XL PROPOSAL

I. INTRODUCTION

A. International Paper Company's Androscoggin mill is a large integrated pulp and paper manufacturing facility located in Jay, Maine, adjacent to the Androscoggin River. Approximately 1,500 tons per day of coated, light weight printing papers for catalogs and other publications and specialty paper such as fax paper and grease resistant wrapping paper are produced by the 1,200 employees.

The five paper machines are supplied with pulp by two separate digesters and bleaching lines as well as groundwood from six grind stones. The softwood pulp line uses extended delignification, followed by oxygen delignification and bleaching with chlorine dioxide, while the hardwood pulp line employs extended delignification followed by bleaching with chlorine dioxide.

The mill is located on the opposite shore of the river from residential and commercial buildings in Jay, and is part of a large wooded area which extends for more than five miles to the north and west. The Town of Jay is immediately adjacent to Livermore Falls and the combined population is approximately 5,000. A map of our area is included in the appendix.

The mill's Public Advisory Committee or PAC has been assisting our facility with environmental issues for over seven years. A list of PAC members is included in the appendix. The Androscoggin mill is widely recognized as an environmental leader in Maine and New England and has been the recipient of many awards. They include:

1. State of Maine Governor's Pollution Prevention Award - 1993, 1994, and 1996.
2. State of Maine Governor's Environmental Leadership Award - 1998
3. Region I EPA Environmental Leadership Program - 1996
4. Region I EPA StarTrack Program - 1997
5. International Paper Company Corporate Large Facility Environmental Award - 1997

XL PROPOSAL

The Androscoggin mill has an environmental management system (EMS) in place which was audited in 1996 by a third party as part of the Environmental Leadership Program (ELP) audit conducted in cooperation with EPA Region I, the Maine DEP, and the Town of Jay. Refinements to the EMS are continuing.

Maine people have for many years been concerned about the amount of color discharged from pulp and paper facilities to their rivers and streams. The discharge of color and foam in 1986 was identified through public hearings throughout the state as the primary reason for non-attainment of water classification standards. In 1989, the Maine legislature, after two years of debate, passed the first legislation in the country to control color discharges from pulp and paper facilities. As a result, International Paper began to plan and implement additional process control changes to eliminate spent pulping liquors from the waste stream in 1990. The process changes, while reducing color, also reduced BOD, COD, AOX, and chlorinated phenolics from the process waste stream, resulting in discharges from the treatment system which have been significantly lower than permitted by state, federal, and local regulations. Process changes made at the Androscoggin mill between 1990 and 1998 which lower pollutant discharges to our wastewater treatment system include:

1. Oxygen delignification - A or softwood pulp mill
2. Extended delignification - A (softwood), and B (hardwood) pulp mills
3. Elemental chlorine free (ECF) bleaching - A & B bleach lines

Solid waste from pulp and paper facilities has been an environmental concern since the industry located in Maine in the late 1800's. Bark, logs and spent pulping liquors are all part of the legacy of past impacts on river water quality. Sludges from treatment systems, along with other pulp and paper mill wastes, amount to over 2,000,000 cubic yards per year of landfill disposal needs. International Paper disposes of approximately 100,000 yards of solid waste per year at its Jay, Maine landfill. Over $10 million dollars has been spent by International Paper on monitoring wells, pumping wells, and groundwater collection and treatment. Since our landfill life is estimated at four to five years, we must either expand our landfill area through permitting, and/or extend its life through solid waste pollution prevention techniques.

XL PROPOSAL

International Paper Company's Jay, Maine mill hereby proposes an XL project which will focus on continued superior environmental performance (SEP) in effluent discharge through returning spent pulping liquors, such as those currently used to convey knots and screenings, to process, and solid waste reduction through reuse of solid waste streams to make useful products.

B. The primary contact for this proposal is:

Stephen W. Groves
Environment, Hygiene and Safety Manager
International Paper Company
Jay, ME 04239
telephone: (207) 897-1389; e:mail: Sgroves@ipaper.com

II. OVERVIEW OF THE PROJECT

A. International Paper's Androscoggin mill requests that EPA, under the provisions of XL, waive the data gathering, reporting, implementation of standard operating procedures, annual report submission, management of change, and daily sampling of influent to waste treatment portion of the Best Management Practices (BMP) section of the Cluster Rule. International Paper's Androscoggin mill will replace the above requirements with spent pulping liquor reduction projects which will further lower the BOD, COD, AOX, and color discharges to our treatment system thereby reducing the discharge of color, already the lowest in the state (DEP data) and allowing the mill to accept the implementation of SEP effluent standards. In addition, International Paper will begin a comprehensive program to evaluate the economic feasibility of reducing the volume of solid waste entering its landfill through collaboration with Thermo FiberGen Corporation (TFG) to develop methods to utilize sludge, ash, green liquor dregs, and other papermaking byproducts in the production of useable products such as granules for agricultural uses, and media for chemical manufacturers.

Without Project XL, the Androscoggin mill will implement the BMP provisions of the Cluster Rule as required (see list of projects in appendix), and will continue its exemplary environmental performance. Due to the existing spill prevention, reporting, and control EMS in place at the mill, as well as the presence of advanced process control technologies and reuse of spent pulping liquors, minimal further improvements in discharge quality will be gained through implementation of BMPs. The low pollutant discharges of the past at the mill and the low variability of the results are witness. Solid wastes will continue to be disposed of in the landfill. An application for expansion of the landfill will be submitted to the Town of Jay and the Maine DEP in early 1999 as the landfill nears the end of its existing capacity.

B. This Project XL proposal is composed of two parts. Component #1 identifies and implements projects which reduce the discharge of spent liquors to the wastewater treatment system. Component #2 seeks to reduce solid waste placement in the International Paper landfill through utilization of solid wastes as feedstock to a granule manufacturing facility and as alternative construction materials and feedstock to cement kilns.

XL PROPOSAL

Component 1:

Implementation of projects which will reduce the discharge of spent liquors to the wastewater treatment system.

A stated purpose of the BMP rule is to develop management systems, work practices and operating system to prevent spills and losses of pulping liquors. A stated secondary objective is to provide containment, collection and recovery of those spills and losses that do occur.

International Paper Company's Androscoggin mill is unique in that its previous implementation of processes for the reuse of black liquor, such as partially closed wash cycle pulp mill operation, and oxygen delignification systems have reduced spills and losses of pulping liquor. In addition, all liquor tanks are provided with secondary containment and unforeseen liquor losses are routinely contained and returned to process. While our process improvements have been extensive, we have identified potential projects which can reduce the discharge of spent liquor discharges to our treatment system. These include:

1. Knot liquor recovery system;
2. Pulp screening liquor recovery system;
3. Pulp digester heater drains recovery;
4. A flash system diversion to process;
5. Complete recycle of "A" pulp mill wash waters;
6. Alternative knot and screening conveyance fluid;
7. Power house sump drains collection system; and
8. Computerized mill sewer conductivity display.

We propose as part of the XL project to evaluate each of the above opportunities and implement those with the greatest spent liquor reduction potential per dollar of capital employed.

The reductions in the discharge of pollutants to our wastewater system will allow us to attain compliance with more stringent effluent standards for color and other pollutants

than those required by local, state or federal regulations, and superior environmental performance than the level of pollutant discharge which would result by implementation of BMPs in our facility.

Color discharges from pulp and paper facilities has long been a concern of citizens and legislators in Maine. Color is an excellent indicator of spent pulping liquors being discharged to pulp mill waste treatment systems. Color is an allowable indicator of spent liquor control mechanisms in the BMP rule. However, color is not significantly reduced by secondary waste treatment facilities; therefore, our premise is that color measured in the effluent is an excellent measure of the success of spent liquor control mechanisms. Color discharges from a typical pulp and paper facility in the U.S. have been measured at 400 - 800 pounds of color per ton of unbleached product. Permitted discharges at these levels and the resultant organic load to waterways will be allowed to continue if a pulp and paper facility complies with the BMP rule. No enforceable influent or effluent color discharge requirements will be implemented as a result of BMPs. International Paper's Androscoggin mill, through the implementation of process changes, has reduced discharged color from 500 pounds per ton to 150 pounds per ton over a 10 year period. If we implement BMPs at this facility, we will expand dollars with no measurable environmental improvement. It is our desire to continue our recognized superior environmental performance by reduction of our environmental footprint in partnership with EPA and the XL program.

Component 2:

Elimination of solid waste from the facility landfill and mixing of suitable solid wastes for product manufacture.

Solid wastes are generated in many ways at an integrated pulp and paper facility. Bark from the incoming wood, reject chips and sawdust, sludge from primary and secondary treatment systems, green liquor dregs from the recovery process, boiler ash and general trash. These solid wastes have in the past required the operation of large, expensive and highly visible landfills. The Maine Department of Environmental Protection estimates that over 5.5 million cubic yards per year are deposited in paper industry landfills. Our goal at the Androscoggin mill is to work towards eliminating our need for

a landfill through reuse of sludges, ash, and other byproducts as raw materials for industrial granules, deicing compounds and other materials.

Thermo FiberGen Corporation (TFG) in cooperation with International Paper Company wishes to construct, operate, and maintain a granulation plant at our Jay mill, similar to the one TFG operates in Green Bay, Wisconsin. The project will require exhaustive investigation of costs for landfill, incineration, wastewater treatment, sludge production and related expenses in order to determine the economic feasibility of this venture. A formal agreement with Thermo FiberGen will not be completed until the economic feasibility study is complete. While IP and the XL project sponsors are optimistic of success, the cost analysis and other engineering efforts must be completed. Cluster Rule, BMP, and compliance with Maine's color and dioxin laws have our environmental engineers fully engaged. We need relief from BMPs to enable our staff to complete the extensive economic and technical review necessary to determine the feasibility of our solid waste reduction proposals and enable us to continue our solid waste reduction efforts.

TFG's proposal is to install two belt sludge presses at an estimated cost of $1.5 million to enable separate dewatering of primary and secondary sludges. The eight existing IP screw presses will be dedicated to primary sludge dewatering. No chlorine compounds from our bleach plant enter the primary clarifiers. For the time being, we will continue to burn our waste activated sludge in our waste fuel incinerator (WFI).

Primary sludge and ash will become feedstock for the granulator. The granulation plant cost is approximately $8 million. Primary sludge and ash represent 70% of the solid wastes generated at our facility. The remaining 30% is made up of two percent green liquor dregs, which is planned for use at a local cement kiln, and general trash which can be sorted, recycled and shipped to a municipal trash incinerator. Dregs and trash can be eliminated from our solid waste stream by September 2002 allowing placement of our landfill in emergency standby use.

XL PROPOSAL

Many of the projects we propose to construct to eliminate spent liquors from our wastewater, and therefore, lower our resultant pollutant discharges to the river, have their genesis in solid waste.

For example, our two pulp mills generate approximately 15 - 20 tons per day of knots which are rejected from our pulp cleaning systems. Knots saturated with spent pulping liquors have little if any useable fiber and are numerous when pulping white pine which makes up 90+ percent of our softwood pulp fiber source. Our practice is to place the knots on a concrete containment area since they are continuously generated, allow the weak spent liquor to drain to sewer, and when properly drained, place the knots in our landfill. These practices are allowed under Cluster and BMPs as long as they are properly accounted for in influent testing programs and the spent liquor draining operation does not cause us to exceed our lower control limit (LCL).

As an alternative under project XL, we propose to install a small screw press or screen for the knots, return the spent liquors to the process, and transport the knots for reuse.

An additional example is screenings from the pulp screening process which currently go to the sewer and wastewater treatment. The screenings contain spent liquor which causes additional BOD, COD, color, and solids load to our waste treatment system. This procedure is allowed to continue under the BMP rule as long as our LCL, which will be established by measuring COD at the influent to our treatment system, is not exceeded.

As an alternative under project XL, we propose to remove the screenings, estimated at 10 tons per day, from our sewer and return the spent liquor contained in them to process. The screenings themselves will be reused.

A complete listing of the spent liquor and solid waste reduction projects we plan to implement under Project XL, and their timing, is contained in the project appendix.

III. XL CRITERIA - SUPERIOR ENVIRONMENTAL PERFORMANCE

A. Tier I - Baseline Performance

ENVIRONMENTAL RESULTS WITHOUT PROJECT XL			
Effluent performance at Androscoggin mill for previous 4 years (1/95 through 12/98)		Effluent performance for Androscoggin mill with implementation of BMPs	
	Yearly Average		***Yearly Average***
BOD kg/kkg	0.78	BOD kg/kkg	0.78
COD kg/kkg (97-98 data)	29.0	COD kg/kkg	29.0
AOX kg/kkg	.45	AOX kg/kkg	.45
TSS kg/kkg	5.50	TSS kg/kkg	5.5
Color kg/kkg	68.00	Color kg/kkg	68.00
TCDD ppq	NA @ 10 ppq	TCDD ppq	ND @ 10 ppq

SOLID WASTE TO LANDFILL WITHOUT PROJECT XL (IN TONS PER DAY)	
Sludge	150.00
Ash	12.00
Green liquor dregs	18.00
Paper	2.00
Trash	4.00

Tier II - Superior Environmental Performance

ENVIRONMENTAL RESULTS WITH IMPLEMENTATION OF PROJECT XL	
Expected effluent values at Androscoggin mill for implementation of XL project	
	Yearly Average
BOD kg/kkg	0.65
COD kg/kkg	26.0
AOX kg/kkg	0.26
TSS kg/kkg	5.0/3.0
Color kg/kkg	60.0
TCDD ppq (BPE)	ND @ 10 ppq

Temperature values are expected to decrease only slightly and will remain in conformance with DEP temperature regulations (see appendix).

SOLID WASTE TO LANDFILL WITH IMPLEMENTATION OF PROJECT XL (IN TONS PER DAY)	
Sludge	0.00
Ash	0.00
Green liquor dregs	0.00
Paper	0.00
Trash	4.00

SEP Performance Measurement

All measurements done to validate superior environmental performance (SEP) will be done in accordance with Standard Methods and NPDES discharge monitoring criteria, where applicable, and by actual solid waste truck counts after measurement of capacities and use of truck scales to determine a cubic yard to tonnage relationship. Data will be collected and reported to EPA, the Town of Jay, and the Maine DEP on a monthly basis.

B. Cost Savings, Paperwork Reduction and Economic Benefits

The following table represents the expected cost savings under XL:

Item	***Dollar Savings***	***Type***
Sampling and analysis of influent to treatment system	$30M	labor costs, analytical costs, annual costs
Preparation of annual report	$5M	labor costs, annual costs
Implementation of standard operating procedures	$20M	labor costs, annual costs
Reporting requirements	$40M	labor costs, annual costs
Management of change	$5M	labor costs, equipment costs, annual costs
Alarms	$20M	capital costs

Moats	$160M	capital costs

C. Stakeholder Involvement

The XL project has the support of key stakeholders. The Maine DEP and the Town of Jay have previously expressed their support for the project and desire for sponsorship at an initial meeting with Region I staff on October 5, 1998. The mill Public Advisory Committee (PAC) has been briefed on the proposal and is an active supporter (see membership list of PAC in appendix). Our plan for stakeholder involvement will use our nationally recognized FERC collaborative team approach as a guide for involving as many stakeholders as possible (see Collaborative Team member list in appendix). Each of the parties on the list will be contacted to determine their interest in participation on a project steering committee. An initial meeting will be held of positive responders and quarterly meetings held thereafter to review project issues and results. A high quality stakeholder process and the consensus decisions made as the project unfolds will ensure support for the project outcomes. As we learned during our FERC process, early identification of issues and a commitment to resolution of those issues as a team is the key element to a successful project.

D. Innovation and Pollution Prevention

The XL project we propose uses both innovation and pollution prevention as core principles.

Innovation

By implementing innovative permitting strategies as suggested in the June 23, 1998 *Federal Register* page 34165, EPA will control the results of our alternative strategy to reuse spent liquors in an industrial process through effluent limitations and achieve environmental results otherwise unattainable through traditional regulatory methods.

Pollution Prevention

Sixty thousand tons per year of solid waste generated by the Androscoggin mill in the future can be converted into useful products for the agricultural, pet care, construction and other industries.

These wastes traditionally have been sent to the facility landfill for disposal. The landfill, while state of the art, requires long-term care and vigilance to protect against groundwater contamination. This project provides for pollution prevention through conversion of paper mill solid waste to useful consumer products.

E. Transferability

The solid waste aspects of our proposal are transferable to any pulp and paper facility in the world that generates sludges from waste water treatment. With over 2,000,000 cubic yards of solid waste landfilled in the Maine pulp and paper industry alone, the implications for solid waste reduction are significant. Through inclusion of the Maine Pulp and Paper Association (MPPA) and the Maine Department of Environmental Protection, the agency with solid waste regulatory responsibility in Maine, as stakeholders in our XL process, we will ensure rapid and complete information transfer to other potential technology users.

F. Feasibility

The technical feasibility of the project has been shown through many applied uses including the existing Thermo FiberGen granulation facility in Green Bay, Wisconsin and use of pulp and paper residuals in construction related industries. Our solid waste residuals will be processed by a facility very similar to that contained in the appendix. The Maine DEP and the Town of Jay have shown early commitment to the project during a meeting in EPA Region I. Technical expertise has been committed for the project by both International Paper and Thermo FiberGen. The permitting authority exists within EPA Region I to develop necessary NPDES conditions to ensure the superior environmental performance of our wastewater treatment system on a continuous basis.

G. Evaluation, Monitoring, and Accountability

1.a. Accountability for Wastewater Discharge SEP

The XL project we propose allows NPDES permit writers to include effluent limitations in our permit to ensure superior environmental performance. The monthly average permit limits currently contained in NPDES, Maine DEP and Town of Jay permits are as follows:

Pollutant	***NPDES***	***Maine DEP***	***Town of Jay***
BOD pounds	17696.00	18000.00	10,900
BOD 6/1 - 9/30	17696.00	10900.00	10900.00
TSS pounds	38380.00	38080.00	38080.00
TSS Jun - Oct	38380.00	38080.00	12122.00
Color lb/ton UB (daily max)	no limit	225 lb/adtp	225 lb/adtp
2,3,7,8 dioxin ppq	no limit	non detect @@ 10 ppq	non detect @@ 10 ppq
Furan ppq	no limit	100 ppq	20 ppq
AOX	no limit	no limit	no limit
COD	no limit	no limit	no limit

XL PROPOSAL

The NPDES permit conditions we propose as part of our "Accountability" under the XL project are as follows:

Pollutant	***Yearly Average***		***Monthly Average***	***Daily Maximum***
	lbs.*/day*	****kg/kkg***	***lbs.****/day*	***lbs.***
BOD	4,000	1.0	4500.00	8000.00
TSS(10/1-4/30)	20,000	5.0	31,330 (10/1/99) 25,000 (10/l/02)	44,600
TSS(5/1-9/30)	12,000	3.0	12,000 (5/1-9/30)	22,300 (5/1-9/30)
AOX		*0.26		
2,3,7,8 TCDD (Bleach Plant Effluent)	ND @ 10 ppq		ND @ 10 ppq	ND @ 10 ppq
COD	113,000	30.0		
Chloroform (Bleach Plant Effluent)		2.8 kg/kkg		
Color	125 lbs./ton	60.0		150 lbs./ton (Quarterly)

* Compliance with yearly permit limits to be addressed in the Final Project Agreement.

The above permit conditions and any others required by regulatory authorities may be incorporated into our NPDES permit which is in draft stages at EPA Region I.

1.b. Accountability for Solid Waste Reduction Superior Environmental Performance (SEP)

Solid waste reductions will be tracked as corporate goals and reported to the regulatory agencies and the stakeholders on a monthly basis. Reductions in solid waste landfilled will be presented in absolute terms by media, such as sludge, green liquor dregs, ash, and general trash by tons, and as percent reduction from a 1998 base. Corporate solid waste reduction goals will be established and tracked as key performance measures (KPM) on the International Paper Company KPM reporting system. KPM results will be reported to corporate and to stakeholders on a monthly basis. Solid waste reduction goals will not be legally enforceable, but will be driven by cost benefits associated with those reductions.

2. Monitoring and Reporting

Wastewater treatment plant performance will be monitored through the existing NPDES monitoring and reporting system. Solid waste reductions will be monitored monthly through the International Paper corporate KPM tracking program.

3. Soft Landing

To be developed in the final project agreement (FPA). Issues to be considered include: 1.) Economic feasibility of solid waste reduction projects, and 2.) Attainment of specific NPDES permit limitations.

H. Shifting of Risk Burden

No risk transfer will occur with implementation of this XL project. More stringent effluent limitations contained in an NPDES permit will ensure the continuity of improved water quality in the Androscoggin River and use of mill solid waste residuals for products and construction materials will not transfer pollutants from one media to

another. Primary sludge from our wastewater treatment system does not contact chlorinated compounds in our process or wastewater treatment system (see schematic in appendix). All bleach plant effluents discharge directly to the aerated lagoon. Primary sludge is produced in the primary clarifier. Secondary sludges produced in the aerated lagoon do come in contact with spent bleaching liquors and initially will continue to be used as a fuel source in the waste fuel incinerator. Products developed from solid waste residuals will be analyzed for specific chlorinated compounds prior to sale on the market.

IV. REQUESTED FLEXIBILITY

International Paper Company requests specifically that the BMP regulations - 40 CFR 430.03 - be waived for our Androscoggin mill and that funds scheduled to be expended to comply with those regulations be used in two specific areas.

1. Projects that remove spent pulping liquors from the wastewater stream and return them to process streams.

2. Projects that reduce the solid waste disposed in our on-site landfill.

No state and local laws or regulations need to be waived or amended for this XL project.

Implementation of projects to remove spent pulping liquors from the wastewater stream will allow us to achieve the proposed superior environmental performance effluent limits contained in Section G of this application. Implementation of projects to reduce solid waste at our facility and technologies developed as a result of our partnership with Thermo FiberGen are directly transferable to other large paper industry facilities.

V. ENFORCEMENT AND COMPLIANCE PROFILE

International Paper Company's Androscoggin mill has an outstanding environmental record which resulted in our gaining EPA Region I "StarTrack" status in 1996. The StarTrack application is included in the appendix as well as a list of environmental awards received since 1995, the date of the Environmental Leadership Program StarTrack application.

There have been no enforcement actions filed against the facility in the last five years.

VI. SCHEDULE INFORMATION

International Paper proposes the following schedule for the XL project:

Date	*Action*
December 30, 1998	Submit application to EPA
March 15, 1999	Economic evaluation of Thermo FiberGen solid waste reduction program complete
April 1, 1999	Project XL approval
April 1, 1999	Draft NPDES permit issued
July 1, 2000	Achievement of SEP for wastewater discharge
July 1, 2000	Projects to remove spent process liquors from wastewater completed
December 31, 2000	Achieve 25% reduction goal in solid waste to facility landfill from a 1998 base
December 31, 2001	Achieve 50% reduction goal in solid waste to facility landfill from a 1998 base
December 31, 2002	Achieve 75% reduction goal in solid waste to facility landfill from a 1998 base

APPENDICES