

ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF ENFORCEMENT

EPA-330/2-78-001

*Compliance Monitoring
Scott Paper Company
Oconto Falls, Wisconsin*

(November 1977)

NATIONAL ENFORCEMENT INVESTIGATIONS CENTER

DENVER, COLORADO

AND

REGION V, CHICAGO

JANUARY 1978



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COMPLIANCE MONITORING
SCOTT PAPER COMPANY
Oconto Falls, Wisconsin
[November 1977]

January 1978

National Enforcement Investigations Center - Denver
and
Region V - Chicago

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I. INTRODUCTION

In September 1977, the Environmental Protection Agency (EPA), Region V requested the National Enforcement Investigations Center (NEIC) to conduct a survey of Scott Paper Company, Oconto Falls, Wisconsin, to determine compliance with its Wisconsin Pollutant Discharge Elimination System (WPDES) permit. A reconnaissance inspection was conducted October 17 and 18, 1977, to evaluate process operations, wastewater treatment facilities, monitoring locations, permit schedule compliance, and the self-monitoring and laboratory procedures [Appendix A].

The Scott Paper Company operates an ammonia-base acid sulfite pulp mill and paper mill producing 120 tons/day of bleached sulfite pulp. Wood is debarked, chipped, chemically digested, and bleached. Most of the resulting pulp, as well as some purchased pulp, is processed into paper. A portion of the pulp is transferred to other Scott Paper Company mills.

All wastewater is discharged directly into the Oconto River which subsequently enters the Green Bay of Lake Michigan [Figure 1]. Stream temperature is monitored at a bridge (Central Avenue) approximately 0.4 km (1/4 mile) upstream of the plant discharges. Stream dissolved oxygen concentration is monitored six miles downstream at the power generation station, Stiles Pond, and river flow measurements are taken from the USGS gaging station at Gillet, Wisconsin.

On December 27, 1974, with the concurrence of EPA Region V, the Wisconsin Department of Natural Resources (DNR) issued a WPDES Permit No. WI-0000531. The permit was modified by DNR, with the concurrence of EPA Region V, on November 7, 1975 and expired on June 30, 1977. On September 19, 1977, the DNR modified the permit applying limitations

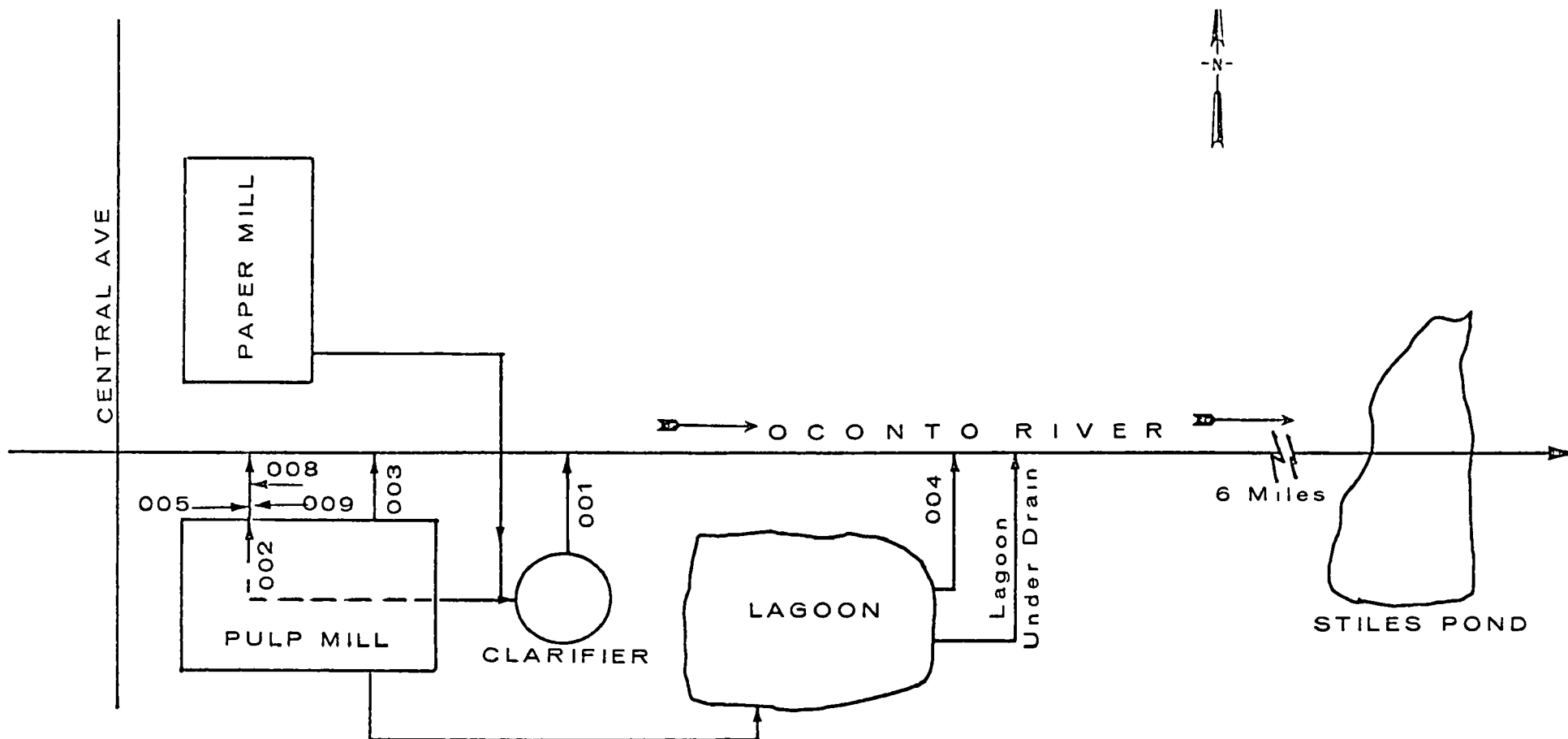


Figure 1. Discharge Locations Scott Paper Company, Oconto Falls, Wisconsin

which represented best practicable control technology currently available (BPT) and which was designed to maintain the DO level in the Oconto River at a minimum of 3.0 mg/l. Scott Paper Company filed a petition on November 7, 1977, requesting a review of the reasonableness of and necessity for the terms and conditions set forth in the modified permit. A public hearing was held to review the permit on December 13, 1977. The hearing examiner found that the BPT limitations are applicable to the Scott Paper Company and ruled that DNR does not have the authority to extend the date for compliance with these limitations beyond July 1, 1977, the statutory final compliance date. The examiner ordered that the following permit final effluent limitations be effective July 1, 1977 through May 30, 1978.

<u>Effluent Characteristics</u>	<u>Limitations</u> Quantity-kg/day (lb/day)*	
	<u>Average</u>	<u>Maximum</u>
BOD [†]	1,964 (4,380)	3,767 (8,400) ^{††}
TSS ^{5†}	2,970 (6,624)	5,537 (12,348)
pH	5.0 (minimum)	9.0 (maximum)

+ Applied to the total of the four process wastewater discharges.

†† Reduced to 4,380 lb/day maximum daily allowable from the facility in order to maintain a minimum DO of 3.0 mg/l in the Oconto River as required by Section NR 104.04(3) of the Wisconsin Administrative Code.

* English and metric values are specified in the permit; the conversion value used (English to metric) in the permit is 0.448.

All other provisions of the permit issued September 19, 1977, are effective as originally issued. Specifically, the permit prohibits discharge of floating solids or visible foam in other than trace amounts.

Compliance monitoring was conducted by NEIC personnel during the period November 7-14, 1977. Results of this monitoring are discussed herein.

II. SUMMARY AND CONCLUSIONS

As a follow up to the presurvey reconnaissance inspection conducted October 17-18 at Scott Paper Company, Oconto Falls, Wisconsin, a full scale compliance monitoring survey was conducted November 7-14, 1977. The findings and conclusions of these two evaluations are discussed below.

WASTEWATER TREATMENT FACILITIES

Wastes consisting of process water from the paper machines, bleach washer, decker, cleaners and screens, and the woodroom are treated in a primary clarifier prior to discharge through Outfall 001. Spent sulfite liquor and strong wash from the pulp mill are held in a 0.8 ha (2 acre) lagoon.

Construction of a new activated sludge treatment facility to treat all plant wastewaters has started and is scheduled for completion in July 1978 [Appendix A]. This treatment methodology is secondary treatment, in conformance with EPA recommended BPT for pulp and paper mills. This construction program was initiated in 1972 and included plans for a joint treatment system with the City of Oconto Falls. Delays were encountered in getting necessary funding for the City portion of the plant. In March 1977, Scott Paper Company decided not to proceed with the joint venture and to construct its own on-site waste treatment system. The DNR denied approval of construction plans because of specific design deficiencies. Subsequent to start of construction, Company officials indicated that these deficiencies had been corrected and the modified plans were resubmitted to DNR. However, DNR policy is not to approve plans once construction has started.

FLOW MONITORING

The Company monitors flow from Outfalls 001 and 003 by means of Parshall flumes and head recorders. A V-notch weir, used to monitor the underdrain flow from the lagoon, was submerged during the monitoring survey.

Measurements made during the presurvey reconnaissance showed the Parshall flumes to be installed as recommended by the Water Measurement Manual.¹ Head measurements were made during the monitoring survey and compared to the recorder. These readings showed the flumes to be measuring flow accurately. Company calibration procedures for these devices were observed and were found to be adequate. Flow from the underdrain of the lagoon was calculated based on the time required to fill the pump well, an adequately accurate measurement.

SAMPLING TECHNIQUES

The Company obtains daily composite samples at Outfalls 001 and 003 by means of DeZurik piston-type automatic samplers; these samplers collect samples flow proportionally. Composite samples were not being collected from the lagoon underdrain flow.

The Company samples obtained by the DeZurik samplers were not stored under refrigerated conditions during the compositing period. They were collected in a metal pot which is exposed to the ambient temperature of the sampler shed. This deviation from EPA standard procedures[†] could significantly decrease the concentration of BOD₅ and TSS found in these samples. Therefore, all DNR data should be considered low.

¹ *Water Measurement Manual*, U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974.

[†] *Requires refrigerating samples to $\leq 4.0^{\circ}\text{C}$ during collection.*

ANALYTICAL TECHNIQUES

A laboratory evaluation was made during the presurvey reconnaissance [Appendix A]. Discrepancies were noted in the BOD analysis; these discrepancies included holding times (48 hours) exceeding the recommended ≤ 6 hours and dilution water not being incubated at 20°C for at least 24 hours prior to initiating analysis. As a result of not incubating the dilution water, the initial blank readings were either higher or lower than those for 20°C.

WPDES PERMIT COMPLIANCE

Spent sulfite liquor (SSL) was not being discharged through Outfall 004 during the monitoring survey. However, an underdrain system, installed to relieve pressure on the lagoon floor caused by a natural spring, was discharging during both the presurvey reconnaissance inspection and the monitoring survey. Although this discharge is not authorized by the permit, composite samples were collected.

The permit limits the total daily discharge of BOD and TSS from Scott Paper Company to 1,964 kg (4,380 lbs) and 5,537 kg (12,348 lbs)/day, respectively. Survey results show that the Company was discharging from Outfalls 001, 003 and the lagoon underdrain 16,000 to 25,000 kg (35,200 to 55,000 lbs)/day and 2,130 to 4,370 kg (4,690 to 9,630 lbs)/day BOD and TSS, respectively. These data show the Company is discharging 8 to 12 times the allowable BOD loading.

The permit limits the pH of the discharge to a range of 5.0 to 9.0. During the monitoring period, the pH ranged from 2.0 to 7.0 and 3.1 to 3.9 at Outfalls 003 and the lagoon underdrain, respectively. Of the 167 measurements made at each outfall, 108 at Outfall 003, and 167 at the lagoon underdrain were below 5.0.

Since there is very little difference in the BOD concentration between the plant intake water and the intake screen wastewater and cooling water discharges (Outfalls 005, 007, 008, and 009), it is concluded that these discharges are in compliance with permit limitations.

Foam is not to be discharged in other than trace amounts. Foam layers were observed in Outfalls 001 and 003.

Continuous DO monitoring at a depth of 3.0 to 4.6 m (10 to 15 ft) is required at Stiles Pond dam. Observations and calibration checks made during the monitoring survey showed that the monitoring is done at a depth of 1.5 m (5 ft), and that the Company meter was reading consistently higher than actual measured levels by 1 to 2 mg/l. The Company is required to curtail discharges in order to maintain the DO in the Oconto River at Stiles Pond at ≥ 3.0 mg/l; thus the error in readings could be significant when the lower DO levels are approached (i.e., the actual DO of the pond could be 1 mg/l before curtailment occurred).

Measurement of river flow based on a 24-hour average is required. These flow values also determine daily BOD loadings which can be discharged into the river. The Company receives measurements only once/day (between the hours of 9:00 a.m. to 11:00 a.m.) from the USGS gaging station at Gillet, Wisconsin for this determination. Heavy rainfalls or other runoff events upstream will affect a single reading, thus an instantaneous flow reading is not considered to be representative of a 24-hour flow average. Therefore, the Company is in violation of this Special Condition of their permit.

III. RECOMMENDATIONS

The following measures are recommended to correct the deficiencies found during the presurvey reconnaissance and monitoring survey.

1. Initiate interim procedures (water recycle, curtail production, storage, etc.) as required to reduce the BOD loads discharged to the Oconto River. Take the steps necessary to complete construction and startup of the activated sludge wastewater treatment facility as soon as possible.
2. Provide neutralization of wastewaters discharged through Outfall 003 such that the pH is within the permitted range of 5 to 9.
3. Reduce the amount of foam being discharged through Outfalls 001 and 003 to trace amounts as specified in the WPDES permit. Possible methods available for meeting this requirement are the use of water sprays, surfactants, reduction of turbulence, etc.
4. Refrigerate or ice the sample collection containers so that the sample temperature is held at $\leq 4^{\circ}\text{C}$ during the compositing period.
5. Revise the maximum BOD sample holding time between sample collection and set up for incubation to 6 hours after collection. Incubate the BOD dilution water at 20°C for 24 hours to reduce the apparent errors in blank samples.
6. Relocate the DO monitor at Stiles Pond to a depth of 3.0 to 4.6 m (10 to 15 ft). Perform daily calibration of the DO monitor using the Azide-Winkler method to eliminate the current 1 to 2 mg/l calibration error.

7. Calculate daily average river flows on the basis of a minimum of 24 measurements taken hourly.

It is further recommended that the Company upgrade its laboratory quality control program including the analysis of replicate TSS samples and use of blanks in these analysis. The Company should also routinely participate in EPA and/or other check sample programs.

IV. SURVEY METHODS

During the presurvey reconnaissance, the adequacy of the Company effluent monitoring and flow measurement procedures were determined at each outfall. All wastewater discharges were monitored November 7-14, 1977. Established chain-of-custody procedures were followed in the collection of all samples and field data and in the analysis of all samples, with the exception of the minor deviations noted in Appendix B. Duplicate and reference samples were also analyzed daily to insure the accuracy of the data. The Company sampling locations, the adequacy of the Company effluent flow measurement procedures, and the NEIC monitoring procedures used during the survey are discussed below by outfalls.

OUTFALL 001

The Company sampling location for Outfall 001 is at the discharge from the primary clarifier. The Company samples this discharge by means of a DeZurik automatic flow proportional sampler located beside the Parshall flume inlet contraction. Inspection by NEIC personnel revealed that Company samples were not preserved by refrigeration, but were stored at ambient conditions during collection. Measurements of the Parshall flume were taken during the presurvey reconnaissance and the flume was found to be installed according to recommendations of the Water Measurement Manual.¹ A recording device was properly located at this outfall to continuously measure and record head levels. Periodic checks made during the survey found this device to be measuring accurately.

Samples were collected by means of a SERCO automatic sampler during the survey at the Company sampling location. This sampler was iced to provide a temperature reduction of the samples to $\leq 4.0^{\circ}\text{C}$. Samples were

collected each hour and analyzed on site for pH and temperature. Flows were determined by means of hourly readings obtained from the Company flow recorder.

OUTFALL 002

Wastewaters originating from the debarking and chipping operation in the woodroom were previously discharged through Outfall 002. These wastes were monitored with a Parshall flume and DeZurik automatic sampler. During the entire NEIC survey period these wastes were being treated in the primary clarifier and the residual discharged through Outfall 001.

OUTFALL 003

Spent sulfite liquor (SSL) and acid evaporator condensate is discharged through this outfall. Company monitoring is done by a Parshall flume and DeZurik automatic sampler located approximately 10 m (30 ft) upstream from the end of the discharge pipe and beside the converging section of the flume. Observations during the survey showed the flow was being recorded using the top of the foam, instead of the reference head. This was pointed out to the Company and corrective action was taken.

During the NEIC survey, samples were collected by hand each hour, aliquoted proportionally to flow into a 9.5 liter (2.5 gallon) cubitainer and stored in ice. Grab samples were collected each hour and analyzed on site for pH and temperature. Flow volumes were determined each hour from the recorder installed on the Parshall flume.

OUTFALL 004

Concentrated SSL is held in a 0.8 ha (2 acre) lagoon for discharge during the cold weather, high river flow period (November-June). This discharge was identified by the Company as Outfall 004. At the time of the NEIC survey the normal wastewater discharge had been curtailed. According to Company officials, this curtailment was due to low DO levels at Stiles Pond.

LAGOON UNDERDRAIN FLOW

Lagoon leakage collected in an underdrain system is discharged into the Oconto River through an open channel. A pumping system had been installed on this channel to return this flow back to the lagoon and prevent any discharge. The pump was not being used during the survey; the flow was entering the receiving water (Oconto River). The Company had a 90° V-notch weir on the discharge from the pump wet well. As the flow exceeded the weir's capacity the device could not be used to measure flow.

Flow was measured during the survey by pumping out the wet well and measuring the required time to fill. A head reference point was established and readings were taken hourly to determine any change in the flow. This measurement procedure was repeated during the course of the study and the results show that the discharge flow rate was constant throughout the survey.

A 200 ml portion of sample was collected at approximately the same location as the head measurement point hourly and composited in an iced 9.5 liter (2.5 gallon) container. Temperature and pH measurements were made hourly on this grab sample.

OUTFALLS 005, 007, 008 and 009

Discharges from Outfalls 005, 007, 008 and 009 consist of intake screen wastewater, and gas evaporator cooling water. Grab samples for BOD and TSS were collected twice from Outfalls 005 and 008 and once from Outfalls 007 and 009. Measurements of pH and temperature were made each time a sample was collected. The samples were collected from each individual discharge point just prior to the common header box.

OCONTO RIVER

The temperature and pH of the Oconto River at Central Avenue Bridge [Figure 1] were measured daily between the hours of 9:00 a.m. to 11:00 a.m. (i.e. the time specified in the permit). In addition, two grab samples were collected for BOD analysis.

Samples for DO were collected just upstream of the power dam operated by Oconto Electric Cooperative at Stiles, Wisconsin at the location and depth Scott Paper Company monitors for DO levels and also at the depth required by the permit.* All samples were collected with an A.P.H.A. dissolved oxygen sampler and manganous sulfate and alkali-iodide-azide reagent added on site. Titration with sodium thiosulfate solution was performed at the NEIC mobile laboratory located in Oconto, Wisconsin, within one hour of collection.

Inspection of Company records revealed that an instantaneous flow reading from the USGS gaging station at Gillet, Wisconsin, is being collected daily during the hours of 9:00 a.m. to 11:00 a.m. The permit requires that 24 hourly readings be taken to calculate the daily average flow.

* *The Company samples from a depth of 1.5 m (5 ft), the permit requires samples to be collected at a depth of from 3 to 4.6 m (10 to 15 ft).*

V. SURVEY RESULTS

TEMPERATURE, pH AND FLOW

During the NEIC survey, at Outfall 001 the pH ranged from 5.4 to 8.0, temperature from 11.5° to 17.5°C, and flows from $30.9 \text{ m}^3 \times 10^3$ (8.2 mgd) to $37.1 \text{ m}^3 \times 10^3$ (9.8 mgd) [Table 1]. Foam layers, as recorded in the field data record log book, were present in the discharge throughout the monitoring survey.

As noted before, Outfall 002 was not discharging at the time of the monitoring survey.

During the survey, at Outfall 003 the pH ranged from 2.1 to 7.3 with 108 of the 167 measurements below the minimum permit limitation of 5.0 [Table 1]. The temperature ranged from 12.0° to 52.0°C and the flow from $2,100 \text{ m}^3$ to $3,320 \text{ m}^3$ (0.56 to 0.88 mgd). Foam layers, as recorded in the field data record log book, were present in the discharge.

Outfall 004 was not discharging during either the presurvey reconnaissance or the monitoring survey.

A discharge from the lagoon underdrain was noted during the presurvey reconnaissance and monitored during the survey. The pH ranged from 3.1 to 3.9 and temperature from 10.5° to 13.°C [Table 1]. The flow remained constant at $770 \text{ m}^3/\text{day}$ (0.20 mgd). This discharge, according to Company and DNR records, has been discharging since September 26, 1977. As discussed previously this discharge was not included in the permit.

Table 1
SUMMARY OF FIELD ANALYSIS AND ANALYTICAL RESULTS
SCOTT PAPER COMPANY
November 7-13, 1977

Station	Date [†] November 1977	Flow		pH Range (S.U.)	No. of Readings <5.0/total Rdgs	Temp °C (Range)	Biochemical Oxygen Demand			Total Suspended Solids		
		m ³ /day 10 ³	mgd				mg/l	kg/day	lbs/day	mg/l	kg/day	lbs/day
Outfall 001	7-8	37.1-9.79		5.4-7.6	0/24	15.0-16.0	150	5,560	12,200	61	2,260	4,980
	8-9	35 4-9 35		5.6-8.0	0/24	15.0-17.5	190	6,730	14,800	76	2,690	5,930
	9-10	33.6-8 86		5.8-6.8	0/24	14.0-17.0	220	7,380	16,300	72	2,410	5,320
	10-11	33 1-8.75		6.5-7.1	0/24	14 5-16.0	150	4,970	11,000	85	2,810	6,200
	11-12	32.9-8.69		6.4-7 2	0/24	12 5-15.0	170	5,600	12,300	93	3,060	6,740
	12-13	33 3-8.80		6.4-7 2	0/24	13 0-14.5	140	4,670	10,300	130	4,330	9,540
	13-14	30.9-8.16		6.4-7.0	0/24	11 5-15 0	150	4,640	10,200	70	2,030	4,470
Outfall 003	7-8	2.31-0.610		2.5-7.1	6/24	13.0-47.0	1300	3,000	6,620	54	125	270
	8-9	2.22-0.587		2.5-7.3	7/24	12.0-20 0	††	††	††	††	††	††
	9-10	2 10-0.555		2.1-7.0	3/24	12.0-17 0	720	1,510	3,330	47	100	220
	10-11	3.04-0.803		2 2-6 2	22/24	14.0-38.0	2600	7,910	17,400	69	210	460
	11-12	3 06-0.809		2.3-4.8	24/24	21.0-38.0	2600	7,970	17,600	14	40	90
	12-13	2.99-0.790		2.1-5.7	22/24	21.0-52.0	3100	9,280	20,400	6	18	40
	13-14	3 32-0.876		2 6-3.6	24/24	20 0-35.0	3100	10,300	22,700	25	80	180
Lagoon Underdrain Flow	7-8	0.772-0.204		3.1-3.9	24/24	11.5-12.5	13,000	10,030	22,100	21	16	36
	8-9	0 772-0.204		3 2-3.7	24/24	11 5-12.0	12,000	9,260	20,400	28	22	48
	9-10	0.772-0.204		3.2-3 8	24/24	10 5-12.0	10,000	7,720	17,000	21	16	36
	10-11	0.772-0.204		3.2-3.8	24/24	11.0-13.0	11,000	8,490	18,700	32	25	54
	11-12	0 772-0 204		3.3-3.7	24/24	10 5-12.5	12,000	9,260	20,400	20	15	34
	12-13	0.772-0.204		3.2-3.6	24/24	11.0-12 0	10,000	7,720	17,000	27	21	46
	13-14	0.772-0.204		3.2-3 9	24/24	11.0-12.0	13,000	10,030	22,100	24	19	41

† Samples collected during the hours 0800-0800.

†† Sample contaminated during collection, therefore, results not reported.

Grab samples for pH collected from Outfalls 005, 007, 008 and 009 were compared with samples collected from the Oconto River at the Central Avenue Bridge just upstream of the mill at the plant water intake. As Table 2 shows, there is very little difference between the intake pH and cooling water discharge pH.

BOD AND TSS

During the reconnaissance inspection, Company officials, when questioned, explained that the lagoon underdrain discharge consisted of spring water and estimated the BOD concentration at 60 mg/l. The appearance of the discharge was very similar to the contents of the SSL storage lagoon (dark brown) and had a strong sulfur odor. A grab sample was collected during the reconnaissance and shipped to NEIC laboratory in Denver, Colorado for BOD analysis. The results of the analysis (8,800 mg/l) indicate that this discharge was not wholly spring water but lagoon wastewater [Appendix A].

A system present on this outfall to pump any leakage back to the lagoon when a continuous conductivity monitor indicates that leakage is taking place was not operating during either the presurvey reconnaissance or the monitoring survey. According to Company officials this system is operable, however, it has not been Company policy to return these wastes to the lagoon unless the DO at Stiles Pond is less than 3.0 mg/l. An inspection of Company records showed that monitoring personnel had been aware of this discharge since September 26, 1977. The Wisconsin DNR have stated that they had been notified of the discharge and that they consider this an unpermitted discharge.

As previously noted, Outfalls 002 and 004 were not discharging during the survey.

Table 2
SUMMARY OF FIELD ANALYSIS AND ANALYTICAL RESULTS
OCONTO RIVER AND COOLING WATERS DISCHARGES
SCOTT PAPER COMPANY
November 7-13, 1977

Station	Date 1977	Time of Collection	pH (S.U.)	Temp. °C	BOD ₅ mg/l	Flow [*] (cfs)
Outfall 005	11/7	1150	6.4	7.0	< 2.0	-
	11/8	1315	6.6	7.5	< 2.0	-
Outfall 007	11/7	1155	6.3	15.5	< 2.0	-
Outfall 008	11/7	1155	6.3	15.0	< 2.0	-
	11/8	1317	6.6	10.0	< 2.0	-
Outfall 009	11/7	1156	6.6	40.0	< 2.0	-
Oconto River at Central Avenue	11/7	1100	6.3	6.0	< 2.0	836
	11/7	1200	6.3	6.0	-	-
	11/8	1050	6.2	6.0	< 2.0	830
	11/8	1330	6.6	6.5	-	-
	11/9	0925	6.0	6.0	-	830
	11/10	0925	6.6	6.5	-	819
	11/11	0935	7.2	5.0	-	802
	11/12	0933	7.1	3.0	-	755
	11/13	0930	7.5	2.0	-	720

* Flow taken from USGS gaging station near Gillet, Wisconsin at 9:00 a.m. to 10:00 a.m. daily.

The total BOD waste loads discharged from Outfalls 001, 003 and the lagoon underdrain flow ranged from 16,000 kg (35,200 lbs) to 25,000 kg (55,000 lbs)/day [Table 3]. This is 8 to 12 times the permitted loading of 1,964 kg (4,380 lbs)/day. The total TSS load ranged from 2,130 kg (4,690 lbs) to 4,370 kg (9,630 lbs)/day [Table 4]. These loads meet the daily maximum limitation (5,537 kg to 12,348 lbs/day).

As Table 2 shows, there is very little difference between the intake water (Oconto River) and cooling water discharges for BOD.

DISSOLVED OXYGEN

As previously mentioned, the permit requires Scott Paper Company to continuously monitor DO concentrations at Stiles Pond. In order to evaluate the accuracy of these measurements, discrete samples were collected from depths of 1.5 m (5 feet) and 3.0 m (10 feet)[†] and compared with the Beckman DO analyzer installed at Stiles Pond. Results of these comparisons are shown below.

<u>Date</u>	<u>Time Collected</u>	<u>Scott Paper Co. 5' depth</u>	<u>NEIC 5' depth</u>	<u>NEIC 10' depth</u>
11/11/77	1330	8.80	7.65	-
11/12/77	1400	10.40	8.30	8.40
11/13/77	1400	10.40	8.35	8.35

The Company instrument department reportedly calibrates the DO monitor Thursday of each week. The normal calibration was accordingly performed by Scott Paper Company personnel on November 10, 1977. Calibration was made by referencing the monitor to a portable Yellow

[†] *The Company collects samples from a depth of 1.5 m (5 feet), the permit requires a sample depth from 3.0 to 4.5 m (10-15 feet) be used.*

Table 3
 BIOCHEMICAL OXYGEN DEMAND LOADS
 SCOTT PAPER COMPANY
 November 7-13, 1977

Date [†] November	Outfall 001		Outfall 003		Lagoon Underdrain Flow		Total Discharge	
	kg/day	lbs/day	kg/day	lbs/day	kg/day	lbs/day	kg/day	lbs/day
7-8	5,560	12,200	3,000	6,620	10,030	22,100	18,600	40,900 ^{††}
8-9	6,730	14,800	+++		9,260	20,400	16,000	35,200 ^{††}
9-10	7,380	16,300	1,510	3,330	7,720	17,000	16,600	36,600 ^{††}
10-11	4,970	11,000	7,910	17,400	8,490	18,700	21,400	47,100 ^{††}
11-12	5,600	12,300	7,970	17,600	9,260	20,400	22,800	50,300 ^{††}
12-13	4,670	10,300	9,280	20,400	7,720	17,000	21,700	47,700 ^{††}
13-14	4,640	10,200	10,300	22,700	10,030	22,100	25,000	55,000 ^{††}
7-Day Ave.	5,650	12,400	6,670	14,700	8,940	19,700	20,000	44,700

† Sample collected between the hours of 0800-0800.

†† Exceeds maximum permit limitation of 1,964 kg (4,380 lbs)/day.

+++ Sample contaminated during collection, therefore, results not reports.

Table 4
TOTAL SUSPENDED SOLIDS LOAD
SCOTT PAPER COMPANY
November 7-13, 1977

Date [†] November	Outfall 001		Outfall 003		Lagoon Underdrain Flow		Total Discharge	
	kg/day	lbs/day	kg/day	lbs/day	kg/day	lbs/day	kg/day	lbs/day
7-8	2,260	4,980	125	270	16	36	2,400	5,290
8-9	2,690	5,930	++		22	48	2,710	5,980
9-10	2,410	5,320	100	220	16	36	2,530	5,580
10-11	2,810	6,200	210	460	25	54	3,040	6,710
11-12	3,060	6,740	40	90	15	34	3,120	6,860
12-13	4,330	9,540	18	40	21	46	4,370	9,630
13-14	2,030	4,470	80	180	19	41	2,130	4,690
7-Day Ave.	2,800	6,170	95	210	19	42	2,900	6,390

[†] Samples collected between the hours of 0800-0800.

^{††} Sample contaminated during collection, therefore, results not reported.

APPENDIX A

PRESURVEY RECONNAISSANCE

Springs Instrument Company DO analyzer. During an interview with Company personnel, it was discovered that the continuous monitor at Stiles Pond is located at a depth of 1.52 m (5 ft) rather than 3.05 to 4.57 m (10-15 ft) required by the permit. The Company acknowledged the discrepancy and indicated that they intend to relocate the monitor to the proper depth sometime during the summer of 1978.

APPENDIX A

PRESURVEY RECONNAISSANCE

SCOTT PAPER COMPANY
Oconto Falls, Wisconsin
October 17 and 18, 1977

PARTICIPANTS

D. A. Cusano, Scott Paper Company
Michael Goodnough, Scott Paper Company
John Schmitt, Scott Paper Company
Bob Meyer, Scott Paper Company
Danforth Bodien, EPA, Region X
William Miner, EPA, Region V
Francis Early, NEIC, Denver
David Vietti, NEIC, Denver
Laurence Walz, NEIC, Denver

GENERAL

The Scott Paper Company, Oconto Falls, Wisconsin, operates an ammonia-base acid sulfite pulp mill and paper mill producing 120 tons/day of bleached sulfite pulp. The principal raw material is eight-foot softwood and hardwood logs. The softwoods include balsam and hemlock; the hardwoods are generally aspen, poplar or birch. The usual mixture is 60% softwood and 40% hardwood with no control over the wood species within each category.

Other raw materials include liquid sulfur, liquified ammonia (NH_3) liquid sulfur dioxide (SO_2), liquid chlorine, burned lime (CaO), and various resins, surfactants, and cleaners. The liquid sulfur and liquified ammonia are used to make cooking acid. The sulfur is pumped into hot storage. The ammonia is dissolved in water to form ammonium hydroxide (NH_4OH) which is then placed in storage. A supply of liquid SO_2 is maintained so that pulp production can continue when repairs are made

on the sulfur burner or acid gas cooler. Bleach liquor (CaOCl) is made from the liquid chlorine and burned lime.

Wood is debarked, chipped, and fed along with cooking acid into digestors. The digested pulp is bleached, washed, and processed either into lap pulp or toweling paper. The lap pulp is shipped to other Scott Paper Company Mills or stored for later use on site.

The Company discharges approximately 12 mgd of wastewater to the Oconto River through four outfalls. The Wisconsin Department of Natural Resources (DNR) issued a National Pollutant Discharge Elimination System (NPDES) permit which was subsequently modified September 19, 1977. The Company requested a hearing to review the reasonableness of the September 19, 1977 modified permit. Following the hearing, by a stipulation between DNR and Scott Paper Company dated December 13, 1977, the permit was re-modified as contained in Attachment 1.

WATER SUPPLY

Process water for the pulp mill and paper mill is obtained from the Oconto River. Water purchased from the City of Oconto Falls is used for domestic purposes and for the paper machines during the summer months when turbidity in the Oconto River does not allow this source to be used for certain applications. Well water is used solely in the acid plant.

WASTE TREATMENT

Sanitary wastes are conveyed to the Oconto Falls wastewater treatment plant for disposal.

Process water from the paper machines, bleach washer, brown stock washer, decker, screens and cleaners, and the wood room are treated in a

clarifier prior to discharge to the Oconto River. This treatment consists of mechanical bar-screen and a 125 foot diameter center-feed up-flow clarifier with a sidewall depth of 12 feet. The clarified wastewater is discharged through outfall 001. The sludge removed is dewatered in a Byrd centrifuge and hauled to a landfill licensed by the State of Wisconsin.

Spent sulfite liquor (SSL) and strong wash from the pulp mill are discharged into a 0.8 ha (2-acre) lagoon. The purpose of this lagoon is to hold this high-BOD wastes (approximately 10,000 mg/l BOD) for discharge during the cold weather, high river flow months of November through June, as required by the NPDES permit.

Construction has begun on new wastewater treatment facilities designed to meet the permit limits. This treatment system was not approved by the DNR because of preliminary design deficiencies. According to Company officials these design deficiencies were corrected subsequent to start of construction. DNR's policy is not to approve plans after construction has started.

SELF-MONITORING

Effective July 1, 1977, the Company was required to monitor its waste discharge in accordance with Part II, Page 1a of the permit as modified [Attachment 1]. Observations made of the monitoring procedures and the discharges are discussed below.

DeZurik Automatic Samplers have been installed on outfalls 001 and 003. These samplers are flow proportional, but refrigeration is not provided for the sample as required by the permit. Therefore, analytical results (BOD, TSS) are considered to be questionable.

Flow measurement devices were evaluated and found to be meeting design criteria. The devices in use were as follows:

- 001 discharge - Two-foot Parshall flume and circular chart recorder
- 002 discharge - Six-inch Parshall flume and circular chart recorder
- 003 discharge - Six-inch Parshall flume and totalizing circular chart recorder
- 004 discharge - Orifice meter and circular chart recorder (not evaluated)

A discharge from the lagoon underdrain, which is not included in the permit, was discovered during the inspection. Company officials related that the discharge was spring water and they estimated the BOD concentration at 60 mg/l. Since the lagoon was constructed on top of a natural spring, an underdrain system had been installed to relieve pressure on the lagoon floor. A pumping system was installed on this drain to pump any leakage back to the lagoon. According to Scott monitoring personnel, this system was functional, however, it has been Company policy not to return leakage to the lagoon unless the DO monitor located at Stiles Pond indicated low readings (≤ 3.0 mg/l). Because the visual appearance of the "spring" discharge was very similar (dark brown, characteristic of sulfite liquor) to the lagoon contents and carried a noticeable SSL odor, a grab sample for BOD was collected and iced, and the flow rate was estimated. The sample was transported to the NEIC laboratory, Denver, Colorado. Due to available air transportation the recommended holding time (6 hours for BOD analysis) was exceeded by one hour and ten minutes. The high concentration found (8,800 mg/l) may have actually been slightly higher, but is substantially greater than the 60 mg/l estimated by the Company. The Wisconsin DNR was contacted by NEIC personnel and DNR personnel confirmed that they had been notified of the existence of this discharge on September 26, 1977.

An evaluation of laboratory procedures used by Scott for monitoring purposes was conducted and results are summarized in Attachment 2.

RECOMMENDED NEIC FOLLOW-UP MONITORINGNPDES Permit Compliance Monitoring

Monitoring will be conducted at Outfalls 001, 002, 003, 004, and for any lagoon seepage for a minimum of seven consecutive days. In addition grab samples will be collected at Outfalls 005, 007, 008 and 009 to ascertain the presence or absence of process wastes. Twenty-four hour composite samples for BOD and TSS will be collected using hourly flow-weighted aliquots. SERCO automatic samplers will be used at the 001 discharge. The remaining samples will be collected by hand. Temperature and pH measurements will be performed during the course of the survey. Temperature measurements at the Center Street Bridge and the DO of the Oconto River at Stiles Pond will be performed during the monitoring survey.

Sample collection and analysis will be performed with Chain-of-Custody procedures (i.e., each sample will be tagged, custody sheet completed, field data recorded in bound log book, etc.). Quality assurance procedures will be followed for all phases of the survey.

ATTACHMENT 1

WPDES PERMIT

PERMIT TO DISCHARGE UNDER THE
WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of Chapter 147, Wisconsin Statutes,
SCOTT PAPER COMPANY

is permitted to discharge from a facility located at
OCONTO FALLS, WISCONSIN

to the Oconto River

in accordance with the effluent limitations, monitoring requirements and
conditions set forth in Parts I and II hereof.

This permit shall become effective on the date of signature.

This permit to discharge shall expire at midnight, November 30, 1979

Permittee shall not discharge after the date of expiration. If the perm
wishes to continue to discharge after this expiration date he shall file
application for reissuance of his permit in accordance with the requirem
of Chapter NR 200, Wisconsin Administrative Code, at least 180 days prior
this expiration date.

State of Wisconsin Department of Natural Resources
For the Secretary

By


Thomas A. Kroehn
Administrator

Division of Environmental Standards

Originally issued on the 27th day of December, 1974
Modified this 19 day of September, 1977
Modified by Order on December 20, 1977

CSA TELETYPE CENTER
JAN 13 12 08 PM '78
DFO, DENVER, COLORADO

GENERAL CONDITIONS

1. Compliance

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.

2. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact on waters of the State resulting from noncompliance with any effluent limitations specified in this permit, including such special or additional monitoring as may be required by the Department or may be necessary to determine the nature and impact of the noncomplying discharge.

3. Removed Substances

Solids, sludges, filter backwash or other pollutants removed from or resulting from treatment or control of wastewaters or intake waters shall be stored and disposed of in a manner such as to prevent any pollutant from such materials from entering the waters of the State. Land disposal of treatment plant solids and sludges shall be either at a site or operation licensed by the Department under Chapter NR 151, Wisconsin Administrative Code, or in accordance with a sludge disposal plan approved by the Department.

4. Right of Entry

The permittee shall allow authorized representatives of the Department of Natural Resources, and the Administrator of the United States Environmental Protection Agency or his authorized representatives, upon the presentation of credentials:

- a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and
- b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any wastewaters.

5. Permit Modification

After notice and opportunity for a hearing as provided in Section 147.03, Wisconsin Statutes, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

- a. Violation of any terms or conditions of this permit;

- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

6. Toxic Pollutants

Nothing in this permit shall be construed to authorize the discharge of any toxic pollutant or combination of pollutants in amounts or concentrations which exceed any applicable toxic effluent standard or prohibition, including any schedule of compliance specified in any such effluent standard or prohibition, promulgated under Section 147.07(1), Wisconsin Statutes.

If a toxic effluent standard or prohibition, including any schedule of compliance specified in such effluent standard or prohibition, is promulgated under Section 147.07(1), Wisconsin Statutes, for a toxic pollutant or combination of pollutants which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition.

7. Civil and Criminal Liability

Except as provided in permit conditions on "Bypassing" (Part I,23) and "Power Failures" (Part I,24), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties under Section 147.21, Wisconsin Statutes, for noncompliance with the terms and conditions of this permit.

8. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Federal Water Pollution Control Act (33 U.S.C. Section 1321).

9. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any other applicable State law or regulation.

10. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

11. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

12. Schedule of Compliance Progress Reports

No later than 14 calendar days following a date identified in any schedule of compliance in Part II, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

13. Test Procedures

Test procedures used for the analysis of pollutants shall be those listed in Chapter NR 219, Wisconsin Administrative Code, or an alternate method authorized in Part II.

14. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The exact place, date, and time of sampling;
- b. The dates the analyses were performed;
- c. The person(s) who performed the analyses;
- d. The analytical techniques or methods used; and
- e. The results of all required analyses.

15. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified in Chapter NR 219, the results of such monitoring shall be included in the Discharge Monitoring Report Form 3200-28. Such increased frequency shall also be indicated.

16. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Department of Natural Resources.

17. Construction of Onshore or Offshore Structures

This permit does not authorize or approve the construction of any onshore or offshore physical structure of facilities or the undertaking of any work in any navigable waters.

18. Confidential Information

Except for data determined to be confidential under Section 147.08(2)(c), Wisconsin Statutes, all monitoring reports required by this permit shall be available for public inspection at the headquarters of U.S. EPA Region V and the Department of Natural Resources. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 147.21, Wisconsin Statutes.

19. Transfer of Control of Operation

In the event of a transfer of control of operation of the facility from which the permitted discharges emanate to a person not named on page one (1) of this permit, the permittee prior to such transfer shall notify his successor by letter that this permit is not transferable and that prior to any discharge after such transfer, a new NPDES permit must be obtained. A copy of this letter shall be forwarded to the Department of Natural Resources, NPDES Permit Section, Box 450, Madison, Wisconsin 53701.

20. Change in Discharge

Any anticipated facility expansions, production increases or process modifications which will result in new, different, or increased discharges of pollutants must be reported in accordance with Chapter NR 200, Wisconsin Administrative Code, by submission of a new WPCES application or, if such changes will not exceed the effluent limitations specified in this permit, by notice to the Department of Natural Resources of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

21. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, he shall provide the Department of Natural Resources in writing within five (5) days of becoming aware of such condition, with the following information.

- a. A description of the discharge and cause of noncompliance; and
- b. An identification of the period of noncompliance, including exact dates and times; or, if continuing, the anticipated time the noncompliance is expected to continue, and a description of the steps being taken to reduce, eliminate and prevent recurrence of the noncompliance.

22. Facilities Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

23. Bypassing

Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) an inadvertent bypass lasting no longer than one hour and resulting from equipment damage or temporary power interruption, or (ii) an unavoidable bypass necessary to prevent loss of life or severe property damage, or (iii) a bypass of excessive storm drainage or runoff which would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. In the event of occurrence of a bypass described by (ii) or (iii) the permittee shall immediately notify the Department District Office by telephone of such occurrence. In addition, the permittee shall notify the Department of Natural Resources, WPCES Permit Section and the Administrator of the U.S. EPA - Region V in writing of each such diversion or bypass by letter within 72 hours.

24. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit in the event of the reduction, loss, or failure of one or more of the primary sources of power to the wastewater control facilities, the permittee shall either:

- a. Provide an alternative power source sufficient to operate the wastewater treatment or control facilities if required by the Schedule of Compliance contained in Part II, or,
- b. If there is no such requirement, halt, reduce or otherwise control production and/or all discharges from the facility.

25. Definition Terms

(i) For those terms used in Parts I and II which are defined in Section 147.015, Wisconsin Statutes, the meanings of that Section shall apply.

(ii) As used in Daily Effluent Limitations, Part II:

- (1) "Average" means the arithmetic mean of daily monitoring test results obtained during a calendar month for the given parameter; that is the total of such daily results, in pounds per day, milligrams per liter, or other appropriate unit divided by the number of days for which results are totaled. For example, if a facility operates or discharges and monitors 30 days during a month the daily average is the sum of daily values in pounds per day, milligrams per liter, or other appropriate unit divided by 30 for each parameter, but if one day's result is missing for any parameter the divisor in that case is 29.
- (2) "Maximum" means the highest daily monitoring test result, in pounds per day, milligrams per liter, or other appropriate unit during the calendar month for the given parameter.
- (3) "Minimum" means the lowest daily monitoring test result, in the appropriate unit, during the calendar month for the given parameter.
- (4) The "average" for fecal coliform bacteria shall be the geometric mean of the samples collected in a reporting period.

A. Effluent Limitations and Monitoring Requirements

- (1) During the period beginning on the effective date of this permit and lasting until June 30, 1977 the permittee is authorized to discharge from outfalls serial numbers 001, 002, and 003.
- (2) Each of these discharges shall be individually limited and monitored by the permittee as specified below, and individually reported in accordance with Part II, F, except a limitation under "Quantity" applies to the total for each characteristic of the individual discharges.

(a) There shall be no discharge of floating solids or visible foam in other than trace amounts.

(b) Samples taken in compliance with the monitoring requirements specified below shall be taken at the following locations: From outfalls 001 & 003 prior to discharge to the river and from outfall 002 prior to combination with discharge in outfall 008.

EFFLUENT CHARACTERISTIC	DAILY EFFLUENT LIMITATIONS					MONITORING REQUIREMENTS	
	Quantity-kg/day (lbs/day)		Other Limitations (Specify Units)			Sample	Sample
	Average	Maximum	Minimum	Average	Maximum	Frequency	Type
Flow - M ³ /Day (MGD)	-	-	-	-	-	Daily	Total Daily
Temperature	-	-	See Condition B		-	Daily	Grab
800 ₅ July-September	15,900(35,000)(1)	47,000(105,000)	-	-	-	Daily	24 hr. composite
800 ₅ October-June	27,200(60,000)	47,700(105,000)	-	-	-	Daily	24 hr. composite
Suspended Solids	4,530(9,500)	13,600(28,500)	-	-	-	Daily	24 hr. composite
pH 001	-	-	4.6	pH units	9.0	2XDaily	Grab
pH 002	-	-	6.0	pH units	9.0	2XDaily	Grab
pH 003	-	-	2.0	pH units	9.0	2XDaily	Grab
Mercury (2)	-	-	-	-	-	Monthly	24 hr. composite

NOTE: (1) For the month of September, 1975, the average 800 limitation shall be 45,000 instead of 35,000 pounds per day.

(2) Monitoring for mercury required commencing in January 1977 monthly as specified for outfall 003 and once using a grab sample for each period of discharge from outfall 004.

B. Mixing Zone - The temperature of these effluents shall be limited so that the temperature of the receiving water shall be increased not more than 5°F (2.78°C) above the natural temperature at the edge of the plant mixing zone. This mixing zone shall extend downstream not more than 1,000 feet below outfall 001.

C. Effluent Limitations and Monitoring Requirements

- (1) During the period beginning on July 1, 1977 and lasting until May 30, 1978 the permittee is authorized to discharge from outfalls serial numbers 001, 002, 003 and 004*.
- (2) Each of these discharges shall be individually limited and monitored by the permittee as specified below, and individually reported in accordance with Part II, 1, except a limitation under "Quantity" applies to the total for each characteristic of the individual discharges.

(a) There shall be no discharge of floating solids or visible foam in other than trace amounts.

(b) Samples taken in compliance with the monitoring requirements specified below shall be taken at the following locations: Outfalls 001, 002, 003 and 004 prior to discharge.

EFFLUENT CHARACTERISTIC	DAILY EFFLUENT LIMITATIONS					MONITORING REQUIREMENTS	
	Quantity-kg/day (lbs/day)		Other Limitations (Specify Units)			Sample Frequency	Sample Type
	Average	Maximum	Minimum	Average	Maximum		
Flow - (MGD)	-	-	-	-	-	Daily	Total Daily
BOD ₅	1964(4380)	3767(8400)**	-	-	-	Daily	24-hour composi
Total Suspended Solids	2970(6624)	5537(12348)	-	-	-	Daily	24-hour composi
pH	-	-	5.0	-	9.0	Daily	Grab***

* In the event the permittee discontinues the use of one or more of the outfalls 001, 002, 003 and 004, the effluent limitations and monitoring requirements set forth on this page are no longer applicable to any of the discontinued outfalls.

** See pages 1c and 1d of 3 for additional effluent limitations for daily maximum BOD₅ that are imposed to insure that the dissolved oxygen concentration in the Oconto River is maintained at all times at or above 3.0 mg/l as required by Section NR 104.04(3) of the Wisconsin Administrative Code.

***Upon completion and operation of the new treatment facility this sample type for the main process waste outfall shall be continuous.

D. Effluent Limitations and Monitoring Requirements

- (1) During the period beginning on June 1, 1978 and lasting until November 30, 1979 the permittee is authorized to discharge from outfalls serial numbers 001, 002, 003, and 004*.
- (2) Each of these discharges shall be individually limited and monitored by the permittee as specified below, and individually reported in accordance with Part II, I, except a limitation under "Quantity" applies to the total for each characteristic of the individual discharges.

(a) There shall be no discharge of floating solids or visible foam in other than trace amounts.

(b) Samples taken in compliance with the monitoring requirements specified below shall be taken at the following locations: Outfalls 001, 002, 003 and 004 prior to discharge.

EFFLUENT CHARACTERISTIC	DAILY EFFLUENT LIMITATIONS					MONITORING REQUIREMENTS	
	Quantity-kg/day (lbs/day)		Other Limitations (Specify Units)			Sample Frequency	Sample Type
	Average	Maximum	Minimum	Average	Maximum		
Flow - (MGD)	-	-	-	-	-	Daily	Total Daily
BOD ₅	1681(3748)	3216(7172)**	-	-	-	Daily	24-hour composi
Total Suspended Solids	2462(5491)	4602(10262)	-	-	-	Daily	24-hour composi
pH	-	-	5.0	-	9.0	Daily	Grab***

* In the event the permittee discontinues the use of one or more of the outfalls 001, 002, 003 and 004, the effluent limitations and monitoring requirements set forth on this page are no longer applicable to any of the discontinued outfalls.

** See pages 1c and 1d of 3 for additional effluent limitations for daily maximum BOD₅ that are imposed to insure that the dissolved oxygen concentration in the Oconto River is maintained at all times at or above 3.0 mg/l as required by Section NR 104.04(3) of the Wisconsin Administrative Code.

***Upon completion and operation of the new treatment facility this sample type for the main process waste outfall shall be continuous.

SPECIAL CONDITIONS

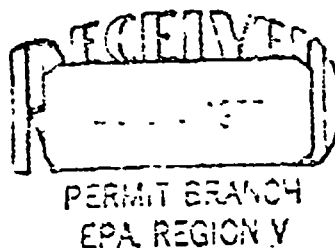
D. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

(3) In addition to the final effluent limitations in Part II, Page 1a and 1b the permittee shall not exceed the daily poundages indicated in the following table, based on the flow, temperature and dissolved oxygen (D.O.) of the receiving stream.

<u>Temperature, °C</u>	<u>Stream Flow, cfs</u>	<u>D.O. (mg/l)</u>	<u>Maximum Allowable Daily BOD₅ Load, pounds per day</u>
≤ 24°C	All	All	3748*
24.1° to 25°	≤ 210	≤ 3.2	3000
	≤ 210	> 3.2	3748*
	> 210	All	3748*
25.1° to 26°	≤ 210	≤ 3.2	1500
	≤ 210	> 3.2	3748*
	210 to 230	≤ 3.2	3000
	210 to 230	> 3.2	3748*
	> 230	All	3748*
26.1° to 27°	≤ 210	≤ 3.2	100
	≤ 210	> 3.2	3748*
	210 to 230	≤ 3.2	1500
	210 to 230	> 3.2	3748*
	> 230 to 250	≤ 3.2	3000
	> 230 to 250	> 3.2	3748*
	> 250	All	3748*
27.1° to 29°	≤ 230	≤ 3.2	100
	≤ 230	> 3.2	3748*
	230 to 250	≤ 3.2	1500
	230 to 250	> 3.2	3748*
	> 250 to 280	≤ 3.2	3000
	> 250 to 280	> 3.2	3748*
	> 280	All	3748*
29°	≤ 280	≤ 3.2	100
	≤ 280	> 3.2	3748*
	280 to 310	≤ 3.2	1500
	280 to 310	> 3.2	3748*
	> 310	All	3748*

(a) The streamflow to be used for determining effluent quality shall be that value passing in the Oconto River at the U.S. Geological Survey station located near county highway "BB".

* For the period of July 1, 1977 until May 30, 1978 the maximum allowable daily BOD₅ load is 4380 pounds per day rather than 3748 pounds per day.



SPECIAL CONDITIONS

Page 1d of 3

Wisconsin Permit No. WI-0000531

Added on September 19, 1977

D. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- (b) The flow upon which the daily effluent quality is to be controlled shall be the average daily value from the 24-hour period ending at midnight prior to the discharge monitoring period.
- (c) The temperature upon which the daily effluent quality is to be controlled shall be measured at the Central Avenue (County Highway "C") bridge in Oconto Falls, in a free-flowing portion of the stream approximately equidistant from each bank. The temperature upon which the effluent is controlled shall be the value measured sometime between 7 a.m. and 11 a.m. in the prior 24-hour period.
- (d) The D.O. upon which the daily effluent quality is to be controlled shall be by measurement directly upstream from and not more than 50 feet above the power dam on the Oconto River operated by Oconto Electric Cooperative located at Stiles, Wisconsin. Samples shall be taken or drawn from not less than 10 nor more than 15 feet from the normal water surface, and shall reflect the D.O. present in the water at the point of drawoff.
- (e) The sample taken shall be monitored for temperature, as well as D.O., both on a continuous readout taking into account routine day-to-day maintenance (no data gap more than 6 hours). Standby equipment shall be provided for temperature and D.O. measurement.
- (f) The daily minimum, maximum and average should be reported for both D.O. and temperature.

SPECIAL CONDITIONS

Part II, Page 2
Permit No. WI-001
Modified November
Modified: December
Modified: September

E.. Effluent Limitations and Monitoring Requirements

- (1) During the period beginning on the effective date of this permit and lasting until June 30, 1977 the permittee is authorized to discharge from outfall serial number 004.
- (2) This discharge shall be limited by the permittee to periods of high river flow in the cold weather months of November through June and controlled to maintain a minimum of 3 mg/l of dissolved oxygen in the river at all times. Prior to each period of discharge the permittee shall notify the Lake Michigan District office of the Department for its information at least 48 hours prior to commencing the discharge.

F.. Effluent Limitations and Monitoring Requirements

- (1) During the period beginning on the effective date of this permit and lasting until November 30, 1979 the permittee is authorized to discharge from outfalls 005 and 006.
- (2) Any solid material physically removed by the intake screens shall not be returned to the river but shall be burned or disposed of at a land fill site licensed in accordance with chapter NR 151, Wisconsin Administrative Code.

G. Effluent Limitations and Monitoring Requirements

- (1) During the period beginning July 1, 1975 and lasting until November 30, 1979 the permittee is authorized to discharge from outfall serial number 007.
- (2) Discharge from outfall 007 shall be monitored weekly using grab samples for Temperature, pH, and total daily flow. Temperature shall be limited in accordance with Condition 8.

H. Effluent Limitations and Monitoring Requirements

- (1) During the period beginning September 1, 1975 and lasting until Nov 30, 1979 the permittee is authorized to discharge gas cooler water through an outfall designated as 008 discharging through outfall 002 and evaporator condensate through an outfall designated as 009 discharging through outfall 005.
- (2) Discharges from outfalls 008 and 009 shall be sampled prior to combination with other discharges in outfalls 002 and 005 respectively, monitored weekly using grab samples for temperature, pH and total daily flow, and as discharges from outfalls 008 and 009 respectively, commencing in January 1977.

I. MONITORING AND RECORDING Modified September 19, 1977

Sampling Requirements

As specified otherwise herein, samples shall be taken in accordance with Chapter NR 218 of the Wisconsin Administrative Code.

Reporting

Monitoring reports and reports required by Sections 12, 20, 21 and 23 of Part I of this permit shall be signed:

- (1) for a corporation by a principal executive officer of at least the level of Vice President or his duly authorized representative having overall responsibility for the operation of the facility for which this permit is issued,
- 2) for a partnership by a general partner, and
- 3) for a sole proprietorship by the proprietor, except that
- 4) in the case of reports required by Sections 21 and 23 the individual required to sign in accordance with this subsection may authorize another individual to sign such reports in his absence.

Monitoring results obtained during each month shall be summarized and entered on Discharge Monitoring Report Forms, postmarked no later than the day of the month following the completed reporting period. The first report is due on February 28, 1975. Duplicate signed copies of these, and other reports required herein, shall be submitted to the:

Wisconsin Department of Natural Resources
NPDES Permit Section
Post Office Box 450
Madison, Wisconsin 53701

Schedule of Compliance

Permittee shall achieve compliance with the effluent limitations contained in Part II in accordance with the following schedule:

Submit progress reports	March 31, 1975 September 30, 1975 March 31, 1976 September 30, 1976 March 31, 1977
Submit final report	June 30, 1977
Attain operational level	July 1, 1977

ATTACHMENT 2

LABORATORY EVALUATION

Scott Paper - Oconto Falls, Wisconsin
October 17 and 18, 1977

Inspection Attendees

Affiliation

John Schmitt
Bob Meyer
David Vietti

Technical Services Manager, Scott Paper
Technical Services Dept., Scott Paper
Chemist, US EPA-NEIC

The analytical laboratory used for NPDES testing is well equipped. Approved EPA procedures are being used for BOD and TSS analyses. Two YSI dissolved oxygen meters are being used to measure DO's in the stream and the initial and final BOD values. The meters are standardized daily against the Winkler titration method.

Some quality control procedures are being used with three dilutions being set up on every sample for BOD analysis. Duplicates should be analyzed periodically (one every ten samples) for TSS analysis as well as a blank everytime the parameter is analyzed. Glass Fiber Filters 934 AH, 5.5 cm, were being used for solids testing.

The composites are not being cooled during sample collection. The practice of refrigeration while compositing should be implemented immediately. Also the composites that come off on Saturday are not being set up until Monday. This is a holding time of 48 hours and exceeds the recommended holding for BOD's by 24 hours. Since the composites are not being cooled during collection and part of the composite is 24 hours old after the compositing is completed, the BOD's should be set up immediately after the composites come off on Saturday.

The dilution water used for BOD analysis is not being incubated prior to BOD testing and this is causing inconsistent blanks. When the temperature of the laboratory is above 29°C, the initial readings are too low and when the temperature is below 20°C, the initial readings are too high. Consequently, when the temperature in the laboratory is not 20°C, erroneous BOD data is resulting. Therefore, the BOD dilution water should be incubated at 20°C for at least 24 hours prior to the set up of the BOD dilutions.

Along with upgrading their quality control program by running a duplicate every tenth sample for TSS analysis along with a blank, their quality assurance procedures should be documented. Also, NBS thermometers and Class "S" weights should be purchased in order to monitor the temperatures of their ovens and document the weights of their analytical balance.

SELF-MONITORING PROGRAM

On the following items, code 1 = yes, 2 = no, 3 = undetermined,
4 = not applicable.

RECORDS AND REPORTS

- ☒ 1. Properly maintained records of date, exact place and time of sampling.
- ☒ 2. Properly maintained records of the dates samples were analyzed.
- ☒ 3. Properly maintained records of who performed the analyses.
- ☒ 4. Properly maintained records of the analytical techniques and methods used.
- ☒ 5. Properly maintained records of the results of analyses.
- ☒ 6. Records maintained for a minimum of three years including all original strip chart recordings (continuous monitoring instrumentation calibration, maintenance records).
- ☐ 7. Plant operating records kept including operating logs of each treatment unit.
- ☒ 8. Results of sample analyses correctly calculated and recorded.
- ☒ 9. Self-monitoring frequency and parameters conform to permit requirements.
- ☒ 10. Laboratory records consistent with DMR data.
- ☒ 11. Records maintained of major contributing industries using publicly owned treatment works.
- ☒ 12. Records maintained of major contributing industries' compliance/non-compliance status.
- ☒ 13. Quality assurance records kept including spiked samples, laboratory equipment calibration, etc.

Other Comments on Records and Reports:

FLOW MEASUREMENT

- ☒ 1. Primary measuring device (weir, parshall flume, magmeter, etc.) properly installed.
Type of device _____
- ☒ 2. Calibration frequency adequate.
Date of last calibration _____
- ☒ 3. Flow measurement records properly maintained.
Method (automatic, manual, etc.) _____
- ☒ 4. Primary flow measurement device properly operated and maintained.
- ☒ 5. Secondary instruments (totalizers, records, etc.) properly operated and maintained.
- ☒ 6. Flow measurement equipment adequate to handle expected ranges of flow rates.

Other Comments on Flow Measurement:

SAMPLING

- ☒ 1. Locations adequate for representative samples.
- ☒ 2. Parameters and frequency agree with permit.
- ☒ 3. Method of sample collection: Manual ☒
Automatic ☒
- ☒ 4. Sample collection method is adequate.
- ☒ 5. Water intake sampled and analyzed, if required by permit.
- ☒ 6. Additional monitoring and analyses being performed more frequently than required by permit.

- 4 7. When answer to No. 6 is yes, results are being reported in permittee's Discharge Monitoring Form (EPA No. 3320-1).
- 2 8. When necessary during compositing, samples are properly iced.
- 2 9. Proper preservation techniques used.
- 4 10. Flow proportioned samples obtained where required by permit.
- 2 11. Sample holding times prior to analyses in conformance with 40 CFR 136.3 regulations. The composites that come off on Saturday are not being set up until the following Monday.
- Other Comments on Sampling Techniques:

LABORATORY PROCEDURES

- 1 1. EPA approved analytical testing procedures used (40 CFR 136.3).
- 4 2. If alternate analytical procedures are used, proper approval has been obtained.
- 2 3. Parameters other than those required by the permit are analyzed.
- 2 4. Commercial laboratory utilized.
Name _____
Address _____
- 4 5. Commercial laboratory State certified.
- 1 6. Satisfactory calibration and maintenance of instruments and equipment.
- 1 7. Quality control procedures used.
- 1 8. Duplicate samples are analyzed. 50 % of time, only for BOD's.

☒ 9. Spiked samples are used. _____ % of time.

☒ 10. Laboratory records properly maintained.

☒ 11. Laboratory employees qualified.

General Comments on Laboratory Procedures:

Results of NEIC Quality Control Check Samples Analyzed by Laboratory

	<u>Suspended Solids</u>	<u>B.O.D.</u>
Scott Paper Values	47 mg/l	124 mg/l
True Values	51 mg/l	146 mg/l

APPENDIX B

CHAIN-OF-CUSTODY PROCEDURES

APPENDIX B

ENVIRONMENTAL PROTECTION AGENCY NATIONAL ENFORCEMENT INVESTIGATIONS CENTER CHAIN OF CUSTODY PROCEDURES June 1, 1975

GENERAL

The evidence gathering portion of a survey should be characterized by the minimum number of samples required to give a fair representation of the effluent or water body from which taken. To the extent possible, the quantity of samples and sample locations will be determined prior to the survey.

Chain of Custody procedures must be followed to maintain the documentation necessary to trace sample possession from the time taken until the evidence is introduced into court. A sample is in your "custody" if:

1. It is in your actual physical possession, or
2. It is in your view, after being in your physical possession, or
3. It was in your physical possession and then you locked it up in a manner so that no one could tamper with it.

All survey participants will receive a copy of the survey study plan and will be knowledgeable of its contents prior to the survey. A pre-survey briefing will be held to re-appraise all participants of the survey objectives, sample locations and Chain of Custody procedures. After all Chain of Custody samples are collected, a de-briefing will be held in the field to determine adherence to Chain of Custody procedures and whether additional evidence type samples are required.

SAMPLE COLLECTION

1. To the maximum extent achievable, as few people as possible should handle the sample.
2. Stream and effluent samples shall be obtained, using standard field sampling techniques.
3. Sample tags (Exhibit I) shall be securely attached to the sample container at the time the complete sample is collected and shall contain, at a minimum, the following information: station number, station location, data taken, time taken, type of sample, sequence number (first sample of the day - sequence No. 1, second sample - sequence No. 2, etc.), analyses required and samplers. The tags must be legibly filled out in ballpoint (waterproof ink).
4. Blank samples shall also be taken with preservatives which will be analyzed by the laboratory to exclude the possibility of container or preservative contamination.
5. A pre-printed, bound Field Data Record logbook shall be maintained to record field measurements and other pertinent information necessary to refresh the sampler's memory in the event he later takes the stand to testify regarding his actions during the evidence gathering activity. A separate set of field notebooks shall be maintained for each survey and stored in a safe place where they could be protected and accounted for at all times. Standard formats (Exhibits II and III) have been established to minimize field entries and include the date, time, survey, type of samples taken, volume of each sample, type of analysis, sample numbers, preservatives, sample location and field measurements such as temperature, conductivity,

DO, pH, flow and any other pertinent information or observations. The entries shall be signed by the field sampler. The preparation and conservation of the field logbooks during the survey will be the responsibility of the survey coordinator. Once the survey is complete, field logs will be retained by the survey coordinator, or his designated representative, as a part of the permanent record.

6. The field sampler is responsible for the care and custody of the samples collected until properly dispatched to the receiving laboratory or turned over to an assigned custodian. He must assure that each container is in his physical possession or in his view at all times, or locked in such a place and manner that no one can tamper with it.
7. Colored slides or photographs should be taken which would visually show the outfall sample location and any water pollution to substantiate any conclusions of the investigation. Written documentation on the back of the photo should include the signature of the photographer, time, date and site location. Photographs of this nature, which may be used as evidence, shall be handled recognizing Chain of Custody procedures to prevent alteration.

TRANSFER OF CUSTODY AND SHIPMENT

1. Samples will be accompanied by a Chain of Custody Record which includes the name of the survey, samplers' signatures, station number, station location, date, time, type of sample, sequence number, number of containers and analyses required (Fig. IV). When turning over the possession of samples, the transferor and transferee will sign, date and time the sheet. This record sheet allows transfer of custody of a group of samples in the field, to the mobile laboratory or when samples are dispatched to the NEIC - Denver laboratory. When transferring a portion of the samples identified on the sheet to the field mobile laboratory, the individual samples must be noted in the column with the signature of the person relinquishing the samples. The field laboratory person receiving the samples will acknowledge receipt by signing in the appropriate column.
2. The field custodian or field sampler, if a custodian has not been assigned, will have the responsibility of properly packaging and dispatching samples to the proper laboratory for analysis. The "Dispatch" portion of the "Chain of Custody Record shall be properly filled out, dated, and signed.
3. Samples will be properly packed in shipment containers such as ice chests, to avoid breakage. The shipping containers will be padlocked for shipment to the receiving laboratory.
4. All packages will be accompanied by the Chain of Custody Record showing identification of the contents. The original will accompany the shipment, and a copy will be retained by the survey coordinator.
5. If sent by mail, register the package with return receipt requested. If sent by common carrier, a Government Bill of Lading should be obtained. Receipts from post offices, and bills of lading will be retained as part of the permanent Chain of Custody documentation.
6. If samples are delivered to the laboratory when appropriate personnel are not there to receive them, the samples must be locked in a designated area within the laboratory in a manner so that no one can tamper with them. The same person must then return to the laboratory and unlock the samples and deliver custody to the appropriate custodian.

LABORATORY CUSTODY PROCEDURES


1. The laboratory shall designate a "sample custodian." An alternate will be designated in his absence. In addition, the laboratory shall set aside a "sample storage security area." This should be a clean, dry, isolated room which can be securely locked from the outside.
2. All samples should be handled by the minimum possible number of persons.
3. All incoming samples shall be received only by the custodian, who will indicate receipt by signing the Chain of Custody Sheet accompanying the samples and retaining the sheet as permanent records. Couriers picking up samples at the airport, post office, etc. shall sign jointly with the laboratory custodian.
4. Immediately upon receipt, the custodian will place the sample in the sample room, which will be locked at all times except when samples are removed or replaced by the custodian. To the maximum extent possible, only the custodian should be permitted in the sample room.
5. The custodian shall ensure that heat-sensitive or light-sensitive samples, or other sample materials having unusual physical characteristics, or requiring special handling, are properly stored and maintained.
6. Only the custodian will distribute samples to personnel who are to perform tests.
7. The analyst will record in his laboratory notebook or analytical worksheet, identifying information describing the sample, the procedures performed and the results of the testing. The notes shall be dated and indicate who performed the tests. The notes shall be retained as a permanent record in the laboratory and should note any abnormalities which occurred during the testing procedure. In the event that the person who performed the tests is not available as a witness at time of trial, the government may be able to introduce the notes in evidence under the Federal Business Records Act.
8. Standard methods of laboratory analyses shall be used as described in the "Guidelines Establishing Test Procedures for Analysis of Pollutants," 38 F.R. 28758, October 16, 1973. If laboratory personnel deviate from standard procedures, they should be prepared to justify their decision during cross-examination.
9. Laboratory personnel are responsible for the care and custody of the sample once it is handed over to them and should be prepared to testify that the sample was in their possession and view or secured in the laboratory at all times from the moment it was received from the custodian until the tests were run.
10. Once the sample testing is completed, the unused portion of the sample together with all identifying tags and laboratory records, should be returned to the custodian. The returned tagged sample will be retained in the sample room until it is required for trial. Strip charts and other documentation of work will also be turned over to the custodian.
11. Samples, tags and laboratory records of tests may be destroyed only upon the order of the laboratory director, who will first confer with the Chief, Enforcement Specialist Office, to make certain that the information is no longer required or the samples have deteriorated.

EXHIBIT I

EPA, NATIONAL ENFORCEMENT INVESTIGATIONS CENTER			
Station No.	Date	Time	Sequence No.
Station Location			<input type="checkbox"/> Grab <input type="checkbox"/> Comp.
<input type="checkbox"/> BOD	<input type="checkbox"/> Metals	Remarks/Preservative:	
<input type="checkbox"/> Solids	<input type="checkbox"/> Oil and Grease		
<input type="checkbox"/> COD	<input type="checkbox"/> D.O.		
<input type="checkbox"/> Nutrients	<input type="checkbox"/> Bact.		
	<input type="checkbox"/> Other		
Samplers:			

Front

ENVIRONMENTAL PROTECTION AGENCY
 OFFICE OF ENFORCEMENT
 NATIONAL ENFORCEMENT INVESTIGATIONS CENTER
 BUILDING 53, BOX 25227, DENVER FEDERAL CENTER
 DENVER, COLORADO 80225



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EXHIBIT II

FOR _____ SURVEY, PHASE _____, DATE _____

TYPE OF SAMPLE _____

ANALYSES REQUIRED

STATION NUMBER	STATION DESCRIPTION	TOTAL VOLUME	TYPE CONTAINER	PRESERVATIVE	NUTRIENTS	BOD	COD	TOC	TOTAL SOLIDS	SUSPENDED SOLIDS	ALKALINITY	DO	pH*	CONDUCTIVITY*	TEMPERATURE*	TOTAL COLIFORM	FECAL COLIFORM	TURBIDITY	OIL AND GREASE	METALS	BACTI	PESTICIDES	HERB	TRACE ORGANICS	PHENOL	CYANIDE

REMARKS

EXHIBIT III

Samplers: _____

FIELD DATA RECORD

STATION	NUMBER	DATE	TIME	TEMPERATURE °C	CONDUCTIVITY, μ mhos/cm	pH S.U.	D.O. mg/l	Gage Ht. or Flow Ft. or CFS

Distribution: Orig. — Accompany Shipment
1 Copy — Survey Coordinator Field Files

REVIEW OF CHAIN-OF-CUSTODY PROCEDURES

Scott Paper Company
Oconto Falls, Wisconsin

Records pertaining to the Scott Paper Company presurvey reconnaissance and monitoring survey were evaluated against the established NEIC chain-of-custody procedures. Specifically, field data records, log books, sample tags, and chain-of-custody records were reviewed to determine the nature and scope of any deviations to the NEIC chain-of-custody procedures. If a deviation was discovered, an assessment was made of the impact of the deviation on the survey results. The following is the result of this evaluation.

The field chemist on the survey maintained a laboratory notebook in which to note any pertinent information and/or abnormalities in analytical results. He did not record the daily calibration for accuracy of the analytical balance used for TSS weights, although he conducted the practice daily. Nor did he record the absence of chlorine in BOD samples, although he checked each sample for chlorine content prior to conducting a BOD analysis.

The field chemist followed the standard method for BOD analysis, with the exception of not checking the pH of the samples prior to initiating analysis. In the technical judgment of this chemist, experienced in BOD analysis, such a deviation is justified because of: (1) the large dilution of the samples (>50 fold), and (2) the buffering capacity of the dilution water.

Five other items, which are not considered to be deviations to established NEIC chain-of-custody procedures, do require the following clarification.

Samples taken on October 19, 1977, of the clarifier effluent and SSL lagoon underdrain flow during the reconnaissance inspection were brought back to the NEIC laboratory, Denver, Colorado, and analyzed for TSS. The original white copy of the Chain-of-Custody Record, which was signed by the chemist who received and analyzed the sample, has not been found. The yellow duplicate copy containing all necessary information is contained in the Scott project file.

During the presurvey reconnaissance, a BOD sample of the lagoon underdrain flow was collected, iced, and sent to the NEIC laboratory, Denver, Colorado. Due to available air transportation, the recommended holding time (6 hours for BOD analysis) was exceeded by one hour and ten minutes. The concentration in the sample was found to be 8,800 mg/l. Since concentrations for a given BOD sample decrease over time, the

actual concentration of the sample analyzed may have been greater, but not less, than 8,800 mg/l if the recommended holding time had not been exceeded.

On the morning of November 9, 1977, at 0400, a portion of the sample from Station 3010 was poured into the container in which the sample from Station 3003 was to be composited. Because of this contamination, the sample for Station 3003 for 0800 November 8 to 0800 November 9, 1977, was invalidated. Analysis of this sample was performed, however, the sample results are not included in this report.

DO samples were collected at the Oconto River Station in standard size DO bottles. Samples were not tagged, but remained in the sampler's custody at all times. Analyses of the samples were performed by the sampler at the NEIC mobile laboratory within one hour of their collection. The analytical results were recorded in a log book and the sample discarded. This procedure is consistent with established NEIC chain-of-custody procedures, since field measurements do not require sample tags.

Sample bottles and content were discarded after all analytical results had been recorded. Prior to discarding them, the sample tags were removed and filed.

All of these deviations to established NEIC chain-of-custody procedures, and the items requiring clarification are considered to be minor and, thereby, are considered to have no impact on the results, conclusions, and/or recommendations contained in this report.