Draft #2 Jan. 12, 2000: Final Project Agreement

I. Introduction to the Agreement

A. Very Brief Description of the Project and Its Purpose

The U.S. Environmental Protection Agency (EPA), with the cooperation of State and local authorities, has initiated Project XL to work with interested companies or other potential Project Sponsors to develop innovative approaches to environmental protection. Project XL encourages potential sponsors to come forward with new approaches that can advance our nation's environmental goals more effectively and efficiently than current regulatory and policy tools or procedures. Project XL provides an opportunity for outside parties, such as local community and environmental groups to be involved in the project. This "Stakeholder" process allows all interested individuals or groups to have input and voice concerns.

As currently proposed, the Maximum Achievable Control Technology II regulations will require the Georgia-Pacific Big Island facility to either modify its existing chemical recovery units or replace them with other technology. The Big Island mill currently takes the spent liquor from the pulp, evaporates it using a conventional multiple effect evaporation train, and combusts the resultant concentrated (about 60% solids) liquor in two existing smelters, a type of recovery furnace. The molten smelt is discharged and dissolved in water to recover the sodium carbonate. This solution is used to make-up the cooking liquor added to the hardwood chips going to the digesters (cooking vessels) to produce the pulp. The MACT II regulation will require a substantial upgrade to the current smelter emission control system. The age and physical condition of the smelters themselves would require they be rebuilt with additional emission control devices or replaced with a conventional technology recovery boiler. Georgia-Pacific has been investigating, as a third alternative for chemical recovery, a liquor gasification system.

Gasification of black liquor represents a new and better approach for the chemical recovery process and eliminates many of the deficiencies of the conventional Tomlinson recovery furnace and fluid bed combustion technologies. Gasification benefits to the paper industry include: increased efficiency in energy conversion and chemical recovery, elimination of the smelt-water explosion hazard, reduced maintenance costs, and significantly lower environmental emissions including particulate, SO_2, TRS, NO_x, VOC, and greenhouse gases. The benefits are particularly attractive to semi-chemical non-sulfur processes that require higher cost auxiliary fossil fuel to sustain combustion of the black liquor. Actual benefits to the Big Island facility include significant reductions in SO_2, NO_X, VOC, and particulates

Georgia-Pacific has been working with StoneChem, Inc. to evaluate the PulseEnhanced™ Steam Reforming chemical recovery system. This technology uses a non-combustion process to convert the organics in the spent pulping liquor to a hydrogen-rich gas fuel, leaving the chemicals (sodium carbonate) for reuse. The gas fuel can then be used as low emission energy source for the gasification unit and as an alternative fuel, replacing natural gas.

B. Description of Your Facility and Facility Operations/Community/Geographic

Area

The Georgia-Pacific Corporation owns and operates a non-sulfur, non-bleaching pulp and paper mill at Big Island, Virginia. The facility produces corrugating medium from semi-chemical (sodium carbonate/sodium hydroxide) hardwood pulp and secondary fiber, and linerboard from fiber recycled from old corrugated containers, clippings and rejects from corrugated container manufacturing plants, and some mixed office waste paper. The production capacity of the semi-chemical pulp mill is about 860 tons per day and supplies only the medium machines. The Secondary Fiber or OCC mill produces an average of 950 tons per day and supplies 100% of the furnish for the linerboard mill and about 20% of the furnish for the medium mill. The paper mills produce an average 870 tons per day of corrugating medium and 730 tons per day of linerboard. Corrugating medium is used to form the inner flute and linerboard to form the two flat outer surfaces of the board used to manufacture containers or cardboard boxes.

The mill is located in Bedford County, adjacent to the James River, which is the dividing line between Bedford and Amherst Counties. Big Island is approximately 12 miles northwest of Lynchburg, Virginia. The main operating area of the mill is located along, and just east of, U. S. Highway 501 in Bedford County. About 2 miles north of the mill, U.S. Highway 501 intersects with the Blue Ridge Parkway, which runs in a southwest to northeast direction. The main operating area of the mill is bordered on the east by the James River. The mill owns additional land, and operates a landfill, east of the river, in Amherst County. Figure 1 on the following page shows the mill property line and the town of Big Island, Virginia. Figure 2 shows the mill with respect to some of the major cities in Virginia.

The main environmental concern for this area is air quality. The George Washington National Forest is located to the north and east of the James River while to the west is the Jefferson National Forest. The James River Face National Wilderness Area is about 3 miles to the northwest of the mill. The Forest Service is the designated Federal Land Manager for assuring that the air quality criteria for this designated Class I wilderness area are maintained.

To the west of the Mill lies the unincorporated village of Big Island. The population of the village is approximately 400 and about 2,100 within a five-mile radius. Within a fifteen-mile radius, which includes the city of Lynchburg, there is a population of approximately 111,500.

The James River drainage shed immediately upstream from the mill is unimpounded except for two, low head, run of the river hydro dams.

C. Purpose of the Agreement

"This Final Project Agreement (" the Agreement") is a joint statement of the plans, intentions and commitments of the U.S. Environmental Protection Agency ("EPA"), Virginia Department of Environmental Quality, Georgia-Pacific Corporation, and other Stakeholders to carry out this pilot Project approved for implementation at Georgia-Pacific Corporation's Big Island, VA Facility. This Project will be part of

EPA's Project XL program to develop innovative approaches to environmental protection."

"The Agreement does not create legal rights or obligations and is not an enforceable contract or a regulatory action such as a permit or a rule. This applies to both the substantive and the procedural provisions of this Agreement. While the parties to the Agreement fully intend to follow these procedures, they are not legally obligated to do so.

"Federal and State flexibility and enforceable commitments described in this Agreement will be implemented and become effective through a legal implementing mechanism such as a rule or permit."

"All parties to this Agreement will strive for a high level of cooperation, communication, and coordination to assure successful, effective, and efficient implementation of the Agreement and the Project."

D. List of the Parties that Will Sign the Agreement

The Parties to this Final Project XL Agreement are the United States Environmental Protection Agency (EPA), Virginia Department of Environmental Quality, and Georgia-Pacific Corporation.

E. List of the Project Contacts

Georgia-Pacific Corporation

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Local Agency:
Other signatory or Stakeholder Groups

II. Detailed Description of the Project

A. Summary of the Project

In order to meet the proposed MACT II regulations, Georgia-Pacific Corporation is considering installing a PulseEnhanced™ Steam Reforming chemical recovery system in place of the existing smelter type recovery furnaces. We believe this system will allow the Big Island facility to go well beyond the proposed emission standards and have lower emissions of other criteria pollutants than conventional technology. Georgia-Pacific Corporation is seeking regulatory flexibility to allow for additional time, if necessary, to bring this new technology on line. Additionally, Georgia-Pacific Corporation seeks the ability to utilize the steam generated from this unit in place of steam currently being generated from our high-cost natural gas fired boiler. This requested flexibility is detailed in Section IV.

B. Description of the Specific Project Elements

1. Project Element 1: Completion and acceptance of Final Project Agreement and Executed Contract with DOE for Partial Project Funding.

   In order for Georgia-Pacific Corporation to move forward with this project, two items must be secured. Acceptance of the Final project agreement with all requested flexibility, and an executed contract with the Department of Energy for partial funding of the project. The cost of implementing this project as the first, commercial scale, black liquor gasification unit, far exceeds the cost of putting in place conventional technology. As such, the DOE funding is crucial to the final decision to proceed. The involvement of the Department of Energy will have a direct bearing on construction and start-up schedule.

   Just as crucial to implementation of the project is attaining the regulatory and steam use flexibility through the Final Project Agreement. As this is new technology, we

may need additional time for start-up or worst case will require an extended time period for replacement with conventional technology. Additionally, the ability to utilize the steam from this unit in replacement of our highest cost steam (gas-fired) controls some of our operational costs.

2. Project Element 2: Regulatory Action

A Virginia State Air permit will be required for the construction and operation of the new facility. Georgia-Pacific will be working with the State and other agencies to develop this permit at the same time as the FPA is being drafted and reviewed. Additionally, Georgia-Pacific is requesting the flexibility to use steam generated from the new unit to replace steam generated by the natural gas boiler. This will require an amendment to an existing operating permit.

In conjunction with the FPA, a site-specific rule will be required on the federal level to allow the time flexibility requested in this document. A site-specific rule may also be required from the state, depending upon how the federal rule is written.

3. Project Element 3: Construction

The construction phase of the project will begin after the culmination of the above-mentioned agreements. Purchase of equipment cannot begin until DOE funding has been approved. The actual construction schedule is provided later in this document.

4. Project Element 4: Start-up/Commissioning

Once construction is complete, start-up and commissioning will begin. It is anticipated that commissioning will be complete prior to the regulatory deadline in MACT II. There is additional time anticipated for start-up because this is the first, commercial scale, black liquor gasification unit. The time required for start-up may run past the MACT II compliance date. During this start-up phase the existing recovery units (smelters) will be operated to keep the mill running.

There will also be some trials on other types of black liquor when the system is operational. These trials will be detailed in the DOE contract, however, it is anticipated that the trials will not last more than three weeks. During the trial phase, it will be necessary to maintain separation of the process chemicals of the trial liquors and the mill liquors. As such, the smelters will need to be operated during this time period to process the mill's black liquor. In other words, the mill would be processing more liquor during this time period than is normal and the emissions would increase as well. The cooking liquor resulting from reforming the trial liquors will be returned to the facilities where they originated.

5. Project Element 5: Performance Testing

As soon as the units are performing to specification, performance testing will occur. This testing will establish the emission characteristics of the system and will guide

Georgia-Pacific Corporation and State regulators in setting the permit limits for the gasification unit. Performance testing and the specifics of emission limits will be a part of the State air permit.

6. Project Element 6: Time Flexibility

Should start-up and commissioning require additional time, the mill will operate the smelters when necessary, to keep up with black liquor processing. This time could extend past the MACT II compliance date.

6. Project Element 7: Failure Contingency

Should the gasification technology fail, Georgia-Pacific Corporation will be required to install alternate technology (Tomlinson Recovery Boiler) in its place. In all likelihood, this would take place after the MACT II compliance date. The smelters will need to be operated during this time to maintain mill operation. It is anticipated that this will take three years from the time we decide to switch technology.

III. How the Project Will Meet the XL Acceptance Criteria

A. Superior Environmental Performance

1. Environmental Performance without Project XL

Without Project XL a conventional recovery furnace would be installed with control equipment designed to operate with emissions at or below the MACT II limits as established by the environmental permit. (see table below)

2. Environmental Performance if Project XL is Implemented

Based on the limited data available from the gasifier pilot trials to date, emissions were estimated and compared to those estimated from a conventional recovery furnace with current Best Available Control Technology (BACT) type controls. A comparison of predicted emissions from the current technology, steam reformer (gasifier) technology, and a conventional recovery boiler are listed below:

	Smelters*		Recovery Boiler**		Gasifier**	
	(tons/yr)	lbs/ton BLS***	(tons/yr)	lbs/ton BLS	(tons/yr)	lbs/ton BLS
NOx	142	4.99	90	2	25	1
SO2	11.8	0.41	11	0.30	1	0.04
VOC	1,363	47.87	7.5	0.21	0.4	0.01
Particulate	363	12.75	15	0.41	8	0.22

* Average annual emissions 1997-1998

** Based on current average maximum production capacity of the Pulp mill

*** BLS - Black Liquor Solids

The gasifier emissions are best available predictions but not vendor guaranteed emissions. Since this will be the first, full-scale unit, it is not possible to predict precisely the level of emissions that will ultimately be achieved. The units used in this table are tons per year, which show the total annual emissions for each pollutant, and pounds per ton of black liquor solids which describes the amount of pollutant emitted for each ton of black liquor that is burned.

The column labeled "Smelters" shows actual emissions using existing technology. The column labeled "Recovery Boiler", is the estimated maximum emissions if this Project XL is not approved or if the technology fails. The column labeled "Gasifier" are the estimated maximum emissions using the new gasification technology. VOC's or Volatile Organic Carbon compounds are the reason the existing smelters fall under the proposed MACT II regulations. The recovery boiler emissions for VOC's will allow Georgia-Pacific to meet the new guidelines. However, as is evident from the table, the gasification technology will further reduce all emissions, including the VOC's. The data demonstrates that the gasifier technology is more desirable, by far than the conventional recover boiler.

B. Anticipated Benefits, such as Cost Savings, Paperwork Reduction, and Operational Flexibility

The installation of the first commercial steam reformer poses considerable financial risk and will not generate any significant cost savings compared to installation of a conventional recovery boiler. The "order of magnitude" estimates of investment capital for a steam reformer versus recovery boiler are $36 million versus $25 million. The comparison on estimated annual operating costs are $2.1 million versus $2.5 million. As part of its evaluation of proceeding with the steam reformer Georgia-Pacific has been discussing with the Department of Energy their willingness to provide some cost sharing to mitigate the risk of constructing a full scale demonstration unit. While they have expressed considerable support and willingness to participate, funding for a project can only be guaranteed for one year at a time. Additionally, the percentage of DOE participation is uncertain and their involvement might also require engaging in a competitive, "open solicitation" process for funds. Georgia-Pacific intends to continue its solicitation of DOE funds for this project and will request 50% funding. This percentage

of funding is crucial to the final decision to move forward with this project. Commercial demonstration of the technology could result in future installations producing economic benefits though improved capital effectiveness.

Besides the environmental and energy benefits described above and in the section on innovation, the steam reformer would have a safety benefit over a recovery boiler. In the steam reformer the concentrated liquor is pyrolyzed by heat applied indirectly through the heater units liberating the gas, which is burned as part of the energy source for the heaters. The sodium carbonate pellets are drawn from the fluidized bed into a conventional dissolving tank. Other gasification and recovery technologies utilize flame combustion within a reactor vessel or an intermediate smelt phase. The steam reformer thus eliminates the potential for smelt water explosions, which are a major safety concern in the operation of recovery boilers.

C. Stakeholder Involvement and Support

D. Innovative Approach and Multi-Media Pollution Prevention in the Project

Since about the mid 70s the pulp and paper industry around the world has been searching for ways to make its energy conversion systems more efficient and less capital intensive, while improving safety and environmental standards. One of the technologies that has been evaluated is gasification. Gasification can be defined as the conversion of low cost organic solids or liquids into clean burning gases for replacement of expensive fossil fuels. The pilot studies and conditions within the industry are converging to create a window of opportunity to commercialize this technology. Three situations creating this window are:

1) The scientific community and suppliers have brought the technologies to the point where a first large-scale demonstration is the next step;

2) The capital replacement cycle and pending Cluster Rule requirements will result in the industry focusing on significant rebuilds or replacements of its powerhouse infrastructure;

3) The current world emphasis on global climate change may provide significant additional incentive to utilize this technology because of the reduced fossil fuel usage and subsequent reduction in greenhouse emissions.

Specifically for Big Island, the predicted total thermal efficiency of the steam reformer technology is approximately equal to that for conventional recovery boilers. The steam reformer does not require auxiliary fossil fuel to maintain liquor firing stability as is the case for a conventional recovery boiler. Reducing the mill's consumption of fossil fuels while maintaining the same level of production is a clear demonstration of pollution prevention and innovation.

E. Transferability of the Approach to Other Entities or Sectors

Successful completion of this project will demonstrate this technology to be capable of providing the full chemical recovery capacity for a semi-chemical mill. The project will demonstrate the reliability and operational flexibility of the technology and all of the associated equipment. Additionally, trials using other types of black liquor will run using this unit. Once the technology is demonstrated, the industry can apply this at other facilities to obtain better energy conversion, improved safety, and environmental performance. The Big Island semi-chemical mill is similar in characteristics to 12 other mills in the U. S. producing virgin medium for containers. Success and demonstration of this technology at Big Island would also contribute significantly to its implementation in a much larger number of Kraft mills. This technology also has applications for the conversion of non-wood liquors, sludges, and agricultural wastes to energy.

Additionally, the energy efficiency of this technology, once demonstrated, will produce steam, which can offset steam generated by fossil fuels. The subsequent reduction in fossil fuel use will dramatically decrease production of greenhouse gases. When this technology can be successfully demonstrated with combined cycle technology and utilization of available biomass, current studies show that the energy savings could result in the Pulp and Paper Industry being a net exporter of electrical power instead of importing 6 gigawatts. The studies also indicate that as an industry, successful development of gasification technology would result in the potential to decrease greenhouse gas emissions by 18 million metric tons per year.

F. Feasibility of the Project

The PulseEnhanced™ Steam-Reforming Gasification technology, developed with research funding from the U.S. Department of Energy, is currently at the point in its development to be instituted in a full-scale operation. Pilot scale studies have proven its capabilities and superior attributes over current recovery technology. The following is a list of the Steam-Reforming Gasification pilot studies performed by the technology developers, ThermoChem Recovery International (TRI):

- Pilot plant in Zaragoza, Spain, processing 240 kg/day silica-laden straw pulping liquor.
- Pilot testing of silica-laden rice straw spent liquor from RAKTA mill in Alexandria, Egypt.
- 25-ton per day demonstration plant for spent liquor from bagasse and straw pulp, Erode, India, sponsored by the U.S. Agency for International Development.
- 50-ton per day demonstration at the Weyerhaeuser Company Kraft pulp mill in North Carolina.
- 12-ton per day test of sludge containing short fiber rejects and plastics at the

Inland Container plant in California.

Additionally, TRI has a test facility in Baltimore, Maryland, where over 5,000 hours of testing have been conducted. Part of those hours consisted of two pilot trials on Georgia-Pacific Big Island spent pulping liquor.

The first pilot test for Georgia-Pacific occurred in January of 1998 and consisted of 86 continuous hours of operation on the 20-lb/day unit. The 86 hours included 73 hours of pre-conditioning for the unit and fluidized bed and 13 hours of actual test period to generate the required performance data. Results of this initial test conclusively demonstrated the feasibility of this technology for the Big Island liquor. The test achieved a 91.6% carbon conversion rate, generating a product gas with a higher heating value (HHV) of 254 Btu per dscf. The product gas yield was 7,564 Btu per pound of Black Liquor Solids (BLS).

The second pilot test, conducted in January of 1999, consisted of a total of four weeks of steam-reforming tests. Two tests were conducted over this time, including a low bed temperature (~1080 degrees F) and a higher temperature (~ 1124 degrees F). The tests processed a total of 5,094 pounds of BLS. The pilot plant operated well over the four-week period, with steady temperature profiles and no evidence of agglomeration, de-fluidization, channeling or heater fouling. The tests achieved carbon conversion rates of 81.3% and 99% for the low temperature and higher temperature runs, respectively. Product gas heating value ranged from 279 to 253 Btu per dscf and product gas yields were 5,081 Btu per pound BLS at the low temperature and 7,191 at the high temperature. Results of this trial confirm the results of the 1998 trial and the additional information will aid the engineers in finalizing the design for the full-scale plant proposed for the Big Island facility.

From a financial perspective, Georgia-Pacific is currently poised to make the necessary investments to proceed with implementation of steam-reforming technology at the Big Island facility, provided that no technology issues arise, we are successful in negotiating the FPA and State air permits and the DOE provides the anticipated funding. Georgia-Pacific realizes that annual DOE funding is not guaranteed, and is prepared to accept the remaining financial burden, should DOE funds not be available in subsequent years.

G. Monitoring, Reporting, Accountability, and Evaluation Methods to be Used

Evaluation and monitoring of the gasifier units will be a major effort as the equipment is brought on-line. Frequencies and parameters for emission monitoring will be established by the Project XL Stakeholder and Sponsor Group, and submitted with the Final Project Agreement (FPA). Other reports that are produced for the department of Energy will also be made available to the public.

H. Avoidance of Shifting the Risk Burden to Other Areas or Media

The emission reductions anticipated from this innovative process are believed to be true pollution reductions and not merely moving it to another media. As indicated in the comparative emissions data above, the greatest reductions are in NO_X, SO_2, VOCs, and Particulates. The reduced NO_X is a function of NO_X control technology in the Gas Boiler. VOCs are converted to energy and the particulates are captured and added to the bed solids as additional sodium carbonate. Some of the sulfur compounds could be purged to the mill wastewater treatment system for assimilation. No significant impact to water quality is anticipated.

Another area of concern is that of Environmental Justice (EJ). The two criteria reviewed to determine if the project area is an EJ area are, 1) Does the area of concern exceed the State average for minority?, and 2) Does the area of concern exceed the state average for poverty?. The Virginia Minority Average is 27.09%, compared to a project area Minority Average of 18.9%. The Virginia Poverty Average is 12.25%, compared to a project area Poverty Average of 5.0%. Both are well below state averages. This is not considered an Environmental Justice community.

IV. Description of the Requested Flexibility and Implementing Mechanisms

A. Requested Flexibility

As indicated above, there are no current full-scale commercial applications of this technology. As such, there is some risk in attempting to construct and operate a full-scale Steam-Reforming Gasifier. There are two main risks that Georgia-Pacific has identified. The first is that, once constructed, the unit may require an extended period of unforeseen problem resolution and operational deciphering that could possibly extend beyond the promulgated compliance date. The second risk is that the technology will simply not work in full-scale or for this particular operation, in which case a standard recovery boiler would have to be constructed. Again, this will require construction possibly well past the MACT II compliance date.

Georgia-Pacific will propose that under either condition stated above, that the existing recovery technology (Smelters) be allowed to operate until either the Gasifier is made functional or the replacement Recovery Boiler is constructed and made operational.

Georgia-Pacific also will request that the initial permit reflect emission limits expected

from the conventional Tomlinson Recovery Boiler. Future limits for the Gasifier would be set based on actual performance data generated after start up. The future limits are anticipated to be lower.

Georgia-Pacific will also request that the new steam to be generated by the new gasifier system be utilized in any area of the Big Island facility. In other words, the gasifier-generated steam will be used to offset steam generated by a higher cost fossil fuel. This anticipated cost savings is critical in the financial evaluation determining if we can proceed with the project.

Currently, the operating permit for the Linerboard/OCC complex and the No.6 Power Boiler restricts the source of steam to operate the linerboard and OCC equipment. This requested flexibility will modify this permit to allow steam generated by the gasifier and associated steam-generating equipment to supply steam in place of some amount of steam from the No. 6 boiler.

Additionally, some flexibility in emission limits will be required during the anticipated DOE requested trials on other types of pulp mill liquors. During this time period, Georgia-Pacific will be required to operate the smelters at some capacity to keep the mill in operation.

As described previously, there will be some site-specific regulatory changes required at the federal level, and possibly some at the state level,

B. Legal Implementing Mechanisms

The primary goal of this section is to describe key aspects of the legal implementing mechanism. This will help avoid significant unresolved issues from arising during development of the implementing mechanism by clearly stating the common understanding of the parties. The expectation is that the legal mechanism is being developed and drafted at the same time as the Agreement, so that confusion between documents and parties may be avoided in an efficient and cost-effective manner.

In this section, you should list and describe the mechanisms that will be put into place, when that will occur, and under what conditions, (such as a need for data collection before a waiver is granted.

Depending on the flexibility you are getting, you may need a legal implementing mechanism, such as a waiver or exemption from the existing regulations, a site-specific rule, a new permit, or a combination of these.

If the legal implementing mechanism is proposed and finalized simultaneously with the Agreement, then details may be contained in the legal implementing mechanism itself and need not be repeated in the Agreement in their entirety. While this is not recommended, if the Agreement is finalized before the legal implementing

mechanism, then more details may be necessary in the Agreement.

V. Discussion of Intentions and Commitments for Implementing the Project

For this particular section, you may also want to refer to text examples from the Final Project Agreements for the Witco Corporation (Section VI.) and Atlantic Steel (Section VII.) to see what substantive points were addressed and how. Please keep in mind, however, that none of these older documents was written based on the format and content suggestions of this Guide, which reflect several years of experience on what works best in putting a Final Agreement together. All of these documents are available on the XL web page www.epa.gov/ProjectXL . Please also keep in mind that the Agreement itself does not have any legal effect.

A. [*The Project Sponsor's name*] Intentions and Commitments

B. EPA's, [*State*]'s, and [*local agency*]'s Intentions and Commitments

Suggested language, depending on the nature of the flexibility:

"1. EPA intends to propose and issue (subject to applicable procedures and review of public comments) a site-specific rule, amending 40 CFR Part ___ [*relevant citation*], and/or to propose and issue (also subject to applicable procedures and review of public comments) a permit or a permit modification under 40 CFR [*new citation*] that applies specifically to the [*Project Sponsor's*] facility. The [*site-specific rule or permit*] will also provide for withdrawal or termination and a postProject compliance period consistent with Section __ of this Agreement, and will address the transfer procedures included in Section __. The standards and reporting requirements set forth in Section __ [and Attachments of this Agreement] will be implemented in the [*sitespecific rule and/or associated permit and/or other local rule, permit, etc.*]

"2. The State of [*name*] intends to propose and issue (subject to applicable procedures and review of public comments) a [*rule, permit, order, etc.*] under [*cite relevant state authority*]." [*Describe the specifics of what goes into the state legal mechanism*].

3. [*Describe local authority actions, if needed.*]

C. Project XL Performance Targets

Please refer to the April 27, 1997 Federal Register Notice in the Appendix for a discussion of the two levels of superior environmental performance (Tier I and Tier II). Quantifiable measures are preferable over qualitative measures in documenting performance.

D. Proposed Schedule and Milestones

	Start	Completion
• DOE Solicitation and Contract	01/04/00	06/15/00
• Project XL FPA	12/18/99	03/01/00

• DEQ Construction Permit	01/21/00	06/01/00
• Project XL Federal Register/Public Comment	03/15/00	07/30/00
• Detailed Engineering	05/01/00	12/30/00
• Procurement of Major Equipment	08/01/00	12/30/00
• Purchase Remaining Equip. and Mat.	08/01/00	02/28/01
• Select Construction Contractors	03/01/01	02/28/02
• Project XL Stakeholder Update		01/30/01
• Construction/ Equipment Installation	09/01/01	08/30/02
• Project XL Stakeholder Update		01/30/02
• Commissioning and Start-Up	08/01/02	01/30/03
• Modifications, Training &Testing	02/01/03	02/01/04
• Project XL Stakeholder Update		01/30/03
• Kraft Liquor Trials	09/01/03	12/01/03
• EPA Compliance Testing	02/01/04	02/15/04
• Modify State Air Permit	02/28/04	05/30/04
• Project XL Stakeholder Update		01/30/04
• DOE Demonstration and Final Report	11/01/02	08/30/04
• Decommission Existing Smelters	03/01/04	08/30/04
• Final EPA Project XL Stakeholder Update		09/30/04

E. Project Tracking, Reporting and Evaluation
For guidance on this section, please refer to Appendix A and B of this Guide

F. Periodic Review by the Parties to the Agreement*Suggested language: "* The Parties will hold periodic performance review conferences to assess their progress in implementing this Project. Unless they agree otherwise, the date for those conferences will be concurrent with annual Stakeholder Meetings. No later than thirty (30) days following a periodic performance review conference, [*the Project Sponsor*] will provide a summary of the minutes of that conference to all Direct Stakeholders. Any additional comments of participating Stakeholders will be

reported to EPA."

G. Duration

Suggested language:

"This Agreement will remain in effect for [X] years, unless the Project ends at an earlier date, as provided under Section __ (Amendments or Modifications), Section __ (Withdrawal or Termination), or Section __ (Transfer of Project Benefits and Responsibilities). The implementing mechanism(s) will contain "sunset" provisions ending authorization for this Project [X] years after the effective date of the [*implementing mechanism(s)*]. They will also address withdrawal or termination conditions and procedures (as described in Section __). This Project will not extend past the agreed upon date, and [*the Project Sponsor*] will comply with all applicable requirements following this date (as described in Section__), unless all parties agree to an amendment to the Project term (as provided in Section __)."

For guidance on this section, please refer to Appendix A and B of this Guide.

VI. Legal Basis for the Project

(one to two pages)

A. Authority to Enter Into the Agreement

Suggested language: "By signing this Agreement, EPA, the State of ...[*name*], [local government], and ... [*the Project Sponsor's name*] acknowledge and agree that they have the respective authorities, discretion, and resources to enter into this Agreement and to implement all applicable provisions of this Project, as described in this Agreement."

B. Legal Effect of the Agreement

Suggested Language: "This Agreement states the intentions of the Parties with respect to [*the Project Sponsor's name*]'s XL Project. The Parties have stated their intentions seriously and in good faith, and expect to carry out their stated intentions."

"This Agreement in itself does not create or modify legal rights or obligations, is not a contract or a regulatory action, such as a permit or a rule, and is not legally binding or enforceable against any Party. Rather, it expresses the plans and intentions of the Parties without making those plans and intentions binding requirements. This applies to the provisions of this Agreement that concern procedural as well as substantive matters. Thus, for example, the Agreement establishes procedures that the parties intend to follow with respect to dispute resolution and termination (see Sections__ and __). However, while the parties fully intend to adhere to these procedures, they are not legally obligated to do so."

"EPA intends to propose for public comment the [*insert name of legal mechanism, e.g. rule, permit modification, etc.*] needed to implement this Project. Any rules, permit modifications or legal mechanisms that implement this Project will be effective and enforceable as provided under applicable law."

"This Agreement is not a "final agency action" by EPA, because it does not create or modify legal rights or obligations and is not legally enforceable. This Agreement itself is not subject to judicial review or enforcement. Nothing any Party does or does not do that deviates from a provision of this Agreement, or that is alleged to deviate from a provision of this Agreement, can serve as the sole basis for any claim for damages, compensation or other relief against any Party."

C. Other Laws or Regulations That May Apply

Suggested Language: "Except as provided in the legal implementing mechanisms for this Project, the parties do not intend that this Final Project Agreement will modify any other existing or future laws or regulations."

D. Retention of Rights to Other Legal Remedies

Suggested language: "Except as expressly provided in the legal implementing mechanisms described in Section ___, nothing in this Agreement affects or limits [*the Project Sponsor's*], EPA's, the State's, or any other signatory's legal rights. These rights include legal, equitable, civil, criminal or administrative claims or other relief regarding the enforcement of present or future applicable federal and state laws, rules, regulations or permits with respect to the facility."

Although [*the Project Sponsor*] does not intend to challenge agency actions implementing the Project (including any rule amendments or adoptions, permit actions, or other action) that are consistent with this Agreement, [*the Project Sponsor*] reserves any right it may have to appeal or otherwise challenge any EPA, [*State*] [*or local authority*] action to implement the Project. With regard to the legal implementing mechanisms, nothing in this Agreement is intended to limit [*the Project Sponsor's*] right of to administrative or judicial appeal or review of those legal mechanisms, in accordance with the applicable procedures for such review."

VII. Unavoidable Delay During Project Implementation

It is a good idea to anticipate that things may not always go as planned and write an agreement that can adapt to these situations.

Suggested language: "Unavoidable delay" (for purposes of this Agreement) means any event beyond the control of any Party that causes delays or prevents the implementation of the Project described in this Agreement, despite the Parties' best efforts to put their intentions into effect. An unavoidable delay can be caused by, for example, a fire or acts of war."

"When any event occurs that may delay or prevent the implementation of this Project, whether or not it is avoidable, the Party to this Agreement who knows about it will immediately provide notice to the remaining Parties. Within ten (10) days after that initial notice, the Party should confirm the event in writing . The confirming notice should include: 1) the reason for the delay; 2) the anticipated duration; 3) all actions taken to prevent or minimize the delay; and 4) why the delay was considered unavoidable, accompanied by appropriate documentation."

"If the Parties, agree that the delay is unavoidable, relevant parts of the Project schedule

(see Section ___) will be extended to cover the time period lost due to the delay. If they agree, they will also document their agreement in a written amendment to this Agreement. If the Parties don't agree, then they will follow the provisions for Dispute Resolution outlined below."

"This section applies only to provisions of this Agreement that are not implemented by legal implementing mechanisms. Legal mechanisms, such as permit provisions or rules, will be subject to modification or enforcement as provided under applicable law."

VIII. Amendments or Modifications to the Agreement

Suggested language: "This Project is an experiment designed to test new approaches to environmental protection and there is a degree of uncertainty regarding the environmental benefits and costs associated with activities to be undertaken in this Project. Therefore, it may be appropriate to amend this Agreement at some point during its duration."

"This Final Project Agreement may be amended by mutual agreement of all parties at any time during the duration of the Project. The parties recognize that amendments to this Agreement may also necessitate modification of legal implementation mechanisms *(such as a rule or permit*) or may require development of new implementation mechanisms. If the Agreement is amended, EPA and [*the Project Sponsor*] expect to work together with other regulatory bodies and stakeholders to identify and pursue any necessary modifications or additions to the implementation mechanisms in accordance with applicable procedures. If the parties agree to make a substantial amendment to this Agreement, the general public will receive notice of the amendment and be given an opportunity to participate in the process, as appropriate."

"In determining whether to amend the Agreement, the parties will evaluate whether the proposed amendment meets Project XL acceptance criteria and any other relevant considerations agreed on by the parties. All parties to the Agreement will meet within ninety (90) days following submission of any amendment proposal (or within a shorter or longer period if all parties agree) to discuss evaluation of the proposed amendment. If all parties support the proposed amendment, the parties will (after appropriate stakeholder involvement) amend the Agreement."

IX. Transfer of Project Benefits and Responsibilities to a New Owner

If applicable, this section describes what would happen if the facility were sold or new owners or operators took over.

Suggested language: "The parties expect that the implementing mechanisms will allow for a transfer of [*the Project Sponsor's*] benefits and responsibilities under the Project to any future owner or operator upon request of [*the Project Sponsor*] and the new owner or operator, provided that the following conditions are met:

A. [*The Project Sponsor*] will provide written notice of any such proposed transfer to the EPA, [*State,*] [*and local authority*] at least ninety (90) days before the effective date of the transfer. The notice is expected to include identification of the proposed new owner or operator, a description of its

financial and technical capability to assume the obligations associated with the Project, and a statement of the new owner or operator's intention to take over the responsibilities in the XL Project of the existing owner or operator.

B. Within forty-five (45) days of receipt of the written notice, the parties expect that EPA, [*State*,] [*and local authority*], in consultation with *[stakeholder(s)*], will determine whether: 1) the new owner or operator has demonstrated adequate capability to meet EPA's requirements for carrying out the XL Project; 2) is willing to take over the responsibilities in the XL Project of the existing owner or operator; and 3) is otherwise an appropriate Project XL partner. Other relevant factors, including the new owner or operator's record of compliance with Federal, State and local environmental requirements, may be considered as well.

It will be necessary to modify the Agreement to reflect the new owner and it may also be necessary for EPA, [*the State] [, and the local authority*] to amend appropriate rules, permits, or other implementing mechanisms (subject to applicable public notice and comment) to transfer the legal rights and obligations of [*the Project Sponsor*] under this Project to the proposed new owner or operator."

X. Process for Resolving Disputes

Suggested language: "Any dispute which arises under or with respect to this Agreement will be subject to informal negotiations between the parties to the Agreement. The period of informal negotiations will not exceed twenty (20) calendar days from the time the dispute is first documented, unless that period is extended by a written agreement of the parties to the dispute. The dispute will be considered documented when one party sends a written Notice of Dispute to the other parties.

If the parties cannot resolve a dispute through informal negotiations, the parties may invoke non-binding mediation by describing the dispute with a proposal for resolution in a letter to the Regional Administrator for EPA Region [#]. The Regional Administrator will serve as the non-binding mediator and may request an informal mediation meeting to attempt to resolve the dispute. He or she will then issue a written opinion that will be non-binding and does not constitute a final EPA action. If this effort is not successful, the parties still have the option to terminate or withdraw from the Agreement, as set forth in Section ___ below."

XI. Withdrawal From or Termination of the Agreement

Most Project XL Agreements use this section to describe steps which would be taken if the Project failed to achieve the anticipated environmental performance despite good faith efforts. In most cases, failure to achieve anticipated environmental performance would result in an orderly return to compliance with regulatory requirements that would have been in effect without the flexibility provided through Project XL.

A. Expectations

Suggested language: "Although this Agreement is not legally binding and any party

may withdraw from the Agreement at any time, it is the desire of the parties that it should remain in effect through the expected duration of [X# of] years, and be implemented as fully as possible unless one of the conditions below occurs:

1. Failure by any party to (a) comply with the provisions of the enforceable implementing mechanisms for this Project, or (b) act in accordance with the provisions of this Agreement. The assessment of the failure will take its nature and duration into account.

2. Failure of any party to disclose material facts during development of the Agreement.

3. Failure of the Project to provide superior environmental performance consistent with the provisions of this Agreement.

4. Enactment or promulgation of any environmental, health or safety law or regulation after execution of the Agreement, which renders the Project legally, technically or economically impracticable.

5. Decision by an agency to reject the transfer of the Project to a new owner or operator of the facility.

In addition, EPA, [*the State]*, [*and the local authority]* do not intend to withdraw from the Agreement if [*the Project Sponsor's name*] does not act in accordance with this Agreement or its implementation mechanisms, unless the actions constitute a substantial failure to act consistently with intentions expressed in this Agreement and its implementing mechanisms. The decision to withdraw will, of course, take the failure's nature and duration into account.

[*The Project Sponsor*] will be given notice and a reasonable opportunity to remedy any "substantial failure" before EPA's withdrawal. If there is a disagreement between the parties over whether a "substantial failure" exists, the parties will use the dispute resolution mechanism identified in section ___ of this Agreement. EPA, the State of ...[*name*], and ...[*any other signatory?*] retain their discretion to use existing enforcement authorities, including withdrawal or termination of this Project, as appropriate. [*The Project Sponsor*] retains any existing rights or abilities to defend itself against any enforcement actions, in accordance with applicable procedures."

B. Procedures

Suggested language: "The parties agree that the following procedures will be used to withdraw from or terminate the Project before expiration of the Project term. They also agree that the implementing mechanism(s) will provide for withdrawal or termination consistent with these procedures.

1. Any party that wants to terminate or withdraw from the Project is expected to provide written notice to the other parties at least sixty (60) days before the withdrawal or termination.

2. If requested by any party during the sixty (60) day period noted above, the dispute resolution proceedings described in this Agreement may be initiated to resolve any dispute relating to the intended withdrawal or termination. If, following any dispute resolution or informal discussion, a party still desires to withdraw or terminate, that party will provide written notice of final withdrawal or termination to the other parties.

   If any agency withdraws or terminates its participation in the Agreement, the remaining agencies will consult with [*the Project Sponsor*] to determine whether the Agreement should be continued in a modified form, consistent with applicable federal or State law, or whether it should be terminated.

3. The procedures described in this Section apply only to the decision to withdraw or terminate participation in this Agreement. Procedures to be used in modifying or rescinding any legal implementing mechanisms will be governed by the terms of those legal mechanisms and applicable law. It may be necessary to invoke the implementing mechanism's provisions that end authorization for the Project (called "sunset provisions") in the event of withdrawal or termination."

XII. Compliance After the Project is Over

Final Project Agreements and most implementing mechanisms are negotiated for a finite period of time. After that time, the Project Sponsor needs to go back to complying with the requirements that would have been in effect without the flexibility provided through Project XL, unless the Project was successful and the Agreement and its implementing mechanisms are amended to extend the Project's term. If the results of the experiment are clearly successful, then this can be easily assessed. If the results and transferability opportunities are not obvious, EPA will conduct an evaluation.

If the requirements for returning to traditional regulations are clear, then the process outlined below may be followed. If the requirements are not clear, you may need to include provisions for an evaluation of the Project and an implementation schedule for returning to traditional regulations, as described in the Andersen Windows Project (see www.epa.gov/ProjectXL).

Suggested language: "The parties intend that there be an orderly return to compliance upon completion, withdrawal from, or termination of the Project, as follows:

A. Orderly Return to Compliance with Otherwise Applicable Regulations, if the Project Term is Completed

EPA will conduct an evaluation of the project before a decision is made that the project has been completed."If, after an evaluation, the Project is terminated because the term has ended, [*the Project Sponsor*] will return to compliance with all applicable requirements by the end of the Project term, unless the Project is amended or modified in accordance with Section ___ of this Agreement (Amendments or Modifications). [*The Project Sponsor*] is expected to anticipate and plan for all activities to return to compliance sufficiently in advance of the end of the Project

term. [*The Project Sponsor*] may request a meeting with EPA, [*State*], and [*local authority*] to discuss the timing and nature of any actions that [*the Project Sponsor*] will be required to take. The parties should meet within thirty days of receipt of [*the Project Sponsor's*] written request for such a discussion. At and following such a meeting, the parties should discuss in reasonable, good faith, which of the requirements deferred under this Project will apply after termination of the Project."

B. Orderly Return to Compliance with Otherwise Applicable Regulations in the Event of Early Withdrawal or Termination

"In the event of a withdrawal or termination not based on the end of the Project term and where the [*Project Sponsor*] has made efforts in good faith, the parties to the Agreement will determine an interim compliance period to provide sufficient time for [*the Project Sponsor*] to return to compliance with any regulations deferred under the Project. The interim compliance period will extend from the date on which EPA, [*State*], [*local authority*] or [*the Project Sponsor*] provides written notice of final withdrawal or termination of the Project, in accordance with Section ___ of this Project Agreement. By the end of the interim compliance period, [*the Project Sponsor*] will comply with the applicable deferred standards set forth in 40 CFR Part [X] and [*State laws/regulations*]. During the interim compliance period, EPA [*State, and/or local authority*] may issue an order, permit, or other legally enforceable mechanism establishing a schedule for [*the Project Sponsor*] to return to compliance with otherwise applicable regulations as soon as practicable. This schedule cannot extend beyond [*X # of*] months from the date of withdrawal or termination. *[The Project Sponsor*] intends to be in compliance with all applicable Federal, State, and local requirements as soon as is practicable, as will be set forth in the new schedule."

If good-faith efforts have not been made, EPA will enforce the Project's legal implementing mechanisms.

XIII. Signatories and Effective Date

XIV. (Optional) Glossary of Terms

MACT - Maximum Achievable Control Technology - Federal Air Regulations

Gasification - Converting organics into a combustible gas through heat input

Steam-Reforming Gasification - Using indirect heat and steam to drive the gasification process

Black Liquor - Spent pulping liquor; Pulping chemicals with organics cooked out of wood chips

Green Liquor - Pulping chemicals after removal of the organics and inert material

PART THREE

APPENDICES TO THE GUIDE

A. Draft Project Tracking, Reporting and Evaluation
   - A Guide for XL Project Teams

B. EPA's XL Evaluation Activities

C. April 23, 1997 Federal Register Notice

D. May 23, 1995 Federal Register Notice

E. November 1, 1995 Federal Register Notice

F. December 18, 1997 Legal Principles for Agreement Drafting