United States
Environmental Protection
Agency

Office of Reinvention
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XL Project Progress Report
Weyerhaeuser Flint River Operations

On March 16, 1995, the Clinton Administration announced a portfolio of reinvention initiatives to be implemented by the U.S. Environmental Protection Agency (EPA) as a part of its efforts to achieve greater public health and environmental protection at a more reasonable cost. Through Project XL, which stands for eXcellence and Leadership, EPA enters into specific project agreements with public or private sector sponsors to test regulatory, policy, and procedural alternatives that will produce data and experiences to help the Agency make improvements in the current system of environmental protection. The goal of Project XL is to implement 50 projects that will test ways of producing superior environmental performance with improved economic efficiencies, while increasing public participation through active stakeholder processes. As of October 1998, 10 XL projects are in the implementation phase and 20 XL projects are under development. Project XL Progress Reports provide project-specific overviews of the status of individual XL projects that are implementing Final Project Agreements (FPAs). The progress reports are available on the Internet via EPA's Project XL web site at http://www.epa.gov/ProjectXL. Or, hard copies may be obtained by contacting the Office of Reinvention's Project XL Docket at 202-260-7434. General information on Project XL is available on the web site or by contacting the general information number at 202-260-5754.

Background

Weyerhaeuser Company is one of the largest private owners of forest, with 5.4 million acres in the United States. Among its products are timber, paper, and pulp. Weyerhaeuser's Flint River pulp manufacturing facility in Oglethorpe, Georgia, manufactures 320,000 tons per year of absorbent fluff pulp used in diapers. The facility was opened in 1981 and is located 100 miles southwest of Atlanta, Georgia.

Weyerhaeuser is striving to minimize the environmental impact of its manufacturing processes on the Flint River and the surrounding environment by pursuing a long-term vision of a Minimum Impact

Weyerhaeuser XL Project
Oglethorpe, Georgia

Major Milestones

September 8, 1995
Weyerhaeuser XL Proposal Submitted

January 17, 1997
Final Project Agreement Signed

January 28, 1998
First Annual Stakeholders Meeting
Montezuma, Georgia

2006
Final FPA Commitments to be Met

Mill. Through a combination of enforceable requirements and voluntary goals, the Weyerhaeuser XL project will improve the health of the nearby Flint River and surrounding watersheds by:

- Cutting bleach plant effluent by 50% over a 10-year period;
- Reducing water usage by 1 million gallons a day;
- Cutting solid waste generation by 50% over a 10-year period;
- Preparing and implementing a facility-wide plan to reduce energy use;
- Reducing the generation of hazardous waste to a level where the facility can qualify as a conditionally exempt small quantity generator;
- Maintaining criteria air pollutant emissions at levels below facility-wide emission caps;
- Preparing and implementing a site-specific alternative compliance plan for hazardous air pollutant emissions;
- Improving forest management practices in over 300,000 acres of land; and
- Adopting ISO 14001, an international standard that defines the elements of a continually improving environmental management system.

Regulatory Flexibility

The Weyerhaeuser XL project establishes a long-term plan to continuously reduce the mill's impact on air, water, land, and the surrounding watersheds. As an incentive to achieve superior environmental performance at Weyerhaeuser's Flint River facility, EPA and the Georgia Environmental Protection Division (EPD) will provide more flexible and cost-effective processes for regulatory compliance. Regulatory flexibility is being offered in the areas of environmental performance reporting, effluent permitting, air quality permitting, hazardous air pollutant compliance, and solid waste permitting.

The statutory programs, and EPA offices administering those programs, that affect the Weyerhaeuser XL project are:

- Clean Water Act (CWA) programs administered by the EPA's Office of Wastewater Management and EPA's Office of Wetlands, Oceans, and Watersheds;
- Resource Conservation and Recovery Act (RCRA) programs administered by the EPA's Office of Solid Waste;
- Clean Air Act (CAA) programs administered by the EPA's Office of Air Quality Planning and Standards; and
- Pollution Prevention Act (PPA) programs administered by the EPA's Office of Prevention, Pesticides, and Toxic Substances.

All permitting programs required to implement the Final Project Agreement have been delegated by EPA to the State of Georgia. Permits are issued by Georgia EPD.

Reporting. EPA Region 4 and the Georgia EPD are allowing Weyerhaeuser the flexibility to consolidate some of the facility's routine permitting reports into two reports per year. These reports are available on EPA's XL Homepage (http://yosemite.epa.gov/xl/xl_home.nsf/all/homepage).

Effluent Permitting. EPA Region 4 and Georgia EPD have revised Weyerhaeuser's National Pollution Discharge Elimination System (NPDES) permit to include more stringent effluent limits on biological oxygen demand (BOD), total suspended solids (TSS), and adsorbable organic halides (AOX); streamline the permit renewal process; eliminate fish tissue sampling requirements due to improvements in process technologies that

have eliminated detectable dioxin levels in effluents; remove a requirement for additional assimilative capacity studies; and allow annual compliance certification in lieu of periodic discharge monitoring reporting (DMR) due to the company's 10-year history of meeting all required discharge levels.

Air Quality Permitting. EPA Region 4 and Georgia EPD have modified the facility's existing air quality permit to include dual emission caps for air pollutants. The caps reduce allowable air emissions by 60%. The dual emission caps are: 1) a cap that allows the recovery furnace, smelt dissolving tank, calciner, and combination boiler (the facility's four major sources of emissions) to be operated to their design capacity without triggering permit review; and 2) a cap covering all facility sources except those four major sources. The dual emission caps apply to particulate matter, sulfur dioxide (SO_2), nitrous oxides (NO_x), carbon monoxide (CO), volatile organic carbons (VOCs), and total reduced sulfur (odor causing pollutant). The modified air quality permit streamlines the permit renewal process, includes alternate excess emission reporting protocols, and includes a protocol for conducting manufacturing process experiments without triggering a permit review.

Hazardous Air Pollutant Compliance. EPA Region 4 and Georgia EPD have agreed to provide Weyerhaeuser the flexibility to demonstrate hazardous air pollutant (HAP) emission reductions using innovative pollution prevention approaches rather than end-of-pipe HAP controls. Weyerhaeuser will prepare an alternative compliance plan that will present the HAP emission reductions to be achieved by the facility following promulgation of the Maximum Available Control Technology (MACT) Cluster Rule for the pulp and paper industry.

Solid Waste Permitting. EPA Region 4 and Georgia EPD will modify Weyerhaeuser's solid waste permit to allow nonhazardous industrial wastes containing free liquids to be disposed of in a permitted, onsite landfill.

Promoting Innovation and System Change

Project XL provides EPA opportunities to test and implement approaches that protect the environment and advance collaboration with stakeholders. EPA is continually identifying specific ways in which XL projects are helping to promote innovation and system change. The innovations and system changes that have emerged from the Weyerhaeuser XL project are described below:

Pulp and Paper Cluster Rules. The Weyerhaeuser XL project provides a pilot for testing alternative compliance approaches to the new MACT standard portions of the Pulp and Paper Cluster Rules (promulgated on April 15, 1998). Weyerhaeuser will have the flexibility to control hazardous air pollutants through pollution prevention approaches rather than end-of-pipe control measures.

Consolidated Reporting. The Weyerhaeuser XL project allows the facility to consolidate reporting for some of the Federal, state, and local permitting and regulatory programs that apply to the facility into two comprehensive reports each year. The project tests an approach to streamlining both permitting and the collection of higher quality information from regulated industries. The project will influence development of the comprehensive information management plan to be prepared by the EPA's new consolidated Environmental Information Office.

Dual Emissions Caps. The Weyerhaeuser XL project provides for dual emissions caps that limit facility-wide emissions to levels 60% below those that would be required under a standard permitting scheme. In return, Weyerhaeuser can change equipment operating conditions to respond to customer needs without triggering permit reviews as long, as the lower cap is not exceeded.

NPDES Permitting. Weyerhaeuser's NPDES permit has been revised to include more stringent effluent limits on biological oxygen demand, total suspended solids, and adsorbable organic halides. In return, Weyerhaeuser: 1) is not required to conduct fish tissue sampling requirements because improvements in process technologies have eliminated detectable dioxin levels in effluents; 2) is not required to conduct additional assimilative capacity studies of the Flint River; and 3) can provide an annual certification of compliance instead of periodic discharge monitoring reporting due to the company's 10-year history of meeting all required discharge levels.

Comprehensive Environmental Management System. Weyerhaeuser will voluntarily institute an environmental management system at the Flint River facility that conforms to the International Organization for Standardization (ISO) 14001 standard. The facility is developing a comprehensive manual of standard work procedures for plant employees. As announced in the Federal Register on March 12, 1998, EPA is evaluating options that will lead to development of an EPA policy on Environmental Management Systems (EMSs). The Weyerhaeuser XL project will provide data on the compliance and environmental benefits of EMS approaches.

Project Commitment Summary

This section summarizes project commitments described in the FPA for Weyerhaeuser's Flint River facility in Georgia. The facility has completed Phases I, II, and III of its environmental management plans.

Commitment	Status
Minimum Impact Mill Phase IV Implementation Schedule	
Construct isothermal cooking (brownside optimization) equipment	Construction and process optimization were completed in 1997.
Upgrade odor control system	Construction and process optimization were completed in 1996.
Reduce energy steam use	Construction and process optimization were completed in 1997.
Revise existing EMS to conform to ISO 14001 EMS (nonenforceable), including operational procedures, record keeping, auditing, quality assurance, and permit requirements.	The process of ISO 14001 documentation originally was scheduled to be completed in mid-1997. It has proceeded slower than expected and now is scheduled to be completed and implementation to begin in June, 1999.
Minimum Impact Mill Phase V Feasibility Studies	
Conduct feasibility studies for reducing solid waste generation through source elimination, by-product reuse, and energy recovery.	A compost using facility by-products that is suitable for land application has been produced; a summer composting study is underway; and a small-scale land application study is scheduled for the fall of 1998.
Conduct an energy conservation study to identify potential conservation practices and prepare a long-term energy conservation plan to reduce plant energy demand and power boiler steaming rates.	Three small-scale energy conservation projects have been completed (product unit condensate return to boiler feedwater system, evaporator condensate return to recaust area, and recovery boiler secondary temperature reduction). A fourth small-scale project is on hold pending results of a facility-wide energy conservation study. The energy conservation study is scheduled to be completed in December, 1998.

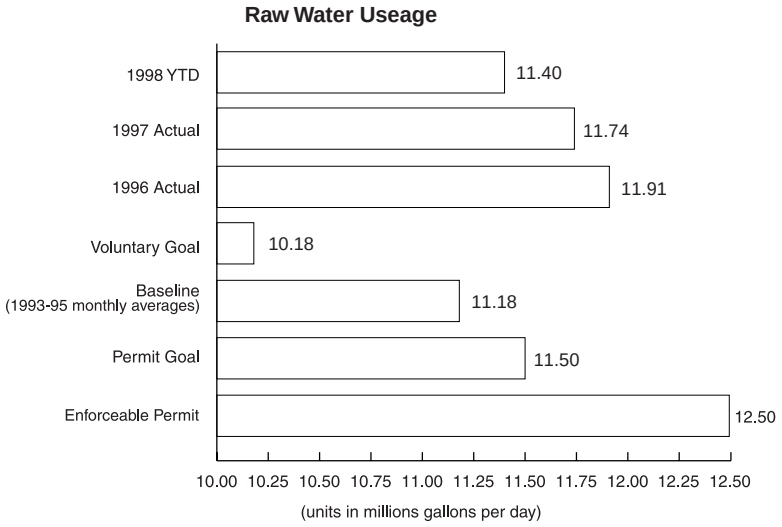
Commitment	Status
Minimum Impact Mill Phase V Feasibility Studies (continued)	
Conduct studies of mill water use to reduce the quantity of treated wastewater discharged into the river.	Feasibility studies to reuse excess machine water, partially replace flume water, and reuse cooling water are expected to be completed by the end of March, 1999.
Conduct feasibility studies, including studies of water use, process elements, finished product quality, and multimedia impacts, to determine how to reduce the volume of bleach plant effluent flow.	A series of bleach plant effluent reduction studies are scheduled to be conducted from 1998 through 2003. An ultrafiltration pilot test project is underway at another Weyerhaeuser facility.
Conduct HAP emission reduction feasibility studies to identify pollution prevention approaches for achieving HAP emission reductions.	The schedule for conducting feasibility studies will be detailed in Weyerhaeuser's MACT alternative compliance plan.
Implement timberland resource strategies in over 300,000 acres of forest to designate forest buffers, minimize erosion caused by roads, improve streamside management, develop water bars to stabilize soils, safeguard unique habitats, implement landscape planning, establish wildlife corridors, and protect threatened/endangered species.	Documentation and implementation of timberland resource strategies was completed in the fall of 1997.
Water	
Reissue NPDES permit to provide more stringent effluent limits for BOD, TSS, and AOX, streamline permit renewal process, remove fish tissue sampling requirement, remove requirement for additional assimilative capacity study, allow annual compliance certification in lieu of DMR reporting.	The NPDES permit was revised in July, 1997.
Modify surface water withdrawal permit to reduce daily maximum withdrawal limits by 1.0 million gallons per day (MGD).	The surface water withdrawal permit was scheduled to be modified on January 1, 1998, but has been delayed.
Solid Waste	
Modify solid waste permit to allow nonhazardous industrial wastes containing free liquids disposal into permitted onsite landfill. Weyerhaeuser will continue stormwater and leachate treatment and quarterly groundwater monitoring.	Permit modifications are expected during the second half of 1998.
Hazardous Waste	
Reduce the generation of hazardous wastes to a level where the facility can qualify as a conditionally exempt small quantity generator.	Designation as a conditionally exempt small quantity generator was achieved in 1997 by recycling and reusing a solvent (methyl ethyl ketone) used for cleaning painting equipment.

Commitment	Status
Air	
Modify the facility's air quality permit to include dual emissions caps, streamline the permit renewal process, include alternate excess emission reporting protocols, include alternate compliance testing protocol, and include an experimental trials protocol that will not triggering permitting.	The air quality permit was revised in December, 1997.
Revise Flint River's Title V permit to defer permit modifications for activities undertaken pursuant to XL project until the permit comes up for renewal.	The permit was revised in December, 1997.
Prepare a site-specific MACT alternative compliance plan that will detail how Weyerhaeuser will reduce HAP emissions to levels equal to or exceeding those required under the MACT Cluster Rule.	The MACT Cluster Rule for the pulp and paper industry was promulgated in April 1998. EPA, Georgia EPD, and Weyerhaeuser have met twice to begin development of a site-specific MACT applicability assessment. Upon approval of the applicability assessment, Weyerhaeuser will prepare the MACT alternative compliance plan
Reporting	
Prepare annual reports for distribution to EPA, the State of Georgia, and local stakeholders. Prepare mid-year reports for distribution to EPA, the State of Georgia, and local stakeholders. Distribute data and reports to the public upon request.	The first annual report was completed in January, 1998. Mid-year reports have been completed for 1997 and 1998. As needed.
Stakeholder Meetings	
Conduct annual public meetings in January in the vicinity of the Flint River facility.	The first annual stakeholders meeting was held in Montezuma, Georgia on January 28, 1998.

Environmental Performance

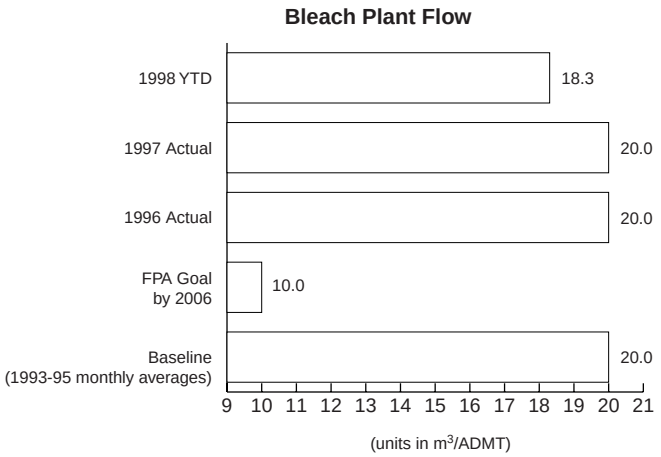
This section summarizes Weyerhaeuser's progress in meeting environmental performance commitments described in the FPA.

Raw Water Usage: Reducing the facility's use of water from the Flint River will reduce the quantity of treated wastewater discharged back into the river. Weyerhaeuser's goal is to reduce water withdrawal from the Flint River to a voluntary limit of 10.18 million gallons a day (MGD) monthly average by January 1, 2000. Baseline water withdrawal at the facility is 11.18 MGD monthly average. A study to identify water reduction possibilities is in the plant's technology plan for 1998. The facility's surface water withdrawal permit was scheduled to be modified to reduce enforceable withdrawal limits by 1.0 MGD, to 11.50 MGD monthly average, by January 1, 1998. Permit modification has been delayed.



Progress: The water reductions anticipated from modernization projects were not sufficient to offset increased water usage from other facility process areas, which resulted in an increase to 11.74 MGD monthly average for 1997. By mid-1998, water use was reduced to 11.40 MGD monthly average through the daily water conservation efforts of production operators. A feasibility study to reuse excess paper machine wastewater was initiated in the fall of 1997. Reuse of this wastewater is expected to be completed by March 31, 1999, and recover approximately 1.0 MGD monthly average. Two other studies to partially replace flume water with filtered water from other plant equipment and to reuse cooling water in the power boiler scrubber are expected to be completed by March 31, 1999.

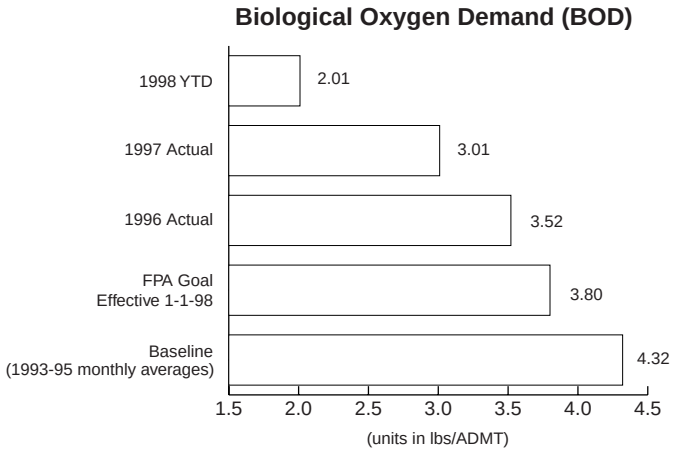
Bleach Plant Flow: Weyerhaeuser's long-term goal is to reduce bleach plant effluent flow by 50% to 10 cubic meters per air dried metric ton (ADMT) of finished product (fluff pulp used to make diapers) by the year 2006. The environmental benefits projected to be achieved include: 1) a two MGD monthly average water-use reduction (bleach plant flow is approximately 48 to 49% of the total plant water usage); 2) reductions in effluent BOD, TSS, and AOX; and 3) HAP emission reductions. To reach its goal, Weyerhaeuser plans to conduct feasibility studies on its management of water use. The results of these studies will be used by EPA, the State of Georgia, and Weyerhaeuser to negotiate a NPDES permit to be issued in 2002. The permit will contain enforceable measures for reducing effluent flow to an agreed-upon level by 2006.



Progress: An ultrafiltration pilot test has been initiated at another Weyerhaeuser facility, the results of which may be used to reduce bleach plant effluent flow at the Flint River facility. Bleach plant flow decreased in 1998 due to better process operation management and better measurement of bleach plant flows.

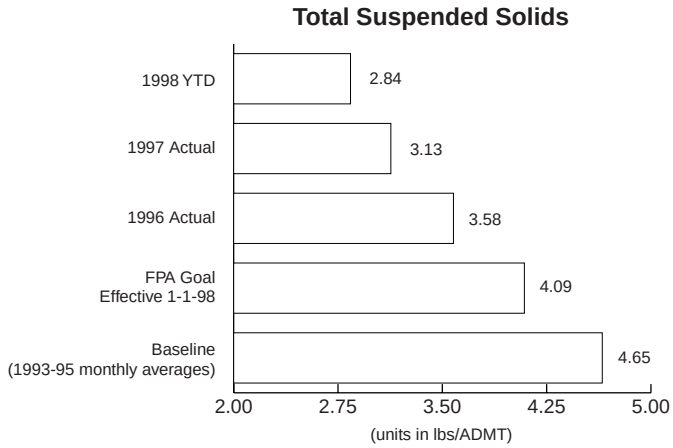
Biological Oxygen Demand (BOD) in Effluent: Weyerhaeuser has committed to reducing BOD levels in treated wastewater discharged to the Flint River. The facility's January 1998 NPDES permit allows the discharge of 3.8 pounds of BOD per ADMT of finished product.

Progress: Weyerhaeuser has modernized several components of the pulping process, which has reduced the amount of organic materials in bleach plant wastewater. For every ton of finished product produced by Weyerhaeuser in 1998, the facility reduced BOD in its effluent to 2.01 pounds/ADMT (monthly average).

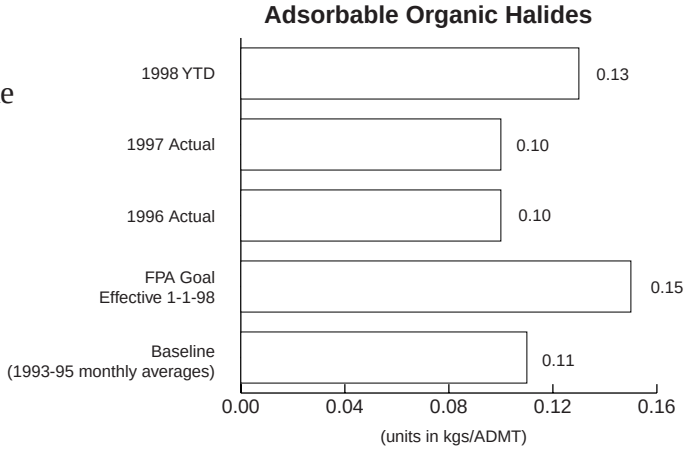


Total Suspended Solids (TSS) in Effluent: Weyerhaeuser has committed to reducing TSS levels in treated wastewater discharged to the Flint River. The facility's January 1998 NPDES permit allows the discharge of 4.09 pounds of TSS per ADMT of finished product.

Progress: Weyerhaeuser has modernized several components of the pulping process, which has reduced the amount of total suspended solids in bleach plant wastewater. For every ton of finished product produced by Weyerhaeuser in 1998, the facility reduced TSS in its effluent to 2.84 pounds/ ADMT (monthly average).



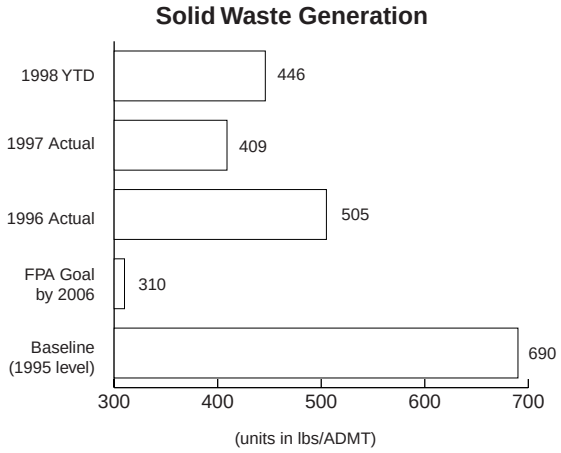
Adsorbable Organic Halides (AOX) in Effluent: Weyerhaeuser has committed to reducing AOX levels in treated wastewater discharged to the Flint River. The facility's January 1998 NPDES permit allows the discharge of 0.15 kilograms of AOX per ADMT of finished product. This permit limit was agreed to in the FPA and is approximately 76% more stringent than the final Cluster Rule effluent guideline requirements.



Progress: Weyerhaeuser has modernized several components of the pulping process, which has generally reduced levels of AOX in bleach plant wastewater. The exception was 1997 to 1998, when AOX levels increased to 0.13 kilograms/ ADMT (monthly average) of finished product, due to an increase in customer demand for high-brightness pulp, which resulted in the facility altering its use of brightening chemicals in the bleach plant area.

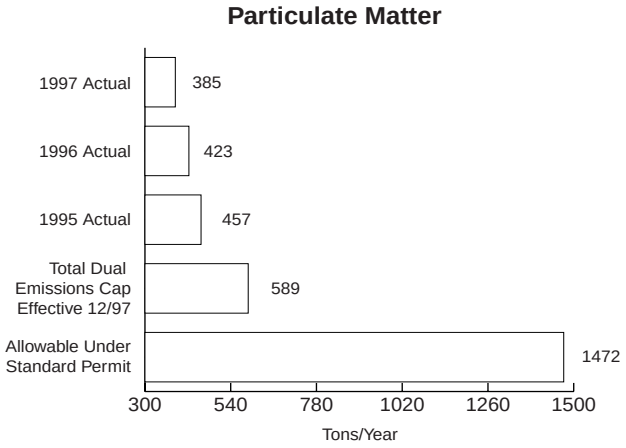
Solid Waste Generation: Weyerhaeuser's FPA goal is to reduce the 1995 level of solid waste generation by 50% by the year of 2006. Source elimination, by-product recycling and reuse, and by-product energy recovery will be used to accomplish this goal. A feasibility study for recovery of lime mud is scheduled for the year of 2002.

Progress: Weyerhaeuser has modernized several components of the pulping process, which has generally reduced the amount of solid waste generated by the plant. Feasibility studies are in progress on composting facility by-products and applying the composted material on timberlands. Increased solid waste generation in mid-1998 was caused by decreased reliability in one step of the pulping process, which resulted in higher lime mud solid waste generation.



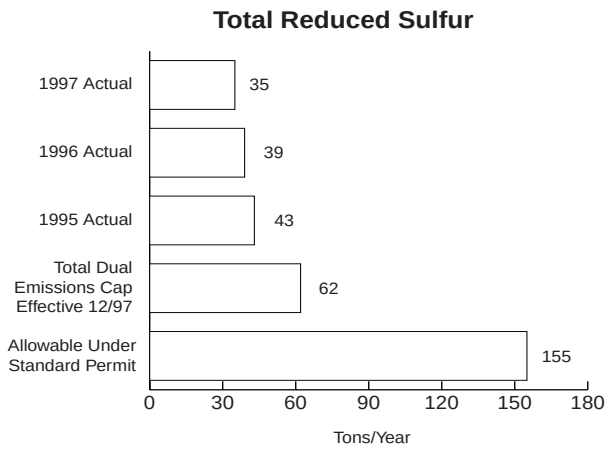
Air Emissions of Particulate Matter: The facility's December 1997 air quality permit includes dual emission caps for air pollutants. The dual emission caps are: 1) a cap encompassing the recovery furnace, smelt dissolving tank, calciner, and combination boiler, which are the facility's four major sources of emissions; and 2) a cap encompassing the entire facility except those four major sources. The total cap on all emissions of particulate matter is 589 tons per year, which is a 60% reduction from the 1,472 tons per year allowed under a standard permit.

Progress: The maintenance of air emissions to levels below the new dual emission cap will be reported in Weyerhaeuser's 1998 annual report, scheduled to be completed in January, 1999.



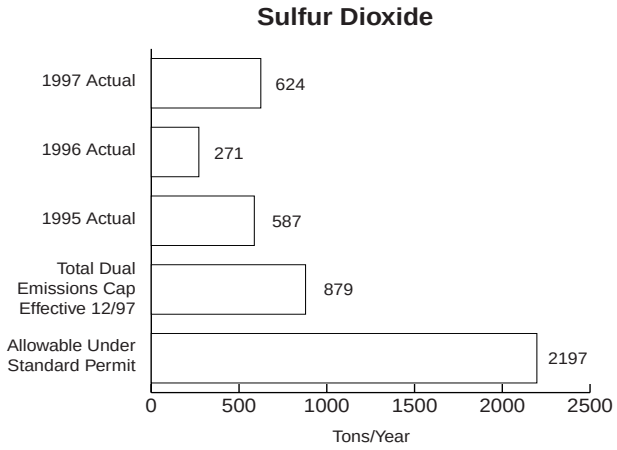
Air Emissions of Total Reduced Sulfur: The facility's December 1997 air quality permit includes dual emission caps for air pollutants. The total cap on all emissions of total reduced sulfur is 62 tons per year, which is a 60% reduction from the 155 tons per year allowed under a standard permit.

Progress: The maintenance of air emissions to levels below the new dual emission cap will be reported in Weyerhaeuser's 1998 annual report, scheduled to be completed in January, 1999.



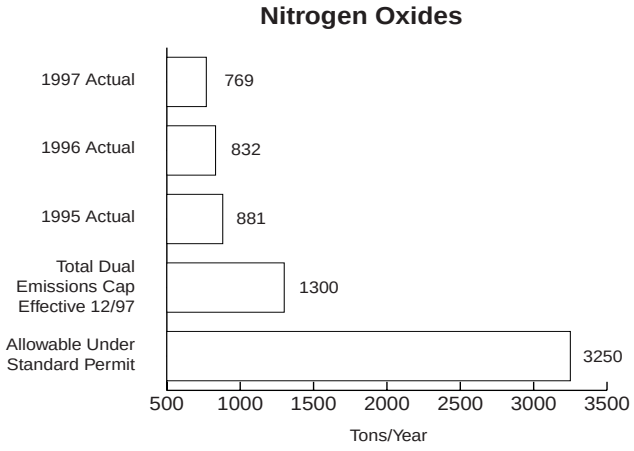
Air Emissions of Sulfur Dioxide (SO_2): The facility's December 1997 air quality permit includes dual emission caps for air pollutants. The total cap on all emissions of SO_2 is 879 tons per year, which is a 60% reduction from the 2,197 tons per year allowed under a standard permit.

Progress: The maintenance of air emissions to levels below the new dual emission cap will be reported in Weyerhaeuser's 1998 annual report, scheduled to be completed in January, 1999. Emissions of SO_2 increased in 1997 because steam energy conservation initiatives have reduced the power boiler steaming rate and furnace temperatures to a point where SO_2 is difficult to control.



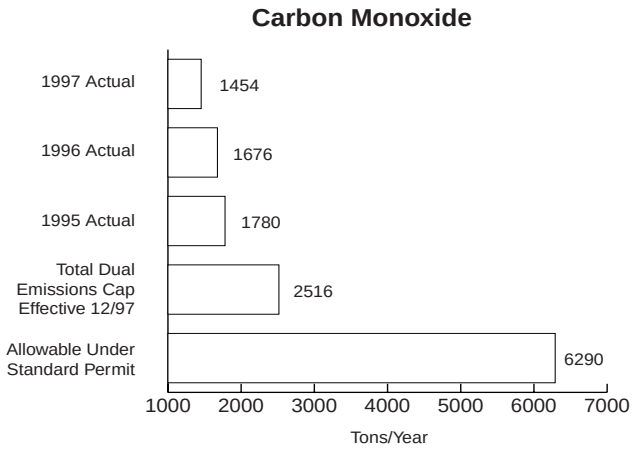
Air Emissions of Nitrous Oxides (NO_x): The facility's December 1997 air quality permit includes dual emission caps for air pollutants. The total cap on all emissions of nitrous oxides is 1,300 tons per year, which is a 60% reduction from the 3,250 tons per year allowed under a standard permit.

Progress: The maintenance of air emissions to levels below the new dual emission cap will be reported in Weyerhaeuser's 1998 annual report, scheduled to be completed in January, 1999.



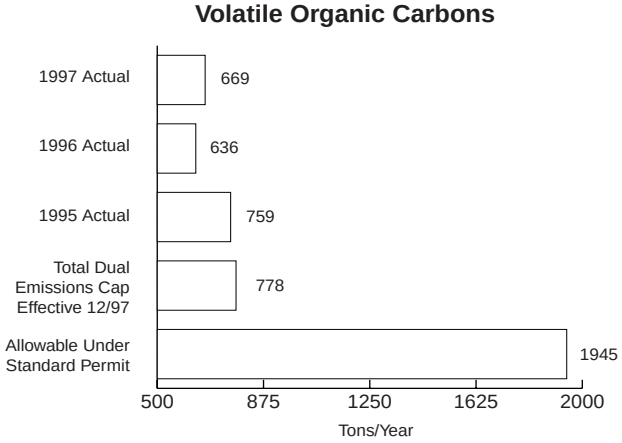
Air Emissions of Carbon Monoxide (CO): The facility's December 1997 air quality permit includes dual emission caps for air pollutants. The total cap on all emissions of carbon monoxide is 2,516 tons per year, which is a 60% reduction from the 6,290 tons per year allowed under a standard permit.

Progress: The maintenance of air emissions to levels below the new dual emission cap will be reported in Weyerhaeuser's 1998 annual report, scheduled to be completed in January, 1999.



Air Emissions of Volatile Organic Carbon (VOC): The facility's December 1997 air quality permit includes dual emission caps for air pollutants. The total cap on all emissions of VOCs is 778 tons per year, which is a 60% reduction from the 1,945 tons per year allowed under a standard permit.

Progress: The maintenance of air emissions to levels below the new dual emission cap will be reported in Weyerhaeuser's 1998 annual report, scheduled to be completed in January, 1999. VOC emissions increased in 1997 because steam energy conservation initiatives have reduced the power boiler steaming rate and furnace temperatures.



Hazardous Air Pollutant (HAP) Emissions: HAP emission levels that Weyerhaeuser will be required to attain under the new MACT rule will be determined based on a site-specific assessment, Weyerhaeuser's development of an alternative compliance plan, and Federal and state agency approval of that plan.

Progress: Weyerhaeuser has modernized several components of the pulping process, which has reduced HAP emissions from the bleach plant. Weyerhaeuser has hosted two meetings in 1998 with EPA and the State of Georgia to begin the process of developing an alternative compliance plan for the facility. Details of the compliance plan will be included in Weyerhaeuser's 1998 annual report.

Hazardous Waste Generation: Weyerhaeuser committed to reducing its hazardous waste generation to the point where the facility's RCRA designation would be changed from a small-quantity generator to a conditionally exempt small-quantity generator.

Progress: Weyerhaeuser achieved this goal in 1997 by recycling and reusing a solvent (methyl ethyl ketone) used for cleaning painting equipment.

Environmental Management System (EMS): EMSs instill the principles of continuous environmental improvement through pollution prevention rather than end-of-pipe controls. The existing Flint River Operations EMS will be revised to conform to the ISO 14001 EMS. When completed, the ISO 14001 EMS will document the management systems required to comply with all applicable Weyerhaeuser policies and state, local, and Federal rules and regulations.

Progress: Conversion of the existing EMS to the ISO 14001 standard has progressed slower than anticipated. In mid-1998, Weyerhaeuser started identifying significant environmental activities throughout the facility leading to the conversion of their existing EMS to the ISO 14001 standard by mid-1999.

Energy Conservation: Weyerhaeuser will conduct energy conservation studies to identify opportunities for long-term reductions in facility energy demand. Based on these studies, a long-term goal for energy conservation will be determined and incorporated into the FPA. The potential environmental benefit expected from these studies is a reduction in air pollutant emissions due to a reduction in the amount of fuel burned.

Progress: Four small-scale energy conservation projects were initiated in 1998. Three of the projects have been completed, including returning product unit condensate to the boiler feedwater system, returning evaporator condensate to the recaust area, and reducing recovery boiler secondary temperature. A fourth project to reduce recovery boiler soot blower steam use is on hold pending the results of a facility-wide energy conservation study. Weyerhaeuser has selected a consultant to perform a steam conservation study that will identify steam savings projects throughout the facility. The study is expected to be completed by the end of 1998.

Stakeholder Participation

Weyerhaeuser Company worked to ensure that stakeholders were involved in the environmental design and impact assessment of its XL project and had an opportunity to participate fully in project development. The organizations directly involved in negotiating the FPA included Weyerhaeuser Company, U.S. EPA, Georgia EPD, Georgia Pollution Prevention Assistance Division, and the Lake Blackshear Watershed Association. Efforts to include a broad array of stakeholders as direct participants and to keep the public well informed included:

- A series of regional public meetings in Oglethorpe, Georgia;
- Personal contacts through telephone calls and meetings;
- Oral briefings and broad distribution of written descriptions of Project XL to employees;
- Oral briefings and the distribution of a written project summary to interested national, nongovernmental organizations; and
- Publication of notices in courthouses and local newspapers to convey an open invitation to scheduled public meetings.

Complete listings of all stakeholders that participated in general public meetings held to discuss the Weyerhaeuser FPA are available in its Appendix A.

Weyerhaeuser has committed to holding annual stakeholder meetings in the vicinity of the Flint River facility. Reasonable advanced meeting notice will be provided to Federal, state, and local agencies and other stakeholders. The annual meeting is the platform for Weyerhaeuser to present the status of implementing the FPA and to answer stakeholder questions and concerns.

On January 28, 1998, the first Project XL annual stakeholders meeting was held in Montezuma, Georgia. Members of Weyerhaeuser's corporate leadership were in attendance as well as members from EPA headquarters and Region 4, Georgia EPD, Weyerhaeuser employees, stakeholders, and the general public. An audience of approximately 200 people received a review of the first Annual Project XL Progress Report and participated in an open question-and-answer period. Audience feedback was very supportive of both the Project XL program and Weyerhaeuser Company's environmental performance. No requests for changes in the direction or scope of the FPA were received from the stakeholders or signatories during the meeting. A second annual stakeholders meeting is scheduled for January, 1999.

Six-Month Outlook

The key focus areas for continued successful implementation of the FPA over the next six months will be the following:

- Continue the effort to convert Flint River Operation's EMS into ISO 14001 EMS.
- Maintain the current environmental management system to meet compliance and customer requirements.
- Identify and implement additional water conservation measures.
- Complete the steam conservation study and begin development of an energy conversation plan.
- Plan and hold the second Annual Stakeholders public meeting in January, 1999.
- Continue the development of the MACT alternative compliance plan for the facility.
- Implement the MACT Cluster Rule requirements according to the regulation's timelines.
- Complete the modification of the solid waste handling permit to incorporate FPA flexibility.
- Define possible water reuse and reduction opportunities that would reduce bleach plant effluent flow.

Project Contacts

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Information Sources

The information sources used to develop this progress report include: 1) discussions during a teleconference among representatives of the U.S. Environmental Protection Agency, Weyerhaeuser Flint River Operations, Georgia Environmental Protection Division, Georgia Pollution Prevention Assistance Division, and local community stakeholders; 2) the Final Project Agreement for the Weyerhaeuser XL project; and 3) annual and semi-annual status reports prepared by Weyerhaeuser. The information sources are current through December, 1998.

Glossary

Adsorbable Organic Halide (AOX): A measurement of the amount of chlorinated organic compounds in an effluent water sample.

Assimilative Capacity: The capacity of a body of water to receive wastewaters or toxic materials without deleterious effects and without damage to either aquatic life or humans or to terrestrial animals that consume the water.

Biological Oxygen Demand (BOD): The measurement in an effluent water sample of the oxygen consumed by biological processes breaking down organic matter.

Brownside Optimization: The name given to Weyerhaeuser's project to upgrade its pulp digester to isothermal cooking technology, reinjection of wood knots, and change out of primary screens.

Carbon Monoxide (CO): A colorless, odorless, poisonous gas produced by incomplete fossil fuel combustion.

Clean Air Act (CAA): The Clean Air Act is the comprehensive Federal law that regulates air emissions from area, stationary, and mobile sources. This law authorizes EPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment.

Clean Water Act (CWA): The Clean Water Act sets the basic structure for regulating discharges of pollutants to waters of the United States. The law gives EPA the authority to set technology-based effluent standards on an industry basis continues the requirements to set water quality standards for all contaminants in surface waters. The CWA makes it unlawful for any person to discharge any pollutant from a point source into navigable waters unless a National Pollutant Discharge Elimination System (NPDES) permit is obtained under the Act.

Conditionally Exempt Small-Quantity Generator: Persons or enterprises that produce less than 220 pounds of hazardous waste per month. Exempt from most regulations, they are required merely to determine whether their waste is hazardous, notify appropriate state or local agencies, and ship the waste by an authorized transporter to a permitted facility for proper disposal.

Criteria Air Pollutants: The CAA requires EPA to set NAAQSs for certain pollutants known to be hazardous to human health. EPA has identified and set standards to protect human health and welfare for six criteria air pollutants—ozone, carbon monoxide, total suspended particulates, sulfur dioxide, lead, and nitrogen oxide. EPA must describe the characteristics and potential health and welfare effects of these pollutants. It is on this basis that NAAQSs are set or revised.

Dioxin: Any one of a family of compounds known chemically as dibenzo-p-dioxins. Concern about dioxin arises from the potential toxicity as a contaminant in commercial products. Tests on laboratory animals indicate that dioxin is one of the most toxic of man-made compounds.

Effluent: Treated or untreated wastewater that flows out of a treatment plant, sewer, or industrial outfall. Generally refers to wastes discharged into surface waters.

Emissions Cap: A limit designed to prevent projected growth in emissions from both existing and future stationary sources from exceeding any mandated limits. Generally, such provisions require that any emission increase from equipment at a facility be offset by emission reductions from other equipment under the same cap.

End-of-Pipe Controls: Technologies, such as scrubbers on smokestacks and catalytic convertors on automobile tailpipes, that reduce the emission or discharge of pollutants to the environment after they have formed.

Forest Buffers: Strips of forests along each side of a stream that resist erosion and slow the runoff of sediment-laden rainwater into the stream.

Hazardous Air Pollutants (HAPs): Air pollutants that are not covered by the NAAQS but that may present a threat of adverse human health effects or adverse environmental effects. Such pollutants include asbestos, beryllium, mercury, benzene, coke-oven emissions, radionuclides, and vinyl chloride.

International Organization for Standardization (ISO) 14000: ISO 14000 is primarily concerned with environmental management. The ISO 14000 series sets out the methods that can be implemented in an organization to minimize harmful effects on the environment caused by pollution or natural resource depletion.

Leachate: Water that collects contaminants as it trickles through wastes, pesticides, or fertilizers. Leaching may occur in farming areas, feedlots, and landfills, and may result in hazardous substances entering surface water, groundwater, or soil.

Maximum Available Control Technology (MACT): The emission standard for sources of air pollution requiring the maximum reduction of hazardous emissions, taking cost and feasibility into account. Under the CAA Amendments of 1990, the MACT must not be less than the average emission level achieved by controls on the best performing 12% of existing sources, by category, of industrial and utility sources.

Methyl Ethyl Ketone (MEK): A solvent typically used in cleaning painting equipment.

National Pollutant Discharge Elimination System (NPDES): A provision of the CWA that prohibits the discharge of pollutants into waters of the United States unless a special permit is issued by EPA, a state, or where delegated, by a Tribal government on an Indian reservation.

Nitrous Oxides (NO_x): An air pollutant that is the result of photochemical reactions of nitric oxide in ambient air. Typically, it is a product of combustion from transportation and stationary sources. It is a major contributor to the formation of tropospheric ozone, photochemical smog, and acid deposition.

Particulate Matter: Fine liquid or solid particles, such as dust, smoke, mist, fumes, or smog, found in air or emissions.

Resource Conservation and Recovery Act (RCRA): RCRA gives EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous wastes. RCRA enables EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. RCRA focuses only on active and future facilities and does not address abandoned sites.

Small-Quantity Generator (SQG): Persons or enterprises that produce 220-2,200 pounds per month of hazardous waste; they are required to keep more records than conditionally exempt generators. The largest category of hazardous waste generators, SQGs include automotive shops, dry cleaners, photographic developers, and many other small businesses.

Sulfur Dioxide (SO_2): Sulfur-dioxide gases are formed when fuel containing sulfur (mainly coal and oil) is burned and can be formed during metal smelting and other industrial processes. Sulfur dioxide is associated with acidification of lakes and streams, accelerated corrosion of buildings and monuments, reduced visibility, and such adverse health effects as inhibition of breathing, respiratory illness, and aggravation of existing cardiovascular disease.

Title V of the Clean Air Act: Establishes a federal operating permit program that applies to any major stationary facility or source of air pollution. The purpose of the operating permits program is to ensure compliance with all applicable requirements of the CAA. Under the program, permits are issued by states or, when a state fails to carry out the CAA satisfactorily, by EPA. The permit includes information on which pollutants are being released, how much may be released, and what kinds of steps the source's owner or operator is taking to reduce pollution, including plans to monitor the pollution.

Total Suspended Solids (TSS): The measurement of the amount of suspended solids in an effluent water sample.

Volatile Organic Compound (VOC): Any organic compound that easily evaporates and participates in atmospheric photochemical reactions, except those designated by EPA as having negligible photochemical reactivity.

Wastewater: The spent or used water from a home, community, farm, or industry that contains dissolved or suspended matter.

Water Bars: An obstruction that slows the downhill flow of rainwater and, therefore, reduces erosion.