evaporator equipment; and (7) an extended aeration wastewater treatment system. The parcel north of River Road consists of: (1) a Chipyard used to store wood chips for Virgin Pulp production; (2) a system of tanks and lagoons for Spent Liquor and Biosolids storage and treatment; (3) a closed type III landfill, located approximately three quarters of a mile from the

Kalamazoo River, formerly used solely for Menasha's waste; and (4) a recently constructed composting facility.

Consumers Power Company ("Consumers"). Consumers has had a substation at the Otsego Mill for over 25 years; however, Menasha is not aware of the initial date of installation. Prior to 1969, the substation was located south of River Road, across from Fairview Street on an easement, approximately 40 feet square, which is still owned by Consumers. From 1969 to 1982, the substation was located at what is now Menasha's south coal pile, adjacent to the Kalamazoo River. From 1982 to the present, the substation has been located adjacent to the Kalamazoo River, directly south of the Solar Turbines co-generation plant, which is described below. Menasha has not controlled, operated or maintained these substations. These three locations are shown as Areas A, B, and C on the drawing attached as Document #1.

Solar Turbines Cogeneration Plant. In 1994, Menasha signed a lease with Solar Turbines, Inc. ("Solar Turbines") to construct and own a co-generation plant at the Otsego Mill. The co-generation plant will generate both steam and electricity. Solar Turbines will own the equipment and building, and Menasha will own the land and will operate the plant. Solar Turbines is currently constructing the plant which is expected to be operational in November, 1995. The location of the co-generation plant is shown as area D in Document #1.

6. Identify all persons, including yourself, who owned, operated, or had control over the underground storage tank systems (USTs) which are located (or were formerly located) at the property, and describe the nature of that ownership, operation or control, including, but not limited to: the person(s) who was responsible for or controlled access to the USTs when deliveries of petroleum products were made as well as at other times, who was responsible for maintaining inventory records for products stored in the USTs, and who was responsible for USTs maintenance. Include a copy of any documents, contracts, agreements, etc., which document these arrangements.

Menasha may answer this question by providing copies of the closure reports related to three petroleum underground storage tanks ("USTs") removed from the property in the early 1980s.

At the outset, it should be stressed that Menasha has *never* stored PCB-containing materials in underground storage tanks at the Otsego Mill. There have been only four USTs at the Otsego Mill: three petroleum USTs, and one silicate of soda UST. All of these USTs have been removed from the Otsego Mill. These USTs are described below:

1,000 Gallon Gasoline UST. A 1,000 gallon gasoline tank was installed prior to 1972 for general Otsego Mill vehicle use. The tank was maintained and serviced by Ridderman and Sons Oil. The tank was removed on June 6, 1986. The closure report is attached as Document #2.

550 Gallon Unleaded Gasoline UST. A 550 gallon unleaded gasoline tank was installed around 1980 to service all Otsego Mill vehicles using unleaded fuel. The tank was maintained and serviced by Ridderman and Sons Oil. This tank was also removed on June 6, 1986. The closure report is attached as Document #2.

12,000 Gallon Diesel Fuel UST. A 12,000 gallon diesel fuel tank was installed about 1975. The diesel fuel was used by Menasha to fuel front-end loaders and tractors and was also used by Menasha Transport Incorporated (MTI) for fueling over-the-road semis. The tank was maintained and serviced by Ridderman and Sons Oil. This tank was removed on November 20 and 24, 1987. In addition, some cleanup of soils on which overfills of the vehicles took place was completed in 1989. The closure report is attached as Document #3.

Silicate of Soda UST. In addition to the three petroleum underground storage tanks discussed above, an underground storage tank used for silicate of soda was formerly located beneath what is now the existing #1 boiler, which was constructed in 1951. Silicate of soda is a caustic material which would not contain PCB's. To the best of Menasha's knowledge, silicate of soda from this tank was used as part of the wheat straw cooking process until 1946. It appears the tank was unused from 1946 until its removal in 1951 in conjunction with construction of the #1 boiler. Menasha has no other information regarding the operation of this tank. A material safety data sheet for silicate of soda, which would be similar to the material stored in this tank, is attached as Document #4.

7. Identify all persons, including yourself, who may have delivered and installed USTs and ancillary equipment or may have given, sold, transferred, or delivered any material (including petroleum products) to the property. In addition, describe the nature of the materials that may have been given, sold, transferred, or delivered to the property.

Menasha may answer this question by providing copies of the closure reports related to three petroleum underground storage tanks ("USTs") removed from the property in the early 1980s.

Menasha is not aware of any information regarding USTs at the Otsego Mill, other than information provided in response to Question 6.

8. Describe the past and present physical characteristics of the property and the locations of these characteristics including, but not limited to, the following:

a. Surface structures (e.g. buildings, tanks, etc.)

b. Wastewater, wastewater treatment sludge, and stormwater conveyances (e.g. piping, floor drains, sumps) and treatment and handling structures (e.g. clarifiers, lagoons, ponds, settling pits),

including any by-passes to the system and all historical and current outfalls

c. Power generating equipment, electrical supply equipment, and their associated cooling system equipment (e.g. boilers, transformers, capacitors, compressors, blowers, heat exchangers)

d. Deinking process equipment

e. Underground storage tank systems and ancillary pipelines and equipment, including, but not limited to:

- The location, number, type, size, age, and the past and present contents of each tank and its associated piping. Include a copy of proof of registration for the USTs
- Information on any tank tightness testing conducted on USTs at the property, including the methods used to test the USTs, the results of all tank tightness testing, whether any USTs were shown to be leaking as a result of these tests, and any actions taken to address leaking USTs that may have been identified, including the repair and the nature of any repairs made to USTs
- Information on any USTs that may have been removed, the condition and final disposition of USTs that were removed, and any notifications regarding UST removal that are provided to any local or state agencies, including the State of the Fire Marshal

f. Other underground structures including, but not limited to, utilities, trenches, or sanitary sewer systems, septic tank(s) and subsurface disposal field(s)

g. Groundwater production wells, including copies of drilling and boring logs, documenting the use(s) and period(s) of time of such use(s) for each groundwater production well

h. Any and all additions, demolitions, or changes of any kind to physical structures on, under, or about the property, or to the property itself (e.g. excavation work), and state the dates on which such changes occurred

Menasha's response to this question will be limited to information regarding the property after 1950.

a. Menasha will provide a written chronology of surface structures on the property after 1950 and will make photographs available to MDNR at Menasha's offices, but will not provide copies of such photographs.

c. Information regarding compressors, blowers, and heat exchangers will be limited to power generating and electrical supply equipment.

e. Menasha may answer this question by referring to the information provided pursuant to Question Nos. 6 and 7.

f. Menasha will make maps of underground structures available to MDNR at Menasha's offices, but will not provide copies of such maps.

h. Menasha will only provide information on material additions, demolitions, or changes of physical structures at the property.

8a) Aerial photographs of the Otsego Mill for the years 1951, 1972, 1976, and 1991 are available for review at Menasha's offices. Pursuant to Section 20117(2)(a) of NREPA, Menasha will grant MDNR access at all reasonable times to Menasha's office to inspect and copy these documents. In addition, line drawings of the Otsego Mill layout for the years 1954, 1968, 1974, 1975, 1981, 1987, and 1990 are attached as Document #5. A written chronology of surface structures is provided below in response to Question 8.h.

8b) Attached as Document #6 is a diagram of the Otsego Mill property indicating 16 separate areas involved in wastewater or Sludge treatment or handling. These areas are described below:

Area 1 - Area 1 is the 001 weir which is used to discharge non-contact cooling water used to cool air compressors and other Otsego Mill equipment. The non-contact cooling water originates from the City of Otsego municipal water supply. Menasha installed the 001 weir in the late 1960s and has monitored the discharge pursuant to Menasha's NPDES permit conditions. The 001 weir discharges to the municipal storm sewer system, which ultimately discharges to the Kalamazoo River immediately south of the McCleod Auto Parts store on Farmer Street.

Area 2 - Area 2 is the former location of the 002 pond and the 002 weir which was used to treat and discharge vacuum pump seal and cooling water to the Kalamazoo River. The 002 pond was used to cool and aerate the water prior to discharge. Both structures were constructed in 1969 as a pilot project for the current aeration basin discussed below as Area 7. In 1991, the flow to Area 2 was consolidated with other cooling and Process Water flows for discharge through the 003 weir, described below as Area 16, and 002 weir was permanently closed.

Area 3 - Area 3 is the former location of a Process Water treatment pond. Area 3 was at one time part of the tail race, a channel constructed in the late 1800s which diverted river water to a water wheel. Around 1946, the tail race was converted into several holding basins. A 1951 photo, available at Menasha's offices, shows details of these ponds. The Area 3 pond treated a flow of 200,000 gpd of White Water by settling suspended solids and aerating the water through a pyramidal cascade. The treated water was then discharged to the river through an unnumbered outfall. Area 3 was modified in 1969 to divert the Process Water flow to the aeration basin in Area 7, eliminate the unnumbered outfall, and convert the treatment pond to a smaller surge pond used to collect small, miscellaneous Process Water discharges. The small flow to the surge pond was pumped to the aeration pond described below as Area 7. The Area 3 pond was permanently closed in 1988.

Area 4 - Area 4 was also part of the tail race which was converted to an unlined Spent Liquor storage pond sometime before 1951. Originally, Area 4 consisted of two ponds, which were subsequently combined into one larger pond. The Area 4 pond did not have an outlet and did not discharge any liquor to the Kalamazoo River. Spent Liquor was pumped from the pond and reclaimed for use in the Otsego Mill. This pond was permanently closed in 1983 and 1984. A closure plan for the Area 3 pond is attached as Document #7. The closure plan states that the liquor sludge removed from the bottom of the pond was nondetect for PCBs at 0.05 mg/kg.

Area 5 - Area 5 was a steam driven turbine which generated electricity from 1951 to 1990. Non-contact cooling water for the turbine was drawn from the upstream side of the Otsego City dam and was discharged back to the river through two pipes, one above and one below the dam. Menasha's NPDES permit referred to both of these discharge points as 003-5. This discharge was eliminated in 1990 when the turbine was taken out of service.

Area 6 - Area 6 was a collection basin used for lime-containing wastewater from the boiler water Softener System and for powerhouse cooling water. Area 6 also included the 004 weir which discharged water from this collection basin to the Kalamazoo River. Suspended solids settled from the water in the basin prior to discharge through the 004 weir. Area 6 was constructed in 1951. In the mid-1970's, the lime-containing wastewater flow was routed to Area 10, discussed below. From the mid 1970s to 1991, Menasha continued to use the 004 weir to discharge powerhouse cooling water, powerhouse roof and floor drain water, and zeolite (a water softener) backwash water pursuant to Menasha's NPDES permit. In 1984, Menasha replaced the collection basin in Area 6 with an oil separation tank and permanently closed the basin. In 1987, Menasha rerouted the powerhouse floor drains from the 004 weir to the aeration pond in Area 7. In 1991, Menasha eliminated the 004 weir and consolidated its remaining flow to the 003 weir, described below as Area 16.

Area 7 - Area 7 is an 8 million gallon unlined aeration basin used to treat Process Water through aerobic digestion. The aeration basin was installed in 1969, replacing the treatment pond in Area 3. Design of the aeration basin is shown on the attached Document #8.

Area 8 - Area 8 is an unlined final settling pond used to polish treated wastewater from the aeration pond prior to discharge to the Kalamazoo River through the 003 weir. The settling pond is one of two ponds originally installed as part of the aeration pond installation in 1969. The second pond was replaced in 1991 by a 60-foot concrete clarifier.

Area 9 - Area 9 is a 40-foot concrete clarifier installed in 1971. This clarifier, along with the 60-foot clarifier in Area 8, removes solids from the wastewater prior to discharge to the remaining settling pond in Area 8.

Area 10 - Area 10 was a two-pond system used to pretreat lime-containing powerhouse wastewater which had been mixed with fly ash from the coal-fired boilers. The wastewater treated in Area 10 was routed to the aeration pond in Area 7 for final treatment. Menasha installed these ponds in the mid-1970's as a treatment upgrade from the former settling basin in Area 6. Menasha removed the ponds in Area 10 in 1983. Since 1983, the lime-containing wastewater has been discharged directly to the aeration basin and the fly ash has been collected in multiclones (an air pollution control device) and disposed of off-site as a dry solid.

Area 11 - Area 11 was an unlined pond for additional storage of Spent Liquor, formerly located in Area 4. This pond was used for about 10 years, beginning in 1973. This pond was permanently closed in 1983 and 1984.

Area 12 - Area 12 is used to store Spent Liquor generated from the Wood Pulping process and Sludge from the aeration basin prior to reclamation or disposal. Area 12 consists of two concrete 800,000 gallon tanks and one asphalt lined 1.2 million gallon lagoon used to store Spent Liquor, and one concrete 220,000 gallon tank and one asphalt lined 1.2 million gallon lagoon used to store wastewater treatment Sludge. Menasha constructed these tanks and lagoons in 1982 to replace the unlined liquor storage ponds in Areas 4 and 11.

Area 13 - Area 13 is the former site of 22 unlined earthen basins with a combined storage capacity of 28 million gallons. These basins were located North of River Road approximately three quarters of a mile from the Kalamazoo River. Menasha used these basins to anaerobically digest wastewater treatment Sludge from the early 1970's until final closure of the ponds in 1986. Twenty of these ponds contained only wastewater treatment Sludge and two of the ponds contained a mixture of wastewater treatment Sludge and Spent Liquor. A history of the ponds, including their closure, is attached as Document #9.

Area 14 - Area 14 is a containment basin located immediately south of the former unlined earthen basins in Area 13.

Area 15 - Stormwater conveyances are described in Menasha's stormwater discharge permit application, attached as Document #10.

Area 16 - Area 16 is the 003 weir which has been used since 1969 to discharge treated Process Water from the aeration basin in Area 7 and additionally, since 1991, to discharge treated vacuum pump seal and cooling water from the former 002 weir,

described above as Area 2, and the powerhouse discharges described above as Area 6. The weir consolidation project is described in an attachment to Menasha's 1990 NPDES permit renewal application and is attached as Document #11.

8c) Menasha's electrical supply equipment is shown in a drawing attached as Document #12 and described as follows: This drawing identifies and locates switchrooms and substations at the site. In addition, there are substations and associated switchgear located at wastewater treatment facility, the tank farm, and the dewatering press building. These locations are identified in the line drawings provided as Document #5.

Menasha's electrical generating equipment is shown as Areas A and B in a map attached as Document #13. Area A was believed to house an electric generator which was powered by water from the tail race. It was not in operation as of 1950, and little else is known about it. Area B was a steam powered electric generating turbine that was installed as part of the 1951 power plant installation. It was permanently shut down in 1990.

8d) No Deinking processes have ever been used at the Otsego Mill. Prior to 1957, Menasha used only Virgin Pulp. From 1957 to 1970, Menasha used only Virgin Pulp and DLK grades of Secondary Fiber (Box Plant Clippings). Menasha introduced OCC Secondary Fiber into its process in 1971. Menasha did not accept Mixed Waste grades of Secondary Fiber until 1993.

8e) Information regarding Menasha's underground storage tank systems may be found in Menasha's response to Questions 6 and 7 and in Documents #2 and #3.

8f) In 1985, Menasha discovered that a floor drain in the men's shower room that was located in the powerhouse drained to a drywell located south of the powerhouse. This drywell was probably constructed in 1951. The shower room was used solely for personal hygiene and was not used for any industrial purpose. No other drains were ever connected to the drywell. Menasha closed and filled the drywell and connected the shower room to the sanitary sewer system in 1985.

The main underground structures at the Otsego Mill are water piping and electrical conduit. Many current and abandoned pipes used for waste treatment conveyance were constructed at various times from 1969 to the present and are buried beneath the south road of the Otsego Mill. Menasha has many drawings in "D" size which show various stages of this development. Pursuant to Section 20117(2)(a) of NREPA, Menasha will grant MDNR access at all reasonable times to Menasha's offices to inspect and copy these documents.

8g) A map, attached as Document #14, shows the locations of Menasha's former and current Fresh Water Wells. Available well logs are also included as part of Document #14.

Well #1 - Well #1 was decommissioned many years ago and little is known about it except that it was installed prior to 1940 and was still on-site in 1954, but was not being used.

Well #2 - Well #2 was located in the powerhouse building and was installed in 1950. It was in use until the mid-1960's. A well inspection report is attached as Document #14.

Well #3 - Well #3 was installed in February, 1963. The well log is attached as Document #14. The well was removed from service in about 1979.

Well #4 - Well #4 was installed in 1967. The service inspection report is attached as Document #14. The well is currently used intermittently for Process Water.

Well #5 - Well #5 was installed in June 1970. The well log and service inspection report are attached as Document #14. The well is not currently in use.

Well #6 - Well #6 was installed in 1948 as a City of Otsego municipal well. Menasha purchased this well following the discovery of groundwater contamination from Spent Liquor stored in one of the nearby 22 unlined storage ponds, identified above as Area 13 in Question 8.b. This incident, which did not involve PCB's, is described in Document #44. This well is currently supplying process water for Menasha's use. A service inspection report is included within Document #14.

Well #7 - Well #7 was installed before 1948 by the City of Otsego as a sister well to well #6. Menasha also purchased this well following the previously discussed groundwater contamination discovered in well #6. A service inspection of this well is also included within Document #14. Well #7 is currently in use.

Well #8 - Well #8 was installed in 1979 adjacent to and replacing well #3. It was used until 1990 and is presently out of service. A well log and service inspection report are included within Document #14.

Well #9 - Well #9 was installed in 1990. It currently serves as Menasha's main well water supply. A copy of the test well log is attached as Document #14.

8h) Information on early material modifications to structures at the Otsego Mill is available only through comparison of drawings and photographs which are available for review at Menasha's offices. Pursuant to Section 20117(2)(a) of NREPA, Menasha will grant MDNR access at all reasonable times to Menasha's offices to inspect and copy these documents.

A comparison of a 1951 aerial photo with an October 1954 Otsego Mill layout drawing indicates no material changes during that time. Therefore, the 1954 drawing serves as a baseline for Menasha's response to this question.

The next available drawing of the Otsego Mill is from February 1968, which indicates the following material additions, modifications, and deletions from the 1954 drawing:

Additions - 1954 through 1968

- North section of building which houses the #1 Paper Machine.
- Submerged combustion Evaporators used to concentrate Spent Liquor for Menasha's Road Binder program, described in Document #15.

- Road Binder storage tank located adjacent to the former Spent Liquor storage lagoon identified as Area 4 in response to Question 8.b.
- Water tower for fire protection installed adjacent to Farmer Street.
- Small aeration pond associated with the 002 outfall, discussed above as Area 2 in response to Question 8.b.
- Process Water outfall, discussed above as Area 3 in response to Question 8.b.
- #2, #3 boilers located in the powerhouse.
- Ash Silo used to store bottom ash from the #2 and #3 boilers.
- 14 foot Hydrapulper located in the storage room next to the powerhouse.

Modifications - 1954 through 1968

- The tail race, which was no longer operational in 1954, was modified into holding ponds, discussed above as Areas 3, 4, and 6 in response to Question 8.b.

Deletions - 1954 through 1968

- Asphalt coating operations, including three above-ground asphalt storage tanks and one above-ground fuel oil storage tank.
- Generator house for water powered electric generator located adjacent to former tail race.
- South side Spent Liquor tanks.
- An unused boiler, which had been decommissioned about 1950.
- Old Ash Silo used to store bottom ash from the coal-fired boilers.

Beginning in 1968, Menasha has maintained expense authorizations (EA's) for capital expenditures. Based on aerial photos, drawings, and the EA's, the following material changes to the Otsego Mill are listed chronologically:

Additions/Modifications/Deletions - 1969

- The extended aeration basin for wastewater treatment, described above as Area 7 in response to Question 8.b, was constructed.
- A 180,000 gallon concrete White Water Chest was constructed for additional storage and recycling of Process Water.
- The #4 boiler was constructed.
- Two above-ground chemical storage tanks were constructed east of the #1 machine room. Menasha used these tanks to store sodium sulfite and soda ash, which were used in the Virgin Pulp cooking process.
- A 150 ton-per-day recycled paper cleaning system was installed to handle OCC grade paper; however, Menasha did not use OCC paper in its process until 1971. This system removed sand, grit, and other unusable materials from the OCC, but did not perform any Deinking functions.
- A 152,000 gallon concrete Secondary Fiber storage Chest was built to store processed Secondary Fiber from the Hydrapulper.
- The south roll storage warehouse was built.

Additions/Modifications/Deletions - 1971

- The continuous Digester and ancillary equipment were installed to replace the four Batch Cookers. The Digester is approximately 50-feet high and 6 feet in diameter. It is a pressure vessel used to digest wood chips.
- The waste treatment pond south of the Digester, described above as Area 3 in response to Question 8.b, was partially filled and converted to a surge pond.
- A secondary clarifier, described above as Area 9 in response to Question 8.b, was added at the wastewater treatment area.

Additions/Modifications/Deletions - 1972

- Two ash ponds, described above as Area 10 in response to Question 8.b, were constructed in the wastewater treatment area .
- The 202,000 gallon concrete wood Chest, used for storage of virgin Wood Pulp, was constructed immediately east of the Digester.
- The currently closed Type III on-site landfill was constructed north of River Road, approximately three quarters of a mile from the Kalamazoo River.

Additions/Modifications/Deletions - 1973

- The Fluidized Bed Reactor was installed east of the powerhouse.
- The steel Spent Liquor intermediate tank was constructed on the east end of the Spent Liquor incinerator.
- The 270,000 gallon concrete Broke storage Chest was constructed adjacent to the wood Chest.
- Jonsson screens were installed on the discharge side of the Hydrapulper to remove plastic, styrofoam, and other non-fiber particles from recycled paper.

Additions/Modifications/Deletions - 1974

- The steel mill-side weak liquor storage tank was constructed on south side of the powerhouse building.

Additions/Modifications/Deletions - 1975

- A 10,000 gallon Isopar storage tank was installed south of the White Water storage Chest.

Additions/Modifications/Deletions - 1976

- Old Batch Cookers were removed.

Additions/Modifications/Deletions - 1982

- Constructed building in which Polymers are added to wastewater prior to entering the secondary clarifiers.
- Spent Liquor and wastewater treatment Sludge storage facilities were constructed on the north side of River Road, described above as Area 12 in response to Question 8.b.

Additions/Modifications/Deletions - 1983

- Began closure of the 22 earthen basins described above as Area 13 in response to Question 8.b.
- Began closure of the Spent Liquor storage ponds, described above as Areas 4 and 11 in response to Question 8.b.

- The Secondary Fiber building was expanded.
- The Multiclone air pollution control device was added to the boilers.
- The two ash-lime ponds, described above as Area 10 in response to Question 8.b, were dredged and filled.

Additions/Modifications/Deletions - 1984

- The on-site landfill was closed.
- Completed closure of the liquor storage ponds, described above as Areas 4 and 11 in response to Question 8.b.
- Completed closure of 22 earthen basins, described above as Area 13 in response to Question 8.b.
- A building was constructed to dewater rejected materials from Secondary Fiber.
- The pond described above as Area 6 in response to Question 8.b, was dredged and filled and replaced with an oil separation tank.

Additions/Modifications/Deletions - 1985

- Excavated Spent Liquor pond north of River Road.

Additions/Modifications/Deletions - 1986

- The warehouse in the southwest corner of the facility was expanded.
- The current office facility was constructed.
- A new maintenance facility was constructed.
- Concrete secondary containment was constructed around the #5 fuel oil above ground tanks which store auxiliary fuel for the Spent Liquor incinerator.

Additions/Modifications/Deletions - 1987

- Concrete secondary containment was constructed around the mill-side weak liquor tank.

Additions/Modifications/Deletions - 1988

- The White Water storage Chest was enlarged to 300,000 gallons.
- Concrete secondary containment was constructed around the Broke storage Chest.
- The surge pond, described above as Area 3 in response to Question 8.b, was dredged and filled.
- Containment structures, consisting of shallow concrete catch basins, were built at both Truck Dumpers to capture potential hydraulic oil leaks.

Additions/Modifications/Deletions - 1989

- Concrete containment structures, consisting of sloped concrete slabs, and U-drains were constructed as additional containment for Process Water during system imbalance.
- The #2 Truck Dumper hydraulic chip screening system, which sorted and sized wood chips, was removed, oil stained soil was excavated, and a new electric-powered screening system was installed.

Additions/Modifications/Deletions - 1990
- Expanded buildings which housed recycled fiber equipment.
- The warehouse in the southeast corner of the Chipyard was constructed.

Additions/Modifications/Deletions - 1991
- Aerators and a clarifier were added to the wastewater treatment system, described above as Area 8 in response to Question 8.b.
- Mill-outfalls 002 and 004 were consolidated with 003.

Additions/Modifications/Deletions - 1993
- The dewatering press building was constructed adjacent to the tank farm.
- The composting site was constructed in the area of the former 22 unlined lagoons, described above as Area 13 in response to Question 8.b.

Additions/Modifications/Deletions - 1994
- Began construction of cogeneration facility.

9. Provide copies of any and all historical and current maps and figures of the property.

Menasha will make maps and figures available to MDNR at Menasha's officess, but will not provide copies of such documents.

Maps and aerial photos are available for review at Menasha's office. Pursuant to Section 20117(2)(a) of NREPA, Menasha will grant MDNR access at all reasonable times to Menasha's offices to inspect and copy these documents. Several Otsego Mill layouts are provided as Document #5.

10. For each and every prior owner, operator, lessor, or lessee of any portion of the property known to you:

a. Identify such person and the nature of their operation at the property

b. Describe the portion of the property owned, operated, or leased by each such person, and state the dates during which each portion was owned, operated, or leased

c. Provide copies of all documents evidencing or relating to such ownership, operation, or lease including (but not limited to) purchase and sale agreements, deeds, leases, etc.

d. Provide all evidence that hazardous substances were released or threatened to be released at the property during the period they owned, operated, or leased the property.

e. Provide copies of any environmental site assessments or other kinds of environmental reports regarding the property

With the exception of Item d, Menasha will provide information regarding prior owners, operators, lessors, and lessees after 1950. Menasha is not required to provide the documents requested in Item c

David Greene was a minority owner of the Otsego Mill until 1955. Menasha has been the sole owner of the Otsego Mill since 1955 Menasha does not have any information regarding hazardous substances released or threatened to be released by prior owners or operators of the Otsego Mill

11. Provide all existing technical or analytical information about the property, including (but not limited to) data and documents containing information related to soil, groundwater, surface water, geology, hydrogeology, or air quality on and about the facility and with regard to:

a. Suppliers and sources of Secondary Fiber, including the types of Secondary Fiber purchased

b. Past and present discharges of wastewater, stormwater, and non-contact and contact cooling water, including NPDES and non-NPDES permitted discharges to (but not limited to) the following: The Kalamazoo River, the Otsego Wastewater Treatment Plant, and groundwater.

c. Past and present use and disposal of PCBs and PCB items, including (but not limited to) transformer oils, capacitor oils, hydraulic fluids, heat transfer fluids, waste oils for dust control, and carbonless copy paper in the Secondary Fiber stream.

d. Past and present sampling results for wastewater, wastewater treatment Sludge, non-contact and contact cooling water, Spent Liquor, stormwater, sediment, oil, fluids, and vacuum pump seal water.

e. Past and present sampling results for PCBs in the Secondary Fiber Stock input and in the final product produced by the facility. This includes (but is not limited to) reports submitted to the United States Food and Drug Administration, Recycled Paperboard Technical Association, and Boxboard Research and Development Association.

f. Past environmental site assessments or other kinds of environmental reports regarding the property.

g. Any and all Deinking processes which were used at the facility from 1957 to 1971.

h. Application of wastewater treatment Sludge and Spent Liquor to on-site and/or off-site roads, driveways, parking lots, and farm land. Include location(s) and date(s) of such application(s).

i. Names of any and all hydraulic fluids and heat transfer fluids used presently or in the past by the facility.

For item d, Menasha will describe the type and frequency of monitoring and will provide MDNR with access to monitoring results at Menasha's officess, but will not provide copies of such documents.

11a) Prior to 1946, Menasha used straw to manufacture paper. In 1946, Menasha began using hardwood chips as its sole source of fiber. In the early 1950's, Menasha installed a Valley Beater and a 10-foot Hydrapulper in order to recycle Broke and DLK. Because neither piece of equipment had a cleaning system, the equipment was not capable of recycling Mixed Waste or OCC. Around 1967, Menasha installed a 14-foot Hydrapulper to increase DLK capacity. This Hydrapulper also did not contain a cleaning system and was not capable of recycling Mixed Waste or OCC. In 1969, a cleaning system, which was inadequate to process Mixed Waste, was added to the Secondary Fiber system for removal of sand and grit. Menasha began recycling OCC, along with DLK, in 1971. This system was used without major modification until 1976.

In 1976, the cleaning systems on the recycling equipment were upgraded to increase OCC recycling capacity. This system was used through 1979 with a primary Furnish of DLK and some OCC. Bales of Mixed Waste were not accepted. Individual bales were inspected and rejected if found to contain Mixed Waste.

In 1980, a major project to improve the Secondary Fiber system was started. Following the project's completion in 1981, Menasha increased the proportion of OCC in the Secondary Fiber Stock; however, Mixed Waste was still not accepted.

Various equipment installations were made in 1983 and 1984 to increase the capacity of the Secondary Fiber system. At this time, a majority of the Secondary Fiber consisted of OCC, and the remainder consisted of DLK. No Mixed Waste was used.

In 1985, Menasha installed centrifugal cleaners that improved throughput and Pulp quality. At this time, Nearly all Secondary Fiber was OCC and very little was DLK . No Mixed Waste was used.

A series of equipment installations took place between 1988 and 1990 to support increased Stock demands at Menasha's #1 Paper Machine. Equipment installations included a new 16 foot Hydrapulper and supporting system, giving Menasha two complete Secondary Fiber recycling systems. Use of Mixed Waste began for the first time on a trial basis in 1993. Routine use of Mixed Waste began in 1994 averaging 1 to 5% of total fiber Furnish.

Until 1970, the only waste paper used at the Otsego Mill was DLK. Menasha purchased Box Plant Clippings from Box Converting operations at various box plants in the midwest. Beginning in 1970, conversion to OCC was undertaken. This conversion took about two years to complete. Following addition of OCC as a fiber supply, Menasha's major suppliers have been Borman, Spartan, Recycle America, Padnos, BFI, and Smurfit. Menasha also purchases from many other smaller suppliers. Purchase records from the mid-1980's forward are available for review at Menasha's offices. Menasha does not maintain earlier purchase records.

At no time has Menasha purchased, recycled, deinked or otherwise used NCR paper, or other PCB containing paper, at the Otsego Mill.

Tests performed at Menasha's Secondary Fiber system consist mainly of production related tests used to help increase capacity or classify the suitability of the recycled paper for papermaking purposes. Because these tests are primarily physical tests, they are not included in the documentation with this letter. The tests which have been performed either routinely or as needed are Repulpability of OCC, Spot Checks, pH, Bauer McNett (or Kajaani Fiber Length Classification), Temperature, Tensile/Tear, Freeness, Water Retention Value, Ash, Grit, Consistency and Charge Density. Below is a description of these tests.

- Spot checks - Spot checks are performed daily and as needed to ensure contaminants such as tape, glue and latex and other "stickie" materials coming in with the raw material OCC do not reach an unacceptable level which adversely effects papermaking. Daily tests are performed on the finished Stock after recycling and cleaning. The test method is to make handsheets of the Pulp to be checked. The handsheet is placed over a light source and the places where the contaminants are in the sheet will be a bright "window" not covered by fiber. These windows are counted by an operator or technician, and a number of spots per handsheet are calculated.

- pH - The pH test is performed infrequently. The pH test has been performed by lab technicians during trials using a pH adjuster, such as caustic, to help increase productivity by breaking apart the bales easier during recycling. The pH test is a logarithmic indicator of the amount of hydroxide or hydrogen ions disassociated into water, causing it to behave as a base or an acid. The test is performed by obtaining a liquid sample to be tested, and a probe, known as a pH probe is inserted into the solution. The probe transmits the pH back to the unit, which reads out digitally on a screen.

- Repulpability of OCC - The Repulpability test is performed as needed by a lab technician to determine the suitability of a potential fiber source for recycling. A sample of potential paper is obtained by the procurement staff, and given to

the lab. The technician places approximately 25 - 30 grams into a blender. Water is placed into the blender to about 1 liter. The unit is run on high for 15 seconds, 30 seconds and one minute. Handsheets can be made of the resulting Pulp to determine if adequate defibering has occurred to allow for use in the papermaking process.

- Bauer McNett or Kajaani Fiber Length Classification - A fiber length classification is performed as needed by a lab technician to determine the suitability of the fiber length in Pulp for papermaking. The two methods listed here are two different technologies for accomplishing this.

- Temperature - The temperature of the recycling systems is sometimes taken by a lab technician. A recycling system that is too cool reduces the efficiency of fiber recovery and throughput of OCC, thus limiting production.

- Tensile/Tear - These are strength tests performed as needed by a lab technician to determine if changes have occurred in the strength potential of the fiber which might affect the final paper quality or papermaking process. Pulp samples are obtained and handsheets made. The handsheets are subjected to the tensile or tear test, which are both destructive physical quality tests.

- Canadian Standard Freeness - The freeness test is performed several times per shift, and also as needed by lab technicians. A sample of Pulp is obtained and mixed with a volume of cool water. This mixture is poured into a screen, and the amount of water that drains through the screen is measured. The amount of water is an indicator of how well the Pulp will drain water during the papermaking process.

- Water Retention Value - The water retention value test is performed as needed by a lab technician. The test is an indicator of how well the Pulp will give up water when it is pressed in the papermaking process. A sample of Pulp is obtained and a specific amount is measured into a centrifuge cup. The sample is centrifuged to drive out for water for a set amount of time and weighed. The amount of water retained in the Pulp gives the water retention value.

- Ash - The ash test is performed as needed by a lab technician. The test is a quick indicator of the amount of incoming sand in the OCC. The test is run on a Pulp or OCC sample. The sample is weighed in a crucible and placed in an oven at 550 C until all organic material is burned off. After reducing to an ash, the residual is weighed and a percent ash is calculated.

- Grit - A grit test is performed as needed by a lab technician. It is a more involved test to determine the silica sand present in a sample and is more accurate than the ash test. The sample is ashed as in the ash test, and then digested using aqua regia reagent. The residual materials are weighed and considered to be silica sand.

- Consistency - This is probably the most routine test performed in the Otsego Mill. The purpose of the test simply is to find out the percent solids or percent

water of a given material. The sample is weighed wet, then weighed after drying, and the ratio of the dry to wet sample times 100 provides the percent solids or consistency of the original sample.

- Charge Density - This test has been performed during trials in the Otsego Mill to determine if it is an indicator of papermaking variables seen in the forming section of the papermaking process. The test is performed on the Pulp using an instrument which tests the amount of charge (positive or negative) available to be neutralized to a zero charge Pulp. The amount of this charge to be reduced to zero is the charge density.

The test results on Secondary Fiber are attached as Documents #16 through #23. These tests have been performed very infrequently, or, in the case of the solid waste tests, are a routine chemically-oriented test as required by law under the Solid Waste Management Act. Documents #16 through #22 describe tests used to determine the quality of the paper or Stock to be used in making corrugating medium. Document #23 is a series of tests on wastes produced at the Otsego Mill as a byproduct of the steam generating and paper making processes. Test results from 1979 to August 1984 were from materials landfilled at the Menasha on-site Type III landfill. Test results from that date forward were from materials landfilled off-site.

In some cases, tests were run only one time, and documentation for why they were done is not contained in any file or available through any persons still employed by Menasha. The tests documented here and their descriptions are as follows.

- NK Pitch Test - The NK pitch test was performed briefly by both Buckman Laboratories (a chemical vendor who developed the test) and by the lab technicians. The test was performed from approximately 1988 to 1990 and was an experimental attempt to find a more accurate quantitative test to replace the spot count mentioned above. The purpose was to quantify the amount of "stickie" contaminant material in the recycled Pulp, which would be unsuitable in the papermaking process. The test consists of obtaining a Pulp sample, and placing a rotating polyethylene bottle into the sample. Toluene is placed into the sample to soften "stickie" contaminants. NK dye is placed into the Pulp, which preferentially dyes "stickie" and wax materials. The "stickies" adhere to the surface of the polyethylene bottle in a dyed form. They can be observed visually, and also weighed for a mass quantity. This test was abandoned by Menasha when it was determined it was not accurate or repeatable. These tests are included in Document #16.

- Pesticide Test - A single test for Diflotan and Paraquat (pesticides) was run on an incoming sample of OCC in 1985. The boxes were intended to be used for transport of these pesticides. Menasha employees saw the labeling and halted its use in the Secondary Fiber process. Samples were sent to an independent lab. The tests both were returned listed by the outside lab as "none detected", and it was determined that the bags had never contained pesticides. This test is included in Document #17.

- Wax Test - Recently, wax content in OCC has become an issue, as OCC availability tightens, and less desirable sources of OCC, such as waxed OCC,

begin to be used. Wax can have adverse effects on paper quality and runnability. A trial was run in the Secondary Fiber system to determine whether colder operation during the recycling process would allow more of the waxes to be removed from the process than during normal "hot" operation. A baseline set of cleaned Pulp samples was obtained from Secondary Fiber during normal operations. A similar set of samples was obtained during the cold start-up after an extended mill outage. The concentration of wax in the Pulp was analyzed by an outside service and reported in September 1994. The test results are included in Document #18.

- Bacterial Analysis - A sample of 100% recycled content medium was obtained and tested for microbiological activity. This was done in response to an internal study on the levels of fecal coliform in recycled medium for food grade board use. Test results were as expected and tested negative for fecal coliform bacteria. The test results are included in Document #19.

- Deposit Chemical Analysis - In April 1993, two samples were analyzed which had been obtained from the inside of cleaning system equipment at the Secondary Fiber system. Deposit analyses were performed by a vendor chemical company. The first analysis showed the deposit was primarily calcium carbonate, inorganic scale, with smaller amounts of iron, calcium oxalate, and other unidentified organic materials. The second sample contained 12% organic material and the rest inorganic material. Less than 2% of the inorganic material was calcium carbonate. Other components identified in the sample were coal, silicon oxide (sand or rock), ethylene vinyl acetate (perhaps a binder in coating material), polyethylene (plastic), styrene-butadiene (rubber), other styrene rubbers, and polyisoprene. The test results are included in Document #20.

- Toluene Extraction's - Several samples of Pulp were obtained from the Secondary Fiber system and extracted using a toluene extraction method. The test was an attempt to quantify the amounts of "stickies" present in the Secondary Fiber system. The extract was not characterized in any fashion. The test was abandoned, because the repeatability and accuracy were questionable. The results are available as Document #21.

- Phenol Test - A record was found of phenol tests on both White Water and OCC Stock filtrate in 1980. The tests were performed by an outside test source, and recorded in a lab notebook by a technician. The test results are listed under Document #22.

- Waste Stream Characterization Test - MDNR requires waste characterization on Type III landfill materials to insure uniformity and that it meets a low hazard determination under act 641. Records of these tests are included in Document #23 to the extent Menasha retained such tests. The test methods used are as shown on each separate test result. The materials which were tested include boiler fly ash and Secondary Fiber compactor/dumpster rejects. The boiler fly ash is the ash left after burning coal in Menasha's #1 or #4 boilers. The Secondary Fiber materials are rejected materials from the cleaning processes during recycling in the Secondary Fiber system. The types of wastes are

glass, tramp metal, wire, tape, glue, starch, certain OCC, polyethylene and other plastics, styrofoam, wood, sand, rocks, labels, rope and strings, waxes, etc.

11b) Menasha reports analytical data on discharges of wastewater and non-contact and contact cooling water to MDNR pursuant to NPDES Permit No. MI0003824 and Ground Water Discharge Permit No. MI0000333. Monthly Operating Report records from 1986 to the present are available for review at Menasha's office. Pursuant to Section 20117(2)(a) of NREPA, Menasha will grant MDNR access at all reasonable times to Menasha's offices to inspect and copy these documents. Menasha does not maintain Monthly Operating Reports prior to 1986. Several toxicity tests have been run at Menasha's outfalls. The results from these toxicity tests are attached as Document #24.

Samples of Menasha's outfalls consistently show that PCBs are not detectable in Menasha's wastewater above acceptable detection limits. Test reports are attached as Document #25. The following five tables summarize the PCB test results of Menasha's outfalls from 1971 to 1993:

Outfall 000	Aroclor (ppb)							Total (ppb)
	1016	1221	1232	1242	1248	1254	1260	
Apr 28, 1981	<10	<10	<10	<10	<10	<10	<10	
Aug 30, 1977 Process Water				<0 001		<0.001	<0 001	
Apr 28, 1981	<10	<10	<10	<10	<10	<10	<10	
Jan 12, 1988								<0 5
Apr 14 1988 24-hour composite	<0 05	<0 05	<0 05	<0 05	<0 05	<0 05	<0 05	
May 1, 1990 24-hour composite sampled at lagoon discharge	<0 05	<0 05	<0 05	<0 05	<0 05	<005	<0 05	

Outfall 001	Aroclor (ppb)							Total (ppb)
	1016	1221	1232	1242	1248	1254	1260	
Apr 14, 1988 24-hour composite	<0 05	<0 05	<0 05	<0 05	<0 05	<0 05	<0 05	
March 23, 1993	<4 74	<4 74	<4 74	<4 74	<4 74	<4,74	<4 74	

Outfall 002	Aroclor (ppb)							Total (ppb)
	1016	1221	1232	1242	1248	1254	1260	
May 20, 1974 Grab composite								<0 1

Outfall 002	Aroclor (ppb)							Total (ppb)
	1016	1221	1232	1242	1248	1254	1260	
May 13, 1975 24-hour composite				ND		<0 01	<0 01	
Aug 9, 1976 24-hour composite				<0 0001		<0 0001	<0 0001	
Aug 30 1977 24-hour composite				<0 001		<0 001	<0 001	
Sep 18 1978 24-hour composite				<0 1		<0 1	<0 1	
Apr 28, 1981	<10	<10	<10	<10	<10	<10	<10	
Jan 12, 1988								<0 5
Apr 14 1988 24-hour composite	<0 05	<0 05	<0 05	<0 05	<0 05	<0 05	<0 05	

Outfall 003	Aroclor (ppb)							Total (ppb)
	1016	1221	1232	1242	1248	1254	1260	
May 20 1974 Grab composite Water to 003								<0 1
May 13, 1975 24-hour composite Process Water to 003				<0 01		<0 01	<0 01	
Sep 18, 1978 24-hour composite				<0 1		<0 1	<0 1	
Aug 28, 1990	ND	<3 0	ND	ND	ND	<1 0	<1 0	<3 0
March 23, 1993	<4 65	<4 65	<4 65	<4 65	<4 65	<4 65	<4 65	

Outfall 004	Aroclor (ppb)							Total (ppb)
	1016	1221	1232	1242	1248	1254	1260	
May 20, 1974 Grab composite								<0 1
May 13, 1975 24-hour composite				0 53		<0 01	<0 01	
Aug 9, 1976 24-hour composite				<0 0001		<0 0001	<0 0001	
Apr 28, 1991	<10	<10	<10	<10	<10	<10	<10	
Apr 14 1988 24-hour composite	<0 05	<0 05	<0 05	<0 05	<0 05	<0 05	<0 05	

River Intake	Aroclor (ppb)							Total (ppb)
	1016	1221	1232	1242	1248	1254	1260	
May 20 1974 River intake grab sample composite								<0 1

These tables clearly show that Menasha's processes have not resulted in the discharge of PCBs to the Kalamazoo River. Out of 26 samples and 116 individual PCB tests results of Menasha's effluent streams, only one result indicates that PCB concentrations exceeded the detection limit; however, the validity of that result is highly questionable. This anomalous test result from a May 13, 1975, sample from Outfall 004 is just slightly above the detection limit of 0.5 ppb, which was acceptable in 1975. Further, tests at Outfall 004 in 1974 and 1976 did not detect any PCBs. Thus, the validity of this single test result, which was very near the limit of detection and not confirmed in prior or subsequent sampling, is highly questionable.

In addition to the test results summarized in the above tables, the Kalamazoo River Study Group ("KRSG") has provided Menasha with two tables from unidentified reports which indicate that in 1971 and 1985 samples from Outfall 003 contained PCB concentrations of 0.13 ppb, 0.016 ppb and 0.020 ppb. These results, however, are unsubstantiated and clearly erroneous. First, these results were all below acceptable limits of detection which were attainable by laboratories during or prior to 1985. Even as late as 1991, the National Council of the Paper Industry for Air and Stream Improvement used 0.5 ppb as the limit of detection for PCBs in wastewater streams. Second, although the KRSG materials report that these samples were obtained from the Otsego Mill, there is no record of these samples in Menasha's files. Third, the KRSG materials do not indicate who sampled the outfall, how the samples were tested, or how quality control was maintained during testing.

Stormwater sampling was conducted in 1992. These sample results are enclosed as Document #26.

Neither Process Water or stormwater are discharged to the Otsego Wastewater Treatment Plant.

11c) Because Menasha produces products used to package food for human consumption, Menasha does not use PCBs or PCB-containing material in its processes and, as a result, does not produce PCB-containing waste. Menasha has never detected PCBs in the raw materials used to manufacture paper at the Otsego Mill and, in fact, has received letters from several manufacturers of commercial products used at the Otsego Mill, including Hercon UBK (used to increase the water shedding properties of paper); Calgon, Enerco, and Betz wastewater Polymers (used to remove suspended solids from Process Water prior to discharge to the Kalamazoo River); Calgon and Haviland steam treatment chemicals (used to reduce scale buildup in steam pipes); Cosmoline (a rust inhibitor); Dubois and Big Tex cleaning solvents; Vertan coolant; and Zep weed killer, stating that these products do not contain PCBs. These letters are attached as Document #27. In 1980, samples of Menasha's sodium carbonate, which is used in the Pulp cooking process, were non-detect for PCBs at 0.1 ppm. See Document #28.

Also in 1980, samples from two of Menasha's Fresh Water Wells were non-detect for PCBs at 0.1 ppb. See Document #29. Menasha has never recycled carbonless paper or used PCB-containing materials in its Secondary Fiber Stock. Because Menasha does not use PCBs in its paper-making process, its final product consistently complies with the PCB limits established by the Federal Food and Drug Administration for food packaging material.

Further, as discussed above in response to Question 11.b., there is no reliable information linking PCBs to Menasha's process waste streams. A total of 195 individual PCB tests results have been obtained for Menasha's process waste stream from 1971 to 1993 (120 test results on wastewater discharges from 1971 to 1993; 40 test results on wastewater treatment Sludge in 1988, 1992, and 1993; 8 test results on Spent Liquor in 1983 and 1993; 20 test results on fly ash in 1982 and 5 test results on ash-lime wastewater Sludge in 1982). Miscellaneous PCB tests have been run on Menasha's Fresh Water Wells, various process chemicals, wastewater Sludges, boiler ash, Spent Liquor, soil, and Secondary Fiber rejects. All of these results were below the applicable detection limit for PCBs. These test results are attached as Document #25. The following table summarizes the PCB test results of these various process-related areas from 1980 to 1993.

Misc. PCB Tests	Aroclor (ppb)							Total (ppb)
	1016	1221	1232	1242	1248	1254	1260	
Jan 17, 1980 Menasha Groundwater wells 6-7				<0 1				
Jan 17, 1980 Menasha groundwater well on 106th Street				<0 2				
Nov 14 1980 Sodium carbonate				<0 1			<0 1	
Mar 14, 1982 Ash-lime Sludge				<0 2	<0 2	<0 2	<0 2	<0 2
Mar 14, 1982 Fly ash composite				<0 2	<0 2	<0 2	<0 2	<0 2
Mar 14, 1982 Fly ash from single supplier (sample 2382)				<0 2	<0 2	<0 2	<0 2	<0 2
Mar 14, 1982 Fly ash from single supplier (sample 2182)				<0 2	<0 2	<0 2	<0 2	<0 2
Mar 14, 1982 Fly ash from single supplier (sample B082)				<0 2	<0 2	<0 2	<0 2	<0 2
Mar 24, 1983 Liquor pond Sludge composite sample								<50
June 13 1986 Soil Sample								<100

Misc. PCB Tests	Aroclor (ppb)							Total (ppb)
	1016	1221	1232	1242	1248	1254	1260	
June 13, 1986 Isopar								<100
June 13, 1986 Soil Sample								<100
June 13, 1986 *Soil at barrel storage area*								<100
Jan 12, 1988 Sludge								<200
Feb 12-26, 1992 Composite Secondary Fiber Rejects (Sample 920495-05)								<500
May 5, 1992 Sludge	<1 9	<9 3	<1 9	<1 9	<1 9	<2 6	<2 6	<0 5
June 29, 1992 Wastewater treatment Sludge	<1 9	<9 2	<1 9	<1 9	<1 9	<2 6	<2 6	
July 20, 1992 Secondary Fiber Report		<0 5	<0 1	<0 1	<0.1	<0 1	<0 1	<1
March 23, 1993 Sludge	<10 95	<10 95	<10 95	<10 95	<10 95	<10 95	<10 95	
March 23, 1993 Spent Liquor	<45 99	<45 99	<45 99	<45 99	<45 99	<45 99	<45 99	
April 6, 1993 Sludge	<19	<51	<19	<19	<10	<4 6	<19	
April 13, 1993 Sludge	<1 3	<9 4	<1 3	<100	<1 3	<8 8	<8 0	
April 20, 1993 Sludge	<2 2	<1 9	<2 2	<100	<2 2	<4 3	<15	

These test results show that materials at the Otsego Mill, including fresh water supply, Digester cooking chemicals, Spent Liquor, Secondary Fiber rejects, boiler ash, waste treatment Sludges, soil at chemical storage areas, and soil beneath the liquor storage ponds all were non-detect for PCB's. The results clearly show that Menasha's processes have not resulted in the discharge of PCBs to the Kalamazoo River.

Menasha has systematically identified and properly disposed of PCB-containing transformers, capacitors, and other items at the Otsego Mill. Attached as Document #30 are Menasha's annual PCB reports for 1978 through 1990 which document such disposal. Menasha's disposal policy regarding PCB-containing light ballasts is attached as Document #31. Menasha has not disposed of any PCB-containing items after 1990 and, therefore, has not prepared any further PCB annual reports.

In 1973, Menasha disposed of a single small capacitor in Menasha's on-site landfill. A March 31, 1980, memo from Allen Schenck to Bob Gulbranson, attached as Document

#32, describes this capacitor as containing approximately 15 gallons of PCB-containing oil in an absorbent material. At that time, PCB-containing material was not regulated under the Federal Toxic Substances Control Act and such disposal was not prohibited by any other state or federal law. Menasha is not aware of any other PCB-containing items placed in the landfill, which was closed in 1984.

The small amount of PCB-containing oil contained in the single capacitor placed in the landfill cannot possibly impact the Kalamazoo River Superfund Site. First, the capacitor contained an absorbing medium which prevented the 15 gallons of oil from being drained. Second, even if some oil was able to drain from the capacitor, the landfill contains mostly absorbent solids such as fly ash, Secondary Fibers and Secondary Fiber waste, lime-slurry sludge, and is approximately three quarters of a mile from the Kalamazoo River. PCBs, which generally adhere to soil and other solids, could not possibly migrate that distance. Groundwater monitoring conducted by Menasha pursuant to its landfill closure plan confirms that no contaminants have migrated from the landfill and samples from Menasha's Fresh Water Wells Nos. 6 and 7, which are located in the aquifer downstream of the landfill, were non-detect for PCBs in 1980. See Document #29. Therefore, the landfill is not a source of PCBs in the Kalamazoo River.

As part of Menasha's program to identify and properly dispose of PCB-containing items at the Otsego Mill, Menasha discovered and corrected four insignificant spills of PCB oil which occurred entirely within Menasha's buildings and did not affect the environment. First, in 1981, a Menasha employee discovered that less than one ounce of oil had leaked from a capacitor following a power outage. Menasha retained A-1 Disposal Corporation to clean up the spill and dispose of the capacitor off-site. See Document #30. Second, on February 11, 1982, a Menasha employee discovered a drain plug on a 750 KVA transformer leaking at a rate of approximately 1 drop every 5 minutes. Menasha retained Rowen & Blair to repair the leak. See Document #30. Third, on October 27, 1983, Menasha employees discovered a leaking 55-gallon drum of Pyranaul which had been removed from a transformer. Menasha retained Rowen & Blair to remove the drum and clean up the spill. See Document #30. Fourth, on May 8, 1989, a Menasha employee discovered that transformer No. H887289B had leaked oil onto the transformer's angle-iron frame, covering an area less than 3 inches by 3 inches. Menasha retained Environmental Enterprises, Inc. to clean up the spill. See Document #30. These four incidents involved only small amounts of oil, were cleaned up immediately, and were completely contained within Menasha's switchrooms.

Waste oils were not used for dust control because Menasha's Spent Liquor, used as Road Binder, was the preferred dust control method. Disposal of waste oil was handled by Stoddard Oil of Wayland until 1988. From 1989 to 1993, Menasha used Safety-Kleen. In 1992, a single 55 gallon drum of hydraulic oil generated from forklift maintenance tested at 2.3 ppm Aroclor 1260, which is just slightly above the detection level specified in rules promulgated under the Toxic Substances and Control Act. Information on this oil is attached as Document #33. No other waste oil samples have tested positive for PCB's. Since 1994, Menasha has used Nederhoed Oil for waste oil service. Menasha disposal policies are given in Document #34.

In October, 1994, Menasha arranged for Drug & Laboratory Disposal, Inc. ("DLD") to package, transport and dispose of certain unused commercial products ("Menasha's Chemicals") that were stored in containers at the Otsego Mill. DLD removed Menasha's Chemicals from the Otsego Mill in two shipments on October 20 and 27, 1994. Based on analytical tests performed by DLD's laboratory, DLD has alleged that the nonpumpable portion of Menasha's Chemicals in the October 20, 1994, shipment (the "Shipment"), after being commingled with waste from other third-party generators, contained PCBs, even though DLD's invoice to Menasha indicates that DLD conducted 3 PCB screens on Menasha's Chemicals which indicated that PCBs were not present. DLD's allegations, however, are without merit because: (1) the Shipment accounted for less than seven percent of the 134,000 pounds of waste received by DLD during October, 1994; (2) DLD's waste handling, tracking, sampling and analysis procedures are wholly inadequate; (3) DLD generally does not screen individual waste shipments for PCBs prior to commingling with other shipments; (4) Menasha does not use PCB-containing products at the Otsego Mill and, with limited exceptions, has verified that Menasha's Chemicals in the Shipment did not contain PCBs; and (5) with respect to the limited exceptions previously mentioned, Menasha has no reason to believe that the material involved contained PCBs. Thus, there is no credible information linking the PCBs in DLD's waste stream to Menasha's Chemicals. All of Menasha's Chemicals were ultimately disposed of by DLD in accordance with applicable law, and there is no allegation of a release of any of Menasha's Chemicals at the Otsego Mill or any other location. Documentation on this matter is attached as Document #35. Menasha, through its attorneys, Honigman Miller Schwartz and Cohn, has demanded that DLD reimburse Menasha for its expenses, including additional testing and disposal expenses, related to DLD's unfounded allegations regarding PCBs in Menasha's Chemicals (Document #35, Part A).

In anticipation of the arrangement for disposal with DLD, Menasha prepared two inventories of unused commercial products stored at the Otsego Mill: (1) an "Unused Chemical Inventory" (Document #35, Part B); and (2) an "Unused Chemical Disposal Inventory" (Document #35, Part C). In addition, DLD prepared a 3-page, hand written inventory of Menasha's Chemicals as they were loaded onto DLD's vehicle on October 20, 1994 (the "DLD Inventory") (Document #35, Part D). The DLD Inventory's first 2 pages list Menasha's Chemicals that were contained in relatively small containers, ranging in size between 15 milliliters and 5 gallons. DLD placed these small containers in 55 gallon over-pack drums prior to loading onto the transport vehicle. The DLD Inventory's third page lists Menasha's Chemicals contained in 38 drums ranging in size between 30 and 55 gallons, plus one 5 gallon bucket. DLD has alleged that one or more of these 38 drums contained PCBs. Four manifests accompanied the Shipment (Document #35, Part E). These manifests indicate that the entire Shipment consisted of 44 drums. Therefore, in addition to the 38 drums listed on DLD's Inventory's, the Shipment also presumably included 6 over-packed drums. DLD has not alleged that either Menasha's Chemicals in the 6 over-packed drums included in the Shipment or any drums included in the October 27, 1994, shipment contained PCBs.

Based on the three inventories, Menasha has positively identified Menasha's Chemicals contained in 32 of the 38 drums and verified that these Chemicals did not contain PCBs (Document #35, Part F). These known Chemicals are as follows:

- One 55-gallon drum, Cosmoline. Cosmoline is a commonly used rust inhibitor used by Menasha to prevent the formation of rust on metal machine parts. Cosmoline is not a chemical used in the paper making process and would not be discharged in the process waste stream. Menasha has obtained a letter from the manufacturer of Cosmoline stating that the product does not contain PCBs.

- One 55-gallon drum, Enerco polymer. Enerco manufactures polymers used by Menasha in its wastewater treatment system in the mid 1980s. Menasha has a MSDS for this product and a letter from the supplier which indicate that PCBs are not present in this product.

- Three 55-gallon drums, Hercon UBK. Hercon UBK is a food-grade paper additive used by Menasha to increase the water-shedding capability of the final product. Menasha has obtained a letter from the manufacturer of Hercon UBK stating that the product does not contain PCBs.

- Seven 30/55-gallon drums, Calgon Steam Treatment Chemicals. Menasha used Calgon steam treatment chemicals in the power-house boilers to prevent scale build-up in steam pipes. The specific Calgon chemicals were 15S (one 30-gallon drum), 7706 (four 55-gallon drums), BA11FP (one 30-gallon drum), and one 55-gallon drum of an unidentified Calgon steam treatment chemical. Menasha has obtained a letter from Calgon stating that its products do not contain PCBs.

- Eight 55-gallon drums, Betz 1165L. Betz 1165L is a wastewater treatment polymer used by Menasha to remove suspended solids from wastewater prior to discharge to the Kalamazoo River. Menasha has obtained a letter from the manufacturer of Betz 1165L stating that the product does not contain PCBs.

- One 55-gallon drum, Dubois C1575A. Dubois C1575A is a solvent-based cleaner used by Menasha to clean "felts," which are used to draw water from the paper product during the manufacturing process. Menasha has obtained a letter from the manufacturer of Dubois C1575A stating that the product does not contain PCBs.

- One 55-gallon drum, Vertan. Vertan is a coolant used in a closed loop system. Vertan is not a chemical used in the paper making process and would not be discharged in the process waste stream. Menasha has obtained a letter from the manufacturer of Vertan stating that the product does not contain PCBs.

- One 55-gallon drum, Calgon L675. Calgon L675 is a wastewater treatment polymer. Menasha has obtained a letter from Calgon stating that its products do not contain PCBs.

- Two 55-gallon drums, Haviland Sodium Silicate. Haviland sodium silicate is a steam treatment chemical used by Menasha in its power-house to prevent scale build-up in steam pipes. Haviland sodium silicate is not a chemical used

in the paper making process. Menasha has obtained a letter from Haviland stating that this product does not contain PCBs.

- One 30-gallon drum, Zep G12. Zep G12 is a weed killer. Menasha has obtained a letter from the manufacturer of Zep G12 stating that this product does not contain PCBs.

- One 30-gallon drum, Shalco Vegetation Killer. The manufacturer of Shalco Vegetation Killer is apparently no longer in business; however, PCBs are not normally associated with herbicides and Menasha has no reason to believe the this material contained PCBs.

- One 30-gallon drum, Big Tex Solvents. Big Tex Solvents is a parts cleaner/degreaser. Big Tex Solvents is not a chemical used in the paper making process. Menasha has obtained a letter from the manufacturer of Big Tex Solvents stating that this product does not contain PCBs.

- One 30-gallon drum, Nitrofoam. Nitrofoam is a chemical used in conjunction with solvents in order to "foam" the solvent and increase its cleaning ability. Nitrofoam is not a chemical used in the paper making process. Menasha has a MSDS for this product which indicates that this product does not contain PCBs.

- Three 55-gallon drums, oil. Menasha's Unused Chemical Disposal Inventory identifies the contents in these three drums as: (1) Amoco 300 MO 15W40 oil; (2) Packer Tech oil; and (3) Texaco oil. DLD screened the contents of these drums for PCBs prior to commingling them with other wastes and apparently concluded that this material did not contain PCBs.

In addition to the 32 drums identified above, the DLD Inventory indicates that the Shipment included 6 drums which did not have labels or other identifying markings. These 6 drums are as follows:

- One 55-gallon drum, paint/. Menasha does not use paint in its paper-making process and paint would not be discharged in the process waste stream. Paint at the Otsego Mill would most likely have been used on machinery, floors, walls and other structures. Menasha has no reason to believe that this drum contained PCBs.

- Two 55-gallon drums, unknown w/ spigot. An outside contractor left both of these drums at the Otsego Mill. Menasha did not use the contents of these drums for any purpose and has no information regarding their contents; however, Menasha has no reason to believe that these drums contained PCBs. Based on Menasha's knowledge of the chemicals used at the Otsego Mill, Menasha is certain that the contents of these containers were not used in the paper-making process and were not discharged, either through the process waste stream or otherwise, to the environment.

- One 55-gallon drum, unknown w/ white foam. Menasha has no information on the contents of this drum; however, Menasha has no reason to believe that this drum contained PCBs. Based on Menasha's knowledge of the chemicals used at the Otsego Mill, Menasha is certain that the contents of this container were not used in the paper-making process and were not discharged, either through the process waste stream or otherwise, to the environment.

- One 55-gallon drum, unknown white drum. Menasha has no information on the contents of this drum; however, Menasha has no reason to believe that this drum contained PCBs. Based on Menasha's knowledge of the chemicals used at the Otsego Mill, Menasha is certain that the contents of this container were not used in the paper-making process and were not discharged, either through the process waste-stream or otherwise, to the environment.

- One 55-gallon drum, unknown green drum. Menasha has no information on the contents of this drum; however, Menasha has no reason to believe that this drum contained PCBs. Based on Menasha's knowledge of the chemicals used at the Otsego Mill, Menasha is certain that the contents of this container were not used in the paper-making process and were not discharged, either through the process waste-stream or otherwise, to the environment.

Thus, of the 38 total drums in the Shipment, only these 6 drums could potentially have contained PCBs because the contents of these drums cannot be verified; however, Menasha has no reason to believe that these 6 drums contained PCBs. Further, because of DLD's wholly inadequate waste handling, tracking, sampling and analysis procedures, there is no reliable evidence linking Menasha's Chemicals contained in these 6 drums to PCBs detected in DLD's out-going waste. Finally, Menasha is certain that these 6 drums did not contain chemicals used in the paper-making process and that the chemicals were not discharged, either through the process waste-stream or otherwise, to the environment.

During the month of October, 1994, DLD received over 134,000 pounds of manifested waste, including approximately 9300 pounds of Menasha's Chemicals contained in the Shipment (Document #35, Part G). Prior to commingling this incoming waste, DLD conducted only a very limited initial screen which did not include analytical testing for PCBs with the exception of the negative PCB screens on the three oil drums discussed above. In a June 19, 1995, letter to Menasha, DLD stated that a "Hazardous Waste Chemist obtains a sample from [each] drum to verify its contents and to determine a proper disposal method." (Document #35, Part H.) This letter does not indicate *how* the sample is tested and, in fact, DLD has told Menasha that incoming drums are *only* tested for BTU content prior to commingling and, with respect to PCBs, incoming drums are checked visually and screened for PCBs *only* if the waste looks "funny" or is oil. In fact, DLD admits in its June 19 letter that the third-party solvents used to cut nonpumpable waste "*are not analyzed for [PCBs] prior to use.*" (Emphasis added.) This practice is inconsistent with the Waste Analysis Plan ("WAP") contained in DLD's Hazardous Waste Treatment and Storage Facility Operating License. (Document #35, Part Q.) The WAP requires that DLD may not accept waste for disposal "unless a detailed chemical analysis or waste characterization of a representative sample is available in [DLD's] files" and further requires that "waste received from large volume

generators, that is [DLD] clients generating more ti an 1,000 kilograms per month, will be analyzed for the following parameters: 1. Heavy Metals, Cyanides, Sulfides, . . . 2. Flash Point, BTU, . . . [and] 3. Organic Liquids & Dissolved Constituents . . . includ[ing] the 8000 and 8100 series of methods as listed in Test Methods For Evaluating Solid Waste." These test method series include the PCB test, Method 8080. DLD did not comply with these requirements with respect to Menasha's Chemicals or the solvents used to process them and, therefore, has no basis for asserting that Menasha's Chemicals contained PCBs.

DLD has further told Menasha that DLD does not retain negative PCB scans of incoming waste as a permanent record. This practice is apparently in violation of the provisions of 40 C.F.R. § 264.73, which require that a facility maintain testing data in the facility's operating record. Notwithstanding this requirement, DLD's statements regarding the failure to retain test data are corroborated by DLD's Invoice No. 410068, related to the Shipment. This invoice states that DLD charged Menasha for three initial PCB screens, corresponding to the three barrels of oil included in the Shipment (Document #35, Part I). Although Menasha has requested that DLD provide the results of these three initial screens to Menasha, DLD has been unable to provide them and, therefore, the results were presumably negative and discarded by DLD.

Following DLD's limited initial screen, DLD commingles the incoming drummed waste so that the contents of the individual drums completely lose their identity. DLD transfers pumpable waste to larger holding tanks and transfers non-pumpable waste from the original containers to unlabeled 55-gallon drums in which DLD cuts the waste with solvents obtained from other third-party generators. DLD makes no attempt to track individual waste shipments internally once the waste leaves the initial screening area. This is especially true in DLD's waste cutting area. For example, Dave Merkel and Keith Kling, Menasha employees, visited DLD's facility on June 12, 1995, and observed between 20 and 30 unlabeled barrels being stored in random order in DLD's waste cutting area (Document #35, Part J).

Only after DLD has commingled waste and destroyed its identity does DLD perform a PCB analysis on the commingled waste. DLD states in its June 19 letter: "As part of DLD's *outgoing waste analysis requirements*, each drum of processed nonpumpable waste is analyzed for PCBs and heat of combustion." (Emphasis added.)

DLD claims that it commingled the pumpable portion of Menasha's Chemicals in a 3000-gallon tank containing other third-party waste. DLD further claims that this tank held 2961 gallons of commingled waste after the addition of Menasha's Chemicals. DLD's analytical report of a sample allegedly taken from that tank on November 8, 1994, indicates a total PCB concentration of 10 ppm (Document #35, Part K); however, DLD has told Menasha that it does not know which PCB aroclors were detected in the commingled waste. In fact, DLD has stated that it has *lost* the test results on the tank sample (Document #35, Part L). In addition, DLD is unable to substantiate the chain of custody for the sample, the quality control for the test, or how DLD knows that Menasha's Chemicals were even contained in the tank.

DLD also claims that the nonpumpable portion of Menasha's Chemicals resulted in 33 drums of waste processed with waste solvents generated by a third-party; however,

because DLD does not have any waste tracking system, DLD cannot verify whether other nonpumpable third-party waste was commingled in these 33 drums. DLD has provided Menasha with the analytical results of PCB tests on samples reportedly taken from 14 of the 33 drums alleged to contain the nonpumpable portion of Menasha's Chemicals and third-party solvents (Document #35, Part M). DLD states in its June 19 letter that these results indicate that all of the 14 samples contained PCBs; however, this statement is not correct because the results only positively identify PCBs in 6 of the 14 samples. The remaining 8 samples apparently contained material which interfered with DLD's PCB analysis, resulting in high detection limits. This interference was most likely caused by pesticides, which DLD receives in large volumes from its household hazardous waste collection activities. Such interference results in high PCB detection limits because organic pesticides often appear similar to PCBs in the test's raw data. Although Menasha obtained split samples from DLD and verified through an independent laboratory (Western Michigan Environmental Services, Inc.) that only 6 of the 14 samples contained PCB aroclor 1254 and that the remaining 8 samples had high detection limits, this verification does not confirm that *Menasha's Chemicals* contained PCBs because of DLD's inadequate waste tracking system and analytical procedures (Document #35, Part N).

The Shipment arrived at DLD's facility on a Thursday. MDNR manifest records indicate that, during the 3 days prior to the Shipment, DLD received over 12,600 pounds of waste. DLD's analytical results state that the samples were obtained 5 days after the Shipment, on October 25, 1995. MDNR manifest records indicate that DLD received an additional 12,245 pounds of waste during that 5-day period. Because DLD has no internal waste tracking procedures, DLD has no way of distinguishing Menasha's Chemicals from waste that was stored at DLD's facility prior to the Shipment's arrival, or the waste which arrived before DLD sampled its out-going waste. Thus, DLD cannot verify (1) that the 14 samples actually came from the 33 drums alleged to contain Menasha's nonpumpable Chemicals; (2) that the 33 drums actually contained Menasha's nonpumpable Chemicals; (3) that Menasha's Chemicals were the only nonpumpable material contained in the 33 drums; (4) that the third-party solvents used to cut the nonpumpable material did not contain PCBs; and, consequently, (5) that any of Menasha's Chemicals contained PCBs.

Menasha retained Ann Arbor Technical Services, Inc. ("ATS") to review DLD's waste handling procedures in connection with this matter. ATS is a highly respected laboratory in Michigan and its chemists have considerable experience in waste handling, sampling and testing issues. ATS concluded that DLD's operation is not in accordance with sound waste sampling, tracking and testing techniques and, as a result, DLD cannot attribute out-going waste to incoming waste with any degree of certainty (Document #35, Part O). Specifically, ATS concluded:

- The apparent lack of waste tracking procedures at DLD preclude attributing PCB contamination of the involved DLD wastes to Menasha or to another single generator or waste shipment.

- The analytical data provided by DLD to support the disposal of 14 drums is suspect. The four sample replicates exhibited poor and unacceptable precision ([relative percent difference] > 30%) and the

data from both DLD and Western Michigan Environmental indicate that six drums of waste material are contaminated with PCB, rather than the fourteen drums which DLD claims.

- DLD apparently did not use standard analytical methods in their evaluation of drum contents, and they supplied no supporting documentation to validate their measurements, so the DLD data must be considered suspect.

- The DLD position that PCB contamination in their waste streams originated in the Menasha waste shipment cannot be demonstrated from the facts they have presented concerning the handling, tracking, sampling and analysis of wastes at the facility.

In summary, DLD cannot attribute PCBs in its commingled wastes to Menasha. Further, based on its knowledge of the materials disposed of in the Shipment and of other materials used at the Otsego Mill, Menasha believes that the Shipment did not contain any PCBs and that DLD's assertion that Menasha's Chemicals contained PCBs is without merit.

11d) Technical and analytical information regarding wastewater, non-contact and contact cooling water, storm water and Vacuum Pump Seal Water is provided in response to Question 10.b.

Several analytical test results regarding wastewater treatment Sludge are attached as Document #36. Land application of wastewater treatment Sludge has been ongoing since the late 1970s. Routine analytical tests of the Sludge were completed as part of this program. These tests are available for review at Menasha's offices. Wastewater treatment Sludge has been tested for PCBs in 1988, 1992 and 1993 and has never been found to contain PCBs. Testing of wastewater treatment Sludge for dioxins and furans is included as Document #37.

Representative technical and analytical information regarding Spent Liquor is attached as Document #38. Additional technical information on Spent Liquor is available for MDNR's review at Menasha's offices. Spent Liquor has been tested for PCBs in 1983 and 1993 and has never been found to contain PCBs.

Other technical or analytical information related to the Otsego Mill include tests conducted on ash-lime sludge, Evaporator condensate, 002 and 003 outfall volatile halocarbons and White Water. This information is attached as Document #39.

11e) Test results for PCBs in Menasha's final product are found in Document #25. Menasha's final product has consistently been within the Food and Drug Administration's acceptable limits on PCBs in food packaging material. One test result for PCBs on 100% recycled paper was completed in August 1990 and was non-detect for PCBs. In addition, test results were completed on Secondary Fiber rejects in March and July of 1992. These test results were also non-detect for PCBs. The test results from Secondary Fiber paper and rejects are attached as Document #25.

11f) Site assessments and environmental reports related to the Otsego Mill are as follows:

- Surge pond closure—Document #40
- MDNR surveys—Document #41
- Chipyard oil investigations—Document #42
- Sludge/liquor pond closures north of river road—Document #9
- Soil contamination on south side of mill—Document #43
- Site evaluation by EPA—Document #44
- Liquor contamination in Otsego City wells—Document #45
- Sodium carbonate pile reclaim—Document #46
- History and closure of on-site landfill—Document #47
- 1977 EPA CWA Section 308 survey—Document #48
- 1990 EPA CWA Section 308 survey—Document #49

Several air quality tests have been completed on Menasha's boilers and Spent Liquor treatment equipment. These tests generally consist of particulate matter and associated tests such as CO, CO_2, O_2, and stack moisture. Some SO_2 and NO_x information is also available. This information, as well as copies of annual Michigan Air Report Forms from 1975 to the present is available for review at Menasha's offices. Pursuant to Section 20117(2)(a) of NREPA, Menasha will grant MDNR access at all reasonable times to Menasha's offices to inspect and copy these documents.

11g) No Deinking processes have ever been used at the Otsego Mill. Prior to 1957, Menasha used only virgin materials in its paper making process. From 1957 to 1970, Menasha used only Virgin Pulp and DLK grades of Secondary Fiber. From 1971 to 1992, Menasha used only Virgin Pulp, DLK and OCC. Menasha did not use Mixed Waste at the Otsego Mill until 1993.

11h) Menasha began a Road Binder program in 1954 in a cooperative agreement with the Michigan Water Resources Commission using Spent Liquor. This product was spread on area gravel roads at application rates of 4000-8000 gallons per mile. It was spread evenly, avoiding ditches and other ponding areas. Application was stopped within 50 feet of bridges, streams, rivers, or drainage ditch crossings. Historical information, as available, is found in Document #50. Technical and analytical information regarding Spent Liquor is attached as Document #38. Spent Liquor has been tested for PCBs in 1983 and 1993 and has never been found to contain PCBs.

During final closure of Menasha's liquor storage ponds, previously described in Document #7, Menasha was participating in a Road Binder application program. A-1 Disposal was one of the companies used to apply the liquor to area roads. A rumor surfaced that A-1 Disposal was adding waste chemicals from other facilities to their trucks prior to loading Menasha's Spent Liquor in their trucks. This matter was carefully and vigorously pursued and was found to have no factual basis. Information on this matter, including tests results on samples from A-1 Disposal's truck, is attached as Document #51.

Wastewater treatment Sludges have routinely been used as a soil amendment at local area farms from 1975 to the present. Information on this activity is provided in Monthly Operating Reports submitted to MDNR under Ground Water Permit No. M0000333

which are available for review at Menasha's office. Pursuant to Section 20117(2)(a) of NREPA, Menasha will grant MDNR access at all reasonable times to Menasha's offices to inspect and copy these documents. Technical and analytical information regarding wastewater treatment Sludge is attached as Document #36. Wastewater treatment Sludge has been tested for PCBs in 1988, 1992 and 1993 and has never been found to contain PCBs.

11i) Material Safety Data Sheets for all hydraulic fluids, heat transfer fluids and other oils used at the Otsego Mill are attached as Document #52. None of these fluids is reported to contain PCBs.

12. Do you know or have reason to know of any prior, ongoing or planned investigations of the wastewater, wastewater treatment Sludge, non-contact and contact cooling water, spent liquor, stormwater, sediment, oil, fluids, vacuum pump seal water, soil, groundwater, surface water, geology, or hydrogeology on or about the facility? If so:

a. Describe the nature and scope of these investigations.

b. Identify the persons who are conducting or will conduct these investigations.

c. Describe the purpose of the investigations.

d. State the dates of such investigations.

e. Describe as precisely as possible the locations at the facility where such investigations are taking or will take place.

All prior, ongoing or planned investigations and reports concerning environmental events were described in response to Question 11f. Other minor events are described below in response to Question 17.

13. Identify all persons, including yourself, who may have given, sold, transferred, or delivered any materials or items, including to Bardeen Paper Mill, Otsego Falls Paper Company, and David Green. In addition:

a. State the dates on which each such person may have given, sold, transferred, or delivered such material or item.

b. Describe the materials or items that may have been given, sold, transferred, or delivered, including type of material, quantity, chemical content, physical state, quantity by volume and weight, and other characteristics, including results of any PCB analyses.

c. Describe the intended purpose of each sale, transfer, or delivery of material or item.

d. Describe the source of or process that produced the materials or items that may have been sold, transferred, or delivered.

e. Describe all efforts taken by such persons to determine what would actually be done with the materials or items that may have been sold, transferred, or delivered after such materials or items had been sold, transferred, or delivered.

There is no information in Menasha's files on such transactions beyond the information provided in response to other Questions in this letter.

14. Did you acquire any portion of the property after the disposal or placement of the hazardous substances on, in, or at the property? Describe all of the facts on which you base the answer to this question.

MDNR has withdrawn this question pending further review.

No response is required.

15. At the time you acquired each parcel of the property, did you know or have reason to know that any hazardous substance was disposed of on, in, or at the property? Describe all investigations of the property you undertook prior to acquiring the property and all of the facts on which you base the answer to this question.

MDNR has withdrawn this question pending further review.

No response is required.

16. Did you acquire the property by inheritance or bequest? Describe all facts on which you base the answer to this question.

MDNR has withdrawn this question pending further review.

No response is required.

17. Describe all leaks, spills, or releases or threats of release of any kind into the environment of any hazardous substances that have occurred or may occur at or from the property including, but not limited to:

a. When such releases occurred or may occur.

b. How the releases occurred or may occur.

c. What hazardous substances were released or may be released.

d. What amount of each such hazardous substance was so released.

e. Where such releases occurred or may occur.

f. Any and all activities undertaken in response to each such release or threatened release.

g. Any and all investigations of the circumstances, nature, extent, or location or each such release or threatened release, including the results of any wastewater, wastewater treatment Sludge, non-contact and contact cooling water, spent liquor, stormwater, sediment, oil, fluids, vacuum pump seal water, soil, groundwater, surface water, or air testing that was undertaken.

h. All persons with information relating to subparts a. through g. of this inquiry.

Menasha may refer to its answer to Question No. 12 in answering Question No. 17.

Investigations and reports concerning environmental events were previously provided in response to Question 11f. Listed below are documented minor spills, etc. None of these incidents involved PCB's or PCB-containing material. Reports on these situations are enclosed as Document #53.

- #53A—White Water leaks
- #53B—liquor spills
- #53C—Stock spills
- #53D—oil to 002 weir
- #53E—diesel fuel leak from MDS vehicle
- #53F—busperse 39 chemical spill
- #53G—ash spill
- #53H—lime slurry tank overflow
- #53I—fuel oil under #2 machine floor

18. If any release or threatened release identified in response to inquiry number seventeen (17) occurred into any subsurface disposal system or floor drain inside or under any buildings located on the property, further identify:

a. **Where precisely the disposal system or floor drains and associated pipelines are presently and were formerly located.**

b. **When the disposal system or floor drains and associated pipelines were installed.**

c. **How and for what purpose the disposal system or floor drains and associated pipelines were and are used.**

d. **How and when such disposal system, floor drains, and associated pipelines were replaced, repaired, or otherwise changed.**

Menasha is not aware of any releases of hazardous substances into subsurface disposal systems or floor drains

19. **Identify all persons, including yourself, who may have manufactured, given, sold, transferred, or delivered or otherwise handled materials and items. In addition:**

a. **Describe in complete detail all arrangements pursuant to which such persons may have handled such items or materials.**

b. **State the dates on which such persons may have handled each such items or materials.**

c. **State the amounts of such items or materials that may have been handled on each such date.**

d. **Identify the persons to whom such items or materials may have been given, sold, transferred, or delivered.**

e. **Describe the nature, including the chemical content, characteristics, physical state (e.g., solid, liquid), and quantity (volume and weight) of all such items or materials and describe all tests, analyses, and results of such tests and analyses concerning such items or materials.**

f. **State whether any of the items or materials identified in subpart e. of this inquiry, exhibit any characteristics of a hazardous waste as defined in Act 64, Rule 299.9212.**

g. State whether any of the items or materials identified in subpart e. of the inquiry, are listed as defined in Rules 299.9213 and 299.9214 of Act 64.

h. Describe the nature of the operations that were the source of the release of such items or materials.

i. Provide copies of all documents (including, but not limited to, invoices, receipts, manifests, shipping papers, customer lists, and contracts) which may reflect, show or evidence the giving, sale, transfer or delivery, or other arrangements under which the giving, sale, transfer, or delivery of any materials to the property took place. Invoices from 1990 to present are available for review.

j. Describe the type, condition, number, and all markings on the containers in which the materials were contained when they were handled.

This question shall be limited as follows: (1) the term "materials" shall mean "hazardous substances" as that term is defined in Section 3(p) of Act 307, recycled paper feed stock, and transformer oil; and (2) this question shall relate only to materials handled after 1950.

b. The term "persons" shall mean Menasha employees with primary responsibility for handling hazardous materials.

c. Menasha may answer this question by providing "ballpark" figures and ranges of dates.

d. The term "persons" shall mean Menasha employees with primary responsibility for handling hazardous materials.

h & j. MDNR has withdrawn these questions pending further review.

This question is so broadly worded as to make specific answers difficult. Almost no personnel records exist for much of the time in question. Information listed below is often based on estimates from seasoned workers. Also, because Menasha traditionally has trained each worker to handle their job independently, an all inclusive answer to this question would include dozens or hundreds of names. If there are individual questions requiring more information, it would need to be more specific.

19a) Names and job descriptions of such persons have been provided in response to Question 3.

19b) Recycled fiber was used on a daily basis from 1971 to the present, subject to the limitations described in response to Question 11.

19c) Recycled paper was used at the following maximum rates:

From 1950 to 1969, the Otsego Mill produced less than 60 tons per day of recycled Pulp using internal Broke and Box Plant Clippings. Actual tonnages were probably 10-20 TPD.

From 1969 to 1980, a 14-foot Hydrapulper and cleaning system was used. It was rated at 110 TPD at installation and was producing 150 TPD in 1980. The Furnish was DLK and OCC.

Between 1980 and 1984, cleaning system improvements allowed for capacity increases to 200 TPD, with most of the Furnish being supplied by OCC.

In 1985, cleaning equipment installations allowed for an initial delivery of 300 TPD with additional upsizing of piping for future upgrades. A Furnish of OCC was used.

Improvements in 1987 and 1988 took the theoretical equipment production capability of recycled OCC to 400 TPD with actual production of around 320 TPD.

In 1990, a second Hydrapulper and cleaning system was constructed, increasing recycle capacity to 600 TPD.

There are no simple answers for chemical usage rates due to their varied uses. The main chemicals used were for Wood Pulping as described below.

Soda ash and sodium sulfite were the main process chemicals in use for digesting virgin wood in Menasha's batch Digesters. To cook 8 cords (or 10 tons) of wood, 1300 pounds of sodium sulfite and 700 pounds of soda ash were used. Busperse 47 was added at ½ gallon per 10 tons and for about six months in the late 1960's tri-sodium phosphate was added at 100 pounds per 10 tons.

Following installation of the continuous Digester in 1972, sodium sulfite was used at 175 Lb/ton of Pulp, and soda ash was added at 130 Lb/ton. In 1978, sulfite was replaced with caustic and sodium carbonate. Chemical rates were held around 275 Lb soda ash and 25 Lb caustic per ton of Pulp. In 1984, caustic was eliminated and a soda ash cook of 250-300 Lb/ton of Pulp is now in use.

In addition, numerous process chemicals have been used over the years to treat scale, foam, iron fouling, bacterial growth, etc. Menasha's Material Safety Data Sheet files contain records on these chemicals as well as support type chemicals such as welding rod, cement, soap, magic markers, and so forth. This file exceeds 2000 pages. Some of the MSD Sheets are two-sided and many are stapled. Therefore, copies are not provided with the report, but are available for review at the Otsego Mill. Pursuant to Section 20117(2)(a) of NREPA, Menasha will grant MDNR access at all reasonable times to Menasha's offices to inspect and copy these documents. Included as Document #54 are lists of chemicals on-site at the Otsego Mill in 1986 and 1995.

19d) These persons have been previously identified in response to Question 3.

19e) Menasha has previously provided the quantity of materials used in response to Question 19.c. Menasha has previously provided technical information on materials, including test results, in response to Question 11. Other information regarding chemical content, characteristics, and physical state of materials delivered to the Otsego Mill is provided in Menasha's MSDS file, which is available for review at the Otsego Mill. Pursuant to Section 20117(2)(a) of NREPA, Menasha will grant MDNR access at all reasonable times to Menasha's offices to inspect and copy these documents.

19f) No hazardous waste is transported to the Otsego Mill, and Menasha is not aware of any deliveries to the Otsego Mill of materials which exhibit the characteristics of hazardous waste; however, Menasha does generate a small amount of hazardous waste at the Otsego Mill for which Menasha has arranged for proper off-site disposal by licensed hazardous waste transporters and disposal facilities.

19g) No hazardous waste is transported to the Otsego Mill, and Menasha is not aware of any deliveries to the Otsego Mill of listed hazardous waste; however, Menasha does generate a small amount of hazardous waste at the Otsego Mill for which Menasha has arranged for proper off-site disposal by licensed hazardous waste transporters and disposal facilities.

19h) No response is required.

19i) Menasha's purchase orders for the giving, sale, transfer, or delivery of materials to the Otsego Mill are available for review at Menasha's offices. Pursuant to Section 20117(2)(a) of NREPA, Menasha will grant MDNR access at all reasonable times to Menasha's offices to inspect and copy these documents.

19j) No response is required.

20. Identify all persons, including yourself, who may have transported materials to the property. Such persons will hereinafter be referred to as "Transporters."

Menasha may answer these questions by providing information on the types of materials disposed of by Menasha at its Type III landfill, which was not open to third parties.

Menasha's five acre on-site landfill was operated from 1969 through 1984. Only Menasha disposed of waste in the landfill. From 1969 to July 1982, all Menasha non-hazardous waste was transported to the landfill. Beginning August 1982, the landfill received only Type III waste. Menasha's on-site landfill disposal policies for 1980 and 1983 are attached as Document #55. The 1980 policy defines the wastes allowed at Menasha's landfill to be limited to: (1) rejects from the Hydrapulper (Secondary Fiber rejects); (2) Digester Squeezings Rejects (wood fines washed from uncooked wood chips); (3) boiler ash; (4) waste paper; (5) broken concrete; and (6) ash-lime sludge (added May 1981)

Test results obtained from materials landfilled on-site from 1979 to 1984 are included in Document #23.

Information describing Menasha's on-site landfill is attached as follows:

Document #47A—Landfill memos and history
Document #47B—Landfill licenses
Document #47C—Landfill closure

21. For each such Transporter, state whether it accepted materials including municipal solid waste from a municipality or arranged with a municipality, by contract or otherwise, to accept materials from any source. If so, describe the nature, quantity, and source of all materials accepted and transported to the property.

Menasha may answer these questions by providing information on the types of materials disposed of by Menasha at its Type III landfill, which was not open to third parties.

Menasha did not accept any third party wastes at its landfill. Information related to this Question is provided in response to Question 20.

22. For each such Transporter, further identify:

a. In general terms, the nature and quantity of all nonhazardous materials transported to the property.

b. The nature of the hazardous materials transported to the property, including the chemical content, characteristics, and physical state (e.g., solid, liquid).

c. Whether any of the hazardous materials identified in subpart b. of this question, exhibit any of the characteristics of a hazardous waste as defined in Rule 299.9212 of Act 64.

d. Whether any of the hazardous materials identified in subpart b. of this inquiry are listed wastes as defined in Rules 299.9213 and 299.9214 of Act 64.

e. The persons from whom the Transporter accepted hazardous materials.

f. Every date on which the Transporter transported the hazardous materials to the property.

g. The owners of the hazardous materials which were accepted for transportation by the Transporter.

h. The quantity weight and volume of hazardous materials taken to the property by the Transporter.

i. All tests, analyses, analytical results, and manifests concerning each hazardous material accepted for transportation to the property.

j. The precise locations on the property to which each hazardous material was transported.

k. Who selected the property as the location to which the Transporter would take each hazardous substance.

l. Who selected the location on the property to which the Transporter would take each hazardous material.

m. The amount paid to each Transporter for accepting the hazardous materials for transportation, the method of payment, and the identify of the persons who paid each Transporter.

n. Where the persons identified in subpart g. of this inquiry intended to have such hazardous substances transported and all documents or other information (oral and written) evidencing their intent.

o. All locations through which such hazardous substances were trans-shipped, stored, or held prior to final treatment or disposal.

p. What activities transpired with regard to the hazardous materials after they were transported to the property (e.g. treatment, storage, or disposal).

q. The final disposition of each of the hazardous materials brought to the property.

r. The measures taken by the persons who gave the hazardous materials to the Transporters to determine what the Transporters would actually do with the hazardous materials they accepted.

s. The type, number, and condition of containers in which the hazardous materials were contained when they were accepted by the Transporters and when they were left at the property, and any other labels, numbers or other markings on the containers.

Menasha may answer these questions by providing information on the types of materials disposed of by Menasha at its Type III landfill, which was not open to third parties.

Menasha did not accept any third party wastes at its landfill. Information related to this Question is provided in response to Question 20.

23. Identify all persons, including yourself, who may have:

a. Disposed of or treated materials at the property.

b. Arranged for the disposal or treatment of materials at the property.

c. Arranged for the transportation of materials to the property (either) directly or through trans-shipment points) for disposal or treatment. Such persons will hereinafter be referred to as "generators."

d. Disposed of materials used or produced at the property off-site.

Menasha may answer these questions by providing information on the types of materials disposed of by Menasha at its Type III landfill, which was not open to third parties.

Menasha did not accept any third party wastes at its landfill. Information related to this Question is provided in response to Question 20.

24. For each and every instance in which a generator performed any of the actions specified in subparts a. - d. of the previous inquiry:

a. Identify the generator.

b. Identify the persons with whom the generator made such arrangements.

c. Identify all persons who may have directly or indirectly transported or otherwise brought any materials, including municipal solid waste, to the facility.

d. State every date on which each generator made such arrangements.

e. Describe the nature, including the chemical content, characteristics, physical state (e.g., solid, liquid), and quantity (volume and weight) of all hazardous materials involved in each such arrangement.

f. State whether any of the hazardous materials identified in subpart e. of this inquiry, exhibit any of the characteristics of a hazardous waste as defined in Rule 299.9212 of Act 64.

g. State whether any of the hazardous materials identified in subpart e. of this inquiry are listed wastes as defined in Rules 299.9213 and 299.9214 of Act 64.

h. State whether any of the items or materials identified in subpart e. of this inquiry are subject to regulation under the federal Toxic Substances Control Act (TSCA), 42 USC 4365 et seq.

i. With regard to hazardous materials identified in both subparts e. and h. above, provide copies of all documents and reports showing compliance with and/or violations of TSCA and of TSCA regulations, 40 CFR 7612, including but not limited to, "Reports on Inspection to Determine Compliance with the Federal PCB Disposal and Marking Regulations."

j. State whether any of the items or materials identified in subpart e. of this inquiry are subject to Critical Materials Register reporting requirement provisions under Act 293, P.A. of 1972, (an act amending Act 245, P.A. of 1929, MCL 323.1 et seq).

k. With regard to hazardous materials identified in both subparts e. and j. above, provide copies of all reports submitted to the MDNR to comply with Act 293, P.A. of 1972 and Part 9 Rules of Act 245, P.A. of 1929, as amended, including but not limited to, "Critical Materials and Wastewater Reports" submitted to the MDNR.

l. State whether any of the items or materials identified in subpart e. of this inquiry were or should have been the subject of any call to and/or response and report by the MDNR's Pollution Emergency Alerting System (PEAS) as required pursuant to the reportable quantities notification requirements of Act 64, Act 307 or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC 9601 et seq and regulations promulgated thereunder.

m. With regard to hazardous materials identified in both subparts e. and l. above, provide copies of all memos, reports, or other documents pertaining to any and all PEAS call and response.

n. In general terms, describe the nature and quantity of the nonhazardous materials involved in each such arrangement.

o. Identify the owner of the hazardous materials involved in each such arrangement.

p. Describe all tests, analyses, analytical results, or manifests concerning each hazardous material involved in such transactions.

q. Describe as precisely as possible any and all of the locations at which each hazardous material involved in such transactions actually was disposed of or treated.

r. Identify the persons who selected the locations on the property at which the hazardous materials were to be disposed of or treated.

s. Identify who selected the property as the location at which hazardous materials were to be disposed of or treated.

t. State the amount paid in connection with each such arrangement, the method of payment, and the identity of the persons involved in each arrangement.

u. Describe where the persons identified in subparts l. and m. of this inquiry intended to have the hazardous materials involved in each arrangement treated or disposed of and all documents or other information (written and oral) evidencing their intent.

v. Describe all intermediate locations to which the hazardous materials involved in each arrangement were trans-shipped or at which they were stored or held any time prior to final treatment or disposal.

w. Describe what was done to the hazardous materials once they were brought to the property.

x. Describe the final disposition of each of the hazardous materials involved in each arrangement.

y. Describe the measures taken by the generator to determine how and where treatment or disposal of the hazardous materials involved in each arrangement would actually take place.

z. Describe the type, condition, and number of containers in which the hazardous materials were contained when they were disposed of, treated or transported for disposal or treatment, and describe any labels, numbers, or other markings on the containers.

Menasha may answer these questions by providing information on the types of materials disposed of by Menasha at its Type III landfill, which was not open to third parties.

Menasha did not accept any third party wastes at its landfill. Information related to this Question is provided in response to Question 20.

25. If you have reason to believe that other persons may be able to provide a more detailed or complete response to any inquiry contained herein or who may be able to provide additional responsive documents, identify such persons and the additional information or documents they may have.

Menasha is currently not aware of such persons.

26. For each and every inquiry contained herein, if information or documents responsive to this Information Request are not in your possession, custody or control, then identify the persons from whom such information or documents may be obtained.

All documents referenced in this response and not attached hereto, other than property titles, are available for review at Menasha's Otsego Mill. Property titles are available from James Sarosiek at Menasha's corporate office in Neenah, Wisconsin. Pursuant to Section

20117(2)(a) of NREPA, Menasha will grant MDNR access at all reasonable times to Menasha's offices to inspect and copy these documents.

For additional information regarding this information request, the primary contact at the Otsego Mill is Keith Kling, Environmental Supervisor, (616) 692-6141, ext. 406.

Very Truly Yours,

OTSEGO PAPERBOARD DIVISION

Keith B. Kling for JTB.

John Bonham
General Manager

Attachments

DOCUMENT INDEX

MEN00057

1. Location of substations
2. UST Gasoline Tanks Removals Report
3. UST Diesel Tank Removal Report
4. Sodium Silicate MSDS
5. Mill Line Drawings Covering 1954-1990
6. Mill Diagram Identifying Physical Wastewater Locations
7. Liquor Pond Closure
8. Aeration Pond Design
9. History of Sludge and Liquor Ponds North of River Road
10. Stormwater Permit Application
11. Weir Consolidation Project
12. Electrical Equipment--Physical Locations
13. Map of Electrical Generating Equipment
14. Location Map of Fresh Water Wells (Past and Present), Including Well Logs
15. Submerged Combustion Evaporators
16. NK Pitch Tests
17. Pesticide Testing
18. Wax Tests
19. Bacterial Analysis
20. Deposit Chemical Analysis
21. Toluene Extractions
22. Phenol Test
23. Solid Waste Stream Characterization Tests
24. Toxicity Tests on Waste Treatment Outfalls
25. PCB Testing Completed at the Otsego Mill
26. Storm Water Tests
27. Chemical Supplier Guarantees
28. Sodium Carbonate Analysis
29. PCB Analysis of Fresh Water Wells
30. PCB Annual Reports
31. Light Ballast Disposal Policy
32. PCB Transformer in On-site Landfill
33. Used Oil Test Result
34. Menasha Disposal Policies
35. 1994 Chemical Disposal
36. Test Results on Waste Water Sludge
37. TCDD/TCDF Tests on Waste Water Sludge
38. Test Results on Spent Liquor
39. Miscellaneous Test Results
40. Closure of Surge Pond
41. MDNR Waste Treatment Surveys

42. Chipyard Oil Investigations
43. Soil Contamination on South Side of Mill
44. Otsego Mill Site Evaluation by EPA
45. Liquor Contamination to Otsego City Wells
46. Sodium Carbonate Pile Reclaim
47. History and Closure of On-site Landfill
48. 1977 EPA Act 308 Survey
49. 1990 EPA Act 308 Survey
50. Roadbinder Application Program
51. Investigation of Rumored Liquor Contamination
52. MSD Sheets of Oils Used at the Otsego Facility
53. Listed Spills and Events at the Otsego Facility
54. Chemicals Used at the Otsego Mill
55. On-site Landfill Disposal Policy