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Evaluation of Project XL Stakeholder Processes

Final Report

Project XL
Environmental Excellence and Leadership

EPA REINVENTION

EVALUATION OF PROJECT XL STAKEHOLDER PROCESSES

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Executive Summary and Recommendations

Project XL—which stands for eXcellence in Leadership—is a U.S. Environmental Protection Agency (EPA)–sponsored pilot test of facility-specific innovative strategies to produce superior environmental performance. In accepting proposals for initial XL projects, EPA established a criteria of demonstrated stakeholder support as one of the conditions for obtaining EPA approval of the project. When Project XL was first announced in May 1995 in the *Federal Register*, EPA outlined its desire for stakeholder involvement, but did not make specific recommendations about the design of the stakeholder processes, leaving the responsibility for creating a process that would meet the criteria to the industry sponsor or applicant.

This report provides a review of the design and conduct of the stakeholder processes at four of the initial XL projects to reach Final Project Agreements (FPAs). It outlines the varieties of models developed by company sponsors, and reports stakeholder perspectives on the processes as gathered in a stakeholder survey.

Several different models of stakeholder involvement resulted from the original call from EPA for XL project sponsors to design a site-specific model for stakeholder participation. The four sites examined in this report demonstrate two basic models:

- Consensus Decision-Making with Stakeholders
- Public-Consultation and Information Sharing

The processes used by Intel and Merck fall into the first category; HADCO and Weyerhaeuser are examples of the second.

The interviews, observations, and survey data gathered for this analysis provide an initial view of the strengths and weaknesses of the two basic models of stakeholder involvement that emerged in early XL efforts. Neither the consensus decision-making model nor the public-consultation and information sharing model was clearly determined to be a superior method of involving stakeholders in the XL FPA development process.

The survey and observation results showed **clarity of structure and objectives for the process is more important to success and credibility than type of stakeholder involvement process**. The XL project rated as most effective by survey respondents was a public-consultation process at Weyerhaeuser that relied heavily on long-standing community-company relationships to establish support for the regulatory experiment. The project rated least satisfactory on most measures was the public-consultation and information sharing process conducted by HADCO. The two consensus decision-making processes were ranked in between the other two.

Benefits of the XL stakeholder processes noted in the survey of stakeholders also provide indications of desirable elements to preserve in any model. The benefits noted include:

- Improved, flexible, and realistic environmental planning
- Involvement of all interest groups, including community and intergovernmental players
- Opportunities for citizen involvement in future monitoring of project implementation

The weaknesses noted in the survey of stakeholders provide indications of pitfalls and conditions to avoid. They include:

- Confusion about, and time consuming nature of, procedures for approval of the FPA.
- Perceptions that the company could "orchestrate" stakeholder support.
- Intervention by national environmental groups that is disconnected from local citizen involvement.

The survey conducted for this report found that processes rated as highly effective (i.e., clearly structured with adequate resources) had a combination of broad distribution of benefits and high individual and organizational satisfaction with the outcome of the negotiation. Processes with perceived barriers to participation (e.g., lack of technical information, unclear objectives, inadequate resources to participate) had lower satisfaction with the distribution of benefits and with the outcome. Thus, **process satisfaction and substantive results were closely linked**; both are critical elements of the success of future XL projects.

Recommendations

Consensus Versus Advisory Role for Stakeholders

- Determine up front what type of process is appropriate, to allow stakeholder responsibilities regarding time commitment and authority to commit to be addressed in a realistic way before the process starts.
- Use consensus decision-making processes when:
  —Serious objections to the final outcome might succeed in blocking implementation, and options exist for addressing the objections.

—Strong community ownership of outcome is desired.

- Use public-consultation and information sharing processes when:
  —Issues in proposal are not controversial.
  —Public notices do not generate much comment.
  —Issues are narrow in scope and don't impact policy concerns.

- If a consensus decision-making process is the desired approach, allocate time for training in collaborative process negotiations and on the technical issues likely to be the subject of discussion. Time also will be needed in the initial meetings for procedural negotiations to ensure all stakeholders feel the process is fair and likely to produce an outcome they can live with. If consensus is the goal, agreement on the definition of consensus will be a key procedural negotiation. Defining consensus as "all can agree to live with, and support, the outcome" is a practical option.

Consider the use of a facilitator to prevent inadvertent bias from arising when company sponsor is both negotiator and mediator of disputes arising in consensus decision-making processes.

- Through consultation with stakeholders, each XL stakeholder process should be developed into a well-defined structure. The experiences outlined in this report should assist participants anticipate time commitments and other responsibilities new projects will require. The development of a shared understanding of what all participants can gain from the process is an important first step in building stakeholder support. This could require initial one-on-one conversations with affected interests and a synthesis of concerns and issues raised in the one-on-one discussions for all to read and understand. Neutrals often can help with these tasks.

National and Local Environmental Group Participants

- National environmental groups have commented extensively on past FPAs, but have not participated directly in stakeholder groups. In consensus decision-making processes, communication between the national environmental group and some local environmental groups needs to be improved. Methods for addressing this include:
  —Identifying opportunities for national environmental groups to participate in the stakeholder process.
  —Developing viable links between national groups and the local groups who are direct participants.
  —Establishing consultation with national groups by the stakeholder group as a

formal part of the process of public consultation throughout the FPA development process.

Technical Expertise for Citizen Stakeholders

- Funding for limited technical expertise already has been adopted by EPA as a strategy for supporting citizens in the technical discussions. Ensuring the funds are used to answer questions important to all involved in the specific negotiations will be essential. The technical assistance program should be monitored and evaluated by EPA and environmental groups.

- National environmental group staff often have the substantive expertise that citizen environmentalists lack. Implementing recommendations noted above for pairing national and local environmental group direct participants also can improve the technical resources available to local groups.

- To address perceptions identified in RESOLVE's survey that local groups achieve less than other constituencies of what they seek in the XL stakeholder processes, the following strategies might be useful: provide training in negotiation, scope out the stakeholder negotiation issues with the local groups in advance, coach the local negotiating team as the process proceeds, and clarify expectations with local representatives at the outset.

Costs and Benefits

- Improving the integration of the XL process with government agency approval processes might reduce concerns about the time-consuming nature of the stakeholder processes.

- Monitoring stakeholder involvement as implementation of the FPAs proceed will help to further evaluate whether the time spent resulted in the benefits predicted by the stakeholder group.

EVALUATION OF PROJECT XL STAKEHOLDER PROCESSES

1.0 MODELS OF STAKEHOLDER INVOLVEMENT IN XL PROCESSES

1.1 Introduction

Project XL—which stands for eXcellence and Leadership—is a U.S. Environmental Protection Agency (EPA)–sponsored pilot test of facility-specific innovative strategies to produce superior environmental performance. The promise of Project XL was that if a company could achieve superior environmental performance through waiver or flexibility of some environmental regulations or procedures, EPA would authorize the flexibility on an experimental basis.

In accepting proposals for initial XL projects, EPA established a criteria of demonstrated stakeholder support as a condition for obtaining EPA approval of the requested regulatory flexibility. When Project XL was first announced in May 1995 in the *Federal Register*, EPA outlined its desire for stakeholder involvement, but did not make specific recommendations about the design of the stakeholder processes, leaving the responsibility for creating a process that would meet the criteria to the industry sponsor or applicant. In April 1997, after several experiences with site-specific stakeholder involvement processes, EPA clarified its guidance on stakeholder involvement for project sponsors in a *Federal Register* notice. This guidance was provided because stakeholder involvement had become a challenging component in the development of the initial round of Final Project Agreements (FPAs), the agreements that codified the negotiations among governmental and citizen parties regarding proposed regulatory flexibility.

This report provides a review of the design and conduct of the stakeholder processes at four of the initial successful XL projects. It outlines the varieties of models developed by company sponsors, and reports stakeholder perspectives on the processes as gathered in a stakeholder survey. Recommendations and conclusions also are reported.

1.2 Goals for Stakeholder Processes

Stakeholder involvement is considered important to the acceptance of a Project XL proposal and FPA for several reasons. EPA stated in its April 1997 *Federal Register* notice that "Stakeholder involvement is critical to the success of each XL project. Stakeholders provide information about the preferences of the community. They may identify issues that have escaped the notice of project sponsors and regulators." In addition, it was acknowledged

that communities near the project, local or state governments, businesses, environmental and other public interest groups, and other similar entities, had a right to access information about regulatory flexibility that might be initiated at a facility. Regulatory flexibility could be of concern to public interest groups concerned about environmental policies nationwide, as well as those concerned about impacts of emissions in their neighborhood. EPA wanted to avoid granting flexibility that was not acceptable to surrounding communities and public advocates, and designed the stakeholder involvement criteria to build insurance against controversy for any of the experimental permits and programs.

Defining a "stakeholder" was, and continues to be, one of the challenges faced by XL projects. EPA originally defined stakeholders to be the kinds of entities listed above and left the specific definition to each project. In the April 1997 *Federal Register* notice, EPA clarified certain distinctions among stakeholders, delineating three separate categories: *direct participants, commentors, and the general public*. Direct participants are defined to be those who would work in partnership with the project sponsors to develop the project in detail. Commentors are those with a strong interest in the project, but who did not participate in the FPA development team. The general public, who would be kept abreast of developments and would be able to provide comment in response to public notices, in public meetings, and at other times, also are considered an important category of stakeholders.

Among the *direct participants*—those most involved in the FPA development process—further distinctions arose in practice. Certain direct participants (e.g., state agencies, other federal agencies, tribes, local permitting authorities) were considered eventual *signatories* of the FPA. These signatories had legal authorities impacting the eventual permits and rules, so their signatures were required before EPA would approve the FPA proposal for regulatory flexibility. Direct participants also included local environmental groups, local citizens, competing businesses, contractors, neighbors, etc. The signatures of these groups were not necessarily required for EPA to approve the FPAs stakeholder involvement process, as they did not necessarily bring legal authority to the agreement. In this report, the direct participants who are not government entities are referred to as nonsignatory stakeholders, or just stakeholders. In some cases, as will be described, these nonsignatory stakeholders did sign off on the final project agreement, but they usually did not.

1.3 Research Overview, Methods, and Parameters Studied

The research for this report began in August 1996. It proceeded in three phases:

- Phase I involved the gathering of basic information about stakeholder involvement planning at eight of the first XL proposal sites (August through November 1996).

- Phase II covered site visits and observation of stakeholder meetings at four sites: Intel, Merck, HADCO, and Weyerhaeuser (January through June 1997).

- Phase III consisted of a survey of stakeholders in the four observed sites after the FPA for each site was completed (June 1997 through January 1998).

This report includes information gathered from interviews, observation, and survey of four sites: Intel, Merck, HADCO, and Weyerhaeuser.

The parameters for evaluation and study include:

- How stakeholder was defined.
- How stakeholders were selected for direct participation.
- If all affected stakeholder views were included.
- Level of controversy about the XL effort or other facility-related issues and how addressed.
- Clarity of stakeholder role.
- Clarity of goal.
- Length of time and number of meetings.
- Level of participation (seniority level and frequency of attendance).
- What decision-making authority was given to the committee.
- What was committee decision-making method.
- Relationship of stakeholder process to signatory processes.
- Resources needed but not available.
- Description of facilitation, if used.
- Structure of process (e.g., agendas, subcommittees, drafting responsibility).
- Scale of project: one small facility, one large facility, multifacility, regionwide.
- Degree of openness to public.
- Role played by regulatory agencies.
- Cost of conducting stakeholder processes.
- Level of institutionalization achieved for stakeholder involvement.
- Participant evaluation of product (FPA).
- Participant evaluation of process (e.g., did they feel they had an impact, was process constructive for their interest group).

No evaluation of the environmental benefits or other environmental management results was undertaken as part of this evaluation report. The sole focus is on the variety of models for stakeholder involvement and the strengths and weaknesses of those various options.

The evaluation was conducted by RESOLVE, Inc., a nonprofit organization based in Washington, DC, specializing in environmental dispute resolution and conflict prevention through collaborative planning. RESOLVE has a long history of conducting research on

collaborative solutions to environmental problems, beginning with the publication in 1986 of President Gail Bingham's book, *Resolving Environmental Disputes*, a compilation of the first 200 cases subject to environmental mediation. RESOLVE Vice President, Suzanne Goulet Orenstein, conducted the research for this report. She has previously published research on collaborative planning for endangered species, the uses of mediation in Superfund cases, and on integrating public involvement strategies with consensus decision-making for government decisions.

1.4 Stakeholder Models at XL Sites Studied

Several different models of stakeholder involvement resulted from the original call from EPA for XL project sponsors to design a site-specific model for stakeholder participation. The four sites examined in this report demonstrate the two basic models that emerged:

- Consensus Decision-Making with Stakeholders
- Public-Consultation and Information Sharing

The processes used by Intel and Merck fall into the first category; HADCO and Weyerhaeuser are examples of the second.

Each of these models will be described and compared, with examples of each providing more specific detail.

Consensus Decision-Making with Stakeholders

In the processes focusing on consensus decision-making, the company invited direct participation from citizens, tribes, local governments, and local public interest groups. A negotiating committee was formed and met repeatedly for many months to hammer out the conditions of the FPA. In both the Intel and Merck projects, highly technical clean-air permits were subject to committee negotiation, necessitating complex discussions and negotiations among a group that included many parties who were unfamiliar with the technical realities of permit development. Undertaking this level of involvement is not a choice to be made lightly by either the company sponsor or the stakeholder groups, given the time commitments involved and the contentiousness of some of the discussions. As our survey data show (see Section 3.0), the level of satisfaction with this approach is not significantly higher than the satisfaction level for other models. Clarity of structure and objectives was more significant than the type of stakeholder process.

Advantages:

- Opponents of the flexibility have the opportunity to raise concerns, and sponsors and agencies have the opportunity to address the concerns in a way that all agree publicly is acceptable.

- Citizen involvement in intergovernmental negotiations of authority is unique but can produce more community support for government decisions.

- Trust between citizens and government is built slowly, but engenders the confidence needed to test innovation.

- Citizen suits can be avoided if concerns are genuinely addressed in collaborative process.

Disadvantages:

- Requires substantial time commitment and patience with group decision-making.

- Can be bogged down by an opponent who does not want the project to go forward.

Public-Consultation and Information Sharing

In the processes focusing on public-consultation and information sharing, the companies reached out to interested parties and the general public for periodic meetings, but the negotiation of the agreements and permits was conducted primarily in meetings and calls involving the agency signatories. The two case examples in which this model was used involved the simplest of the FPAs, HADCO's request for delisting or variance of one waste under RCRA, and the most complex, Weyerhaeuser's multimedia permitting and "beyond compliance" attainment through minimum-impact manufacturing at its Oglethorpe, Georgia, pulp and paper mill.

Advantages:

- Citizens are involved only at critical points, which reduces demands on stakeholder time and other resources.

- Single-issue opponents are not able to derail the process.

Disadvantages:

- When citizens are not part of the process of deciding whether or not to take action on their ideas, they might become frustrated if their suggestions are not implemented.

- Public support for controversial innovation might be weaker if public interest groups do not endorse the result.

In some of the cases studied, consensus was not initially the goal, but the signatories realized they could not succeed without citizen endorsement. This was the case in the Merck process, which began with a consultation goal. The need for stronger citizen support arose in the course of discussion, and that support was eventually provided through endorsement of the FPA by the County Board of Supervisors.

The following case studies present overviews of the stakeholder involvement processes at the four studied sites. Based on observation data, interviews, survey comments, and review of public documents, they provide information about stakeholder identification, the structure for stakeholder involvement, decision-making roles for stakeholders, and implementation roles.

1.5 Case Studies of Consensus Decision-Making with Stakeholders

1.51 Intel Stakeholder Process Design

Intel Corporation's FAB12 Ocotillo facility in Chandler, Arizona, designs and manufactures semiconductor wafers for Pentium microprocessors and other chips. The manufacturing technology used at this site is among the most advanced in the world.

The FAB12 building was newly constructed in 1996 on a previously undeveloped site. The estimated construction costs were $1.3 billion, making it the largest private construction project in the State of Arizona to that date. The FAB12 facility was designed to allow expansion to a second manufacturing plant, and it employs state-of-the-art water reuse and emission control technologies.

The goal of Intel's XL project was to develop a 5-year Environmental Master Plan for the Ocotillo site. The XL proposal identified several innovative goals, including the creation of a one-stop permitting authority for all permits for all media for the facility and a cap on air, water, and solid and hazardous waste emissions that will accommodate increased production over the 5 years. The FPA provides a plan for a multimedia cap and an expedited permitting process, as well as some environmental programs not required by statute, like plant set-back requirements, product "Design for the Environment" efforts, and environmental mentoring. The one-stop permit approach did not prove feasible.

Under the FPA, the facility will:

- Reduce up to 60 percent of the solid waste and up to 70 percent of the nonhazardous chemical wastes it generates by the year 2000.
- Recycle up to 65 percent of the fresh water it uses.
- Balance limits on hazardous air pollutant emissions with health-based guidelines.

Stakeholder Definition and Identification. Intel had worked with a Community Advisory Panel (CAP), modeled after the Chemical Manufacturers Association's Responsible Care Program, for more than 4 years before the Project XL application. The CAP interacts with Intel concerning all of its Chandler facilities. The CAP has an environmental subcommittee; four CAP members from that subcommittee were asked by Intel to join the federal, state, and local government entities working on the Project XL FPA.

In addition to community members, the stakeholder group includes local, state, tribal, and county regulators. The list of stakeholders includes representatives from:

- The City of Chandler Water Quality Department.
- Arizona Department of Environmental Quality (AZ DEQ).
- Maricopa County Air Permitting Authority.
- Gila River Indian Community (also a CAP member).
- EPA Region 9 (San Francisco).
- A local farmer, a geologist/consultant, and a local environmental activist, the CAP members.

Structure of Stakeholder Process. The stakeholder process was organized around a multi-interest executive committee (or plenary group) and four working groups (Recycling, Air/Planning, Legal, and Regulatory Efficiency). The Executive Committee included all community, company, and governmental members, who operated under a consensus decision-making ground rule. The Executive Committee met biweekly, with working groups meeting monthly or biweekly in between those meetings. Public meetings were held at key points in the FPA development process (such as at initiation and prior to publication of the draft FPA).

Ground rules for the Executive Committee were proposed, discussed, and agreed upon at the beginning of the process. They were amended as needed, including one revision to define the process for allowing observers to attend meetings other than public meetings. Working groups included representatives from each interest group and also operated by consensus.

The stakeholder meetings were facilitated by Charles McLean, president of the Denver Research Group (DRG), Aspen, Colorado, and summaries were developed by a DOG staffer, James Coombs. Plenary sessions and public meetings were facilitated; working groups met without DRG facilitators and were self-guided or chaired by members.

Openness to the Public. Public meetings to incrementally present concepts, proposals, preferred options, and the final FPA were scheduled regularly and announced in newspapers and flyers in nearby neighborhoods. Intel's Public Affairs Department distributed notices of meetings and information about new developments on the XL project in English and Spanish to up to 25,000 Chandler residents, and organized a Web site to provide meeting summaries and notices. Four public meetings were held during the FPA development and approval process.

Decision-Making Process and Authority. In an effort to give equal weight to all views, the Executive Committee developed a ground rule that required making decisions by consensus. Various stakeholders, however, often had differing understandings of what it meant to operate by consensus. In various conversations, at different times throughout the process, members reported that consensus meant:

- no significant objection.
- no objections.
- all interest groups (i.e. Intel, regulators, CAP) agree, with disagreements within interest groups brought to the Executive Committee for resolution.
- all individual representatives agree.

A common definition of consensus as "all agree to implement the outcome" was generally accepted. As the consensus process proceeded, however, those involved became somewhat pessimistic about reaching unanimously supported decisions. Significant disagreements emerged as negotiations intensified and parties were fearful they would not be able to resolve differences. Midway through the process, the definition of consensus was revised to mean all interest groups (rather than individual representatives) agree. The final products did achieve endorsement of all interest groups and all representatives.

Signator Roles. All interest groups, not just the regulatory entities, became signatories to the FPA. The government signatories did have a special role in trying to simplify and coordinate future permitting. The FPA proposed the AZ DEQ act as the coordinating agency for all local, county, state, and federal permitting activities.

Role of Stakeholders During FPA Implementation. It is a condition of the FPA for this project that future monitoring of the FPA involve the stakeholder group. Some issues will come back to the CAP for resolution, while others might require reconvening the full FPA negotiating group. An annual meeting of the FPA negotiators is envisioned, with a semiannual

public meeting specified in the FPA. Quarterly progress reports are posted on the Internet for access by the public and stakeholders.

1.52 Merck XL Stakeholder Process Design

Merck & Company, Inc. operates a pharmaceutical manufacturing plant in Elkton, Virginia, in the Shenandoah Valley, within 5 miles of Shenandoah National Park. The plant employs about 800 people who produce a range of pharmaceuticals, including antibiotics, antiparasitic drugs for human and animal health, a cholesterol reducing drug, a treatment for Parkinson's disease, and a new treatment for AIDS.

With its XL effort, Merck proposed to establish a plantwide air emissions cap based upon current emissions that would allow substantial operating flexibility so long as emissions are maintained below the cap. Merck's project will focus on: whether a cap on criteria air pollutants for the entire site provides better overall air quality than before, while offering more operational flexibility than the current permitting system; whether a cap for the entire site can create better incentives to minimize emissions than the current air permitting system; and whether a system that requires increased monitoring, recordkeeping, and reporting as emissions approach the cap ensures compliance and creates additional incentives to minimize emissions.

The FPA provides that EPA undertake site-specific rulemaking on an air permit. The facility will achieve:

- Permanent reductions in certain air pollutant emissions by 20 percent (about 300 tons per year).
- Decreases in sulfur dioxide and nitrogen oxide emissions by 900 tons per year (60 percent).
- Reductions in hazardous air pollutants by 47 tons per year (65 percent).

The FPA, the air permit, and the site specific rule were all completed in the fall of 1997.

Stakeholder Definition and Identification. Merck defined stakeholders to be signatories or local citizens. The signatories to the FPA were:

- EPA Region 3 (Philadelphia).
- Virginia Department of Environmental Quality (VA DEQ), state and subregion level.
- National Park Service (NPS), Headquarters and Shenandoah National Park.
- The Rockingham County Board of Supervisors.

Merck invited four community members selected by its pre-existing CAP to participate in the FPA negotiations. CAP members participating included two neighbors of the site: a member of the Elkton Town Council and the Chairman of the Rockingham County Board. Representatives of two state environmental organizations were involved in reviewing and commenting on the products of the process. During the course of the FPA negotiations, a representative from a national environmental group requested input to the FPA, submitting written comments on drafts and discussing those comments directly in telephone calls, consulting extensively with the local citizen negotiators, and participating in several meetings. Although the representative was willing, he was not invited to participate as a direct participant in the process.

Structure of Stakeholder Process. After an initial meeting open to the public to discuss the XL proposal, a working committee of government and nongovernment stakeholders was established. The group as a whole met weekly for 7 months, and less frequently for several additional months to discuss and review the FPA. The meetings were held near the plant, in Elkton, Virginia.

In addition to the stakeholder meetings, many consultations, conference calls, and bilateral meetings between VA DEQ, the Shenandoah NPS, EPA, and Merck also occurred. Because one of the stakeholders was NPS, which has a responsibility to prevent significant deterioration in air quality around the Shenandoah National Park, negotiations directly with NPS played a significant role in the stakeholder process.

In addition to stakeholder meetings, which were not open to the public, but were open to selected observers, one public meeting was scheduled at the beginning of the process to describe the XL effort to the broader public, and another was held to obtain comment on the draft FPA and resulting rule.

The meetings were chaired by the Environmental Engineering Manager for Merck's Stonewall plant. Agendas were prepared in advance. No written ground rules were developed.

Openness to Public. A public meeting was scheduled early on to present the XL project to the community. Two subsequent public comment periods and public hearings were used to obtain comment on the draft FPA after the government and nongovernment members of the core working group had agreed on its content. Newsletters were sent to neighbors; retirees; employees; federal, state, and local officials; and other interested parties throughout the process to provide information on the status of the project. Employees were informed through union meeting updates and internal publications as well. Outside publicity periodically tracked the project.

Decision-Making Process and Authority. It was assumed all stakeholders would have

a voice in the decision about what was in the FPA. Serious negotiations were undertaken to ensure NPS, EPA, Rockingham County, Merck, and VA DEQ would sign on and support the eventual project agreement. The decision-making role of the citizen stakeholders was a subject of continuing discussion during the deliberations. Merck was comfortable giving citizens a vote regarding the FPA, but citizens were not comfortable representing their entire community beyond the CAP (see Signator Role below). In effect, decisions were made by consensus, given that both EPA and Merck acknowledged that the FPA could not be implemented without citizen approval.

Signator Roles. The Merck XL project may be unique in its involvement of other federal signatories. The project involved extensive intergovernmental negotiations, some at the subcabinet level in Washington, DC, and which were also discussed with the broader stakeholder group. Although it was not originally envisioned, the citizen stakeholders were offered a signatory role halfway through the process. It had become clear to all direct participants that going forward without their sign off would be foolhardy. Because the citizen representatives were not comfortable representing their entire community, and because all parties supported the citizens desire to obtain broader public support, the Rockingham County Board of Supervisors was asked to become a signatory on behalf of local citizens, and they agreed to do so.

Role of Stakeholders During FPA Implementation. The CAP members will follow progress under the FPA as part of their CAP involvement. Other stakeholders requested specific notification about failures of implementation, or violations of the terms of the FPA and the eventual permit that codified it. All signatories will receive regular reports of the operation of the site under the cap. Merck will send out yearly progress summaries concerning the project.

1.6 Case Studies of Public Consultation and Information Sharing

1.61 HADCO XL Stakeholder Process Design

HADCO Corporation is a manufacturer of printed wiring boards (PWBs) and electronic interconnection products. It operates six manufacturing facilities in the United States: four in New Hampshire, one in New York, and one in California. Total employment at these facilities is 2,100 people.

The HADCO XL proposal involved a change in hazardous waste management for waste-water treatment sludge for HADCO facilities in New York and New Hampshire. The historical listing of the PWB waste water as Subtitle C waste under RCRA was based on an assumption that chromic sulfuric acid would be used as an etchant to dissolve copper foil from copper-clad laminate material in the production of circuits. In 1977, HADCO switched to a

less toxic ammonium chloride etchant, and it contended the waste generated by HADCO should no longer be assumed to be hazardous waste. It sought flexibility to change its waste treatment process.

The FPA for this site called for the company to provide EPA and state regulators with confidential data about actual constituents in the waste stream. EPA and the states would then review the data, request additional data if necessary, and use the information to determine whether an expedited delisting of the waste under RCRA or a variance to solid waste rules for the waste was warranted as a way of simplifying the waste regulation for this waste stream. Once EPA determined a variance or delisting is justified, that justification would be promulgated in a *Federal Register* notice and would be open for additional public comment.

The HADCO XL FPA involved five facilities, in two states, in two EPA regions. (A sixth facility in California was involved in the discussions, but not in the final agreement.) Stakeholder involvement on the local level was primarily concentrated in New Hampshire, although one meeting was held in New York. The observation data in this report rely primarily on the New Hampshire experience.

Stakeholder Definition and Identification. HADCO developed a stakeholder involvement plan that invited many groups to participate in informational meetings, including state and local government, competitors, and environmental groups. HADCO distributed written material to more than 40 potential stakeholders as part of the preparation for every meeting.

The consistent participants at all of the New Hampshire stakeholder meetings included representatives from:

- New Hampshire Department of Environmental Services
- HADCO
- EPA Region 1 (Boston)
- World Resources Company (current recycler of HADCO waste)

The following additional entities attended more than one meeting, showing some consistent participation:

- Town of Hudson, New Hampshire, Health Office
- Wastecap (a New Hampshire business association that addresses solid and hazardous waste)
- Merrimack River Watershed Association
- Audubon Society of New Hampshire
- Teradyne (another New Hampshire PWB manufacturer)
- New Hampshire Sierra Club
- M/A-COM, Inc. (another PWB manufacturer)

Challenges arose in involving two particular types of stakeholders: local environmental groups, and competitors and contractors. After requesting involvement from the Conservation Law Foundation, New Hampshire Audubon, the Appalachian Mountain Club, the New Hampshire Wildlife Association and Merrimack River Watershed Council, only Merrimack River and Audubon participated regularly.

Early on in the HADCO process, the current recycling contractor for HADCO's waste-water treatment sludge asked to be considered a stakeholder in the process. This stakeholder participated in all stakeholder meetings. The recycling company provided information about the practical realities of some of HADCO's plans for alternative compliance with RCRA (e.g., how thoroughly the waste would need to be dried in order to be acceptable for shipment directly from HADCO to a smelter), and also outlined serious objections to the delisting of the subject waste.

Structure of Stakeholder Process. HADCO's Manager for Corporate Safety, Health, and Environmental Affairs, Lee Wilmot, was responsible for conducting the stakeholder process. The process consisted of four local meetings of the signatories and other stakeholders, plus two national video conference meetings involving stakeholders and signatories in all three states. Negotiations among the government parties on the content of the FPA involved many more meetings and conference calls. Meetings were publicly announced in local newspapers, and those responding to the newspaper ads were incorporated into ongoing discussions among the signatories. No multiparty work groups were formed. No written ground rules were distributed; the meeting discussions were memorialized in summaries distributed by HADCO.

Openness to the Public. Meetings were announced in local newspapers, and direct participation by local governments and public interest groups was sought by direct invitations. A state regulator commented that the issues involved in treating this waste were not very highly visible in the state. He noted the facilities were in clean industrial parks that were not perceived as threatening to any communities. This might explain what was considered a relatively low level of public interest in the discussions.

Decision-Making Process and Authority. The coordination of state and regional EPA participants, as well as the HADCO participants from six plants, was a time-intensive part of this negotiation. Many versions of the draft FPA were circulated for comment, with parties on the EPA and company side doing entire new drafts several times. The meetings were largely devoted to discussing the drafts, item by item, which provided a good common focus for the group discussions.

While EPA's role in the negotiation was supportive, it also was challenging. Coordinating staff from three regional offices, including attorneys and policy experts from

each, with staff from headquarters, was resource intensive. Standards for measuring the environmental benefit were different among the EPA players, but all views were accommodated in the discussions. Questions about environmental benefit were key for EPA sign off, so additional attention was given to documenting those benefits late in the process.

On the proponent side, coordination among staff from four plants also was resource intensive, but appeared well coordinated during the negotiation.

Signator Roles. The stakeholder group's role in signing off on the eventual FPA was not discussed. It was assumed the government entities would constitute the parties to the agreement.

Role of Stakeholders During FPA Implementation. There was no formal role envisioned for stakeholders in the implementation process for the FPA. The opportunity for additional public comment as the delisting and variance decisions are made allows for future public involvement as the FPA is implemented.

1.62 Weyerhaeuser XL Stakeholder Process Design

Weyerhaeuser Corporation operates a pulp and paper mill on the Flint River in Oglethorpe, Georgia. Weyerhaeuser proposed that its plant be the subject of an XL effort to support simplified permitting and compliance through its attainment of a "beyond compliance" standard through "minimal-impact manufacturing."

Weyerhaeuser's XL proposal and FPA codify the company's willingness to support the project for a period of 15 years. It includes:

- Cuts in the bleach plant's effluent by 50 percent over a 10-year period.
- Reduction of water usage by about 1 million gallons a day.
- Cuts in solid waste generation by 50 percent over a 10-year period.
- Reduction of hazardous waste constituents.
- Improved forest management practices in over 300,000 acres of land by stabilizing soil, creating streamside buffers, and safeguarding unique habitats.

Stakeholder Definition and Identification. Weyerhaeuser considered any interested local groups to be stakeholders. Weyerhaeuser convenes a group of "Thought Leaders" from its community on an annual or semiannual basis. They told the Thought Leaders and the Watershed Association that they considered them stakeholders and wanted to hear from them

if there was any concern or problem. They posted notices in local courthouses, published newspaper notices of their intention to seek regulatory flexibility, and issued invitations to leaders of surrounding communities. There was little response to this public outreach beyond the Thought Leaders group.

The Thought Leaders included:

- The state representative for the town of Oglethorpe.
- The Mayor of Montezuma, the largest neighboring town.
- The head of the Macon County Emergency Response Team.
- The director of the neighboring Macon County Correctional Institution.
- A Macon County Commissioner.
- An aquatic biologist from Georgia Southwestern College who also was a member of the Lake Blackshear Watershed Association.
- A local waste hauling contractor for the facility.
- A local farmer representing the agricultural industry.
- Two representatives of Partners for Better Environment (a small business that distributes environmentally sound solvents and lubricants) who attended in response to the newspaper notices.

Structure of Stakeholder Process. Weyerhaeuser used a model of signatory negotiations with a public-consultation mechanism that focused on information sharing with local interest groups. Weyerhaeuser had a strong ongoing relationship with the Lake Blackshear Watershed Association, which is a locally based watershed protection group in operation since the early 1980s. The Watershed Association brings together fish and game officials from county and state agencies, recreational users of the watershed, the local power company, Weyerhaeuser (the major industry in the watershed), and academic biologists involved in documenting the environmental condition of the Flint River. Weyerhaeuser consulted extensively with the Lake Blackshear Watershed Association about its XL plans. Its stakeholder process also included consulting with the Thought Leaders and conducting three to four meetings announced in newspaper ads and open to the public.

The meetings of Thought Leaders to review the XL proposal and FPA were primarily information sharing and were chaired by Weyerhaeuser staff. No meeting summaries or ground rules were developed, and no outside facilitator was used.

In addition, EPA and Weyerhaeuser held several discussions with national environmental groups about the draft FPA. These discussions were separate from the local public involvement effort in Oglethorpe, primarily because the national environmental groups and EPA requested a Washington, DC, location for these conversations.

EPA and two divisions of the Georgia Department of Natural Resources (GA DNR)

negotiated the draft FPA with Weyerhaeuser.

Openness to Public. Weyerhaeuser repeatedly attempted to inform the public about its activities. Newspaper notices did not seem to generate interest resulting in meeting attendance. The Thought Leaders were all affiliated with public groups, and it can probably be assumed they communicated what they learned to others. Thought Leaders were brought in by personal invitation, however, not public notices.

Decision-Making Process and Authority. Weyerhaeuser asked some of its stakeholders to engage in negotiations about the project, but primarily conducted a notice and comment process. The company repeatedly asked for concerns to be identified, and listened to the comments received, responding with changes in documents as the comments warranted. A representative from the Lake Blackshear Watershed Association was initially invited to participate in FPA negotiations, but he chose a review and comment role. The extensive negotiations over the final FPA were primarily among the signatory governmental agencies.

Signator Roles. EPA played an encouraging role regarding public involvement, and in supporting Weyerhaeuser to develop an acceptable FPA. EPA representatives did not attend the observed meeting of Thought Leaders, nor did GA DNR representatives.

The signatory process took precedence over the public involvement process as the FPA negotiation proceeded. Agency demands for strong environmental benefits from the program resulted in many rounds of agency-company negotiations.

The nonsignatory stakeholders provided input but were not involved in the final sign off on the FPA.

Role of Stakeholders During FPA Implementation. Weyerhaeuser committed to hold an annual open meeting for stakeholders to review progress toward goals established under the FPA and expedited permit.

2.0 CHALLENGES IN STAKEHOLDER PROCESS IMPLEMENTATION

2.1 Consensus Versus Advisory Role for Citizen Stakeholders

Stakeholders who were citizens or representatives of local interest groups were given one of two roles: consultation in an advisory capacity, or full participation in consensus decision-making among all stakeholders. Integrating citizen views and voices into complex regulatory discussions often was viewed as an infeasible participatory option, so an advisory role was commonly proposed by facilities in the initial stages. Some proponents and interest

groups, however, advocated for more than an advisory role for citizens in order to provide balance and standing for all views in the decisions being made at each site. In one case, Merck, the stakeholder group was originally given an advisory role, but it became evident during negotiations that the project could not proceed without full support from citizen groups. Thus, a consensus decision-making model in which any stakeholder could object and block progress emerged even when it was not originally envisioned. Of the four sites observed, two were consultative, and two were consensus processes.

Only one of the observed projects planned for a consensus decision-making model from the outset—Intel. As a result of that plan, significant time was spent organizing the group into work groups and public discussions that over time produced a consensus. In the Merck project, where a consensus decision-making structure was not anticipated, much more time than originally anticipated was devoted to procedural negotiations, creating considerable frustration with the time required and contentiousness of the discussions. These frustrations might have been reduced if an up-front commitment to the consensus process was required and anticipated.

At one site, HADCO, the issues were very specific to the delisting of one waste under RCRA. This issue did not generate extensive public controversy or participation, and might be an example of a situation in which an advisory model of stakeholder involvement is preferable.

2.2 Representation and Its Responsibilities

Another challenge across all observation sites was the issue of who the citizen stakeholders in the XL processes represented and what support they could bring to the final outcome. When the local citizens in the XL projects were given the option of signing on to the FPAs, they often hesitated because they were uncertain their constituency agreed with them. On the industry side, questions arose about whether “one individual citizen” should have the same veto power as the company or an agency. Both of these questions arose because a formal constituency representation role for local stakeholders was lacking. In many non-XL consensus processes, participants are selected because they represent a given constituency with the power to block progress if not satisfied. In forums like regulatory negotiations and settlement of lawsuits, the constituency of each member, and his or her responsibility to represent that constituency in the negotiation, is stated in the ground rules.

Another representation issue for XL processes and other consensus seeking efforts is to achieve a balance of all possible views. In several cases, citizens from existing CAPs were brought into the stakeholder group. This identification mechanism has advantages, since these citizens are familiar with plant operations and local concerns. Not all CAPs, however, include the most vocal opponents from environmental groups, so ensuring balance of views on the public interest group side is not necessarily addressed through CAP input.

Intel and Merck were criticized for not providing "seats" at the negotiating table for union representatives and national environmental groups. They responded to these comments by meeting individually with groups who were not represented. A common definition of who is a stakeholder—representatives of any affected interest group that can implement or block an agreement—might be a good starting point for project sponsors when they consider representation.

2.3 Avoiding Inadvertent Bias in Process Design from Sponsor/Facilitator Roles of EPA and Companies

In all of the observation sites, EPA regional staff worked closely with the company in the design of the stakeholder involvement process. In some cases, they made suggestions for how to recruit citizen and public interest group representation, in others, meeting management, agenda setting, and design questions were discussed between company and EPA leaders without input from other parties.

Industry staff also had significant influence on the success of the stakeholder process design. In one case studied for this report, there was a negative impact on a company from its decision to exclude input from a difficult constituent. This is a common strategy for dealing with controversy, but it reduced credibility for this process with public interest groups.

Both EPA and industry sponsors of successful stakeholder involvement could benefit from training or other guidance in how to deal with strong differences in collaborative processes. The impulse to exclude the most vocal opponents does not promote credibility of the process with nonparticipating constituencies, and is not the only way to deal with differences. Training in process design and management and facilitation may help with these difficult process questions.

In addition to their process design efforts, both EPA and the companies were key negotiators in the discussions about FPAs. These negotiations were complicated by the newness and unpredictability of the XL process, which caused considerable frustration when determining acceptability of certain provisions and ratification of agreements by EPA and other agencies. These issues would have been trying even if the negotiations were bilateral between the companies and EPA. They were doubly trying to the stakeholders and other agency signatories who were closely following the processes.

Mixing the negotiator roles with facilitation and process-design roles can cause problems in consensus processes. It is easy for negotiators who are facilitating to inadvertently use their leadership role to their advantage in the substantive negotiation. This can create distrust among stakeholders. Outside facilitators can be helpful in resolving tensions that arise in these situations, and allow the sponsors to negotiate without simultaneously having to

mediate the disputes that arise and represent their own interests. Only one observation site (Intel), and none of an additional six nonobserved sites, hired outside facilitators to assist with the integration of differing views and interests.

2.4 National and Local Environmental Group Participation

There has been considerable controversy about how national environmental group views would be represented in XL stakeholder processes. In stakeholder processes at all sites observed for this report, local and state environmental advocates were participants. In two sites—Intel and Merck—national environmental group representatives participated as observers and commentors, in partnership with local citizens who were not necessarily affiliated with an environmental group.

Local environmental groups do not always have established communication links with national groups. The building and enhancement of these linkages is key to coordinating environmental group input into XL stakeholder deliberations. Funding for both local and national groups to attend local meetings is needed so they can work in concert more easily.

For both facility and citizen representatives at the local level, national interest group participation is unusual and challenging. Sometimes the reaction to the idea is negative based on a grass roots view that local knowledge is the most reliable, and that national environmental groups are not a good source of information about local environmental conditions. Technical expertise about environmental issues, however might be more accessible in national groups; technical experts from national groups can be a significant resource to local groups who have less generalized policy experience. National environmental groups also have their own concerns about the national policy implications of decisions regarding flexibility at the local level, and their advocacy for these concerns is a thorny issue when it arises in the local negotiations. For all of these reasons, the integration of the local and national environmental group perspective is a challenging but important issue for XL stakeholder processes to address.

2.5 Generating Public Involvement and Support

All of the studied XL stakeholder processes scheduled and conducted public meetings to address concerns of the general public about the XL proposals for regulatory flexibility. At the HADCO and Weyerhaeuser sites, publicly announced public meetings did not generate significant attendance. Public notices might not be the best way to bring the general public into the discussions; scheduled one-on-one meetings with broad interest groups like local government agencies, watershed associations, and the media worked well for Weyerhaeuser and might be better strategies for educating the public about the XL projects. Posting or

circulating meeting minutes or summaries is an excellent method for keeping interested parties up to date on technical discussions.

At the Intel and Merck sites, public meetings to update citizens and neighbors about the FPA negotiations were useful. A workable solution was to hold a meeting at project initiation, a meeting or two as the FPA took form to provide a forum where it could be explained and commented on, and a final meeting to describe the draft product. In both observed sites with successful public meetings, participating stakeholders helped generate interest and attendance from nonparticipating groups.

2.6 Stakeholder Technical Expertise

Three of the four studied XL projects involved stakeholders in highly technical discussions regarding air emission technologies and permit language, hazardous waste regulations, risk assessment scenarios, and other complex scientific and regulatory issues. In some cases, citizens had technical expertise (e.g., one citizen stakeholder was a geologist, another an aquatic biologist) but in many cases, citizens either needed to become educated about the issues, or needed to trust other technical experts. Maximizing the ability of lay citizens to participate in regulatory and technical discussions is particularly important in consensus processes. To respond to this need, EPA has awarded a cooperative agreement to a nonprofit agency to provide up to $25,000 per site to XL stakeholder groups for purchase of technical assistance. Evaluation of the effectiveness of this support is envisioned in the cooperative agreement and should provide data on the effectiveness and role of technical service providers in assisting stakeholders to participate meaningfully in technical discussions.

3.0 Stakeholder Perspectives: Survey Results

This section presents data from survey questionnaires returned by 36 respondents from four XL stakeholder processes. The 36 respondents represent 61 percent of those mailed questionnaires.

The four sites surveyed are Intel, Merck, HADCO, and Weyerhaeuser. As we have noted previously, these four sites used two different models of stakeholder involvement. Two processes were consensus decision-making processes—Intel and Merck. The other two processes were public-consultation and information sharing processes—HADCO and Weyerhaeuser. Comparison among the four sites involves comparing differing levels of public involvement, especially for citizen stakeholders, which should be kept in mind as the data is presented.

3.1 Description of Survey Data Collection

To supplement the site visits and observations of stakeholder processes and interviews with participants about their views and experiences in XL stakeholder processes, a survey was conducted to provide more standardized and comparable information. The survey was administered at four sites, all of which had completed the development of the FPA.

Every participant (N=59) in four completed stakeholder processes (Intel, HADCO, Merck, Weyerhaeuser) was mailed a questionnaire (a total of 59 people). The questionnaire is included in Appendix A. The questionnaire asks participants to indicate their identity but allowed those who wished to remain anonymous to do so. Instead of signing the questionnaire, they could mail back a postcard indicating they had returned an unsigned questionnaire. In this way, RESOLVE staff tracked who had returned questionnaires and called those who had not responded in order to personally encourage their participation. Thirty-six questionnaires were returned, constituting a response rate of 61 percent. Of the 36 returned questionnaires, seven were sent anonymously. Some respondents not only returned their questionnaires, but also submitted additional written documents on their experiences and insights into the stakeholder process.

Ten questionnaires, out of 15 total, were returned from Intel participants. Returns from the other sites were 12 questionnaires out of 19 sent from Weyerhaeuser, eight out of 15 questionnaires from HADCO and six questionnaires out of 10 sent from Merck. (See Table 3.1-A).

Among all respondents, 17 percent represented their companies, 19 percent represented the EPA, 17 percent represented state environmental agencies, 19 percent represented local environmental and citizen groups, 17 percent represented local governments, and 8 percent listed themselves as “other,” a category that included individual citizens, a process facilitator, and competitors or suppliers of the company. (See Table 3.1-B).

There was variation between sites in the kinds of stakeholders who responded. For example, 30 percent of the Intel respondents represented their company, while this was true for only 8 percent at Weyerhaeuser, 13 percent at HADCO, and 17 percent of the respondents at Merck. At HADCO and Merck, 38 percent and 33 percent of the respondents represented the EPA, while this was true for only 10 percent and 8 percent of the respondents from Intel and Weyerhaeuser. When comparing sites, it is important to remember the mix of survey respondents differs at each site. (See Table 3.1-C)

Table 3.1-A—RETURN RATE

	Number of Questionnaires Sent	Number of Questionnaires Returned	Response rate
Intel	15	10	66%
Merck	10	6	60%
HADCO	15	8	53%
Weyerhaeuser	19	12	63%

Table 3.1-B—DISTRIBUTION OF RESPONDENTS BY INTEREST GROUP

Interest Group	Percent of total respondents
Company	17%
EPA	19%
State agencies	17%
Local environmentalists & citizens	19%
Local government	17%
Other	8%

Table 3.1-C—DISTRIBUTION OF KEY RESPONDENTS BY SITE

	Company	EPA
Intel	30%	10%
Merck	17%	33%
HADCO	13%	38%
Weyerhaeuser	8%	8%

Overall, this must be considered a limited set of data. Because of the relatively small number of respondents, only very large differences between sites should be interpreted as meaningful. Despite these limitations, the data present interesting information.

3.2 Measuring Perceptions of the Effectiveness of the Stakeholder Process

The four-page questionnaire used in this study contained roughly 50 quantitative items; for example, items where respondents could either check “yes” or “no” or select a response from 1 (“strongly agree”) to 5 (“strongly disagree”). There were also a number of open-ended questions such as “Why did your organization decide to participate in the XL stakeholder process?”

Based on the quantitative items, five measures concerning the stakeholder process were developed (the separate items are presented below). Three of these measures concern

the characteristics of the process and are correlated with the effectiveness of the process:

A. Was the Stakeholder Process Well Structured?

The 10 questions that comprise this measure involve ratings of different aspects of the stakeholder process; for example, was the technical information presented to them adequate and timely? Were the goals and objectives of the stakeholder process clearly articulated? Was the process neither too short nor too long? Did they feel appropriate issues were addressed? If the process was deemed to be well-structured, respondents indicated satisfaction with these different aspects of the process.

B. Did Individuals Feel They Could Participate Effectively?

This eight-question scale asked whether individuals felt they could affect the stakeholder process; for example, could they influence the ground rules? Could they present their views? Were their perspectives adequately considered by other participants? Could they influence the discourse and the outcomes of the process? The process was deemed to have high ownership by its participants if respondents indicated satisfaction with their ability to influence the stakeholder process.

C. Did Participants Perceive Barriers to Participation?

This seven-question scale focused on structural problems that respondents viewed as limiting their participation; for example, there were too many or too few participants, there was confusion about the goals and products of the process, and participation was not meaningful to some of the participants. A high score on this dimension indicates a large number of barriers to participation were reported.

These three measures were strongly interrelated. For example, respondents who reported the stakeholder process was well structured also said they could affect the process (a correlation (r) of +.63) and identified fewer barriers to participation (r = -.59). Similarly, those who said they could affect the process also identified fewer barriers to participation (r = -.61).

The correlations between the three scales are high enough that it is useful to form a single measure. A stakeholder process that is well structured, in which participants take ownership of the process, and to which there are few barriers to participation is a highly effective process. When a stakeholder process is lower on these variables, it is a less effective process.

3.3 Measuring Satisfaction with Outcomes

Two additional measures concern the outcomes of the stakeholder process:

A. Satisfaction With the Final Agreement.

This measure is composed of two questions: one asks whether the participant's organization was satisfied with the outcome and one asks whether the respondent personally was satisfied.

B. The Distribution of Benefits.

Five questions asked whether the company, the EPA, the state agency, local agencies, and local stakeholders each got little or each got most of what they wanted from the stakeholder process. A higher score means that respondents felt more stakeholders got more of what they wanted/needed—that the process developed into a "win-win" situation in which most of the participants achieved something of value.

The correlation between these two outcome measures is positive (r = + .42). There is some tendency—but not a strong tendency—for those who are satisfied with the final agreement to also see the distribution of benefits as broad. However, the correlation is not strong enough to combine these items into a single measure.

3.4 The Relationship Between Process and Outcomes

A major assumption of collaborative decision-making and other public involvement models is that a well-structured process will lead to greater satisfaction with outcomes. A process that allows participants to advocate and persuade others about their needs and engage in dialogue that teaches them about the needs of others will produce more creative, better supported, solutions.

Based on data from four sites which used very different processes, and only 36 survey respondents, the data support this model. The correlation between whether a process has low or high effectiveness (a scale that combines the three measures of the characteristics of the stakeholder process) and satisfaction with the final agreement is (r = +.54). The correlation between whether a process has low or high effectiveness and whether benefits are distributed widely is (r = +.61). Both of these relationships are statistically significant. The structure of a process is strongly related to the outcomes of the process.

To further specify these relationships, we conducted a multiple regression analysis. The results show that of the three measures of process structure, the one that affects satisfaction with the final agreement is how well structured the process was. The variable that affects the distribution of benefits is whether there were few or many barriers to participation.

Thus, different measures of structure have slightly different effects. The general conclusion strongly supported by these data is that a well-structured process allowing participants to feel they have ownership of it produces solutions that allow more stakeholders to get what they need and leads to greater support for and satisfaction with the outcome.

3.5 Measuring Satisfaction at Individual Sites

The four sites in this study differed substantially in their structures. Both HADCO and Weyerhaeuser used the same model of stakeholder involvement, a model that required much less participation in meetings (2 or 3 versus. 20 to 50 meetings for Merck and Intel) and left decision-making on the FPA to federal and state regulators and the company. Intel and Merck used stakeholder models that involved negotiation among all stakeholder representatives, not just federal and state agencies and the company.

The HADCO case involved the issue with the smallest scope in this study, addressing one waiver for one regulation for one step in the manufacturing process, while Weyerhaeuser, Merck and Intel all involved multimedia permitting for an entire facility. These types of differences mean the results in Table 3.5-A are comparing very different processes. Keeping this in mind, the combined measure of low or high effectiveness shows that Weyerhaeuser had the highest score, HADCO the lowest score, and Intel and Merck were in the middle and close to one another. Table 3.5-A shows how the sites rank on each separate variable.

Table 3.5-A—PROCESS STRUCTURE AND OUTCOME DATA BY SITE
(Percent above the median)

	INTEL	MERCK	Hadco	Weyerhaeuser
Satisfaction with structure of process	40%	17%	25%	92%
Felt could effectively participate	70%	50%	38%	92%
High number of barriers to participation	40%	67%	63%	8%
Satisfaction with final agreement	50%	67%	13%	67%
Perceived wide distribution of benefits	40%	33%	13%	83%
N	**10**	**6**	**8**	**12**

Reading this Table: As described above, each scale consisted of a number of items and each item had a number of responses – for example, responses from 1 to 5. The scale of "satisfaction with the structure of the process" was composed of 10 items. When the scores of each respondent on these 10 items were added together, their totals ranged from 18 to 38 (a higher number indicates greater satisfaction with the process). To construct Table 3.5-A, each scale was divided into two categories: high and low. Since there were 36 respondents, the 18 respondents with the highest scale scores were put into a "high" category; the 18 respondents with the lowest scores constituted the "low" category. This is called dividing the scale at the median. On the scale of satisfaction with the process, a scale score of 29 or more formed the high category; a score of 28 or less formed the low category. The first number in Table 3.5-A—40%—shows that 40% of the respondents at Intel had scores in the "high" category, while the remainder—60%—are not shown in the table and had "low" scores.

All of the other scales in Table 3.5-A were similarly divided into two groups, as nearly equal in size as possible. On the scale of feeling that one could effectively participate, the scores ranged from 12 to 34 and a score of 27 or higher formed the "high" group, which included 19 respondents. On the scale of barriers to participation, the number of barriers reported ranged from 0 to 4. The category of "high" barriers was formed by those who reported 2 or more barriers (this category included 14 respondents, which was as near to the median as we could come, given the distribution of responses). The measure of satisfaction with the final agreement included only two questions and scores varied from 2 to 10; 18 respondents had scores of 9 or 10 and they formed the "high" group. The fact that the median was so high indicates that most respondents expressed some degree of satisfaction with the outcome. Finally, five questions formed the scale concerning the distribution of benefits and scores ranged from 13 to 25; scores of 20 and above formed the "high" group and included 17 respondents.

The HADCO site had the lowest scores on feeling that one could participate effectively, on satisfaction with the final agreement, and on how widely the benefits of the process were distributed. It had the second poorest scores on satisfaction with the structure of the process and on the number of barriers to participation. Among the four sites, it appears HADCO was least able to implement a highly effective model. Comments from the open-ended portion of the questionnaire help explain these low scores. Several respondents noted that EPA approval of the HADCO FPA was more cumbersome than it should have been. This was complicated by the fact that the HADCO FPA involved negotiations among five facilities in two EPA regions. Another comment was that the scope of the issues and agreement was small compared to the time commitment involved in producing it.

The Weyerhaeuser site had the best scores on all five variables. It was particularly high on satisfaction with the structure of its process and on how widely benefits were distributed. It is the only site producing both high satisfaction with the final agreement and a wide distribution of benefits. It appears this site was best able to implement a highly effective model. This is an interesting finding because the Weyerhaeuser process managers for the company reported in interviews that they had difficulty obtaining public input, except from their long-standing partners in the community. Weyerhaeuser had a substantial history of involvement with a watershed association and a prison near the Weyerhaeuser plant. Many respondents commented on the openness of the plant personnel to community concerns. Weyerhaeuser's high score on the effectiveness scale probably reflects non-XL as well as XL activities.

Except for the high number of barriers to participation reported at Merck, the scores of Intel and Merck participants tended to be in the mid-range on most variables. Intel was

somewhat higher on satisfaction with the structure of the process and feelings that one could participate effectively, but given the small number of cases, these differences should not be overinterpreted.

Comments on open-ended questions regarding the satisfaction about outcomes at the Intel site provide further illumination. Many Intel respondents noted their disappointment that a one-stop permitting scheme was not included in the FPA. Stakeholders from all viewpoints saw this simplified regulatory process as necessary, and were dissatisfied at not achieving that goal. They did, however, reach agreement on a 5-year permit process they concluded was an improvement over the non-XL approach. Their lack of satisfaction might reflect the disappointment about the failure to achieve a single-permit strategy.

3.6 Examining Individual Survey Items

To get an even more detailed picture of what occurred at these different sites, the individual items that make up the scales will be presented. On most of these items, respondents could give scores from 1 (strongly disagree) to 5 (strongly agree). In Tables 3.6-A through 3.6-E, the scores of 4 and 5 are combined to produce the percentage who "agree" with the item.

Table 3.6-A—EVALUATION OF THE STRUCTURE OF THE STAKEHOLDER PROCESS

Survey Item	Percent agree
A) Goals and objectives clearly articulated at start of dialogue	
Intel	50
Merck	33
HADCO	38
Weyerhaeuser	67
All	**50**
B) Adequate and timely technical information	
Intel	40
Merck	33
HADCO	38
Weyerhaeuser	75
All	**50**
C) Ground rules for communication established	
Intel	90
Merck	67
HADCO	75
Weyerhaeuser	92
All	**83**
D) Ground rules were helpful for communication	
Intel	90
Merck	50
HADCO	50
Weyerhaeuser	92
All	**75**
E) Had problems not covered by ground rules	
Intel	100
Merck	100
HADCO	75
Weyerhaeuser	8
All	**64**
F) Addressed issues that should not have been addressed	
Intel	60
Merck	67
HADCO	62
Weyerhaeuser	17
All	**47**
G) Issues that should have been addressed were not	
Intel	60
Merck	33
HADCO	75
Weyerhaeuser	25
All	**47**

Table 3.6-A—EVALUATION OF THE STRUCTURE OF THE STAKEHOLDER PROCESS (CONTINUED)

H) Process "just right"—not too short or too long	
Intel	20
Merck	17
HADCO	0
Weyerhaeuser	75
All	**33**
I) Number of sessions with full group "just right"—not too few or too many	
Intel	40
Merck	33
HADCO	50
Weyerhaeuser	100
All	**61**
J) Number of workgroup meetings "just right"—not too few or too many	
Intel	30
Merck	33
HADCO	25
Weyerhaeuser	83
All	**47**

Table 3.6-B—PERSONAL EFFICACY ITEMS

Survey Item	Percent agree
A) Feel had time and resources to adequately prepare for discussions	
Intel	80
Merck	50
HADCO	25
Weyerhaeuser	83
All	**64**
B) Able to present my perspective	
Intel	90
Merck	67
HADCO	63
Weyerhaeuser	100
All	**83**
C) My perspectives adequately considered by others	
Intel	90
Merck	50
HADCO	50
Weyerhaeuser	100
All	**78**
D) I influenced the discourse and outcomes of the process	
Intel	70
Merck	66
HADCO	50
Weyerhaeuser	75
All	**67**
E) I had influence on ground rules for participant interaction and communication	
Intel	90
Merck	50
HADCO	38
Weyerhaeuser	67
All	**64**
F) Felt had an impact on outcomes	
Intel	90
Merck	83
HADCO	25
Weyerhaeuser	67
All	**67**

Table 3.6-B—PERSONAL EFFICACY (CONTINUED)

G) All members participated effectively	
Intel	30
Merck	33
HADCO	13
Weyerhaeuser	58
All	**36**
H) Felt able to add items to agenda	
Intel	60
Merck	50
Hadco	63
Weyerhaeuser	73
All	**67**

Table 3.6-C—REPORTED BARRIERS TO PARTICIPATION

Survey Item	Percent agree
A) Too many participants	
Intel	0
Merck	17
HADCO	13
Weyerhaeuser	3
All	**6**
B) Too few participants	
Intel	10
Merck	0
HADCO	0
Weyerhaeuser	0
All	**3**
C) Confusion about goals and products	
Intel	50
Merck	67
HADCO	63
Weyerhaeuser	8
All	**42**
D) Not enough useful technical information	
Intel	30
Merck	17
HADCO	38
Weyerhaeuser	0
All	**19**
E) Resources to participate not available	
Intel	20
Merck	67
HADCO	25
Weyerhaeuser	0
All	**22**
F) Participation not meaningful to specific participants	
Intel	20
Merck	33
HADCO	38
Weyerhaeuser	8
All	**22**
G) Other barriers to effective participation	
Intel	30
Merck	17
HADCO	13
Weyerhaeuser	17
All	**19**

Table 3.6-D—MEASURES OF SATISFACTION WITH THE FPA

Survey Item	Percent agree
A) Satisfaction of organization respondent represents	
Intel	80
Merck	83
HADCO	13
Weyerhaeuser	92
All	**69**
B) Satisfaction of respondents	
Intel	70
Merck	83
HADCO	13
Weyerhaeuser	83
All	**64**

Table 3.6-E—DISTRIBUTION OF BENEFITS

Survey Item	Percent agree
A) Company got most of what it wanted	
Intel	80
Merck	100
HADCO	88
Weyerhaeuser	83
All	**86**
B) EPA got most of what it wanted	
Intel	60
Merck	50
HADCO	50
Weyerhaeuser	100
All	**69**
C) The state agency got most of what it wanted	
Intel	70
Merck	67
HADCO	63
Weyerhaeuser	92
All	**65**
D) Local agencies got most of what they wanted	
Intel	80
Merck	17
HADCO	13
Weyerhaeuser	92
All	50
E) Local stakeholders got most of what they wanted	
Intel	50
Merck	17
HADCO	13
Weyerhaeuser	92
All	**50**

A. Stakeholder Evaluations of the Structure of the Stakeholder Process

Table 3.6-A shows there was considerable difficulty at all of the sites—except for Weyerhaeuser—in defining what the stakeholder process was about, how it should be conducted, and what issues should be addressed. It was difficult to achieve focus in some processes.

Only half the participants felt the goals and objectives of their process were clearly articulated at the start (Item A); this was particularly a problem at HADCO and Merck. Most respondents said ground rules for how they should conduct themselves were developed (Item C), but at two sites these ground rules were not always helpful (Item D). Except for Weyerhaeuser, all sites encountered problems that were not anticipated by the ground rules (Item E). Finally, a majority of participants at all sites, except Weyerhaeuser, felt the meetings addressed issues that should not have been addressed (Item F) and some issues that should have been addressed were neglected (Item G).

There was considerable dissatisfaction at all sites—except Weyerhaeuser—with the structure of the process, whether it was too short or too long (Item I), had too few or too many full group sessions (Item J), and whether there were too few or too many workgroup sessions (Item K).

Finally, at most sites participants wanted more timely and appropriate technical information (Item B).

B. Stakeholder Perceptions of Participation Effectiveness

In Table 3.6-B, every item (except one) shows a majority of participants at all four sites were able to participate effectively. Even at HADCO—which had the lowest score overall on this dimension—63 percent said they were able to present their perspectives on the issues being addressed (Item C) and 50 percent felt these perspectives were adequately considered by others (Item D). When asked whether all stakeholders participated effectively, however, only 36 percent of all respondents agreed (Item G). It might be that those who did not complete questionnaires were among those who did not participate effectively; it might be that people who were too quiet or very vocal were perceived as not participating effectively.

C. Stakeholder Perceptions of Barriers to Participation

The questionnaire asked: “What, if any, seemed to be barriers to effective participation?” Up to seven choices (including one labeled “other”) could be checked off. For all 36 respondents, the average number of barriers checked was only 1.3—relatively few.

Table 3.6-C shows the most frequently reported barrier was confusion about the goals and products of the process (Item C). The Merck site had an unusually high number of respondents who felt they did not have the resources to participate (Item E).

D. Stakeholder Satisfaction with the FPA

Table 3.6-D presents the two measures of satisfaction with the outcome of the process. Similar levels of satisfaction are reported for the respondent's organization (Item A) and for the respondent personally (Item B).

The table also shows, as did Table 3.5-A, that although Merck had middle or lower scores on many of the prior dimensions, it produced a very high level of satisfaction with the outcome.

E. The Distribution of Benefits

Table 3.6-E shows who was perceived to benefit from the stakeholder process: respondents were asked to evaluate how much each entity achieved, compared to its goal. The company was perceived most often to benefit (Item A), followed by EPA (Item B), state agencies (Item C), and local agencies (Item E), with local stakeholders the least likely to get most of what they wanted (Item E). Only at the Weyerhaeuser site was there agreement that all 5 parties benefited. At both the HADCO and Merck sites, local agencies and stakeholders were not perceived as sharing in the benefits (Items D and E). It also should be noted that despite the high level of satisfaction with the final agreement at Merck (nearly as great as at Weyerhaeuser), it did not produce a perceived wide distribution of benefits.

3.7 Costs and Benefits of the XL Stakeholder Process

Survey respondents were asked to provide data and comments on the costs and benefits of their XL stakeholder processes. The comments included information on costs, duration, and general statements about strengths and weaknesses.

A. Costs

Many respondents did not respond to the request for information on costs. The responses from those who did are outlined in Table 3.7-A.

Table 3.7-A—RESPONDENT ASSESSMENTS OF COSTS FOR FPA DEVELOPMENT, INCLUDING STAKEHOLDER PROCESS

		Person Days For Respondent	Additional Days for Others in Organization	Estimated Costs to Participate
Intel	Company	300	200	$710,000
	State Agency	35	12	11,000
	Citizen	125		
	EPA	194	160	150,000
	Nonprofit	65		
	City government	19	19	5,000
Merck	State agency	17		
	EPA (1)	300	300	
	EPA (2)	45	150	
	Regional env. group	15		7,000
HADCO	Company	20	50	70,000
	State	30	10	15,000
	EPA (1)	86	172	
	EPA (2)	30	50	
	Local agency	3		
Weyerhaeuser	Company	258	645	350,000
	State	15	20	20,000
	Citizen	4	4	
	Citizen	10		
	Local government	4-5		
	Local env. Group	3		

Table 3.7-A shows costs differed significantly from site to site, and stakeholder to stakeholder. Companies and EPA incurred higher costs. Several nonfunded stakeholders, even though their costs were lower, expressed the view that even those costs were burdensome for them.

B. Duration

Most stakeholders commented the process was too long or much longer than they expected or felt was warranted. The FPAs were estimated to involve a 6-month negotiation. The actual durations were as follows:

Company	Date of First Stakeholder Meeting	Date of FPA Signature	Duration
Intel	1-24-96	11-19-96	10 months
Merck	5-23-96	10-8-97	17 months
HADCO	12-15-95	10-2-97	22 months
Weyerhaeuser	1-25-96	1-17-97	12 months

Intel and Weyerhaeuser come closest to meeting the 6 month goal. HADCO and Merck had more extended processes.

3.8 Comments on Strengths and Weaknesses of Stakeholder Processes

Thirty of the 36 respondents answered the open-ended question about the strengths and weaknesses of the process. Nine reported that a strength was the ability to create an improved, flexible environmental outcome. Eight reported as a strength the involvement of all players, including positive comments about citizen input and intergovernmental coordination. Eight noted confusion about EPA's procedures for approval as a weakness, and seven noted the time required as a weakness. Other comments about weaknesses included the view that integrating citizen groups into the process, while a strength of the model, often proved to be challenging in the implementation.

The following excerpts from comments about strengths and weaknesses illustrate the range of views.

Strengths:

"Major strength: allowing compromises…improved the outcome for all."

"The company was receptive to pollution prevention suggestions…The holistic approach taken by the company in evaluating its operations" was the most satisfying outcome.

"Flexibility built into agreements for future conditions…"

"Strength: trust and confidence between local community, industry, state, and EPA."

"General process results in environmental protection, even in improvement, while allowing more effective business climate."

"My understanding of XL process is much better at this time than during the actual process."

"It was the first time that the agencies had come together and talked about what they did and

why. I found this beneficial."

"We made a dent in allowing the permitting process to reflect the real situation, not imaginary. Pleased with reporting process we designed for the next 5 years. Looking forward to keeping tabs on results."

"The caliber of people involved was impressive in knowledge, fairness, commitment."

"Significant environmental benefits that would not have been achieved absent Project XL. Novel, workable
approach to air permitting."

"That company, regulators and community could work together."

Weaknesses:

"Much too time consuming."

"Interaction between local and national groups. DC–based groups do not want to come to local meetings."

"Citizens run over by company and EPA…citizen stakeholder process not understood by agency…Only two citizen representatives versus dozens of company and regulators. Weighted against citizens."

"I felt the process was very much orchestrated by the company. The rest of the stakeholders were in a reactionary mode. The company had the advantage of legal counsel at the negotiatingtable.

4.0 RECOMMENDATIONS

4.1 Consensus versus Advisory Role for Stakeholders

- Determine up front what type of process is appropriate to allow stakeholder responsibilities regarding time commitment and authority to commit to be addressed in a realistic way before the process starts.

- Use consensus decision-making processes when:
  —Serious objections to the final outcome might succeed in blocking implementation, and options exist for addressing the concerns.

—Strong community ownership of outcome is desired.

- Use public-consultation and information sharing processes when:
  —Issues in proposal are not controversial.
  —Public notices do not generate much comment.
  —Issues are narrow in scope and don't impact policy concerns.

- If a consensus decision-making process is the desired approach, allocate time for training in collaborative process negotiations and on the technical issues likely to be the subject of discussion. Time also will be needed in the initial meetings for procedural negotiations to ensure all stakeholders feel the process is fair and likely to produce an outcome they can live with. If consensus is the goal, agreement on the definition of consensus will be a key procedural negotiation. Defining consensus as "all can agree to live with, and support, the outcome" is a practical option.

- Consider the use of a facilitator to prevent inadvertent bias from arising when company sponsor is both negotiator and mediator of disputes arising in consensus decision-making processes.

- Through consultation with stakeholders, each XL stakeholder process should be developed into a well-defined structure. The experiences outlined in this report should assist participants anticipate time commitments and other responsibilities new projects will require. The development of a shared understanding of what all participants can gain from the process is an important first step to building stakeholder support. This could require initial one-on-one conversations with affected interests and a synthesis of the one-on-one discussions for all to read and understand. Neutrals often conduct these initial issue assessments and process design can help with these tasks.

4.2 National and Local Environmental Group Participants

- National environmental groups have commented extensively on past FPAs, but have not participated directly in stakeholder groups. In consensus decision-making processes, communication between the national environmental group and some local environmental groups needs to be improved. Methods for addressing this include:
  —Identifying opportunities for national environmental groups to participate in the stakeholder process.
  —Developing viable links between national groups and the local groups who are direct participants.
  —Establishing consultation with national groups by the stakeholder group as a

formal part of the process of public consultation throughout the FPA development process.

4.3 Technical Expertise for Citizen Stakeholders

- Funding for limited technical expertise already has been adopted by EPA as a strategy for supporting citizens in the technical discussions. Ensuring the funds are used to answer questions important to all involved in the specific negotiations will be essential. The technical assistance program should be monitored and evaluated by EPA and environmental groups.

- National environmental group staff often have the substantive expertise that citizen environmentalists lack. Implementing recommendations noted above for pairing national and local environmental group direct participants also can improve the technical resources available to local groups.

- To address perceptions identified in RESOLVE's survey that local groups achieve less than other constituencies of what they seek in the XL stakeholder processes, the following strategies might be useful: provide training in negotiation, scope out the stakeholder negotiation issues with the local groups in advance, coach for the local negotiating team as the process proceeds, and clarify expectations with local representatives at the outset.

4.4 Costs and Benefits

- Improving the integration of the XL process with government agency approval processes might reduce concerns about the time consuming nature of the stakeholder processes.
- Monitoring stakeholder involvement as implementation of the FPAs proceed will help to further evaluate whether the time spent resulted in the benefits predicted by the stakeholder group.

5.0 CONCLUSION

The interviews, observations, and survey data gathered for this analysis of four Project XL Stakeholder processes provide an initial view of the strengths and weaknesses of the two basic models of stakeholder involvement that emerged in early XL efforts. Neither the consensus decision-making model nor the public-consultation and information sharing model was evaluated to be clearly a superior method of involving stakeholders in the XL FPA development process. The survey and observation results showed clarity of structure and

objectives is more important to success and credibility than type of stakeholder involvement process. The XL project rated as most effective by survey respondents was a public-consultation process at Weyerhaeuser that relied heavily on long-standing community-company relationships to establish support for the regulatory experiment.

When planning stakeholder involvement for future XL projects, the sponsor should determine at the outset whether a consensus decision-making process or a public-consultation and information sharing process is the best avenue to public support of the proposed project. If a proposal is fraught with controversy, then a negotiated approach to stakeholder involvement might be a preferable approach to develop trust and address concerns. If the issues in the proposal are not controversial, a public-consultation and comment process may be enough to develop the level of support needed.

Many of the problems arising in early XL stakeholder processes were addressed in the April 1997 *Federal Register* notice that provided guidance regarding clarifying roles for stakeholders, training and facilitation, and technical assistance needs. Much of that guidance about stakeholder involvement should help avoid bias towards the sponsor in the stakeholder process and thereby achieve more effective stakeholder support.

Benefits of the XL stakeholder processes noted in the survey of stakeholders also provide indications of desirable elements to preserve in any model. The benefits noted include:

- Improved, flexible, realistic environmental outcomes.
- Involvement of all interest groups, including community and intergovernmental players.
- Opportunity for citizen involvement in monitoring project implementation.

The weaknesses noted in the survey of stakeholders provide indications of pitfalls and conditions to avoid. They include:

- Confusion about and time-consuming nature of procedures for FPA approval.
- Tendency for the company to orchestrate stakeholder support.
- Intervention by national environmental groups that is disconnected from local citizen involvement.

Finally, our survey found that processes rated as highly effective (i.e., clearly structured with adequate resources) had a combination of broad distribution of benefits and high individual/organizational satisfaction with the outcome of the negotiation. Processes with

perceived barriers to participation had lower satisfaction with the distribution of benefits and with the outcome. Thus, process satisfaction and substantive results were closely linked and are both critical elements of the success of future XL projects.

APPENDIX A

STAKEHOLDER QUESTIONNAIRE

XL FINAL PROJECT AGREEMENT PROCESS: STAKEHOLDER QUESTIONNAIRE

Section I: Participation

1. In the XL Stakeholder process at the _____ (name the facility) site. I represented (check one)

___ the company sponsor ____ the U.S. EPA _____ a state agency (specify): _____

___ a local environmental group ____ a local citizens group _____ a national environmental group

___ other (specify name of organization): _____

2. I participated in (choose one) ____all, ____most, ____ some, _____ very few stakeholder meetings.

3. Why did your organization decide to participate in the XL stakeholder process?

4. What role did you envision you would be asked to play when you accepted the invitation to join?

_____ advisor to company _____ negotiator of terms and conditions

_____ community spokesperson/liaison _____ other (please specify:_____)

_____ advisor to EPA

5. Was your eventual role or responsibility different from the one you envisioned? _____ no ____ yes

How was it different?_____

6. During this process, I felt that *(CIRCLE THE ANSWER THAT IS CLOSEST TO YOUR VIEWS)*

I lacked the time and resources to prepare adequately for the discussions.	1 2 3 4 5	I *had the time and resources* needed to adequately prepare for the discussions.
I was *unable* to present my *perspectives.*	1 2 3 4 5	I was *able* to present my *perspectives*.
My *perspectives were not considered adequately* by other participants.	1 2 3 4 5	My perspectives *were adequately considered* by other participants.
I was *unable to influence* the	1 2 3 4 5	I *influenced* the discourse

discourse and outcomes of the process.		and outcomes of the process.
Not all members of the stakeholder group *participated* effectively.	1 2 3 4 5	*All members* of the group stakeholder group *participated* effectively.

Feel free to elaborate on any of the above points:

7. Who played the largest role in directing and leading the stakeholder process?

_____ EPA and its staff _____ company sponsor _____ other (specify)

8. Were the right people at the table to accomplish the stated goals?

_____ yes _____no Who was missing?_____

Section 2: Structure of the process

9. During the negotiations, I felt that... (*CIRCLE LEVEL OF AGREEMENT WITH EACH STATEMENT*)

	Strongly Agree				Strongly Disagree
The *goals and objectives* of the process *were not clearly articulated* at the start of the dialogue.	1	2	3	4	5
Some issues *were discussed* that *should not have* been.	1	2	3	4	5
Some *issues should have been addressed*, but were not.	1	2	3	4	5
Technical information was *adequate and timely.*	1	2	3	4	5
I felt *I did not have the ability to add items* to the *agenda that were important to the group that I represent.*	1	2	3	4	5

(FOR THE FOLLOWING, CIRCLE THE NUMBER THAT IS CLOSEST TO YOUR VIEW)

The *process was too short* for adequate consultation and decision-making.	1	2	just right	4	5 The process was *unnecessarily long*.
There were *too few sessions* with the *full group*.	1	2	just right	4	5 There were *too many sessions with the full group*.

There were *too few workgroup* meetings. 1 2 just right 4 5 There were *too many workgroup* meetings.

10. What, if any, seemed to be the barriers to effective participation?

___ too many participants ___too few participants ___ confusion about goals and product

_____ not enough useful technical information ___ resources to participate were not available

_____ participation not meaningful enough to specific participants

____other (specify:_____)

Section 3: Management of the Process

11. Were ground rules for participant interaction and communication established? ____ no ___ yes

a. Did you feel you had influence on these ground rules? _____ no _____ yes

b. Was it helpful to have these ground rules? _____ no _____ yes

c. Please explain your answers to question 11:

12. Did problems of process emerge that were not anticipated by the ground rules __ no __ yes

What were they? _____ new participants wanted access _____ consensus goal was revisited
____ other (specify) _____

13. How were agendas developed (check all that apply)?

_____ by the entire group _____ by EPA or its staff _____ by the company-sponsor

_____ by signators only _____ other (please specify) _____

14. Did the process use a facilitator?

_____ no Would you have preferred to have one? Why or why not?

_____ yes Was he or she helpful in moving the process along? Why or why not?

Are there any concerns you have about the role played by the facilitator?

15. Whose formal support for the FPA was required to conclude the process?

_____ EPA, local stakeholders, state, and company—plus any other signators

_____ EPA, state, and company only

_____ EPA and company only

_____ everyone in stakeholder/signator group plus public commentors

_____ don't know

Section IV: Resources Required by the Process

16. What resources did you and your organization provide to the process? (list 0 if did not provide)

_____ total person-days provided by ***you*** directly related to process
_____ total person-days provided by ***your organization*** directly related to process
$_____ estimated costs to your organization to participate
_____ pages of data or relevant information (list types of data provided) _____
_____ other (please specify)

17. What additional resources, if any, did your organization need that were not available?

_____ additional time to participate in meetings _____ funds to hire technical expert advisors

_____ travel cost reimbursement _____ facilitation for interest group meetings

____ other (specify)

18. Would the outcome have been different if additional resources were available?
____ no ____ yes

How? _____

Section V: The Effectiveness of the Process

19. Did you feel that you had an impact on the outcome?
_____ no Why not? _____

_____ yes How did you exert influence? _____

20. How satisfied *is the organization you represent* very dissatisfied 1 2 3 4 5 very satisfied

with the FPA (or other outcomes of the process)?

Overall, how satisfied *are you personally* very dissatisfied 1 2 3 4 5 very satisfied
with the FPA or other outcomes of the process?

21. What outcomes (agreements or other results) were most satisfying to you and your constituency?

22. What outcomes were least satisfying to you and your constituency? How might these have been improved?

23. How do you feel about what other groups gained or lost in the process?
(*CIRCLE YOUR ANSWER ON A SCALE OF 1 TO 5)*

Company:	got little of what it wanted	1	2	3	4	5	got most of what it wanted
EPA:	got little of what it wanted	1	2	3	4	5	got most of what it wanted
State agency:	got little of what it wanted	1	2	3	4	5	got most of what it wanted
local agencies:	got little of what it wanted	1	2	3	4	5	got most of what it wanted
local stakeholders	got little of what they wanted	1	2	3	4	5	got most of what they wanted

24. What do you perceive to be the major strengths and weaknesses of the XL stakeholder process?

25. Do you have any other suggestions for improving the process? ***(Feel free to use back of the sheet to elaborate*).**

26. OPTIONAL: Name: _____ Title: _____
Address: _____ Phone/fax:_____
_____

If you do not list your name, please be sure to mail postcard provided to notify us you have submitted a questionnaire.

APPENDIX B

OBSERVATION SUMMARIES

INTEL OBSERVATION SUMMARY

On May 14 and 15, 1996, the Intel stakeholders held two meetings that were observed for this report: one of the Executive Committee, and one for the Air/Permitting Working Group. By this time in the stakeholder process, draft language for the FPA and draft permits was being proposed and reviewed by both committees and negotiation sticking points were becoming known.

The FAB12 building at the Ocotillo site is located at the end of a newly constructed road in a flat, desertlike suburban residential/industrial area in Chandler, Arizona, 12 miles south of Phoenix and home to many high-technology manufacturing facilities. When visitors arrive at the campuslike Ocotillo site, they encounter a brand new high-technology building with the obvious purpose of housing computer design and production activities. Wall charts identifying production goals for the quarter are posted, stock quotations for Intel stock at various points in the day are displayed at the reception desk, and well-equipped conference rooms are in evidence. Security is tight, and visitors must sign in, agreeing with their signature not to divulge information they obtain about Intel's operations. The workers are young and college educated, and the staff committed to the XL project seem adept at working in management teams and comfortable with communication and collaboration challenges that arise in participatory environments.

The Executive Committee for the XL project met from 6:00 p.m. to 9:00 p.m. on a Tuesday evening. The agenda for the meeting included reports from three working groups, with requests for ratification of concepts and FPA language from some. The Legal Working Group focused on draft FPA language outlining the role of stakeholders in FPA implementation, the role of state agencies in environmental permitting, and the structure of a dispute resolution clause to address issues that could arise during FPA implementation.

The Air/Planning Group updated the Executive Committee about its discussion of the critical issue of what facilitywide caps were being proposed for organic and inorganic Hazardous Air Pollutants (HAPs). New information from Intel about scrubber efficiency and actual emissions resulted in a higher proposed cap than originally envisioned and raised serious concerns from some of the environmental interest group representatives about the level of emissions that would be allowed. All involved in the discussion saw this issue as key to getting agreement, and among the most difficult to address, given the strength of the differing views that were being expressed about what was reasonable. Suggestions were made to gather and review data on what the differences were in risks for the different emission levels to assist in resolving the issue, and Intel agreed to produce as much information on this as they could.

All participants were looking for ways of resolving the disagreements evident at this time, but were not certain they would succeed. There was a long discussion about how lack of

consensus would be addressed, and some discussion of what the precise definition of consensus should be—could one individual block an agreement, or should consensus be defined to require agreement of each key interest group (e.g., Intel, regulators, citizens). The group ended the discussion by agreeing that consensus would involve the consent of each interest group and that disagreements within interest groups would come to the Executive Committee for resolution.

The Recycling Group presented its proposed FPA language for addressing solid waste, water use, storm water, and hazardous waste management. They also noted several emission reduction efforts were "outside the fence line," like environmental education and mentoring efforts, influencing environmental performance of suppliers, and property set-back provisions. How to anticipate the actual environmental benefits from these proposals was still an open question.

The Regulatory Efficiency Group discussed its conclusion that establishing a one-stop permitting authority, as was originally proposed, would not be possible. Instead, it recommended the creation of a single coordinating agency for environmental matters. This group had been unable to create a one-stop authority because of practical considerations involved in moving authorities between local, county, federal, and state regulatory entities, and because Intel was fearful of citizen suits if the consolidated approach resulted in the letter of the law being violated in some situations. Many stakeholders were very disappointed this barrier to innovation could not be overcome, and advocated continuing to try to resolve the problems. Intel acknowledged the mechanism would not be ready for the FPA, but they would continue to work with agencies to overcome the procedural and legal barriers.[1]

The Air/Planning Work Group met on May 15, 1996, the following night, from 6:00 p.m. to 9:00 p.m. to continue its discussions of the air emission issues in order to make recommendations to the Executive Committee as soon as possible. This group included the state, city, federal, and county regulators, several Intel staff, and two citizen representatives, one of whom was not present at this particular session. The group drafted an agenda for itself at the beginning of the meeting, including all the issues left unresolved at the previous night's Executive Committee discussions. It established time limits for each topic, moved through the issues well, and concluded with a clear plan of action for next steps. This group took on the responsibility for gathering and presenting the information on risks for various HAP emission levels, and for finding ways to bridge the large disagreements that loomed on the horizon regarding the emission cap. Several reformulations of options were proposed to address the concerns being raised, and real give and take among the members was evident and productive.

[1] In a separate conversation, one regulator speculated an innovative, consolidated environmental authority would not be possible until the state or federal legislatures authorized such mechanisms and provided funds to pay for the staff time that would be added as an agency picked up additional responsibilities.

The group worked extremely hard to solve the problems it was facing and struggled to address the real interests of those who were raising concerns.

MERCK OBSERVATION SUMMARY

On June 28, 1996, a meeting of the Merck XL stakeholder group was held at River Bend Farm, a restored rural farmhouse owned by Merck, near Elkton, Virginia. The farmhouse sits beside a bend on the gorgeous Shenandoah river, and is surrounded by working farms.

Attending the meeting were the five representatives of Merck, four from EPA, two from the National Park Service, two from Virginia Department of Environmental Quality (VA DEQ), plus two citizen members, an observer from the U.S. Forest Service, and an observer/participant from the National Resource Defense Council (NRDC).

An agenda had been developed by Merck, distributed in advance, and was handed out at the meeting. The discussion covered the following topics.

- Whether the 1992 to 1993 emission levels were appropriate for baseline calculations (EPA technical staff had been evaluating how to determine the baseline numbers.
- Baseline calculations and resulting caps for particulates were also discussed, because Merck anticipates that particulate emissions may rise; Merck proposed a lower SO_2 cap—25 percent below baseline—as trade-off for particulate increases; citizen representatives questioned whether the increase was really needed, and asked what it was needed for.
- Timeline for finalizing a permit was projected to be January, 1997, assuming the FPA is signed on schedule and EPA rulemaking on the permit proceeds smoothly.
- The role of the NPS in signing on to the FPA and when it could expect its comments to be incorporated into the permit language (within the near future, was response).
- Whether EPA would waive future Maximum Achievable Control Technologies requirements with its approval of the XL FPA (EPA not willing, Merck insistent, NRDC questioned legality).
- Role of stakeholders and public in future permit revisions (Merck wants

simplified permit modification process, NPS wants its future role preserved and specified).

- Whether reported spills are subject to the cap on emissions (new language agreed that all emissions will be reported, including any accidental releases).

- Future violations will be made known through public notice and notice to signators, especially NPS and VA DEQ (signators to be notified, citizens also want to track but no mechanism proposed to clarify their role).

- Who can sign on behalf of local citizens—CAP members, county government representatives, other.

- Discussions of enforceability standards for eventual permit resulted in agreement that they be the same as for any other permit.

- Whether plantwide caps, as well as subcaps, required monitoring (VA DEQ wants subcap information to assist in assessing total air pollution loads and for determining when inspections are needed, Merck wants simplified reporting; resolved with promise of ad hoc data sharing for future).

- NPS requests Merck fund studies to document actual volatile organic compound (VOC) emissions and their dispersion, in order to provide data to assess risks from the projected increased VOCs; (Merck thinks these studies are not feasible, but offers to fund some research they determine to be more feasible; citizens also request documentation of VOC health risks; negotiations on this topic will continue).

- How XL permit will address new Resource Conservation and Recovery Act Air Emission Standards (EPA requires Merck to outline its plan for meeting leak controls for future and certify it has equipment leak control program).

- Next steps on finalizing FPA, including plan for public meeting 2 weeks after document is finalized.

HADCO OBSERVATION SUMMARY

The HADCO facilities in Salem, New Hampshire, are located 45 minutes north of Boston, near the major interstate running between Massachusetts and New Hampshire. On entering the HADCO building, displays of printed wiring boards are prominent, as are several awards and a framed letter from President Clinton recognizing the HADCO XL nomination. The HADCO logo is also spelled out: "Quality, Customer Satisfaction, Teamwork, Technology."

On June 19, 1996, the HADCO XL stakeholders met in a consolidated video conference for all facilities and regulators throughout the United States. The in-person portion of the meeting in Salem, New Hampshire, included many nonsignator stakeholders, specifically WRC (HADCO's recycling contractor)New Hampshire Audubon and Merrimack Valley Watershed Association, Wastecap (an industry association), and town health officials. Lee Wilmot chaired the meeting.

The discussion covered various draft FPAs that had been circulated. HADCO had incorporated written comments and created a fifth discussion draft, and EPA Region 2 also had created a discussion draft new to this meeting. Wilmot proposed working through the EPA version, and although many participants did not have this version, a productive discussion ensued.

The topics addressed included

- Whether projected environmental results should include reduced air pollution from changes in transportation distances for copper reclamation, and whether there was a net environmental gain, given that most of HADCO's waste was currently recycled to recover copper.

- How cost savings from the proposal would be redirected to foster recycling of additional material.

- How solid stakeholder support for the proposal was, given that attendance at meetings was uneven, and no smelters were involved (though they had been invited and declined to participate).

- Whether the predicted environmental results were really transferable to other similar industries (the conclusion was that they were transferable to some larger generators of this waste, but probably not to smaller companies who still would benefit from contracting with a waste consolidator).

- Confirming that delisting the waste would require the material to be recycled.
- The types of monitoring and reporting data needed, including annual reports, plus a final report at the end of the project.
- Whether site-specific rulemaking was envisioned if a delisting route were chosen to address the problem.
- How enforceable the FPA would be, given that it is a plan to review data and take action under existing regulations (delisting or solid waste variance).
- What implementation problems could be anticipated, like the need for smelter cooperation in taking the waste directly from HADCO.
- What the schedule was for finalizing the FPA, including additional meetings and conference calls.

The meeting lasted 3.5 hours, and concluded with an agreement to revise the draft FPA to incorporate comments, then circulate the new draft in preparation for a final meeting on July 18, 1996.

WEYERHAEUSER OBSERVATION SUMMARY

On April 2, 1996, Weyerhaeuser sponsored a meeting with its Thought Leaders to discuss the XL proposal. On the same day, the Lake Blackshear Watershed Association held its quarterly meeting (in fact, conflicting with Weyerhaeuser's own publicly announced meeting to brief the public on its XL project). Both the Thought Leaders meeting and the Lake Blackshear Watershed Association meeting were observed and will be described below.

Thought Leaders Meeting

Nine community representatives and seven Weyerhaeuser staff convened for a lunch meeting at the Oglethorpe plant. The plant is a beautifully landscaped and quiet facility on the shores of the Flint River. Worker safety banners were posted prominently, and Weyerhaeuser staff were friendly and welcoming to community members.

The plant manager welcomed the group, distributed box lunches, and asked everyone to pause for a blessing, in which he mentioned "God's gifts of the beautiful assets of earth, friendship, and community fellowship." He and the manager for environmental affairs at the plant (who seemed on a first name basis with all attendees) stated up front they wanted the meeting to be a dialogue, and if anyone had any questions or concerns they wanted to hear

them.

The environmental manager then described the XL project, including the improvements proposed. He explained terms like biological oxygen demand (BOD), total suspended solids (TSS), and described reasons to measure transparency and color in discharge water. Some of the attendee's questions, which highlight their concerns and levels of understanding about environmental regulation, are outlined below:

Q: (In response to proposal to reduce hazardous waste to small quantity generator volume) Isn't your hazardous waste more than just solvents? I've seen acids and other toxic materials around when I work in the plant. (Speaker was a state representative who also was a waste hauling contractor at the plant).
A: Those toxics are used in our delignifying process, and are neutralized in the process, so they don't become hazardous waste. They are hazardous materials, however.

Q: Have you considered using the calcium carbonate from your stack filters as a fertilizer?
A: We are pilot testing agricultural uses of this waste. We may join forces with chicken farmers and create a compost type fertilizer. Georgia Tech is working with us to experiment with this.

Q: I'm concerned that when the river is high, you will put more effluent in and that will be too much for the river (Farmer).
A: We will keep to our permit limits, which vary according to season, no matter what. Our holding pond allows us to self-regulate what goes in the river at any time. Also, we plan to use less water in our process, so will have less effluent.

Q:. Do you clean the water before you use it?
A: Yes, but the river is pretty clean to start with.

Q: Does the color in the discharge pose any danger? [2]
A: We need to reduce color to allow sunlight into the river for plant growth.

Q: Where does the color come from?
A: It's from cooking the wood pulp. It's like brewing coffee.

Q: All these releases you list as increasing or decreasing under Project XL look questionable to me.

[2] The Lake Blackshear Watershed Association had been formed in response to water discoloration in effluent from the Weyerhaeuser plant in the early 1980's. Weyerhaeuser worked with the association to explain the coloration and eliminate it from effluent, but color in the water continued to be a concern from some citizens.

A: We will explain these releases better in future documents. Most of them are allowed by our current permits. We will be doing other things to offset the releases.

Lake Blackshear Watershed Association Meeting

An evening meeting in a state park building on the shores of the lake at sunset was attended by about 20 people. The attendees were equally divided between the multi-interest board of directors (academics, fish and game wardens, boaters, Weyerhaeuser, and the local power company) and shoreline property owners who came to hear the discussion about the status of the lake. In addition to a presentation from Weyerhaeuser about the XL project, the following items were on the agenda:

- A progress report on a study of the environmental status of a tributary to the lake, Gum Creek.
- A fish size and abundance report from the state fish and game agencies (the most lively discussion).
- A report on turtle populations, which noted that undesirable recent immigrant turtles were declining.
- A report on aquatic plant control, debating pesticide use or mowing, which ended with disapproval of pesticide use, since it would kill desirable plants too.
- A discussion of a proposal from a private pesticide applicator to spray malathion for mosquito control monthly or more often during the summer (this proposal was opposed by the group, and the chair was instructed to officially object to the privately initiated effort).

The Weyerhaeuser environmental manager for the Oglethorpe plant gave the same presentation about the XL proposal as for the Thought Leaders meeting. As part of the presentation, he asked if anyone had seen the newspaper notices about XL, and 3 to 4 hands went up. He also noted that he considered the Watershed Association to be stakeholders and wanted to hear if there were any concerns about the XL permit or anything else. He received the following questions:

Q: Are there environmental requirements that limit color in the river?
A: No. This is Weyerhaeuser's self-imposed requirement, that we hope is responsive to your concerns in the past.

Q:. What percent of the river are you using and discharging back to the river?

A: Less than 1 percent. Our discharges are 1 percent of the BOD in the river. We don't change the volume in our process. We put back what we take out.
C: You do add color, phosphorous, sodium, and a few heavy metals.

Q: Does your relative contribution of BOD change in low-flow times?
A: At low flow, we use our holding ponds to keep the BOD at 1 percent.

Q:. Do you treat the water in the holding pond?
A: Yes. We sample every 4 hours, and develop a daily sample for quality control.

Q: What if there is low flow and the holding ponds are at capacity?
A: Then we will shut down the plant. In the late 1980s we got within days of shutting down.

Q: How much overall reduction in discharges will you get from XL? Is it 50 percent?
A: We'd like to get 30 percent reductions in some situations, will get much less in others. Predicting 10 percent average.

Q: What are your dioxin levels?
A: We haven't ever detected dioxin in our effluent. Our bleaching technology involves chlorine dioxide and oxygen delignification and doesn't produce dioxin. EPA has verified this.

Q: Have you checked biological indicators of dioxin?
A: Yes. Fish sampling showed no detection. We stopped testing in 1993, after no detection was routine.

APPENDIX C

LISTS OF STAKEHOLDERS AT EACH SITE

List of XL Stakeholders Surveyed for Intel

Doug Ballard, City of Chandler

Jo Crumbaker, Bureau of Air Pollution Control

Gary D'Oria, Intel

Todd Dorris, Arizona Department of Environmental Quality (AZ DEQ)

Jim Fullmer, Intel

Karen Heidel,AZ DEQ

Barbara Knox, 4K Farms

Jim Larsen, Intel

Jim Lemmon, Urban Research Associates

Pat Mariella, Gila River Indian Community

Dave Matusow, citizen

Chuck McLean, Denver Research Group

Terry McManus, Intel

Jeff Rosenbloom, EPA Region 9

Pat Sampson, City of Chandler

List of XL Stakeholders Surveyed for Merck

David Carr, Southern Environmental Law Center

Joe Correa, Rockingham County

John Daniel, Air Operations, Virginia Department of Environmental Quality (VA DEQ)

Tedd H. Jett, Merck

Karen Malkin, U.S. Department of Interior

Robin Moran, EPA Region 3

Cecil Rodrigues, EPA Region 3

Betty Sellers, citizen

Larry Simmons,VA DEQ

Bill Sipe, citizen

List of XL Stakeholders Surveyed for HADCO

Richard De Seve, New Hampshire Sierra Club (Baldwin & de Seve)

Elaine Eakes, New Hampshire Sierra Club

Ralph Goodno, Merrimack River Watershed Council

William Gotschall, World Resources Co.

Joan Jouzaitis, EPA Region 1

Tom Kiernan, Audubon Society of New Hampshire

Steve Linder, EPA Region 9

Rich Lupien, Teradyne

Ken Marschner, New Hampshire Department of Environmental Services

David Marshall, HADCO

Bill Oleksak, Town of Hudson, New Hampshire, Health Office

Ken Rota, EPA Region 1

Kirk Stone, Audubon Society of New Hampshire

Russell Tremblay, M/A—Com., Inc. & IPC

Lee Wilmot, HADCO

List of XL Stakeholders Surveyed for Weyerhaeuser

Gerald Abbott, Macon County LEPC

Charles Allen, Macon County Commissioners

Gerald Beckum, Oglethorpe

Tom Bowman, ISK Biosciences Group

Glenn Chase, Chase Farms, Inc.

Harland Cofer, citizen

Bob Donaghue, Georgia Department of Natural Resources (GA DNR)

Michelle Glenn, EPA Region 4

Lynmore James, Weyerhaeuser

Wayne Jones, Weyerhaeuser

David Peaster, citizen

Gary Risner, Weyerhaeuser

Allen Ross, Macon County Correctional Facility

Russell Stevenson, Weyerhaeuser

William Tietjen, Georgia Southwestern State University

Preston Williams, Montezuma

Jack Windham, Weyerhaeuser

Joel Wood, USDA Natural Resources Conservation Service

David Word, Environmental Protection Division,GA DNR

APPENDIX D

DESCRIPTION OF RESEARCH PROJECT EFFORT

RESOLVE 1255 Twenty-Third St. NW, Washington DC 20037

202.965-6201 *phone* 202.338-1264 *fax*

Description of RESOLVE Documentation of Project XL Stakeholder Processes

(distributed to prospective study participants)

United States Environmental Protection Agency headquarters has asked RESOLVE to conduct an "evaluation" of the stakeholder processes at the first XL sites. EPA is interested in learning more about how the stakeholder processes operate, including what role the stakeholders play, how resource intensive the stakeholder involvement is, how the nonsignatory stakeholder views are integrated with those of the project sponsor and of the regulatory agencies, and how similar processes could be structured in future XL projects to maximize their effectiveness. Both EPA and RESOLVE look at the "evaluation" as more of a documentation of what is going on and not as an evaluation of any specific project's strengths and weaknesses. No information gathered in the evaluation/documentation effort will be used by EPA to evaluate the eventual Final Project Agreement (FPA). In fact, the evaluation/documentation report will not be submitted to EPA or published until after the FPAs are completed.

RESOLVE, Inc. is a nonprofit, neutral, dispute resolution organization based in Washington, DC, and organized for the purpose of promoting the use of collaborative processes to improve environmental decision-making. RESOLVE has conducted research about uses of dispute resolution and dispute prevention techniques in issues related to RCRA permitting, hazardous waste facility siting, mediation of environmental enforcement disputes, water conflicts, forest management, and international applications of dispute resolution strategies. RESOLVE staff have extensive experience as managers of conflict resolution processes. They have mediated agreements for federal, state, and local government clients, and the organization has a contract with EPA headquarters to provide mediators and facilitators for regulatory negotiations, policy dialogues, litigation settlement negotiations, and community involvement processes. Given its 15 years of experience in remaining objective in the face of controversial discussions, RESOLVE strives to provide a combination of neutral process expertise and research qualifications in our conduct of documentation projects like the documentation of project XL stakeholder processes.

This project will be conducted by Suzanne Orenstein, RESOLVE's vice president. Ms. Orenstein supervises most of RESOLVE's 10 mediators, and has been with the organization for 11 years. She has also worked as a mediator at the state and local level for an additional 8 years.

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Washington, DC 20460

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