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**MULTISTAKEHOLDER COLLABORATION OUTCOMES IN
ENVIRONMENTAL VOLUNTARY INITIATIVES:
The Case of A.R.E.T. Initiative**

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A Thesis in the John Molson School of Business

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ABSTRACT

MULTISTAKEHOLDER COLLABORATION PRACTICE IN ENVIRONMENTAL VOLUNTARY INITIATIVES:

The Case of A.R.E.T. Voluntary Initiative

Basmah Ali

The purpose of this study is to reveal the outcomes resulting from collaboration projects that entail dealing with a variety of stakeholders, sometimes with opposing points of view. The theory of Multistakeholder Collaboration Process (MCP) introduced by Turcotte, 1996, is used as a base here to study a Canadian environmental voluntary initiative called A.R.E.T. (Accelerated Reduction/Elimination of Toxics) . Three main aspects of collaboration outcomes were explored in the A.R.E.T. collaboration table: Consensus, Learning, and Innovation. Interviews were conducted to measure A.R.E.T.'s participants'/stakeholders' perceptions pertaining to the outcomes of this collaboration table. The sample for this study was drawn from the population of A.R.E.T. participants, and 8 companies, industry associations, and governmental departments were selected to be interviewed. Albeit the difference in project setting and nature, Turcotte's (1996) previous assumptions and conclusions from her R3 research were supported again in this study: The consensus reached was general in nature, while there was non-consensus in the micro-categories. Learning took the form of gaining awareness of other stakeholders' problems and needs. Innovation consisted of marginal modifications and not radical changes. Further research is needed in more different settings to be able to generalize these findings.

To Bahman;

He was a man, take him for all in all... I shall not look upon his like again.

William Shakespeare – *Hamlet*

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**MULTISTAKEHOLDER COLLABORATION OUTCOMES IN
ENVIRONMENTAL VOLUNTARY INITIATIVES:
The Case of A.R.E.T. Voluntary Initiative**

INTRODUCTION:

Consensus building among stakeholders is increasingly common as a way to search for feasible strategies to deal with uncertain, complex, and controversial planning and policy tasks (Innes & Booher, 1999: 412). This practice is a more systematic and sophisticated version of wide range of collaborative, communicative forms of planning with which both government and private players have been experimenting since the early 70s (Ibid.). On one level, collaborative planning can be seen as a strategy for dealing with conflict where other practices have failed. On another level, it can be understood as part of the social response to changing conditions in increasingly networked societies, where power and information are widely distributed, where differences in knowledge and values among individuals and communities are growing, and where accomplishing anything significant or innovative requires creating linkages among many players (Ibid.).

Much of what will be reported in this paper is applicable to inter-organizational collaborations in all sectors. The specific focus, however, is on multi-stakeholders collaborations concerned with environmental and social issues in which public agencies and non-governmental organizations are partners with the private business sector. There is a huge, and ever increasing, variety of such partnerships, set up –both voluntarily and from government mandate- to deal with issues such as rural development, health

promotion, community care, housing and so on. Whatever the specific purpose, most aim to gain collaborative advantage to achieve outcomes that could not be reached by any of the organizations acting alone (Huxham, 1996). There is ample evidence, however, that inter-organizational arrangements are difficult to manage and fail to reach their goals, and instead of achieving collaborative advantage, they often degenerate into a state of collaborative inertia in which the rate of output is much slower than expected (Huxham, 1996; Huxham & Vangen, 2000).

While the majority of the literature on Multistakeholders Collaboration has concentrated mostly on the study of the process of collaboration (see Gray, 1985, 1989; Waddock, 1989; Gray & Wood, 1991; Huxham, 1991, 1993), still, the nature of consensus (Gray, 1985, 1989; Gray & Wood, 1991, Turcotte, 1996), learning (Gray, 1989; Turcotte, 1996), and innovation (Roberts & Bradley, 1991; Turcotte, 1996), which often have been described as being the objectives of multistakeholders collaboration, have been the center of interest in only a few recent multistakeholders collaboration studies. This research is a continuation in this direction, and our base is going to be Turcotte's (1996) study, which focused on the three aspects of the nature and outcome of collaboration process: nature of consensus, learning, and innovation. Consequently, our study will concentrate on these three aspects as were witnessed in the A.R.E.T. case. A.R.E.T. (Accelerated Reduction/Elimination of Toxics) is a voluntary non-regulatory program, which aims to achieve virtual elimination of emissions of 30 persistent, bioaccumulative and toxic substances (PBTs), and the reduction of another 87 toxic substance emissions to levels insufficient to cause harm. (A.R.E.T. Website)

Our research questions are the following:

- Did the A.R.E.T. table reach consensus, and, if so, what was its substance?
- Did A.R.E.T. result in learning (single loop learning) and, if so, in what way?
- Did A.R.E.T. result in innovation (double loop learning) and, if so, in what way?

The expected answers pertaining to the consensus question will determine the stakeholders' capacities to exploit an existing opportunity by coordinating their complementary capabilities. The results pertaining to learning and innovation will determine the stakeholders' capacities to explore new opportunities and problem solving.

Research shows that when consensus building works well, it has a variety of consequences, some of which are more easily recognized than others (Innes & Booher, 1999). Some of these consequences might be produced with less collaborative modes of decision making, but many would not (Ibid.).

CHAPTER ONE: LITERATURE REVIEW:

1.1. Significance of Studying Multistakeholder Collaboration:

Strategic alliances have been proved to achieve competitive advantage by gaining market access, scale economics, and competence development through cooperation. They help organizations cope with the turbulence and complexity of their environments (Gray & Wood, 1991). Partnerships, alliances and other forms of inter-organizational collaborative arrangements are now a commonplace part of institutional life. Understanding how to manage across organizational boundaries has been argued to be almost as significant as knowing how to manage within organizations (Huxham & Vangen, 2000: 771)

The implications for management practice are significant: If managers' mental models follow assumptions of opportunism and mistrust, instead those of collaboration and trust, their strategic choices will be limited to the development of controlling mechanisms that increase transaction costs and dissuade specialization. Only if managers are able to consider collaboration as an alternative control mechanism to reduce risk and uncertainty can their strategic options expand through the development of cooperative arrangements. Those organizations that learn how to develop these types of cooperative exchanges will benefit from efficiency and innovation. Learning to compete globally through cooperation may be the only viable long-term strategy (Florin, 1997, p.20). More recently, globalization trends have set the stage for new agreements based on cooperation, which traditional theories of the organization are unable to explain. The new

cooperative forms, developed around trust as opposed to opportunism, do not fit well on the continuum between markets and hierarchies (Ibid., p.6).

The main aim of the paper is to outline the basic assumptions and practices of Multistakeholders' Collaboration Process (MCP). Another aim is to add some new input to the already-formulated theoretical framework for collaboration on one hand, and voluntary corporate environment initiative, since we are talking about voluntary initiatives, on another hand. This should be useful for both scholars interested in this issue and for environmental managers in industry as well as in the public sector and non-governmental organizations.

The literature on multi-stakeholder collaboration is partially drawn from work done on inter-organizational relations (IOR), which investigate relations of cooperation among different organizations to obtain a mutually beneficial goal (e.g. McCanm, 1983; Whethen, 1981). While the focus in these IOR theories was primarily on cooperation among intra-sectoral or same-sector organizations, such as hospitals, business firms within an industry, governmental agencies, it has extended in some studies to cover the topic of cross-sectoral linkages and cooperation between different organizations and multiple stakeholders (Cummings, 1984; Gricar, 1981; Turcotte, 1996) which is the core of our research here. In many environmental conflicts stakeholders disagree fundamentally because their stakes are vitally at divergence with each other. The divergence of the often implicitly held values, e.g. prioritizing short-term profits over long-term survival of mankind, may lead to conflicts which could escalate into court

cases (Van Asselt & Wubben, 1998). From the 1980s onwards there has been a growing interest amongst those involved to resolve disputes out-of-court in some form of organized direct contact.

This interest to explore voluntary initiative and its significance to multistakeholder collaboration stems from the notion that the distinction between public and private institutions is deeply embedded in the philosophy underlying the organization of modern liberal democratic societies and, more specially, in the manner in which we have carried out environmental protection tasks (Van Nijnatten, 1998). Three main forces that have arisen since the late 1980s are challenging the traditional roles of public and private institutions: (Ibid., p.10)

1. Decision-makers and the general public have begun to question the respective roles of public and private institutions with respect to environmental protection. For example, it is argued that industry should undertake “product stewardship” and assume responsibility for the entire life cycle of its products.
2. In a period of budget cutbacks, governments have been dismantling the environmental regulatory framework, e.g. the Ontario government has cut spending on the environment by 46.3 percent and on environment staff by 44 percent.
3. There has been a growing perception within the environmental policy community that traditional “command-and-control” regulatory approaches – federal or provincial laws that specify acceptable levels of emissions for industry, as well as how to achieve those levels- are no longer adequate. They have not achieved the expected level of

environmental benefit and may be ill suited to solving the current class of environmental problems.

As a result, some environmental protection tasks formerly performed by government institutions are being shifted to individual corporations and industry associations or other industry structures. These tasks are being carried out, in Canada and other western nations, under the rubric of what have been known as “voluntary pollution prevention initiatives’ or ‘voluntary codes’. Voluntary initiatives are intended to perform the same function as environmental regulations, applying effective external pressures on corporations to act in an environmentally responsible manner, without restoring to traditional regulatory instruments (Van Nijnatten, 1998).

The rise of voluntary initiative has coincided with a wave of government cutbacks and a retreat from regulation. Indeed the usual definition of voluntary initiatives –measures that aim to improve corporate environmental performance and do not directly involve legislation- emphasizes the contrast with regulation (Lynes & Gibson, 1998). While voluntary initiatives, which are promoted by some and condemned by others, are replacements for regulation, it is often more reasonable to see regulation and voluntary initiatives as complements. Pure volunteerism is rare, and many of the most effective voluntary initiatives are driven by motivations that rest on the law – on the indirect effects of existing legal obligations, or on the desire to avoid additional mandatory requirements (Ibid.).

Moreover, Hood, Logsdon and Thompson (1993) point out that the need for collaboration became more urgent due to the increased complexity of social problems; the nature of contemporary social issues, such as job training, urban renewal and economic development, escalating health costs, and homelessness requires commitment and cooperation between two or more sectors within and across traditional domains of the private sector and the public sector. In fact, the more complex the problems are, the more urgent a collaborative approach between the various stakeholders is needed to reach a resolution. This is one of the main postulates behind the creation of multistakeholders initiatives. This type of collaboration became more frequent in the 1980s with the emergence of a wide array of public-private partnerships (Committee for Economic development, 1982) to address complex cross-sectoral social problems (e.g., Davis, 1986; Fosler & Berger, 1982; Post & Waddock, 1989; Sharfman, Gray, & Yan, 1991).

The following sections briefly discuss the importance of the issue of stakeholders collaboration and stakeholder theory. It will also examine the Stakeholder concept, and the preconditions, process, and outcomes of Multistakeholder Collaboration to unveil the underlying theory behind it.

1.2. Stakeholder Concept and Theory:

The stakeholder concept stands for “any group or individual who can affect or is affected by the achievement of the organization’s purpose” (Freeman, 1984: 53). The stakeholder concept is deceptive; in one way it is “simple” because it is easy to identify those individuals or groups who can affect, or are affected by an action, yet it is “difficult”

because the task of managing the relationships and interactions among the stakeholders is enormous.

Although it is impossible to really determine the real origin of stakeholder theory (Sturdivant, 1979), we find basic principles that helped in the rise and development of this theory in Igor Ansoff's *Corporate Strategy: An Analytical Approach to Business Policy for Growth and Expansion* (1965):

While as we shall see later, "responsibilities" and "objectives" are not synonymous, they have been made one in a "stakeholder theory" of objectives. This theory maintains that the objectives of the firm should be derived by balancing the conflicting claims of the various "stakeholders" in the firm: managers, workers, stakeholders, suppliers, vendors...

Although Ansoff's view refuted the idea of stakeholder management in the broader sense that is used by nowadays, societal and organizational changes that occurred after the 1950s helped in the development of the stakeholder theory and its relation to the concept of corporate responsibility.

Pioneering work in the area of stakeholder management was provided by Freeman (1984), who outlined the basis for this concept in his book entitled *Strategic Management: A Stakeholder Approach*. Freeman along with other various scholars (See Freeman & Gilbert, 1987; Evan & Freeman, 1993) expanded the notion of stakeholders to include all existing interactions between the firm (or organization) and the groups of constituents who have a legitimate claim on it or what they called a stake. Stakeholders, thus, refers to shareholders, creditors, managers, employees, customers, suppliers, local

communities, and eventually, the society as a whole (Hill & Jones, 1992). The fundamental proposition of the stakeholder theory is that business corporations can and should serve the interests of multiple stakeholders, rather than simply those of shareholders (Preston & Sapienza, 1990).

Freeman and Reed (1983) proposed two definitions of stakeholders:

- The wide sense of stakeholder: Any identifiable group or individual who can affect the achievements of an organization's objectives. (i.e. public interest groups, protest groups, government agencies, trade associations, society in whole) (p.91)
- The narrow sense of stakeholder: Any identifiable group or individual on which the organization is dependent for its continued survival. (i.e. employees, suppliers, shareowners) (ibid.)

For Freeman and Reed (1983) the term stakeholder must be understood in the wide sense, from the standpoint of corporate strategy, and that is the notion we are using in our case. To develop conceptual maps of different groups affecting and affected by a strategy can be drawn from this concept and can help in the understanding of the set of transactions and bargains among the different collaborating stakeholders and deduce whether these negotiations have a “fit”.

The stakeholder theory is based on the notion that managers should always take into consideration the vast array of stakeholders they are dealing with. Multistakeholders Voluntary Initiatives can be understood as one of the mechanisms where stakeholders’

demands could be identified and reconciled. Multistakeholders Collaboration Process (MCP) is also based on the principle of participants collaborating to find solutions to problems that link them together.

Often many parties are involved in multistakeholder collaboration for environmental problems, in particular the following:(Van Asselt & Wubben, 1998, p.3).

1. Environmental pressure groups, who focus on the long-term quality of the environment.
2. Nearby-citizens who want to live in a clean environment, or at least demonstrate the Not-In-My-Backyard-Attitude (NIMBY).
3. The company or the entrepreneur, whose interest it is to run the business in the most profitable manner.
4. The central government, whose principal goal is to serve the long-term interests of society, which means lending an ear to all the parties involved in a problem.
5. The experts in different disciplines, such as health, energy conservation, economics, etc., whose task is to predict the consequences on macro and micro levels.

The different values, ideas, and belief systems of authorities, pressure groups and companies toward environmental problems are therefore more and more often voluntarily matched in order to realize a common solution in specific cases (ibid.). As the number of free-market environment related levers grow – affecting various aspects of business through purchasing, marketing and sales, financing and financial management –

voluntary-action becomes less “voluntary” and more “business essential” (David, 1997). Significant changes in management attitude and approach are required not the least of which is meeting the need for open and public accountability in such areas as:

- Environmental risk assessment of operations and products in a systematic context covering a time and geographic domain of impact well beyond the normal operating parameters of any given organization, and
- The discussion and balancing of the ensuing management strategies with a broad range of stakeholders including local community, stockholders, company directors, employees, unions, consumers, suppliers, and environmental non-government organizations such as Pollution Probe (Ibid., 1997).

Such openness is somewhat foreign to most companies’ modus operandi since it brings with it the perceived risk of reduced control of the operating agenda. Still, a number of companies ratified the business charter to include the following environment-conscious principles:

- An open dialogue with colleagues and the public (on the issue of sustainable development);
- Minimization of waste and emissions from manufacturing processes;
- Product stewardship leading to eventual development of substitutes;
- Innovative product design and marketing in response to a product’s ecological impact and resource conditions. (Asselt & Wubben, 1998, p.5)

Stakeholder theory is probably the most popular way to treat issues that have to do with “broader” responsibilities of business and Wijnberg (2000) argues that stakeholder theory and corporate performance theory are compatible. Clarkson (1995) argued that before him and proposed evaluating corporate social performance in terms of stakeholders’ satisfaction instead of in terms of demonstrating corporate social responsiveness or fulfilling corporate social responsibility.

Charters and Care programs are good examples of the significance of multi-stakeholder voluntary agreements (Buhr, 1991); these voluntary agreements result in closer collaboration of governing bodies, interest groups and (groups of) independent companies. Nowadays, many multinationals, e.g. Shell, realize that corporate governance involves social responsibilities, that exhaustion of resources is unacceptable, that constructive solutions to environmental problems must be explored, and that product stewardship is inevitable (Asselt & Wubben, 1998, p.6). It has been shown in several studies (e.g. Porter and Van der Linde, 1995; Wubbuen and Bekkers, 1997) that the polluter might save money, time and resources by cooperating with others, which lead to investing in pollution control or process integrated techniques, that yield additional profits, increased energy efficiency, new spin-offs, and changes in the production processes, instead of paying compensation in the end after environmental damage has been discovered. Cooperation is thus achieved by making it clear to all parties that there is a potential advantage or ‘profit’ for all in not getting entangled in an environmental dispute. In the following section, the notion of collaboration, its preconditions, process, outcomes, and limitations are discussed.

1.3. Multistakeholder Collaboration:

Derived from the French verb *collaborer* (col means "together", and laborare "to work"), collaboration is defined as "work in combination with...especially at literary or artistic or scientific production" (Fowler & Fowler, 1964:234; Compact Edition of the Oxford English Dictionary, 1971:464). The application of the word to "literary, artistic, or scientific production" highlights collaboration's purposeful, creative, and productive elements (Bradley, 1982). Roberts & Bradley (1991) constructed the following concept of collaboration:

“Collaboration is a temporary social arrangement in which two or more social actors work together toward a singular common end requiring the transmutation of materials, ideas, and/or social relations to achieve that end.” (P.212)

Another definition for collaboration is found by Gray (1998: 5-11):

“(Collaboration) is a process through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible.... It is a process of joint decision-making of a problem domain about the future of that domain.”

Multistakeholder Collaborative Process provides a space for interaction between the participants, giving them opportunity to listen to one another and express their views on ways to influence current practices by intervention on the markets, by regulation or by way of culture change (Turcotte, 1996).

Multi-stakeholder Collaborative Process (MCP) is defined by Turcotte (1996:7) as “an interaction mechanism at the ‘domain’ level based on the consensual decision-making process that brings together various stakeholders in order to accomplish a metamission or to solve a metaproblem”. A domain is “a diverse group of stakeholders who became linked by a shared problem or a mutual interest” (Ibid.:7).

The importance of multistakeholder collaboration rests on the fact that organizations initiate external linkages with external parties through boundary-spanning activities (Aldrich & Herker, 1977). These can take the form of interlocking directorates with institutions that have a critical say in the organizational domain (Burt, Christman, & Kilburn, 1980), or they may result in more complex coalitions, such as joint ventures or strategic partnerships (Gulati, 1998). By linking the organization to external parties prior to the occurrence of strategic issues, the organization possibly ensures itself with critical support (Heugens, Van Den Bosch, & Van Riel, 1997). Moreover, these links will usually be made with organizations in the company’s task environment (Dill, 1958), which improves the likelihood of alignment of objectives and strategies, thus, these collaborating organizations can jointly decide to seize the opportunities that derive from a shared issue.

A clear framework for multistakeholder participation/collaboration is especially important where voluntary initiatives by industry are being developed as an alternative or complement to command-and-control regulation by government. Relations between

public and private entities, complex enough in the normal regulatory process, can be especially perplexing in the voluntary code-setting and implementation process. The provision by government of a decision-making framework that is participatory and clarifies the roles of public and private stakeholders is crucial (Van Nijnatten, 1998, p. 23).

Gray & Wood's review of collaboration theories (1991) identified three main issues that are particularly essential to understanding the phenomenon of collaborative alliances: the preconditions and factors that lead to collaboration, the process of interaction between different collaborative multi-stakeholders, and the specific outcomes associated with the success or failure of a collaborative alliance (Ibid.: 5). The process of multistakeholders collaboration has been well described by Gray (199), and Roberts and Bradley (1991). However, the outcomes of multistakeholders collaboration have been less studied and need to be described (Turcotte, 1996). The following section concentrates on the outcomes issue, as it will be the focus of our study.

1.4. Collaboration Outcomes:

Turcotte (1996) identified three main outcomes for multistakeholder collaboration: Consensus, Single-Loop Learning, and Double-Loop Learning (Innovation). The following is an elaboration of these outcomes in relation to multistakeholder collaboration.

1.4.1. Consensus:

Innes and Booher (1999) referred to multi-stakeholders' collaboration as Consensus Building, and defined it as "an array of practices in which stakeholders, selected to represent different interests, come together for face-to-face, long-term dialogue to address a policy issue of common concern. They seek consensus rather than use majority rule, and employ methods to assure that all are heard and respected, and that discussions are based on stakeholder interests and not simply on arguments about predetermined positions."

According to Holtz (1989, p.26), consultations among multiple stakeholders enable people and organizations to clarify disagreements, develop areas of common ground, and lead to constructive solutions. An example is the work of the committee, with representatives from industry, the academic community, government, and environmental groups, which developed the list of priority chemicals for regulation under the new Canadian Environmental Protection Act. This list is the solid result of an enormous cooperative and rational effort to come to grips with the unwieldy problem of prioritizing the tens of thousands of chemicals in commercial use for regulatory review (Ibid.).

Gray (1989) believed that consensus is obtained when each participant acknowledges that a solution is acceptable, even if it does not correspond to its option of predilection. Gray also noticed that Multistakeholder Collaboration increases the acceptability of solutions by participants.

Getz (1995) observed that regulations resulted from multilateral agreements were easier to implement when formulated clearly and precisely: “A policy that compromises unambiguous directives or precise, ranked objectives is easier to implement than one in which objectives are unclear, conflicting, and unranked.” (Ibid.: 301). Turcotte observed in the outcomes of the multistakeholder collaboration (1996) that the nature of consensus reached in that case was more general or was often met by juxtaposition, and resulted in consensus on “macrocategories” and, consequently, cannot precisely dictate action. However, she claimed that the consensus on “microcategories” and the loosely defined concepts contributed to create a sense of a group in the multistakeholder collaboration. In the same respect, Huxham (1993) suggested a “minimalist” approach to reach consensus, based on a general “metastrategy” that should not be more detailed than a mission statement and higher level objectives, in order to give participants more flexibility.

The analysis of multiparty negotiations helps us to understand interest alignment among the different stakeholders and might be relevant to the study of Multistakeholder Collaboration Processes. Like alliances researchers, negotiation researchers examine contexts in which the interests of negotiating parties may be diametrically opposed. However, because they typically study negotiations involving multiple issues, negotiation researchers can simultaneously examine interests that are compatible and sets of interests that have integrative potential (Thompson, 1990). In studying the effects of varying degrees of interest alignment, researchers have found that negotiators tend to assume that their own interests are diametrically opposed to the other parties’ interests, an assumption labeled the “fixed-pie bias” (Bazerman & Neale, 1983). This assumption gets tested as

negotiators exchange information about their interests. New information may indicate to negotiators that their fixed pie assumptions are wrong and that the other parties' interests are not completely at odds with their own.

In multiparty negotiations, subsets of parties often have compatible interests in one or more issues. Indeed, the more issues that are being negotiated, the higher the probability that at least some interest among some parties will be compatible (Raiffa, 1982). The discovery of compatible interests can have a variety of effects. If the parties in a negotiation discover that they all have compatible interests on an issue, they should agree on the option that they all prefer. A more complex set of consequences may unfold when only a subset of parties, rather than all parties, has compatible preferences on an issue.

When some parties share compatible interests, they can band together to influence the incompatible party (Polzer, Mannix & Neale, 1998:47). Although a single negotiator's interests are not by themselves a source of power, when two or more negotiators have compatible interests, they may coordinate their efforts, or coalesce, to influence another party to consent to an agreement more favorable to the subset. To the extent that multiple parties can be more persuasive than a single party, compatibility should help parties achieve their desired outcomes (Ibid.). These propositions from the multiparty negotiation studies suggest that multistakeholders collaboration process would be an appropriate structure to obtain the desired consensus. On the other hand, it might be also expected that within an MCP there would always be some parties that would be in disagreement on an issue. This is what Turcotte (1996) observed in the 3R case where the MCP participants could not reach consensus on specific issues.

Another interesting outcome of collaboration in form of consensus is the promotion of norms among different stakeholders. The goals, values, and ideologies of the individual participants in collaboration may differ greatly, and they are expected to solve a problem of large magnitude and over a long-term duration. Each collaborative group develops a sense of the group as a whole, where norms and cultures emerge (Hood, Logsdon, & Thompson, 1993). Such a phenomenon was observed by Turcotte (1996), and has been described by symbolic interactionists.

The work of G.H. Mead and Herbert Blumer (1969: 2) claims that symbolic interactionism rests on three premises. First, human beings act toward the physical objects and other beings in their environment on the basis of the meaning of these things have for them. Second, these meanings derive from the social interaction (communication, broadly understood) between and among individuals. Communication is symbolic because we communicate via languages and other symbols; further, in communicating we create or produce significant symbols. Third, these meanings are established and modified through an interpretive process: “The actor selects, checks, suspends, regroupes, and transforms the meanings in light of the situation in which he is placed and the direction of his action... meanings are used and revised as instruments for the guidance and formation of action” (ibid.: 5).

Bazerman and Gillepsie (1999: 155-160) go further and present the idea of contingent contracts to reach consensus, where the terms of contingent contract are not finalized

until the uncertain event in question takes place. This kind of contract requires transparency, and the future event the parties are betting on must be one that all sides can observe and measure and that none can covertly manipulate. Vagueness can set the stage for different interpretations later. The terms of the bet should be clearly delineated in the contract.

So, the most important outcomes of multistakeholder collaboration seem to be found less in formal consensus and more in symbolic management of change and other informal processes to reach agreement (Turcotte, 1996). This is confirmed by Heugens, Van Den Bosch, & Van Riel (1997) who found out, in their study of companies in the Dutch fats and oils industry trying to manage dependencies through using different strategies to manage external affairs, that some of their observed organizations in the study used informal arrangements to interact with non-industrial stakeholders and to create an appropriate atmosphere for reaching informal agreements (Ibid.: 31). The authors' case study provided a strong example of such pro-active collaborative behavior to seize shared opportunities: from the 1990s onwards a number of industry members engaged in "informeel overleg biotechnologie" (informal consultations on biotechnology). De facto, these informal consultations consisted of a platform in which high-placed industry representatives met several times a year to discuss the genetic modification issue. These consultations served two purposes: First, a number of salient, non-industrial stakeholders (notably NGOs and consumer representatives) were invited to participate, which allowed the industry representatives to come on speaking terms with important organizations in their domain. Second, the presence of high officials and the frequency of these

consultations proved to be the right atmosphere for reaching important informal agreements. An example of the latter is the pro-active, voluntary labeling of products containing modified soy (ibid. 30).

From the previous discussion, many questions arise concerning consensus in our case: Did A.R.E.T. permits its participants to obtain consensus? What is the substance of the consensus? Does the consensus have a general or specific nature?

1.4.2. Learning:

Organizational learning is typically defined as an experiential process of acquiring knowledge about action-outcome relationships and the effects of environmental context events on these relationships (Barnett, 1994; Duncan & Weiss, 1979: 84).

Gray (1989) stated that diversity was a necessary condition for a successful multistakeholder collaboration, as it encourages learning to take place. Larson, Bengtsson, Henriksson and Sparks (1998) noticed that interorganizational learning in strategic learning alliances is likely to be hindered by lack of either motivation or ability to absorb and communicate knowledge between the partner organizations. This also was noticed by Turcotte (1996) in her research on the 3R MCP, where she found that although the diversity of the partners in the MCP facilitated learning about specific subjects – mainly about the domain (social structure and networks), learning was limited due to lack

of motivation or ability of some participants to communicate certain information concerning the milieu they were representing.

Roberts (1997: 45) insists on the learning engendered by multistakeholders' collaboration and public deliberation in crafting policy and setting direction by explaining their dynamism:

“Deliberation prepares the ground for action. It sets up an expectation that something will change as a consequence of the group's learning and efforts.... First is the need to realign expectations among participants and observers of the deliberations. People must understand that the point of deliberations not to prompt a political debate but to engender learning. The goal is not to establish the superiority of one's view, drown out the opposition, or manipulate people to support one's cause. The essence of public deliberation is the pooling of information, resources, and skills to deal with complex social problems for which there are no right answers. Gathering and assessing information, learning from one another, and making value judgments and trade-offs characterize the effort at its best.”

Van de Ven, Polley, Graud, and Venkataraman (1999) called for an expanded definition of learning that examines not only how action-outcome relationships develop but also how prerequisite knowledge of alternative actions, outcomes preferences, and contextual settings emerge. This expanded definition distinguishes learning by discovery from learning by testing. Learning by discovery in chaotic conditions is an expanding and

diverging process of discovering possible action alternatives, outcome preferences, and contextual settings (Ibid.). Learning by testing during the more stable convergent period is a narrowing and converging process of determining which actions are related to what outcomes (Ibid.). Van de Ven, Polley, Graud, and Venkataraman (1999) conclude that an understanding of how true novelty emerges should begin with profound ignorance with respect to what actions people might take initially, what outcomes they desire, and the nature of the institutional context in which they begin to operate.

To summarize, this section raises several important question in relation to our case: Did A.R.E.T. allow learning to occur among its participants? To what extent did stakeholders interaction produce learning? Did the learning result by testing or by discovery?

1.4.3. Innovation:

“Innovation is anything but orderly. It is sensible, in that our efforts are all directed at reaching our goals, but the organization... and the process... and sometimes the people can be chaotic. We are managing in chaos, and this is the right way to manage if you want innovation. It’s been said that the competition never knows what we are going to come up with next. The fact is, neither do we”.

Dr. William Coyne, Sr. Vice President of Research and Development, 3M, (1996)

Innovation is defined as the generation, translation, and implementation of new ideas into practice (Van de Ven, Angle, & Poole, 1989; Zaltman, Duncan, & Holbec, 1973). It is a journey as a sequence of events in which new ideas are developed and implemented by people who engage in relationships with others and make the adjustments needed to achieve desired outcomes within an institutional and organizational context (Van de Ven,

Polley, Graud, and Venkataraman; 1999). Unlike routine action, innovation is a disjuncture from past activity. Innovation is something -either a product or process- that is unique and new to a particular context and involves a change in the standard operating procedures and routines in that context (Roberts & Bradley, 1991: 212).

In terms of the degree of change involved or implied by an innovation, a basic distinction can be made between two types of innovations: incremental innovation and radical innovation. Relative to established normative frameworks (Argyris & Schon, 1978), incremental innovation represents a first-order change (Watzlawick, Weakland, & Fisch, 1974). The novelty it brings to practice in a particular context involves only modifications, refinements, or marginal improvements readily interpreted within the existing normative order (Roberts & Bradley, 1991: 212). A good example of this kind of innovation can be found in Turcotte's research on 3R Multistakeholder Collaborative Process, in which the innovation observed as an outcome was not radical but an incremental one. Innovation (or double loop learning, as she calls it) mainly consisted of typologies refinement; that is, the fragmentation of a category into many specific categories, thus, marginally increasing the problem's tractability (Turcotte, 1996). For Argyris (1976) innovation is synonymous with the definition of double loop learning, which is a redefinition of the issues and problems faced by participating organizations in a collaboration. In contrast, radical innovation represents a break with established ways of thinking and acting. It involves a second-order change, a qualitative alteration to the normative order (Hage, 1980; Watzlawick et al., 1974; Roberts & Bradley, 1991).

Innes and Booher (1999) state that because consensus building involves dynamic group discussions, it is more likely to produce innovative ideas, strategies, and actions that are new to the context and which break a stalemate or change the direction of policy. As a case in point, Innes et al. (1994) did a study on the San Francisco Estuary Project (SFEP), where a group of scientists representing competing and diverse stakeholders developed a new measure of salinity as an indicator of the estuary's capacity to support biodiversity. This indicator was then made the basis of a dramatically new state policy for releasing additional water into the estuary in dry years. In another case, a group of experts chosen by a consensus building group created a new way to protect habitat by using corridors that protected the species while allowing development. The work of this group became a model for state legislation and other habitat conservation planning efforts nationwide (Innes et al., 1994).

Dooley and Van de Ven (1999) proposed a cyclical process model for explaining temporal dynamics in a wide variety of organizational change and innovation processes. The cycle consists of two phases in a set sequence of divergent and convergent behavior. Divergent and convergent phases reflect what March (1991) described as exploration and exploitation, respectively. According to the model, iterations of the cycle are enabled by an influx of resources and restructuring of the system and constrained by external rules and internally chosen directions.

Divergence involves branching behavior that explores and expands in different directions. It is triggered by the infusion of resources into a system. Divergence does not

occur without the expenditure of attention and time, and such expenditures require additional resources – people, time, ideas, money – above and beyond the system’s normal sustenance. Divergent behavior increases the number of dimensions or complexity of a system and tends to follow a random or chaotic process (Van de Ven, Polley, Graud, and Venkataraman; 1999).

Convergent behavior is an integrating and narrowing process that focuses on testing and exploiting a given direction. It reduces the dimensions or complexity of a system and moves it toward a periodic pattern of quasi-equilibrium (Ibid.). Convergent behavior is triggered by external and internal dynamics. External constraints include institutional rules and organizational mandates that narrow the boundaries of permissible action. Internal constraints include resource limitations and discovering a possibility that focuses attention and actions in a chosen direction (Ibid.).

From this perspective, the innovation process consists of a repeatable cycle of divergent and convergent phases of activities that are enabled by resource investments and constrained by external rules and internal discovery of a chosen course of action. Each cycle begins with the design of an organizational arrangement and the infusion of resources from external sources, followed by a “honeymoon” period of divergent exploratory behaviors that continue until resources are depleted or a solution is found, and concludes with a convergent period of focused behavior to exploit the solution or to embark on a new one. If the latter, the innovation unit restructures itself to satisfy

stakeholders' demands and obtain resources to initiate the next cycle of divergent-convergent phases (Van de Ven, Polley, Graud, and Venkataraman; 1999).

This rise the following questions in relation to our research: Did A.R.E.T. result in any kind of innovation for its stakeholders? What was the nature of that innovation? Was it radical or incremental in its nature?

CONCLUSION:

To summarize, our research focuses on the outcomes aspect of collaboration, in terms of consensus, learning, and innovation, as has been discussed earlier. In the next chapter we will cover the research methodology used in attempt to answer our main research questions in relation to the Multistakeholders Collaboration theory reviewed in this chapter.

CHAPTER TWO: METHODOLOGY:

The literature review presented earlier provides us with a framework to study expected multistakeholder collaboration outcomes (consensus, learning, and innovation), which are the basis of our research questions. In this chapter we are going to answer our main research questions with a case study approach. The data collection, sampling methods, and case analysis are also presented.

2.1. Research Questions:

- Did the A.R.E.T. table reach consensus, and, if so, what was its substance?

(In other words, did the interview respondents agree on a certain issue? What was that issue?)

- Did A.R.E.T. result in learning (single loop learning) and, if so, in what way?

(In other words, did respondents gain awareness of new information or condition?)

- Did A.R.E.T. result in innovation (double loop learning) and, if so, in what way?

(In other words, did respondents witness a change in their attitude or operations procedure because of A.R.E.T.?)

2.2. Case Study:

A case study, such as the one we are studying in A.R.E.T., puts researcher and audiences “close to action”, minimizes the external validity issue inherent in experiments, and conveys richness (Punnett & Shenkar, 1996: 225). We hope we can generalize our case sample’s response to that of the A.R.E.T. population in terms of consensus, learning, and

innovation. This approach suited the purpose of this study well, since it enabled us to gain deeper understanding of the subject matter.

2.3. Data Collection:

The method of data collection used in any research is dictated by sample limitations, response rates, cost, subject matter, and timing. Since we are dealing with essential information that is complex and requires complex set of questions, then interviews make a good choice to overcome confusion and motivate respondents to participate.

Our two main sources of data collection will be interviews and documentary analysis. The interviews with the research respondents were based on an open-ended questionnaire (see appendix D for A.R.E.T. interview questionnaire). The work of Turcotte (1996) served as a template to our questionnaire, which was adapted to our case. To supplement data collected from individual interviews, we have used other resources such as A.R.E.T. archives, A.R.E.T. website, periodicals and published literature discussing the case of A.R.E.T. (see References). Triangulation is a major strength for case study since it addresses the potential problem of construct validity (Yin, 1994: 91-92). We applied triangulation because we confronted data from various sources (different stakeholders) and from two types of data collection methods (interviews and documentary analysis).

2.4. Sample and Measures:

Patton (1990) provides guidelines for sampling and suggests that the logic and power behind purposeful selection of informants is that the sample should be information rich. First, extreme case sampling is used to select respondents who exemplify characteristics

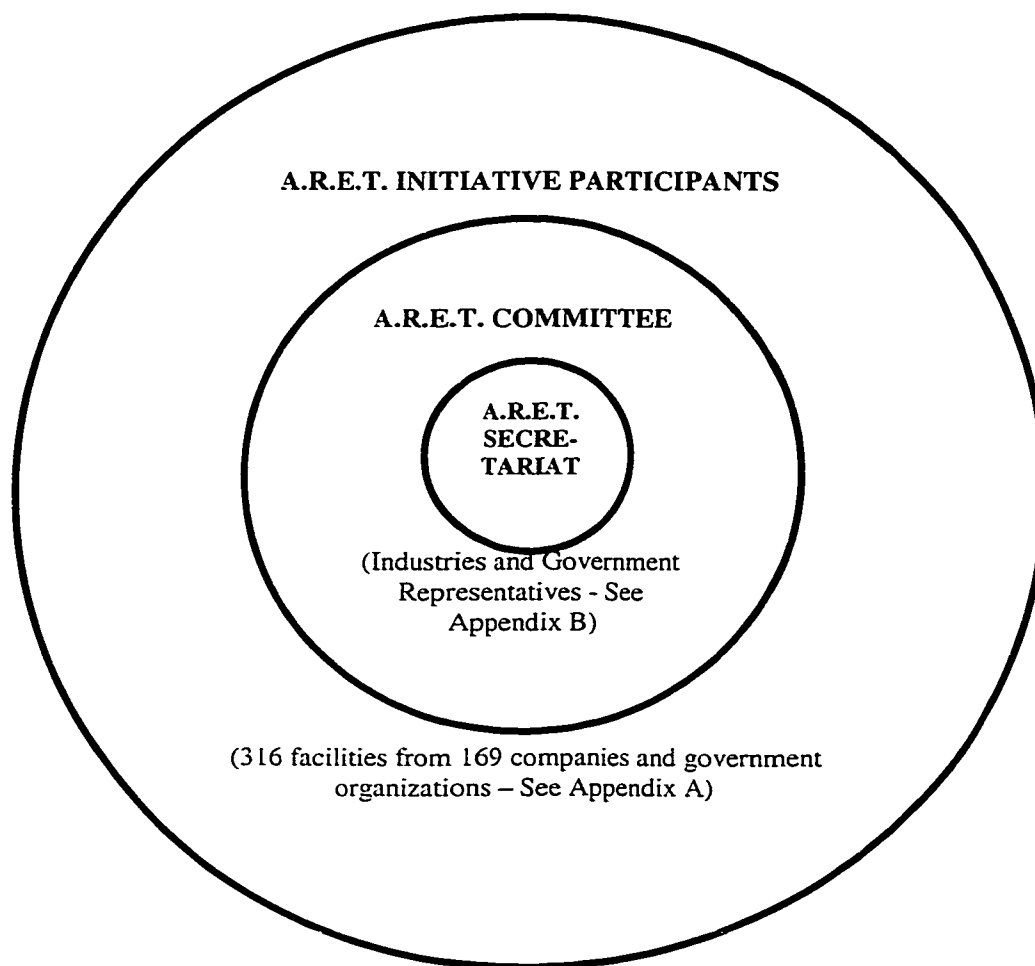
of interest. Extreme cases maximize the factors of interest, thus clarifying factors of importance. Since our main interest in this study focuses on the present A.R.E.T. collaboration table among the official multistakeholders (Committee members and participants of A.R.E.T.), we concentrated our sampling among the A.R.E.T. members and participants and excluded the others stakeholders (e.g. society at large). Then we used Patton's (1990) critical case sampling where we select examples that are significant for the identification of critical incidents that may be generalized to other situations. The analysis focuses on instances, attributes, or key factors that contribute significantly to the example.

The A.R.E.T. project use the term "stakeholder" to describe those participants in the A.R.E.T. initiative who are sitting on the A.R.E.T. Committee and represent the different organizations from ten business sectors and three governmental sectors that are involved in the project (see appendix B for A.R.E.T.'s Committee Members).

In the initial A.R.E.T. table of 1992, certain environmental and NGOs groups were part of it, such as, Pollution Probe, the Canadian Labour Congress, the Toxics Watch society of Alberta, the West Coast Environmental Law Association, Great Lakes united and Union quebecoise pour la conservation de la nature. However, they withdrew from the table later in 1993. Although they are no longer active in A.R.E.T., we felt that their viewpoints were important to our understanding of the collaboration process. Contacts were made with Pollution Probe, the Canadian Labour Congress, and Union Quebecoise pour la Conversation de la Nature, but it was not possible to obtain an interview with

their representatives. However, documents and studies done on the subject of these NGOs leaving the A.R.E.T. process were available (see Leiss (1996), VanNijnatte (1998), Gallon (1997), Letter to Assistant Deputy Minister Clarke (1993)), and we used them as one of our sources of information along with the information we got through interviews and A.R.E.T. documents. In addition, an available data study is often the preferred methodology for reasons of time and cost (Kervin, 1992: 353).

To fully clarify our sampling strategy, figure 1 illustrates the structure of A.R.E.T. population that we are drawing our sample from:



- Figure 2.1: A.R.E.T. Structure

We used Pettigrew's sampling approach (1990: 275-277) to assist us in our sampling process. He suggests four useful guidelines for selecting sample research subjects to study, which we employed in our study:

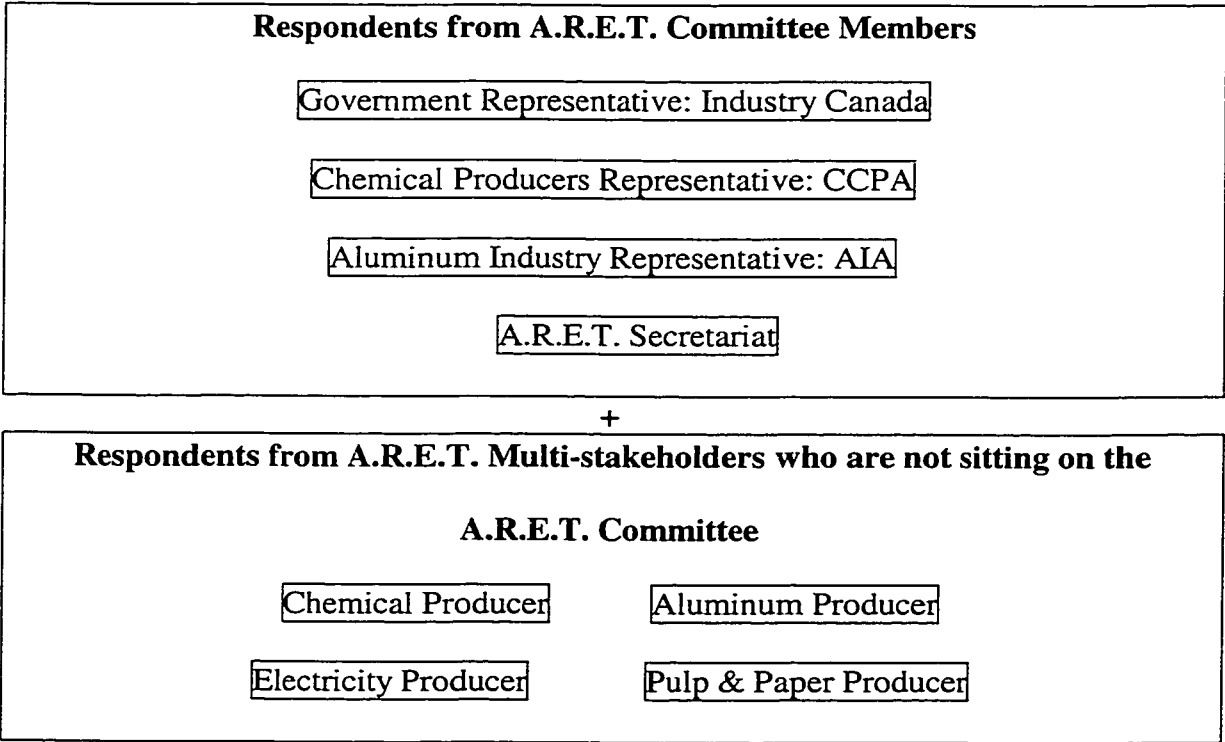
- Pettigrew's first guideline states: "Go for extreme situations, critical incidents and social dramas". That is why we selected strongly active members in A.R.E.T. (a certain member in the Aluminum sector, which produces most of A.R.E.T. emissions), and other members who are strongly active because of the nature of their industry activities that don't produce much emissions (the Electricity sector).
- Pettigrew's second guideline states: "Go for polar types"; which applies again to our previously mentioned cases in Pettigrew's first guideline. In addition, we chose to include the public and private sectors as opposite poles to research here. We chose a governmental public body (Industry Canada), along with the other private industry sectors that are members of A.R.E.T.. Not to mention, we also researched the role of NGOs in this issue through documentary analysis, adding their input to the previously mentioned poles.
- Pettigrew's third guideline states: "Go for high experience levels of the phenomena under study"; that is the reason why we chose to include the Aluminum, and Chemical Producers sectors, who are emitters of the most dangerous emissions and concerned with the A.R.E.T. table of emissions more than the other sectors.
- Pettigrew's fourth guideline states "Go for more informed choice of sites"; that prompted us to interview the A.R.E.T. Secretariat to get the most hands-on information about the initiative and its background.

Our sample population size contains 8 interviewees, which are the following:

- The A.R.E.T. Secretariat
- Canadian Chemical Producers' Associations – Member on the A.R.E.T. committee
- Aluminum Industry Association – Member on the A.R.E.T. committee
- Industry Canada – Member on the A.R.E.T. committee
- Abitibi-Consolidated Corp. (Pulp, Paper and Forest Products)
- Hydro Quebec (Electrical Utilities)
- Alcan Smelting and Chemicals Ltd. (Aluminum industry)
- H.L. Blachford Ltd. (Chemical Manufacturing).

As you can see from our sample group, from the first level of clustering we chose two main representatives of the different industries who are members of A.R.E.T., and who are sitting on the A.R.E.T. table on behalf of the other members in their industries. Those are the Canadian Chemical Producers Association (CCPA), and the Aluminum Industry Association (AIA). In addition, we chose one government department that is sitting on the committee to get the viewpoint of the government in this case. Two other departments Health Canada and Environment Canada were contacted but did not grant us an interview. Then we chose from each industry cluster a member by random sampling, to match their information and opinions with those collected from their representatives, and to observe the transfer of learning between the committee and the other stakeholders.

Within the main cluster and the sub-clusters, the subjects chosen to be part of the research sample were selected through judgment sampling process, where our personal judgment and logic plays a main role in determining which subject would be representative and appropriate to be included in the study. Convenience sampling was also used when selecting the research subjects in terms of selecting those who were easier to reach (within the city of Montreal and Ottawa). We chose for this sample group four firms from different industry sectors to cover their different point of views: the Aluminum industry, the Chemical Producers industry, the Electricity sector, and the Pulp and Paper sector. The A.R.E.T. Secretariat was chosen to be interviewed because it represents our main source of information about the history and the present status of the collaboration table and its members. To illustrate our sample in case, the following figure was composed:



- Figure 2.2: Respondents of the interviews

As a matter of fact, the final sample of interviewees included the eight contacts who answered positively to our research request. We contacted twenty organizations in the beginning, via e-mail, fax, and phone. Among those twenty organizations contacted, were four NGOs that left the original A.R.E.T. table (mainly Pollution Probe, the Canadian Labour Congress, Great Lakes United, and Union Quebecoise pour la Conservation de la Nature), whom we sought their feedback to enrich our analysis but they either declined or didn't reply to our invitation.

We set appointments with our sample of interviewees and interviewed all of them between April and November 1999. Each interview lasted between one to two hours, and in all, we collected 15 hours of documented interviews. We used Turcotte's Questionnaire (1996) as a base to our questionnaire for A.R.E.T. participants after modifying it to suit our case.

As for the documents analysed to be triangulated with the information obtained from the interviews, most of them were collected from A.R.E.T. Secretariat and their website. Dr. VanNijnatten was also incremental in obtaining further information in regards to our case here. (See Appendix E for list of documents)

2.5. Units of Analysis:

The units of analysis in this paper consisted of topics debated among the participants as unfolded to us by our interviewees through the interview questions (See Appendix D for Interview Questionnaire, which is adapted from Turcotte, 1996). This approach, which

focused on the substance of the negotiations rather than on the process, allows for a description of the nature of the consensus, learning, innovation, and any other perceived outcomes resulting from the collaboration table (Turcotte, 1996). Our units of analysis have been identified through inductively analyzing data with the help of the research software “Hyper Research” after transcribing taped interviews. The main issues debated among A.R.E.T. participants, as disclosed to us by our interviewees, and which related to the research questions were selected as units of analysis.

These units of analysis were regrouped again under three main groups that the units of analysis fell in. The first group dealt with the objectives of A.R.E.T., the second group dealt with the structure and membership in A.R.E.T., while the third group contained those units of analysis dealing with the process of collaboration in A.R.E.T.. The following is a presentation of the units of analysis under each main group. The description of each unit of analysis is thoroughly presented in the case analysis section.

ARET Objectives:

Substance Listing

Voluntary vs. Regulatory

Elimination vs. Reduction

Social Responsibility

Membership/Structure in ARET:

NGOs

Free Riders

Role of Government of Canada

Third-Party Participation

Recruitment of new members

Process of ARET:

Reporting

Verification

Communication

Negotiation

2.6. Analysis:

The contents of the transcribed interviews combined with the information gathered from A.R.E.T. documents and literature were then examined and divided according to our units of analysis. Following Turcotte's (1996) methodological approach, we proceeded to analyze and describe the units of analysis. We wrote a case story for each unit of analysis in tune with our embedded case study research design (Yin, 1994). We then analyzed each embedded case with our main collaboration outcomes questions: was there consensus, learning, or innovation in A.R.E.T.? And what was the nature of each of them? Were they general or specific in nature?

In the following chapter we will describe the research case at hand (the A.R.E.T. Initiative), and follow it with our research results and analysis.

CHAPTER THREE: DESCRIPTION OF THE A.R.E.T. INITIATIVE:

The A.R.E.T. initiative was chosen for this study for the wealth of information it presented, the intricacy of its story, and the multitude of its different members. In this section we will cover the history and background of this initiative.

3.1. What is A.R.E.T.?

A.R.E.T. (Accelerated Reduction/Elimination of Toxics) is a voluntary non-regulatory program, which aims to achieve virtual elimination of emissions of 30 persistent, bioaccumulative and toxic substances (PBTs), and the reduction of another 87 toxic substance emissions to levels insufficient to cause harm. (A.R.E.T. Website)

3.2. A.R.E.T. Purpose:

A.R.E.T.'s long-term goals are:

- Virtual elimination of emission of 30 persistent, bioaccumulative and toxic substances
- Reduction of another 87 toxic substances to levels insufficient to cause harm

A.R.E.T.'s short-term goal for the year 2000 is to reduce:

- Persistent, bioaccumulative and toxic substance emissions by 90 percent
- All other toxic substance emissions by 50 percent

3.3. When and How Did A.R.E.T. Start?

A.R.E.T. grew out of a proposal from leading industry executives and environmentalists (The New Directions Group) to the federal Minister of Environment in late 1991. The New Directions Group proposed a cooperative approach to first identify, then reduce or eliminate the most significant toxic substances. The proposal suggested that stakeholders work together to develop a framework for action on toxics that would be faster and more effective than relying on regulations alone.

The minister responded by launching, in 1992, a group known as the A.R.E.T. Stakeholders Committee. The Committee originally included representatives from industry, health and professional associations, federal and provincial governments, and aboriginal, environmental and labour groups. (Environmental Leaders 1, 1994)

The A.R.E.T. stakeholder committee had three main objectives: (Environmental Leaders 1, 1994)

1. to establish criteria for defining toxicity,
2. to compile a list of target substances based on these criteria,
3. to devise a means by which industry could address its toxic emissions.

By late 1993, the committee finished its work on identifying, assessing and categorizing a list of 117 toxic substances for immediate action (See appendix C). However, the committee could not reach consensus on the issue of eliminating toxic use as opposed to the issue of reducing emissions of toxics. The viability of a voluntary approach to achieve

action on toxics was also questioned. The NGOs decided to withdraw then from the A.R.E.T. stakeholders committee, and did so in September 1993. The remaining members chose to continue with the A.R.E.T. collaborative process to achieve environmental results (Versteeg, 1998).

In early 1994, the A.R.E.T. stakeholders committee (See appendix B for members of the committee) challenged selected companies, particularly in the resource and manufacturing sectors, as well as government departments and agencies, to voluntarily reduce or eliminate emissions of A.R.E.T. substances to achieve specific targets by the year 2000. Participants were asked to state their commitments in publicly available action plans (See A.R.E.T. Reports: Environmental Leaders 1,2,3). Currently, 316 facilities from 169 companies and government organizations have submitted action plans to the A.R.E.T. program (Environmental Leaders 3 –Update-, 2000).

Since the short-term goals of A.R.E.T. were established to the year 2000, a renewal process for A.R.E.T. has been initiated. In September 1999, the A.R.E.T. Secretariat released a discussion paper on the future of the A.R.E.T. program. It presented options, and key issues and principles to be considered when designing a successor program to A.R.E.T.. The issues presented include increasing participation in A.R.E.T., evaluating the current A.R.E.T. substances list with the objective of adding/deleting certain substances based on scientific data, and verifying the data reported by A.R.E.T. participants. The discussion paper was put on the A.R.E.T. web site for public comment. Several organizations and members of the public commented on it and their observations

are available on the A.R.E.T. website. The input received will be taken into consideration and discussed in future A.R.E.T. Stakeholders Committee meetings and other forums. Workshops in Ottawa and Calgary were planned for 2000 to discuss the issues and design of a renewed A.R.E.T. program. In late 2001, the final report of the current A.R.E.T. program will be released, detailing achievements made from the base year to 2000 (A.R.E.T.'s Environmental Leaders 3 Update, 2000).

3.4. A.R.E.T. Structure:

A.R.E.T. initially took the form of a multistakeholder consultation process, carried out by means of an A.R.E.T. Committee with multistakeholder representation from environmental groups, industry and government representatives. The A.R.E.T. Committee, launched in late 1991, followed a joint initiative by representatives from industry and environmental NGOs aimed at addressing the discharge of toxic substances. (Environmental Leaders 1,2, &3)

Presently, after the NGOs left the table in 1993, the A.R.E.T. committee contains representatives of governmental departments, and representatives of the different industry sectors (See appendix B), and carries on with the maintenance of the collaboration process among participants. Yet, any changes to be made to the mandate of A.R.E.T., needs the grouping of the initial multi-stakeholders' committee to do so.

3.5. A.R.E.T. Process:

The Committee's first task was evaluating the toxicity of thousands of substances, and then forging agreement on ranking these substances according to their toxicity.

By late 1993, the Committee finished its work on identifying, assessing and categorizing a list of 117 toxic substances for immediate action. First, there was multi-stakeholder consensus on the criteria chosen: toxicity, persistence and bioaccumulation. Second, the three-criteria approach resulted in multistakeholder consensus regarding the categorization of substances into five lists: (Environment Leaders 1, 1994)

- List A-1 for 30 substances which met the persistence, bioaccumulation and toxicity criteria;
- List A-2 for certain substances that were met for possibly carcinogenicity in the toxicity criterion;
- List B-1 for 8 substances which met the toxicity and bioaccumulation criteria;
- List B-2 for 33 substances which met persistence and toxicity criteria; and,
- List B-3 for 44 substances which met only the toxicity criterion. (See appendix C)

In early 1994, A.R.E.T. Stakeholders Committee challenged selected Canadian companies, particularly in the resource and manufacturing sectors (see appendix A), as well as government departments and agencies to voluntarily reduce or eliminate emissions of A.R.E.T. substances to achieve specific targets by the year 2000: 90% for the 30 most harmful toxic substances (PBTs) and 50% for the other 87 toxic substances. Participants were asked to state their commitments in publicly available action plans. The first action plans were submitted at the end of 1994. An overview of the emission levels

and the emission reduction commitments contained in the action plans are reported in A.R.E.T. reports: Environmental Leaders 1, 2 and 3.

- Among key A.R.E.T. achievements, as of the 1998 reporting year, are the following (Environmental Leaders 3 – Update, 2000):

- Emissions have been reduced by 26,360 tonnes or 67 per cent from base-year levels.
- 169 companies have submitted and are implementing A.R.E.T. action plans.
- 136 of 316 facilities have already met or exceeded A.R.E.T. 2000 targets for all categories of substances which they report.
- Year 2000 targets have been exceeded for three of the five A.R.E.T. substances categories: B-1, B-2 and B-3.
- Year 2000 targets have been met or exceeded for 62 per cent of A.R.E.T. substances being reported.

The next chapter presents the results of our research, while disclosing the narrative of the A.R.E.T. process more thoroughly.

CHAPTER FOUR: CASE RESULTS:

There are three main groups of issues to analyze in this section (see table 1). The first group has to deal with the objectives issues of the A.R.E.T. program as observed from our interview respondents. The second deals with structure and membership issues in A.R.E.T.. The last group deals with issues pertaining to the collaborative process in A.R.E.T.. Under each of these main groups the units of analysis will be examined according to our research questions:

1. Was there a consensus among the multi-stakeholders observed?
2. Was there any learning (Single Loop Learning) taking place? How?
3. Was there any innovation (Double Loop Learning) resulting? How?

The results are synthesized in the following table 4.1, yet the nature of the results are further explained in details in the rest of the chapter.

Table 4.1: Case Study Results

Subjects Group	Issues Debated in A.R.E.T.	Consensus	Learning	Innovation
Objectives of ARET	1- Target Substances List and Criteria	<ul style="list-style-type: none"> • The list is a formal consensus from the initial table • Some of the current members are challenging it 	<ul style="list-style-type: none"> • About nature and level of toxic emissions 	NO
	2- Voluntary vs. Regulatory	<ul style="list-style-type: none"> • Consensus among current ARET members of the importance of voluntary initiatives instead of regulations • No consensus was reached in this issue in the initial table including NGOs 	<ul style="list-style-type: none"> • The difference between voluntary initiatives and regulations 	NO
	3- Elimination vs. Reduction	<ul style="list-style-type: none"> • Consensus that this is a problem to be resolved • Consensus in the initial table on the reduction targets • No consensus on the choice between elimination or reduction 	<ul style="list-style-type: none"> • Importance of resolving this problem to get NGOs back to table 	NO
	4- Social Responsibility	<ul style="list-style-type: none"> • Importance of social responsibility 	<ul style="list-style-type: none"> • About what need to be done to be considered socially responsible by the public 	<ul style="list-style-type: none"> • Public relations activities
	1- NGOs	<ul style="list-style-type: none"> • Consensus on the importance of NGOs participation in voluntary initiatives • Consensus on bringing NGOs back to table, but no consensus on how 	<ul style="list-style-type: none"> • Awareness that NGOs bring legitimacy to voluntary initiatives 	NO

Member-ship and Structure in ARET	2- Free Riders	<ul style="list-style-type: none"> No consensus on the extent of the problem 	<ul style="list-style-type: none"> About concept of Free Riders No awareness on the existence of free riders in their sectors 	NO
	3- Recruitment of New Members	<ul style="list-style-type: none"> Need to recruit new sectors and companies 	NO	NO
	4- Role of Government	<ul style="list-style-type: none"> No consensus on what role the government should play in ARET 	NO	NO
	5- Third Party	<ul style="list-style-type: none"> Consensus on the importance of third party verification for credibility No consensus on who should take the position of a third party 	<ul style="list-style-type: none"> No learning on who should play the role of third party 	NO
Process of ARET	1- Reporting	<ul style="list-style-type: none"> Weakness of present reporting mechanism 	<ul style="list-style-type: none"> Present reporting mechanism needs changing 	<ul style="list-style-type: none"> Adapt NPRI report method
	2- Verification	<ul style="list-style-type: none"> Consensus on need for verification for credibility No consensus on a verification mechanism 	<ul style="list-style-type: none"> No learning on how to verify results 	NO
	3- Communication	<ul style="list-style-type: none"> No consensus; ARET committee member consider communication process efficient, while industry members do not consider it efficient 	NO	NO
	4- Negotiation	<ul style="list-style-type: none"> Since NGOs left the table, negotiations are perceived as “positive” and “civil”, but few decisions are taken 	<ul style="list-style-type: none"> About other participants backgrounds and views 	NO

4.1. Issues Concerning the Objectives of A.R.E.T.

The A.R.E.T. process seeks to reduce the possible adverse impacts caused by toxic substances on human health and the environment as quickly as possible through the accelerated reductions or elimination of selected toxic substance emissions (A.R.E.T. Participation Guide). To achieve this, A.R.E.T. wants emitters to develop action plans that will achieve significant results by the year 2000, with priority given to those substances that are persistent, bio-accumulative and toxic (PBTs) (Ibid.).

While the mandate of A.R.E.T. was set in 1992-1993, when the A.R.E.T. Committee, which was composed from industry associations, environmental groups, labour and aboriginal peoples, and federal and provincial government officials, came together to deal with three main objectives: to establish criteria for defining toxicity, to compile a list of target substances based on these criteria, and to devise a means by which industry could address its toxic emissions. (VanNijnatten, 1998)

The first two objectives were achieved with the approval of the NGOs, but the technical questions concerning “voluntary versus regulatory” and “use versus elimination” in relation to the third objectives led to the departure of the NGOs from the Committee in disapproval (See section on NGOs). These three main objectives are our main issues of discussion, among others.

4.1.1. Target Substances Criteria and List:

The first task of the A.R.E.T. Committee in 1992 dealt with choosing criteria list for the targeted substances and was achieved with multistakeholder consensus. The three chosen criteria were toxicity, persistence and bioaccumulation. Application of the three-criteria approach led to a multistakeholder consensus, where all participants, including industry, government and NGOs representatives, agreed on categorizing priority substances into five different lists comprising a total of 117 substances (See Appendix C).

The five lists of Substances' categories are the following:

- List A-1 for 30 substances which met the persistence, bioaccumulation and toxicity criteria;
- List A-2 which contains 2 substances which met the three criteria but failed to gain consensus on reduction targets;
- List B-1 for 8 substances which met the toxicity and bioaccumulation criteria;
- List B-2 for 33 substances which met the persistence and toxicity criteria; and
- List B-3 for 44 substances that met only the toxicity criterion.

(Environmental Leader Report 1,2, &3, A.R.E.T. Secretariat)

List A-1: contains substances that have been categorized as persistent, bioaccumulative, and toxic (PBTS). It was felt by the A.R.E.T. committee in 1993 that these should receive higher priority for reductions or eliminations than other substances (Environmental Leader Report 1,2, &3, A.R.E.T. Secretariat). Considering their properties, it is very difficult to remove them out once they are released into the environment. There is the

potential that even small amounts released at below toxic levels could accumulate and reach harmful levels. The agreed target for such toxics is virtual elimination of discharge resulting from human activities into the environment. It is believed by the A.R.E.T. committee that those who use them should commit to this objective with economic realities and the availability of technology determining the steps and schedule. (A.R.E.T. Participation Guide, 1994: 5)

Substances on list A-1 were considered the highest priority (VanNijnatten, 1998).

“So one of the things we kind’ve decided that made sense is to prioritize the chemicals on this kind of screen of bio-accumulative persistent toxics, and there was a science group set to work on that in Ontario and in a multi-stakeholders process to agree on a criteria of toxic, bio-accumulative and persistent substances, and ran these criteria through a data base and came up with the 117 substances that in A.R.E.T. now with the different classifications A1, A2, B1...etc.”
(Interview with Secretariat)

Lists A-2 and Bs: A.R.E.T.’s vision for these substances is for emitters to ensure that the level of emissions at any stage in the substance’s life cycle is insufficient to cause harm. The incremental emissions that the environment can assimilate will vary from medium to medium and largely depend upon local circumstances. (VanNijnatten, 1998)

Reaching this objective of listing and categorizing substances by the Committee is considered a success, as one respondent stated:

“I would emphasize, however, because it is often not appreciated, despite the breakup of that group, the job it did in screening over 2000 substances and classifying them into one of four lists is a piece of work that we have been able to draw from beneficially ever since. So I would, even though the group broke up,

not want to regard it as a failure, because of it's achievements on that front.”
(Interview with Government Representative)

Nevertheless still problems arose throughout the past years in the classification of certain substances criteria. One good example is stated by a specific respondent from the industry sector who expressed his frustration with the rigid criteria of the substance listing, which is still the same since its creation in 1992-93 without adapting to new findings:

“The other problem with the A.R.E.T. program is that the list of substances cannot be re-evaluated or reviewed or revised or modified which is contrary to good science. I think there is a lot of development in the science sectors; what may have been considered harmful for years may not actually be as harmful as we thought. On the other hand, certain substances should be added; substances from list B should be moved to list A and things like this. But the system is very static and this is the main problem we have with the PHs substances. They said with the PHs there are three conditions, or three norms for the PHs, they are accumulative, and there are two others. And science since 1996-97 is now proving that there is no real accumulation. They remain in the sediment and so on but they are non-accumulative. And for that reason we are saying PHs should not be on list A, they should be on list B, because they don't meet the criteria they've set on list A. They say, "well, we agree with you but we cannot do that. List A is there and there is nothing we can do." Unless we reevaluate the whole thing and we will have a new mechanism.” (Interview with industry respondent)

A.R.E.T. Secretary reply to this issue was that, if it doesn't jeopardize the A.R.E.T. process, certain substances can be reclassified only if new scientific information verify the need to reclassify:

“There's also some companies that have wanted certain substances, such as PHs to be reclassified and that is hard to do that because it would be seen as taking a substance and moving it because we're not meeting the 90% goal. (A certain company in the aluminum industry) is emitting pHs in the aluminum industry but they are meeting the 50% goal so if it was changed, we would look like we were take that target and achieve it by moving the substances around. And (this certain company) has brought forward information that proves that PHs do not highly accumulate I guess... I think that's the one. So one of the criteria doesn't count so it would be moved. But we went back, looking at some of the initial substance selection committee people who initially chose some of them and they say that is not new information. And I guess the A.R.E.T. process is that some substances can be reclassified but only if new information is provided that wasn't considered before.” (Interview with respondent from the A.R.E.T. committee)

This issue is still going on and is one of the important issues to be discussed for the renewal of A.R.E.T. beyond 2000.

Consensus, Learning, and Innovation in the Issue of Substances Criteria and Listing:

While everyone declared the selection and setting process of the substances criteria and listing by the A.R.E.T. Committee as one of the main success of the program, an insider to the multistakeholder process that took place then, and whom we have interviewed, stated that consensus wasn't complete in this issue due to certain ambiguities related to certain substances:

“In the beginning a lot of the major issues were decided, you know like picking the substances, but within that there wasn't total consensus because we had this funny little category, A2, that consensus wasn't achieved in, which they fall into.. So there was no consensus achieved on what the targets were for those substances. There's been one other substance as well, ethanol. There's been some-

discussion about taking it off the A.R.E.T. list but unless new information is provided, they're not...The criteria were set out at the beginning and nobody wants to change them." (Interview with respondent from the A.R.E.T. committee)

Still all our interviewees stated that something should be done about the criteria issue, and that it should be modified for the future.

"I think we have to reequip A.R.E.T. with the means of screening substances and deciding whether or not they belong on one of the four A.R.E.T. lists or for that matter, whether things on those four A.R.E.T. lists aren't better assigned to another list." (Interview with Government representative)

As for learning, all research respondents agreed that the substance criteria and list taught them about their emissions and how toxic they are.

"Once again, it (A.R.E.T.) helped them to prioritize, to have a list of substances because if you go to them and say: "We want to challenge you to eliminate your toxic emissions," they would just look at you and say: "what's the toxic? What should I do?" So we provided them with time-lines, we said: "50-90% by 2000 is our goal. From this list of toxic substances; do what you can with it." It provided them with that." (Interview with Secretariat)

Innovation was not perceived to be an outcome of A.R.E.T. in this issue. Seven out of our eight respondents stated that innovation in their sector or company was not a consequence of the categorizing and listing of substances by A.R.E.T.:

"I don't think A.R.E.T. has impacted innovation. We do an awful lot in this department in support of innovation and technology development but that's kind of going on a different track than A.R.E.T.. We're supporting the development of the fuel cell, for example, environmental technology that has little to do with what we've learned from A.R.E.T.." (Interview with government representative)

“For sure we have decreased a couple of our substances but as said it's not necessarily because of the program. It's because of the change in technology we reduce, we can reduce some of our substances because of the changed technology and without the advice of environmental department and by that, we stopped emissions of substances...” (Interview with an industry member)

These two quotes mark a dichotomy between innovation triggered by social pressure (from A.R.E.T. and society), and innovation that is triggered by an independent technological evolution, as in the idea of developing the environmentally friendly fuel cell mentioned by one of the interviewees above. The later reason being dominant for any kind of innovation that took place in this issue. Only one industry-related respondent declared that their innovation is based on the realities of the substance listing and criteria by A.R.E.T.: “... it (A.R.E.T.) made us actually came up with substitutes.” (Interview with a certain industry member). They had to switch to substances that weren't on A.R.E.T. list of harmful substances to satisfy social pressures and clients' demands of cleaner substitutes.

The substance listing is presented as one of the major achievements of A.R.E.T.. It was established through a consensual decision process, with the initial A.R.E.T. members including the NGOs, as indicated by our interviewees and the documents analysis. However, since the NGOs left, many members expressed their frustration with the rigid listing, and that could compromise the consensus. As for learning, it was observed in the form of an awareness by A.R.E.T. participants of the nature and level of toxicity of the

emissions. Any innovation that took place among participants processes was not a reaction to A.R.E.T. per se.

4.1.2. Voluntary vs. Regulatory:

The rhetoric of managing environmental initiatives by government regulations or independently is ongoing. It is difficult to create strong incentives for industry action without a supportive legislative and policy context. A recent review of the US federal programmes to convince American businesses to reduce pollution voluntarily concluded that most existing initiatives have had minimal benefits either for environmental protection or for industry participants because they were not legislated (Davies & Mazurek, 1996). As Davies and Mazurek conclude in their review of the US initiatives:

The lack of a statutory basis for environmental initiatives or programmes always foreshadows difficulty ... civil servants tend to spend their time –rightly – on programmes grounded in law... Also, without a legal mandate, decisions must be made by some sort of consensus, which is rarely efficient or effective in an atmosphere as contentious as environmental management.

In September 1993, NGOs and Labour organizations participating on the A.R.E.T. Committee that was setting the objectives for A.R.E.T. challenge, withdrew from the A.R.E.T. process. There were many issues that they stated for their departure, and one of them is the voluntary vs. regulatory issue discussed here. A four-page letter dated September 17, 1993, sent by representatives of the NGOs and Labour groups to Environment Canada's Assistant Deputy Minister Clarke explained their decision for withdrawing from A.R.E.T.. They had expected the A.R.E.T. process to lead to "a

legislated program directed toward eliminating the most hazardous of substances”. Instead, A.R.E.T. seemed to have been transformed into “a complex and incredibly cumbersome initiative”. All our respondents agreed that the NGOs were expecting something more of this initiative:

“Some environmental groups anticipated that the program would be regulatory in nature; it wasn't even clear that it was going to be an entirely voluntary program. So it was made clear to them that now what was being contemplated was going to involve industry participating in the program on a voluntary basis. That created dismay among certain environmental groups.” (Interview with government representative)

At present, because A.R.E.T. Challenge includes no means of forcing compliance, some companies continue to apply a lower environmental standard than other companies (VanNijnatten, 1998). This in turn, creates a “free-riders” problem.

In a consultation paper on the future of A.R.E.T. submitted by Environment Canada (1999), it calls for vigorous administration and enforcement of regulations to act as powerful motivator for voluntary programmes, including A.R.E.T.. Where it regulates, the government will have an obvious lever to backstop voluntary programmes. Where it does not regulate, the threat to do so can encourage pre-emptive voluntary action by industry.

All respondent in our study declared that the voluntary approach in A.R.E.T. was a positive one for a number of reasons ranging from giving them flexibility to deal with environmental problems, to cutting costs, and saving time:

“I think that Industry felt that these goals were achievable on an industry-wide basis with respect to the vastness of substances and that by participating in this program, they could avoid being chased substance by substance, facility by facility, which would be the nature of any regulatory approach... that's what Industry is looking at as an alternative to this type of approach and I think they'll find that this approach gives them a flexibility to achieve results that they could never have with a regulatory approach.” (Interview with government representative)

“This is a concept that came out in the early '90s when the Industry was concerned that Environment Canada and other government were basically managing the environment through regulation and we thought that this was quite inefficient and not really related to the operation to be technically most sufficiently, the way you really want to do it - not through the regulation... We don't really believe that regulation is the best way to do it not that regulation shouldn't exist. I think it means to exist; there's a need for it. But I think if a company or a source is aware of the issue related to its process, they are in a much better position to take responsibility for it and design their own solution than having someone impose upon them in a general way and then it gets much more expensive and much more difficult.” (Interview with a certain industry member)

“Our industry believes in voluntary measures. We think that through voluntary actions, decided in conjunction with the government and so on, we can achieve sometimes much better results than by legislation or regulation which are kind of the minimum of application.” (Interview with an industry representative)

“It is not enforceable like a regulation but it's a way of avoiding the government having to do a regulation. It's kind of a way to win because a regulation takes a long time to develop so it gets an effect more quickly. Industry isn't forced to do something; they are given the opportunity to find more flexible ways of doing it but they are set. The government has the backup so that if the company decides

not to follow through on its obligations, then they can regulate and they can go the other route. It gives the company an opportunity to be more flexible.” (Interview with Secretariat)

Still with all that enthusiasm about voluntarily approach, many confessed that it is still lacking in certain terms, which influence its effectiveness.

“A lot of work that we have, since it's not regulated, it's voluntary program and we do it but maybe we don't spend so much time on it because there's so much else to do that are more urgent or are compliance-related so you have to do it. Commitment is kind of, it should be part of the monitoring program and that's it and they kind of feel that everybody is doing it but follow up is lacking.” (Interview with an industry member)

Gallon (1997) lists the problems with Canadian voluntary challenges in general, who are similar to A.R.E.T. in nature, as follows:

- No voluntary non-regulatory mandate to join program
- No timetable set
- No verification of company claims
- No fallback mechanism if companies don't reach their own targets.

Many of the reductions put forward as being done voluntarily in A.R.E.T. are not. They may have been driven by earlier regulations and therefore should not be counted as part of the new voluntary effort (Gallon, 1997). Our study confirms that conclusion:

“We did changes but it's not because of A.R.E.T.; it's because of something else... Regulations! the big one was the new federal and provincial affluent regulation that required us to have secondary treatment in place at each mill. And by doing that, you answered some of the problems that were raised in A.R.E.T.. But

A.R.E.T. didn't trigger that... But from the Industry side of it, it's more the regulation that triggered us to do something than A.R.E.T.." (Interview with a certain industry member)

Consensus, Learning, and Innovation in the Issue of Voluntary vs. Regulatory:

There is a consensus among all study respondents that voluntary initiatives are important approach to dealing with the environmental problems. They all joined A.R.E.T. voluntarily because they believe in such an approach, and they prefer it to governmental regulations. Still, A.R.E.T. as a voluntary initiative needs mechanisms that ensure compliance by its participants and its effectiveness as a voluntary measure to reach its objectives without disposing to using regulations.

Learning took place in the form of an awareness of the importance of voluntary measures as opposed to regulatory ones by respondents of this study. This issue also helped them to discuss among each other the problems they face by joining such an initiative. One respondent puts it best when he states:

“We didn't have any incentives to join but...There's two choices in life: either you join them or fight them. We think that by being part of a program like A.R.E.T. is a good opportunity to first, be recognized for what we're doing and what we intend to do and secondly, to be able to explain to them what the difficulties are, what the problems are in reducing, why we cannot do more than what we're doing and so on, we're trying to really get involved and show them that we are doing our best but there's limitations, too.” (Interview with an industry representative)

As for innovation, it seems that any innovation that took place in any industry was triggered by regulations rather than the voluntary nature of A.R.E.T.. Future innovation

was expressed by the study respondents by modifying the A.R.E.T. program in relation to this issue. Interviewees in our study felt that for a voluntary initiative, such as A.R.E.T., to succeed, without turning to a regulatory program, the government has to give out some real incentives for companies to join and comply with the initiative's mandate.

“If we were to pay something, it would reduce the number of participants in the program... The solution is that the government, if you believe in what they are saying, should be withholding taxes, put a bit of money to encourage companies to join on a voluntary basis. It doesn't take much, it takes two or three guys across the country to go and talk to the various sectors and so on and try to show them the benefits of this system...” (Interview with an industry representative)

Environment Canada (1999) suggests a range of financial and non-financial incentives to be offered, both positive and negative, by the government to motivate industry action in voluntary initiatives. Positive incentives could include: regulatory burden relief, regulatory and policy stability, technical assistance, public recognition of good performance, and financial incentives in form of R&D support, and investment and tax credits. Other negative incentives could include: a credible regulatory threat, adverse publicity, and taxes.

To summarize, our interviewees expressed their consensus on the importance of voluntary initiatives as opposed to regulations, and stated that they learned about the importance of voluntary initiative approach to protect the environment. Yet any innovations that occurred were as a result for regulatory measures and not the voluntary nature of A.R.E.T.

4.1.3. Elimination versus Reduction: (Use vs. Emissions)

Another subject debated between participants pertaining to the mandate of A.R.E.T. concerned whether the overall goal of A.R.E.T. was reduction or elimination of substances deemed toxic. Some stakeholders wanted to address toxics use, as well as toxic emissions, because they believed pollution prevention was impossible without examining the use of toxic chemicals generally. Many industry representatives, however, argue that toxic use reduction is not an end in itself since harm only occurs through exposure to release. On the other hand, many environmentalists would rather see a ban on toxics' use. (Environment Canada, 1999)

“As I said, the initial group included labor, environmental groups and Aboriginals. They couldn't agree on some of the process. There were a couple of consensus issues. They wanted the program to focus on use-reduction whereas what evolved because they couldn't reach consensus it evolved into an emission-reduction program which is quite a different issue in industry...Industry like emission-reduction because they see it as mitigating the effect because if it's not emitted than it is not going to have an effect. But uh, I guess the other groups felt that there still are effects from a health and safety, labor point of view. Even if it is being used and not emitted outside of the plant still it's been used and there are still some safety risks. And I guess environment groups also thought that the risks were still, you know...So I think that that was the major problem was that discussion that caused the three types of groups to withdraw and I guess the rest of the stakeholders-the industry associations and the governmental groups... decided to carry on even without the support of the other groups and still do an A.R.E.T. to address the substances that they have chosen and to target more of the emission-reduction.” (Interview with Secretariat)

One industry association in our study stated the problem they are facing in this issue as the following,

“While that was going on there was a big debate between environmental groups and labor groups and between the government on the release of substances in the environment. The environmentalists were interested in not using things, and were getting to agree to prevent using substances. While our view was that substances that were important to use could be used but to minimize the releases to no harm levels, so we should continue using them or switch to a better chemical with less harm and less cost because customers would like the companies to do so. So our target was to reduce emission along with the government. That debate is still going on: Should policy be based on reducing releases and is it going to do the job? The environmental groups fundamentally disagreed with that.” (Interview with industry representative)

The NGOs believed that the original purpose of A.R.E.T. was to “identify the most hazardous toxic substances and then develop strategies for their phase-out.” (NGOs Letter to Assistant Deputy Minister Clarke, 1993). For NGOs, there were “no safe levels” of such substances and elimination was the “only appropriate long-term strategy.” (Ibid.). This meant uncompromising attempts to reduce both the generation and use of persistent toxic chemicals. Industry representatives, however, preferred to focus on emissions. (VanNijatten, 1998)

In a 1997 “Future of A.R.E.T.” Workshop, participants agreed on the desirability of establishing a target date for the virtual elimination of the listed PBT substances. Also concern was expressed that adding substances to the A.R.E.T. list or tightening targets beyond 2000 was a complex exercise. Participants finally agreed to establish these targets

for the new A.R.E.T.2, and wait for new collaborative multi-stakeholder table (which will include the NGOs) to decide on that (Future of A.R.E.T. Workshop, 1997). The same sentiment was expressed by all our respondents:

“At the start there was the issue of use vs. emission which was a big issue because environmental groups wanted to see a total reduction of usage as opposed to the reduction of emissions and that was never really resolved for them. We're trying to get them back in a new A.R.E.T. as stakeholders again. So that's one of the issues that's also going to have to be addressed.” (Interview with Secretariat)

There is no consistent approach to this issue across existing voluntary initiatives. The task force set up under the Memorandum of Understanding among the Canadian Vehicles' Manufacturers Associations (CVMA), the Ontario Ministry of the Environment and Environment Canada, for example, has as its goals “to produce a verifiable reduction of persistent toxic substances... used, generated or released...”. The experience with design for environment and pollution prevention programmes in some US states and various European countries suggests that a voluntary programme focused on reducing use could be effective if supported by appropriate financial and technical incentives (Environment Canada, 1999: 6).

Consensus, Learning, and Innovation in the Issue of Elimination vs. Reduction:

There is a consensus among our interview respondents, representing present A.R.E.T. population without the NGOs, that the issue of “Elimination vs. Reduction” is one real problem threatening A.R.E.T.'s survival as a successful program, and that it was initiated by the NGOs.

“... my understanding is that some of the environmental groups have been looking forward to A.R.E.T. having an orientation towards use as well as release. When it became obvious that this was going to be a release-oriented program and not directed towards use, that led to a certain amount of disillusionment among some environmental groups.” (Interview with government representative).

There is also a consensus that the NGOs have to come back to a multi-stakeholder consultative table to ensure that this mandate-related issue will be resolved to the best of the program and its participants.

The only learning that took place in this issue is the consciousness of the A.R.E.T. participants of the importance of dealing with this issue to ensure the success of the collaboration process. And although not all are looking forward to “total elimination” of toxics, since it affects their productivity and profitability (especially industry sectors), still they are determined to reach a compromise with the NGOs, and are looking forward to discussing the issue with them in the near future to determine the mandate of A.R.E.T.2000.

Innovation was not observed in this issue. This might be due to the fact that the mandate now doesn't require elimination of use, but only a reduction in emissions, so industry sectors don't feel the rush to work on that right now. Eventually, if the “elimination of use” pass by the new A.R.E.T., they would have to find new alternatives to these substances, especially that the “Future of A.R.E.T. Workshop” has discussed the matter,

and all participants are waiting for a new multi-stakeholders consultative table to decide upon it.

To summarize, the consensus observed in this issue is in the form of A.R.E.T. participants' agreement on the importance of reaching an arrangement with NGOs in regards to the debate over elimination versus reduction of emissions. Learning took the form of an awareness of participants of the importance of this issue for the survival of A.R.E.T., while innovation did not take place here.

4.1.4. Social Responsibility:

Though it is not explicitly mentioned in the mandate of A.R.E.T., social responsibility is one of the important pillars that this program stands on. Under the A.R.E.T. principle no. 5: Sustainable Development, A.R.E.T. states that,

“With the need for a strong economy and a healthy environment, the A.R.E.T. philosophy incorporates Canadian socio-economic interests in its efforts towards the reduction or elimination of toxic emissions. This generates the fastest benefits for the environment and human health while at the same time strengthening the national economy. To achieve this, it is felt that organizations must establish their own voluntary toxic emission reduction goal that have the quickest positive impact coupled with the least disruption to the organization's fiscal well-being.” (Environmental Leader 1,2,3).

As stated by one of our industry sector member respondents,

“The way we got involved I would say it was more at an Industry level. Nobody was pushed to be part of the program; it was all on a voluntary basis. But: "Since

the neighbor is doing it, let's do it as well," so that's how it was done. We signed...I'm not sure we were leaders in the industry at a company, I'm not sure about that...But it's more or less a general movement from the industry. One good thing about the industry to do that is that it's the best way to see what you have in your mill and since it's not regulated, it's easier to see what needs to be regulated if there is such a need and what are the components that we don't have. Sometimes we don't even know what's out there and we could be regulated for items that are not part of our emissions. It's easier for us to be ahead of that. It's a good way to be involved in it." (Interview with a certain industry member).

Another industry member stated that they are participating in these initiatives "because we're good citizens." (Interview with another industry member).

For another respondent, social responsibility for businesses just meant good sense for the environment and the business at the same time.

"When you ask our companies why do they do something, I mean, the first reason is to improve their environmental performance. The second reason is that improving environmental performance means good business. The third reason, we have this Responsible Care Program that focuses on this. A.R.E.T. did get mentioned down the road." (Interview with an industry representative)

Another respondent describes social responsibility as a contemporary managerial practice:

"I think there was a period where big companies would do whatever they wanted to make as much money as they could... Most companies have now environmental policies and they publish on a yearly basis environmental reports to their employees, customers and so on. And I think it just makes sense for anybody who wants to build anything to make it in harmony with its environment. But not only the environment like a few plants and trees but as well the

communities living around ... Environment in general is the way to operate and to live. Just neighbors, you know... It's common sense I think, to do business like that. We have the corporate environmental policy since I think 1979. This is all implemented through environmental management systems in all our operations all over the world.” (Interview with an industry member)

This same respondent announced some of its social plans that it initiated to bridge the gap between environment and society, and business:

“We participate in all kinds of initiatives that are related to our process and our investments into our process. I think for example we have set up in the Saguenay area relations with a school, a primary school. Basically what we did with the school was to build a company inside the school with the kids. And the purpose is for them to recycle the paper and through the recycling of paper made Christmas cards with them. And the way it's financed is by recycling aluminum, aluminum cans and foil and so on. And we do help the teachers and the kids to build the company, the concept of the company, CEO, and so on so that they understand what business is like. So this promotes recycling of aluminum, and increases awareness of the environment and as well creates some sense of what is a business and how it works. So it's not only for the operation but as well as the relation with the community.” (Interview with an industry member)

Of course, social responsibility doesn't come naturally to all businesses, but since it is related to customer satisfaction, and public recognition, it is understandable why companies are hurrying up to clean up their acts.

“It's better if you get everybody involved where your customers are trying to get rid of them (Toxic waste), you're trying to get rid of them and your competitors are trying to get rid of them so you all have the same goal.” (Interview an industry member)

Another respondent stated:

“We're conscious. Image is an issue for us. At the national and at the international level. Because we sell, and we export the paper. We sell to national market but also export everywhere. And if they don't see that we take care of the environment, they don't buy the papers. And it's the #1 Industry in the country so we're very conscious about that.” (Interview an industry member)

An initiative such as A.R.E.T. makes it possible for these companies to spread the word about their good deeds and gain public credibility. A.R.E.T. Secretariat noted that,

“For the other people, you get good public recognition in terms of we produce their names, especially if they do total elimination or meet all their A.R.E.T. goals early, then we'll highlight them in the report and that's a good way to get return on investment for all the money they have spent reducing these emissions.” (Interview with Secretariat)

In a study done by William Leiss (1996) on the perception of A.R.E.T. stakeholders of the process, he found out that the study respondents believed that industry willingness to participate in the A.R.E.T. Challenge could reflect a change in attitude, which has already taken place within the industry. It was noted that “current technological changes simultaneously increase production efficiency while reducing pollution.” This phenomenon was illustrated in the context the electric industry, which in light of reduced electricity demand, is re-engineering itself away from building additional generating capacity towards more efficient and environmentally sound management of existing plants. Also, the A.R.E.T. Challenge appears to have been useful in demonstrating to more skeptical members of the industrial community what might be achieved through voluntary initiatives. (Leiss, 1996:15)

Consensus, Learning, and Innovation in the Issue of Social Responsibility:

There is certainly a consensus among the interviews' respondents that their reason to join A.R.E.T. program is because it is their social responsibility. Whether they felt it meant good business for them, because they will get more public recognition for their efforts, or to match the times and go hand in hand with today's discourse, being socially responsible is more the norm nowadays. A major reason behind that is public pressure, which has grown tremendously in the past decades and it is playing a major role in pushing industry to clean up its act.

“I think A.R.E.T. or this kind of program puts some form of public pressure on the emitters to reduce their emissions and I think that's more than a leverage.”
(Interview with an industry member)

Learning in this issue is observed as ways that industries are trying to be “socially responsible” to win the public's recognition and credibility. Social responsibility as a term and a function has entered lots of these companies, mandates and mission statements which signals a major change in corporate behavior. “A big change is definitely, in a corporate view, every company has a different mandate, has a whole different structure.” (Interview with Secretariat). Another learning experience observed by respondents is that they don't have to wait for the government to start the challenge for social and environmental responsibility,

“It (A.R.E.T.) has brought along, especially among the associations and the more active participants, they want to proactively go out and do pollution prevention and reduce their emissions whereas before the whole concept was to sit back and wait for the government to force you. Now they are much more involved in the voluntary and they want to be seen as proactive environmental citizens.”
(Interview with Secretariat)

As for innovation, the different ways that companies are trying to win the public's side ranges from spreading awareness about the industry and its contribution to the environment domain. From initiating connections with the public through open days and publications, to going to schools to help in environment-friendly programs like recycling and so on, companies attempted to act as social responsible actors in the eyes of the public.

“We've been trying to do community awareness ...(calendars, talks, inviting people to come in)” (Interview with an industry member)

“Basically what we did with the school was to build a company inside the school with the kids. And the purpose is for them to recycle the paper and through the recycling of paper made Christmas cards with them. And the way it's financed is by recycling aluminum, aluminum cans and foil and so on.” (Interview with another industry member).

These innovations however weren't necessarily triggered by A.R.E.T. *per se*, but by social pressures, which A.R.E.T. was a part of.

Leiss & al. (1997) noted that although the A.R.E.T. Challenge functions mainly as a “reporting forum” for industry, it has become a catalyst for change in corporate behavior. Roewade points out in his “Voluntary Environmental Action” study (1996: 43) that, “Overall, eight of the ten case studies provided detailed evidence that A.R.E.T. is significantly affecting corporate behavior.” One of these changes in corporate behavior is “increased communication with suppliers, shareholders, customers, and the general

public with respect to reduction strategies.” The same can be concluded in this study. All our respondents stated that their actions are more socially responsible because they are dictated by their customers, suppliers, and the general public. Thus, if they want to survive the times and be successful, they have to listen to them and work with them.

It is worthy to note though, that none of the respondents mentioned anything about innovating the production lines or processes to cut emission, rather they concentrated efforts on winning the public through “public relations” methods.

To summarize, there is a consensus among interview respondents that it is important to be socially responsible in this age of public awareness and pressure. Learning took the form of awareness of public needs and trying to meet those needs by becoming more socially responsible, while innovation took the shape of public relations measures to please the public, yet it wasn't radical to extend to companies' production lines and processes.

4.2. Issues Concerning the Membership and Structure of A.R.E.T.

There are five main issues that fall under the membership subject, which was discussed among the respondents in this study. They are: NGOs, Free Riders, Government of Canada, Recruitment of new participants, and Third-party verification. We will analyze these issues and how our main research questions: consensus, learning, innovation, pertain to them.

4.2.1. NGOs:

Non-governmental organizations from different backgrounds were invited among others to participate in the A.R.E.T. initiative in 1992. The NGOs that responded were the following: Pollution Probe, the Canadian Labour Congress, the Toxics Watch society of Alberta, the West Coast Environmental Law Association, Great Lakes United, Union Quebecoise pour la Conservation de la Nature, and the Assembly of First Nations.

Nevertheless, in September 1993, they all withdrew from the A.R.E.T. process condemning it as unworkable. (Gallon, 1997: 8) The Assembly of First Nations withdrew from the process at an earlier stage.

“It’s just the entirely different agendas that they bring to the tables and sometimes you’ll get a different group that is not willing to compromise and that’s a big problem. They’ll agree with a lot of it and then there’s maybe one thing that they just can’t compromise on. Whether they are being “stubborn” or “idealistic”, they cannot compromise and this is very important to them. That was one of the problems with the environmental groups; they couldn’t compromise at one point—well there were a couple of different points and they couldn’t compromise on them so it became a spite between them...” (Interview with Respondent on the A.R.E.T. committee)

There are four main reasons for the withdrawal of these groups from A.R.E.T.:

1. The voluntary aspect of A.R.E.T. versus regulations issue; (See also “Issues in Objectives of A.R.E.T.” previously discussed for more details)
2. The elimination of release versus the use issue; (See also “Issues in Objectives of A.R.E.T.” previously discussed for more details)

3. The lack of leadership shown by Environment Canada;
4. The absence of workplace concerns. (Leiss, 1996)

We will look at each of these reasons separately to clarify the history of NGOs with A.R.E.T..

4.2.1.1. Voluntary versus Regulatory

In a letter dated September 17, 1993, sent by representatives of the previously mentioned NGOs to Environment Canada's Assistant Deputy Minister Clarke, they explained their decision for withdrawing from the A.R.E.T. process. They have expected the A.R.E.T. process to lead a "legislated program directed towards eliminating the most hazardous of substances". Instead, A.R.E.T. seemed to have been transformed into "a complex and incredibly cumbersome initiative". (Leiss, 1996)

"The other area where we disagreed wasn't quite as fundamental, but it seemed so for the environmentalists, and it was on: What should this program be about?... We thought that it should be to challenge the industry to do things and to be on a voluntary approach. We didn't think it is about writing regulations, which anyways would take forever to write for these 117 substances anyway. We certainly felt in industry, that once you had a voluntary action in place there should be an appropriate regulatory legislative framework so you could deal with people who weren't performing properly so we can attract them and know who they were and have the tools to deal with them. And if they can't be dealt with voluntarily, then there should be a way to deal with them through regulation. And we would've been happy to work on a regulatory legislative framework backdrop once the voluntary program was in place... but we thought in term of sequencing we thought that what we need to do is to get the challenge out to the industries and see what we can do voluntarily and then have some discussions on the legal mechanism... It was unclear whether the environmentalists.. Well... some of them

didn't want the voluntary initiative at all. They just wanted regulations. Others wanted to work on the backdrop and put that in place before working on voluntary. And I guess that is an egg-and-chicken kind of issue. But we thought it made sense to get the voluntary challenge out there and start working on achieving benefits on environment and then deal with...So they ended up withdrawing at this time of the process. They were there in defining the criteria for the chemicals.” (Interview with an industry member)

Another interviewee stated: “Some environmental groups anticipated that the program would be regulatory in nature; it wasn't even clear that it was going to be an entirely voluntary program. So it was made clear to them that now what was being contemplated was going to involve industry participating in the program on a voluntary basis. That created dismay among certain environmental groups.” (Interview with government representative)

4.2.1.2. Elimination versus Reduction:

The NGOs believed that the original purpose of A.R.E.T. was to “identify the most hazardous toxic substances and then develop strategies for their phase-out”. The NGOs also believed that only “hazard-criteria” should be used in determining action on candidate chemicals and not the “risk assessment” proposed by industry, which would have led to the ranking toxic substances according to their “relative” risk rather than their chemical characteristics. (Leiss, 1996: 12)

For the NGOs, there were “no safe levels” and elimination was the “only appropriate long-term strategy”. This meant uncompromising attempts to reduce both the generation and use of persistent toxic chemicals. The NGOs perceived that “industry assume(d) the chemical selection criteria will identify chemicals for “action” and they feared that action

might include “no action depending on costs, feasibility and societal demands”. On the contrary, for the NGOs and labour, the process should be identifying substances for phase-out. (Leiss, 1966)

The following is the perceptions of some of the A.R.E.T. participants, mainly A.R.E.T. committee members, whom we interviewed about this issue:

“As I said the initial group included labor, environmental groups and Aboriginal. They couldn't agree on some of the process. There were a couple of consensus issues. They wanted the program to focus on use-reduction whereas what evolved because they couldn't reach consensus it evolved into an emission-reduction program which is quite a different issue in industry...Industry like emission-reduction because they see it as mitigating the effect because if it's not emitted than it is not going to have an effect. But I guess the other groups felt that there still are effects from a health and safety, labor point of view. Even if it is being used and not emitted outside of the plant still it's been used and there are still some safety risks. And I guess environment groups also thought that the risks were still there... So I think that that was the major problem was that discussion that caused the three types of groups to withdraw and I guess the rest of the stakeholders-the industry associations and the governmental (groups) and I guess there's a couple non-governmental or a couple other associations, I should say, the Chemical Institute of Canada and one health organization in Quebec. They (the health organization for Quebec) decided to carry on even without the support of the other groups and still do an A.R.E.T. to address the substances that they have chosen and to target more of the emission-reduction.” (Interview with a respondent on the A.R.E.T. committee)

“While that was going on there was a big debate between environmental groups and labor groups and between the government on the release of substances in the environment. The environmentalists were interested in not using things, and were

getting to agree to prevent using substances. While our view was that substances that were important to use could be used but to minimize the releases to no harm levels, so we should continue using them or switch to a better chemical with less harm and less cost because customers would like the companies to do so. So our target was to reduce emission along with the government. That debate is still going on: Should policy be based on reducing releases and is it going to do the job? The environmental groups fundamentally disagreed with that.” (Interview with an industry member)

“My understanding is that some of the environmental groups have been looking forward to A.R.E.T. having an orientation towards use as well as release. When it became obvious that this was going to be a release-oriented program and not directed towards use, that led to a certain amount of disillusionment among some environmental groups.” (Interview with a government representative)

4.2.1.3. Lack of Leadership from Environment Canada:

The NGOs felt that Environment Canada only viewed itself as one “stakeholder” in the A.R.E.T. process, instead of demonstrating proactive leadership. The NGOs Found this very disappointing in light of the commitment of the federal government to the elimination of toxics as articulated in the Green Plan and in the Great Lakes Water Quality Agreement. (Leiss, 1996: 12) In a letter sent to Deputy Minister Clarke, Environment Canada, the NGOs cited that among their reasons for leaving the multi-stakeholder process is “the lack of leadership shown by Environment Canada and unsatisfactory handling of the elimination versus reduction issue.” (1993). Yet a leadership role by the government in this initiative means that the program is going to have a more regulatory nature rather than a voluntary one.

“Some of the best known environmentalists in this city, have a major opposition to any voluntary approach, any approach where the emphasis is on a voluntary contribution made. There are some people, and this is a perspective that is as legitimate as any other perspective -it's not one I agree with but it's certainly a valid perspective- that government's role is to regulate in the name of the public good and government should not be in there trying to broker in the name of harmonization or cooperation with the provinces, should not be in there trying to procure cooperation with Industry, giving them more flexible solutions to problems.” (Interview with a government representative)

4.2.1.4. Absence of workplace concerns:

Labour and NGOs wanted to address both “in-plant and out-of-plant releases” as both have the potential to harm the environment and humans. (Leiss, 1996: 12) The NGOs felt that other stakeholders had refused to address the issue of “workplace pollution and worker protection”. (Ibid)

“Labor of course lost all interest when the program was oriented towards releases and not safety in the workplace and use of toxic chemicals in the workplace so they walked out” (Interview with a government representative)

The importance of securing NGOs participation in A.R.E.T. is that NGOs have an important role in promoting the success of a voluntary initiative. The most important role is probably in legitimizing the approach in the eyes of the public and giving it credibility. NGOs' endorsement is perceived as having the potential to make the difference between public acceptance and skepticism (Bregha & Moffet, 1997:12). Without the NGOs, the challenge lacks blessing of independent third parties. Perhaps, more importantly, it lacks

their participation in verifying the claimed results, thus lacking in public credibility (VaNijnatten, 1998). This also corresponds with our observations.

“Now, your other question related to NGOs as 3rd party to add credibility... that was an unfortunate thing, too... we were hoping to that NGOs would start going after the companies that weren't participating and use their abilities that they have to encourage companies to participate when it's appropriate, and we felt that it was unfortunate that they didn't do that.” (Interview with an industry representative)

“But there are some very well-known national organizations in Canada that I would like to see join A.R.E.T. because it's unfortunate that in the absence of all environmental organizations, A.R.E.T. has not been perceived as “credible”. In my opinion, it is a very credible program. And it can be made more credible and more attractive and therefore more credible, but it will never be perceived to be credible no matter what we do until there are environmental groups participating in A.R.E.T.”. (Interview with a government representative)

It is important to note that while the NGOs and Labour withdrew from the A.R.E.T. Committee in September of 1993, representatives of these groups continued to work on the Substances Selection Subcommittee, which finished its work in November 1993. This allowed A.R.E.T. to secure a substantial list of targeted substances that was truly based on multi-stakeholder consensus (Leiss, 1996: 11).

“I would emphasize, however, because it is often not appreciated, despite the breakup of that group, the job it did in screening over 2000 substances and classifying them into one of four lists is a piece of work that we have been able to draw from beneficially ever since. So I would, even though the group broke up, not want to regard it as a failure, because of its' achievements on that front.” (Interview with a government representative)

Leiss, 1997, in his report "A.R.E.T. Voluntary Codes Project" indicated that there was obvious disappointment among many of those involved in the original A.R.E.T. process about the withdrawal of the NGOs stakeholders and their apparent reluctance to reengage with this or similar processes. Leiss's study (1997: 5) found a deep sense of suspicion and even antagonism towards A.R.E.T. among the NGOs spokesperson he interviewed. Another study by Bregha & Moffet (1997) mentioned that most NGOs were skeptical of voluntary approaches and feared that giving the programme lead to industry implies that the pace of the progress will be dictated by what industry can afford. We cannot make the same conclusion in this study since we were not able to interview the NGOs and get their perspective, but one respondent from industry in this study pointed out a counter-argument:

"Of course the NGOs are jumping on that and say "Well look: voluntary programs don't work." So but we still believe that they work and we didn't try to cheat, we didn't try to hide ourselves." (Interview with an industry representative)

NGOs are considering getting back in the program and some are interested in being part of A.R.E.T. 2000 and beyond, given the fact the A.R.E.T. is indeed working (Bregha & Moffet, 1997: 4) and their principal concerns are being addressed:

"I was pleased to see the significant industry desire to have the NGOs back at the table. In fact, I see NGOs involvement as a key element of helping industry build the business case for A.R.E.T.2.... Thus, before A.R.E.T.2 is launched, a concerted effort is needed to interest NGOs in participating. Two key issues emerge in this regard: the first is having more dialogue around "virtual elimination" and how this concept might translate into actions that both industry and NGOs can buy into. The second is the capacity of NGOs to participate in

voluntary initiatives. Most NGOs either have higher priorities to which to devote their resources, or lack both technical expertise and resources.” (Pollution Probe Organization -One of the NGOs that left the A.R.E.T. table in 1993- in a letter to Environment Canada, 13 September 1999)

Consensus, Learning, and Innovation concerning the NGOs issue:

There is a consensus among the stakeholders interviewed that the NGOs left a sense of vacuum when they left, and that A.R.E.T. is missing public credibility because of that. They all agree that a new multi-stakeholder process is needed to discuss the future of A.R.E.T.2, thus the importance of inviting NGOs back to the table is deemed important by them. And while none of the respondents of this study directly expressed it but there is a perceived learning occurred of how important NGOs role is to the success of A.R.E.T..

“At the start there was the issue of use vs. emission which was a big issue because environmental groups wanted to see a total reduction of usage as opposed to the reduction of emissions and that was never really resolved for them. We're trying to get them back in a new A.R.E.T. as stakeholders again. So that's one of the issues that's also going to have to be addressed... one thing that we are to do as well is invite some environmental groups to get back involved as a stake on the stake-holders. I don't think the labor groups are going to become involved just because it doesn't really fit in with their mandates and the Aboriginal groups are very small so they don't have a lot of time or resources to be able to...Well a lot of them don't have the technical people to come in and be involved in this.”
(Interview with a respondent on the A.R.E.T. committee)

“I'm very optimistic that they are coming back. I've spoken to several environmental non-governmental organizations... See in other tables, I work on biodiversity and there is extensive cooperation between Industry and conservation groups, wildlife and biodiversity issues. So I know a lot about the opportunities to

secure cooperation from the environmental committee—they are not a monolithic community; there are lots of differences in views within that community as there are in any real community. There are organizations that will come to the table if other organizations come to the table with them and participate in A.R.E.T. You know I'm not going to name the organizations in an interview but if you want to look at the history of non-government organizations that have worked cooperatively with Industry you just have to look and see who the members of the direction group are... because those are all the environmental groups and industry associations that are working cooperatively.” (Interview with a government representative)

No innovation was observed in this unit of analysis.

To summarize, consensus in this issue took the form of interviews respondents' agreement that NGOs are vital for A.R.E.T.'s continuation and success, while learning took the form of an awareness of the NGOs' role in this initiative.

4.2.2. Free Riders:

Free riders are those companies that derive benefits from the programme without incurring any of its costs. They are a number of companies within different industries that refuse to participate in the initiative, or will sign on to participate and then do too little or nothing to meet their commitment (Gallon, 1997: 10). This results in an uneven playing field where some of the participating companies are committing resources to meeting voluntary targets and others refuse to commit similar money and staff time. The issue of free riders could become increasingly important under a new A.R.E.T. as substances are

added to the programme and the costs of emissions reductions/elimination measures mount (Environment Canada, 1999). Free riders benefit from the credible image of environmental programs, such as A.R.E.T., when in reality they are not participants in them. Because many companies do not report their toxic emissions through NPRI, it is difficult to identify all the sources and levels of toxic emissions in Canada. Nevertheless, almost as many plants have joined the programme as are known to have not: 278 versus 250 (Bregha & Moffet, 1997:13). The problem of free riders is tightly connected with the problem of how to increase participation in A.R.E.T. (See Recruiting New Participants in A.R.E.T. section next).

In this study, two sectors seemed not to have any free riders among their members, that is the Aluminum sector and the Chemical Producers, who are part of the Canadian Chemical Producers Association sector. Both have a 100% participation in A.R.E.T.. Still even these sectors expressed their frustration from free riders from other sectors, and from free riders of sectors not participating in A.R.E.T. at all, and blamed mainly on the voluntary nature of the programme and lack of governmental authority in it.

“On the Free-Rider issue, this is where we think it's a real tragedy that's the environmentalists left. We were quite willing to work on a regulatory backdrop...we think that it's unfortunate that the government hasn't come up with policies for the hammer because they go hand in hand in giving the public confidence, and the environmental groups confidence that voluntary approaches will also have regulations with them to hit the free riders. We don't want free riders ... our members are competitively disadvantaged by free riders but even importantly the public confidence is damaged because if you don't have something here to hit the free riders, the question which everyone in the public is

going to ask is: So, these good guys are addressing it, but how about those who don't?! So you have to have that.” (Interview with industry representative)

“With respect to free-riders, we have done a lot of research on that subject in this branch and the conclusion is that within the nine sectors that have responded positively to the A.R.E.T challenge, there are virtually no free-riders, that to the extent there are firms in those nine sectors that aren't participating in A.R.E.T, they tend to be small and medium-sized businesses that are often financially marginal, would be hard-pressed to develop an action plan under A.R.E.T. So we don't regard there being a free-rider problem within those nine sectors. What is a real problem are firms that are outside those nine sectors -I should correct that, it's now ten sectors with the flexible phone manufacturers participating- is a real problem with the firms outside of those ten sectors not participating in A.R.E.T. In a sense, they are free riders on the program in that no one is paying attention to what they are doing in the way of releasing these substances or pressuring them to reduce them because their association hasn't responded to the A.R.E.T challenge. But I think this really translates to a challenge for the government to get its' act together to approach these sectors and use CIPA powers if necessary to get those sectors into participating in A.R.E.T..” (Interview with government representative)

The interviews respondents claimed that the free riders that exist within A.R.E.T. industry sectors are marginal. However, Gallon (1997) maintains a different perception on this issue and presents numbers that show that in the Pulp and Paper sector, 36% of the 59 members of its association (CPPA) refuse to participate in A.R.E.T., while in the Oil and Gas sector only four of the eight members of the Canadian Petroleum Products Institute (CPPI) participate in A.R.E.T.. These four members only represent 60% of Canada's total refining capacity (Gallon, 1997: 10). This indicates that the consensus

within the present circle of A.R.E.T. concerning this issue is not shared with opinions of observers outside of A.R.E.T..

Companies that join for opportunistic reasons rather than to improve their performance are likely to “dilute” the programme because they may not be sufficiently committed to make it work (Bregha & Moffet, 1997:14). Some industry sectors may also be poorly suited for voluntary action (ibid). According to Purchase (1996), the ability to control free riding and therefore the effectiveness of voluntary approaches increases as:

- There are fewer industry players;
- They have a history of effective cooperation;
- They are aware of each others’ behavior and can detect non compliance;
- Non-compliant behaviour can be punished;
- Customers value compliant behaviour;
- Customers can identify compliant firms; and
- There are many repeat transactions.

Bregha & Moffet (1997) suggest that industry sectors where these factors do not exist may not be suitable candidates for recruitment to enhance A.R.E.T., and free riding would result instead.

Consensus, Learning, and Innovation in the Issue of Free Riders:

While six out of the eight respondents in this study agreed that there is a free riders problem in A.R.E.T., one industry Stakeholder wasn't sure that such problem exists in A.R.E.T.:

“I guess one of the weaknesses is what some people would call ‘free-riders’. To me that is a conceptual thing; I don't have anything to support that preoccupation. Free riders...Are there really free riders? I don't know.” (Interview with an industry member)

Another governmental stakeholder argued about the nature of the free riders, accusing them of being from outside the participating sectors of A.R.E.T., rather being among them:

“What is a real problem are firms that are outside those nine sectors-I should correct that, it's now ten sectors with the flexible phone manufacturers participating-is a real problem with the firms outside of those ten sectors not participating in A.R.E.T. In a sense, they are free-riders on the program in that no one is paying attention to what they are doing in the way of releasing these substances or pressuring them to reduce them because their association hasn't responded to the A.R.E.T challenge.” (Interview with a government representative)

However, according to A.R.E.T. Secretariat, the Mining association is a participant in A.R.E.T. initiative, yet not all its members are necessarily members of A.R.E.T..

“A couple of companies in the mining association, that we've been told by other companies in the association that are just 'hands off', say: "we run our operations, we're environmentally friendly, to the point that is practical, efficient, sustainable. Leave us alone. We don't want to be part of your programs, we don't want

anything to do with it." And that's just the way they run their company."
(Interview with Secretariat)

There is also consensus among respondents that the program should be modified to better deal with the free riding problem, though they didn't have a definite idea how. So innovation in this issue is non-existent.

As for learning in this issue, it seems that the idea of free riders was a whole new experience for the interviews' respondents.

"...unless it's the term 'free riders.' I've never heard it in reference to anything else but A.R.E.T.. I think it's used now for other voluntary programs, but I think that came from dealing with A.R.E.T.." (Interview with Secretariat)

No innovation was observed in this issue.

Summing up, we observed no consensus in this issue among interviewees about the threat of the free riders companies on the success of the initiative. Some companies were not even aware of free riders problems in A.R.E.T.. Learning took the form of interviewees getting to know the term "Free Riders" and their negative impact on A.R.E.T..

4.2.3. Recruitment of New Members for A.R.E.T.:

There are ten industry and non-industry sectors that are participating in A.R.E.T.: Aluminum, Chemical Manufacturing, Chemical Specialists, Electrical Utilities, Government, Mining and Smelting, Oil, Gas & petroleum Products, Pulp, Paper and

Forest Products, Steel, and Communications. A.R.E.T. is interested in increasing participants within these sectors and to other new sectors. New sectors such as Pharmaceuticals, and Rubber and Plastics Manufacturers, not to mention getting the NGOs back on the programme.

“You know the participating sectors in A.R.E.T., the nine that are participating, so that some of the sectors that are emitting A.R.E.T. I'd say the flexible phone manufacturers have joined... so they are the tenth sector, we now have ten sectors. Additional sectors involve rubber and plastics, pharmaceuticals...”
(Interview with government representative)

Despite research and outreach activities by the A.R.E.T. Secretariat and others, recruiting new members to respond to the A.R.E.T. challenge remains a difficult task.

“There are two big waves of letters that went out asking people to participate, one when the initial challenge went out and recently or fairly recently-I'm thinking October/November of 1997-we sent out a fairly large number. We went through the M.P.R.I. database and we identified companies that were emitting A.R.E.T. substances but weren't part of the A.R.E.T. program... weren't participating yet. We sent letters out to them. That didn't have really good effect; we didn't get a lot of responses. As I said earlier, most of the people who want to participate already do because they thought: "This would be great for us." Whereas people who aren't participating are also the people who don't really want to participate. So sending them a letter, it got us a few new participants and it raised the awareness a little bit but it's not going to get someone to really come in... so lately we found that that wasn't working as well so then we have gone out in the last couple of years and we've asked people who are active in the industry and who know a lot of the environmental contacts. People will go out and actually track down and have meetings with them and explain what the program is about, because one of the big problems is lack of knowledge and we can send them the report but it doesn't mean they read them so there is still a lack of knowledge of what the program is.

So we get these people to go out and explain what the program is and what it offers. And we have had a fair amount of luck with that, especially compared to the sending of letters. Especially when the environmental contact of the company knows and has dealt with this person that's talking to them. When a person from the government comes in, they tend to not want to have anything to do with it. When it's another person with an Industry background it makes a difference. The program really cuts off in the first couple of years and since then we have seen a gradual increase, I believe in the area of 10 new companies since last year and the year before there were about ten as well. So every year it goes up a little and I mean, we would like to see...a lot more but we are finding it quite hard to attract new companies plus all the ones who want to join are already in” (Interview with Secretariat)

Still, the increasing level of participation in A.R.E.T. rendered it the second most ambitious environmental initiative after the Voluntary Challenge and Registry Programme for Climate Change (Bregha & Moffet, 1997: 13). Participation in A.R.E.T. is high among the industry sectors whose associations are A.R.E.T. stakeholders. A.R.E.T. has had difficulty in recruiting participants from outside those sectors, however, and the releases of A.R.E.T. substances by non-participating sectors are growing as those of participating sectors are falling (Environment Canada, 1999).

A.R.E.T. is active in identifying new participants (such as Pharmaceuticals, and Rubber manufacturers, as we mentioned before) and attempting to recruit them through inviting them directly or through their association's peer pressure:

“There has been some mood to attract some new sector associations, new industry people to join as stakeholders. So we have talked to other phone manufacturers, other industries like that. In a lot of cases they are small so they don't have the

resources and the people to devote someone to working with a rep. Basically we invite them if we feel they can bring something positive to the table and as well. The associations are trying to put a lot of pressure, more than we can, for the company to join. What we tend to do is if we find companies within the associations who aren't participating, they will ask them and tell them and they'll track down the companies that don't.... You see the chemical producers, they are very active and very proud and want to keep 100% participation in A.R.E.T. of members of their association. We say: "Well, this company is a new company in your association and they are not in A.R.E.T." And they track them down. So that's when it becomes a little less voluntary, but it's not government forcing; it's their own peer pressure" (Interview with Secretariat)

One of the key considerations in designing a successor programme to A.R.E.T. must therefore be the recruitment of new participants: "I think that in improving A.R.E.T., we have to expand to additional sectors" (Interview with a government representative)

In the "Future of A.R.E.T. Workshop", which was held in Ottawa, 11 December 1997, participants discussed a number of incentives for increasing participation in A.R.E.T.:

- Providing flexibility (e.g. in the timelines, targets or base year) for new participants. Some participants cautioned, however, that too much flexibility might impair the credibility of the program.
- Tracking the pre- and the post- A.R.E.T. participation emissions. Some kind of recognition could be given to the reductions already achieved by new recruits before joining A.R.E.T. and then a post-membership measurement program could be set up.

- Providing a regulatory threat to encourage acceptance of the program by free riders, non-participants.
- Focusing more on cross-sectoral dynamics/encouragement of industry action. There appears to be considerable encouragement within sectors, but cross-sectoral activities need to be stepped up.
- Encouraging peer pressure and publicly highlighting non-participants.
- Promoting awareness of A.R.E.T. program within industry.
- Promoting preferential government policies that favour A.R.E.T. participants.

(Versteeg, 1998)

Consensus, Learning, and Innovation in the Issue of Recruitment of New Participants:

All study respondents agreed that it would be beneficial for A.R.E.T. to be modified to increase its members, and while those who have the power –as they have the role of the association of a certain industry sector- try to peer pressure non-participants to follow pursuit and join A.R.E.T., other industry members seemed to think that it's the role of A.R.E.T. and the Government to encourage new participants to join through offering incentives, both positive and negative, to reduce the number of free-riders.

For learning though, it doesn't seem that learning has occurred in this particular issue. Participants knew from the beginning that increasing participation is important for the success of the programme, but they don't think it is up to them to accomplish that. As for innovation, respondents didn't have new ideas of how to bring in new members to A.R.E.T., and they do believe that this issue is the responsibility of A.R.E.T. Secretariat.

To recapitulate, there is a consensus among our study interviewees that introducing new members to the initiative will add to its success, yet there was no learning nor innovation observed in this issue.

4.2.4. Role of Government in A.R.E.T.:

This issue is also related to the issue of Lack of Leadership in A.R.E.T., especially by government, which is previously mentioned in the section concerning the role of NGOs. VinNijnatten (1998) cites that: “without an authoritative framework provided by government, the multi-stakeholder forum approach is unlikely to work”. Bregha & Moffet (1997) perceived that the Canadian Government, represented by Environment Canada in A.R.E.T., gave A.R.E.T. limited policy support, sending mixed messages as a result about the importance it attached to it. Environment Canada has run the programme so far with few resources; yet, the government has derived considerable benefits from A.R.E.T. in terms of avoided environmental costs (Ibid.).

“I think the resources and the funding is also a problem. A.R.E.T. has a very small secretariat. They have I guess an important role within the Canadian economy but I am not sure they have all the tools for controlling emissions. They have very little means and it's difficult sometimes for them to publicize and or to go and to ask other companies to go and to ask other companies to join, to recruit and so on... The solution is that the government should be withholding taxes, put a bit of money to encourage companies to join on a voluntary basis.” (Interview with an industry representative)

So far, the government's role in A.R.E.T. has been as a 'participant' and has been chairing the A.R.E.T. committee meetings. Study respondents viewed their opinion that the Government should take a more 'leadership' approach to its role within A.R.E.T..

“One thing that Industry has talked about is if Environment Canada can take more of a lead role, more of a leadership role instead of just equal participants. You can have 20 people sitting around a table and nothing will get done unless there is someone to take a little bit of a leadership role and present options for debate, coordinate the results and make sure the action-items get completed... Right now Environment Canada is chairing 'A.R.E.T. committee' but we really don't have power above and beyond to make decisions above and beyond the other stakeholders. That's something that is being addressed in the our vision for a new A.R.E.T....” (Interview with a respondent on the A.R.E.T. committee)

According to Versteeg's article about the future of A.R.E.T. (1998), some of the possible activities that the government can play as a leader includes:

- Setting targets
- Establishing regulations
- Ensuring a level playing field
- Coordinating international environmental agreements that influence/could be influenced by A.R.E.T.
- Verifying the process and the results
- Promoting fiscal measures, incentives and rewards
- Providing government/political endorsement
- Dealing with free riders, in order to protect the integrity of the program

- Act as a ‘guardian’ of the A.R.E.T. program to help maintain A.R.E.T. a ‘national’ program, so that its cross-provincial and cross-sectoral nature be protected
- Consolidate A.R.E.T. players (local, provincial, federal, etc.) to avoid the development of “splinter groups”, and
- Act as a coordinator and arbitrator for the A.R.E.T. program.

Consensus, Learning, and Innovation in the issue of government’s role in A.R.E.T.:

All respondents, except for two, those who are representing the Government sector, agreed that federal and provincial governments, represented in Environment Canada, should take a more active role within A.R.E.T.. They feel that if it is for A.R.E.T. to achieve its goals it needs a proactive leader that support the initiative financially as legally, and they modify that for A.R.E.T. 2000. The authority of the government, they feel, would give A.R.E.T. more authoritative and credible image to pursue its mission and recruit new participants.

The government sector on the other hand preferred to remain within the present mandate of the role of Environment Canada within A.R.E.T., although they were open to others’ opinion about the new role for the government in A.R.E.T.:

“There are some people, and this is a perspective that is as legitimate as any other perspective -it’s not one I agree with but it’s certainly a valid perspective- that government’s role is to regulate in the name of the public good.” (Interview with a government representative)

It seems that participants from industry in this study learned that government's role in A.R.E.T., as a multistakeholder collaboration process, should amplify its position beyond the ordinary stakeholder role to include some authoritarian role to give credibility and influence to the table.

“One thing that Industry has talked about is if Environment Canada can take more of a lead role, more of a leadership role instead of just equal participants. You can have 20 people sitting around a table and nothing will get done unless there is someone to take a little bit of a leadership role and present options for debate, coordinate the results and make sure the action-items get completed... Right now Environment Canada is chairing ‘A.R.E.T. committee’ but we really don't have power above and beyond to make decisions above and beyond the other stakeholders. That's something that is being addressed in the our vision for a new A.R.E.T....” (Interview with industry representative)

This might seem paradoxical with the idea that multistakeholder collaboration process is supposed to be non-hierarchical, and all members are equal. But the need for governmental guidance and mentoring in this issue might be specific to the Canadian culture context, where the government has always been an advocate for environmental protection and have previous experience in managing environmental protection projects. A comparison study with other non-Canadian environmental voluntary initiatives is needed to reveal more on this issue.

As for innovation in this issue, none was observed in the perceptions of the respondents of the study.

Consensus in this issue took the form of an agreement among six out of the eight of our interviewees, that the government should play a more leading role in A.R.E.T. to add

more credibility and authority to the initiative. Interviewees also stated that such a leadership role for the government is important for the function and image of A.R.E.T..

4.2.5. Third Party Participation:

The issue of third party involvement in A.R.E.T. is tightly related to the issue of verification of A.R.E.T.'s mandate and reports, and to bringing back NGOs to A.R.E.T.. All respondents in this study expressed their sorrow for the withdrawal of the NGOs, who would have played a significant role as a third party in verification.

“Your other question related to NGOs as 3rd party to add credibility: that was an unfortunate thing, too... we were hoping to that NGOs would start going after the companies that weren't participating and use their abilities that they have to encourage companies to participate when it's appropriate, and we felt that it was unfortunate that they didn't do that.” (Interview with industry representative)

VanNijnatten (1998) asserts that those who are concerned about the environment have sought to bring modern governance into line with environmental realities through the reform of government structure and processes, in the belief that, if the process of decision making was made more inclusive of a wider range of interests –especially environmentalists and other public interest groups- these broadened deliberations would result in better environmental policy outcomes. Countless structures and bodies have been created in Canada to inject environmental values into government decision making, often through expanded opportunities for third-party participation. These more participatory institutions have delivered more environmental benefits (VanNijnatten, 1998). Most recently, this search has lead some policy makers/actors to contemplate a

form of institutional change that may have far-reaching implications for environmental policy making, as well as for the participatory procedures established over the last decade. It has been suggested that, instead of tinkering with public institutions, society should look to private sector institutions to undertake environmental protection initiatives, under the rubric of what have become known as “voluntary pollution prevention initiatives” (Ibid.). The perceived advantages and disadvantages of voluntary initiatives are hotly debated, but there is wide agreement that if voluntary initiatives are to be effective and credible, they will have to include active participation by third-party public interest groups in both design and implementation processes, thus, the importance of insuring effective NGOs participation (VanNijatten, 1998).

The A.R.E.T. case is a prominent example of a voluntary initiative associated with multistakeholder consultations involving third parties as well as government and industry representatives. NGOS acted as a third party in the New Direction Group, that preceded A.R.E.T. challenge, and achieved the task of establishing criteria for defining toxicity and categorizing the list of targeted toxins, through a multi-stakeholder consensus process.

With the withdrawal of NGOs of the A.R.E.T. table, it was obvious that the Achilles heel of the A.R.E.T. challenge’s voluntarism is the absence of-credible verification by third parties. Environmentalists have expressed concern that claims about A.R.E.T.’s environmental achievements and improvements have been inflated (VanNijatten, 1998).

This opinion is even reflected by the A.R.E.T. Secretariat itself:

“One of the problems is that there is a lack of ways of verifying the emissions and reduction of the emissions that they report are actually true. And it’s not just a weakness of voluntary, it’s a weakness for regulatory as well...Because unless you

have an enforcement officer measuring every day... it could be misreporting and there's not enough enforcement to be able to say accurately every single emission that is reported is correct." (Interview with Secretariat)

Certainly without NGOs participation, the challenge is vulnerable to public suspicion. For credibility, it needs the visible involvement of independent public interest stakeholders who could legitimate the programme, monitor compliance and verify claims made about reductions achieved (VanNijnatten, 1998).

Bregha & Moffet (1997) state that while verification is essential to earning and retaining public trust and ensuring continued effectiveness, yet there are different levels of verifications that are available for A.R.E.T., other than public interest stakeholder, as implied by VanNijnatten. These include third party audits by accredited auditors, self-certified results (the current practice), random audits by government officials and the verification of management systems, practices and codes.

"I think for A.R.E.T. project to be more credible...and to have credibility with the public... they need a third-part evaluation... verification not just evaluation... that can be a member of the company, but for example, if I am a member of the committee, I don't go to (my organization), I go to another company or that can be completely independent with a consulting... The best would be one person from a university, one person from NGOs..." (Interview with an industry member)

Another participant in this study shared the same idea of third-party committee containing different people with different backgrounds to verify the reporting and make any needed modifications:

“You kind of appoint a committee of three scientists from whatever, one from the government, one from Industry and one from NGO, which every year go over the list and you know there is a lot of communication over the Internet or whatever, pile of paper, it's very easy.” (Interview with an industry representative)

Another party expressed concerns about the time, efforts and resources consuming nature of having a third party on board of A.R.E.T., and preached the advantages of getting the NGOs back on the A.R.E.T. bandwagon to get the verification and credibility needed:

“I certainly have nothing against evaluation (if they're part of the resources). I'm not sure where such a committee would get the wherewithal to conduct objective independent research. To my knowledge our branch maintains the only research program on A.R.E.T. on an ongoing basis. A.R.E.T. needs a more effective mechanism for insuring that commitments are honored.” (Interview with government representative)

Consensus, Learning, and Innovation in the Issue of Third Party Participation:

All participants in the study expressed their consensus that a third party is needed for verifying A.R.E.T. results and validating its accomplishments and outcomes so as to retain public confidence. And though they all had different scenarios of who should play the third party role, and whether it would be one party or different parties that sit in a multi committee for verification, they all acknowledged the need for the NGOs to be part of that verification mechanism.

Learning in this issue is more of an increased awareness among the participants of the important role of third party verification in gaining public credibility, and the importance of NGOs in playing that role. And while they are ready to re-evaluate this issue and make

the necessary changes to include a third-party to verify A.R.E.T. results, still the way they are going about to include that third-party is not new, and no innovation took place in this matter.

To sum up, the consensus observed among our interviewees in this issue consisted of their agreement on the importance of adding a third-party to A.R.E.T. to be responsible for the verification mechanism, whether it would be the NGOs or another objective party. The interviewees learned of the importance of third party participation for the survival of this initiative.

4.3. Issues Concerning the Process of A.R.E.T.

There are four issues that are going to be under analysis in this section in relation to the process of the A.R.E.T. collaboration: reporting, verification, communication, and negotiation. Consensus, learning, innovation, and modification research question will be utilized to explore the dimensions of these issues accordingly.

4.3.1. Reporting:

A.R.E.T. participants report annually on their emissions reductions to A.R.E.T. secretariat. These reports are summarized and published in the Environmental Leaders series of reports to the public (only three of them are available to date since 1993). Some companies have argued that they should report every two or three years in the future

(Environment Canada, 1999: 13). The importance of reporting mechanisms is that they provide a powerful incentive to encourage continuous improvements and milestones for comparisons. As one of our interview participants put it:

“It's not like if economics leading the way (in voluntary initiatives), or volunteerism leading the way, or regulations are leading the way, or information disclosure (reporting and transparency), it has all been working synergistically together. If you were to ask me which one is leading the way, I would say information disclosure.” (Interview with government representative)

It has been the feeling of A.R.E.T. participants that their accurate reporting to A.R.E.T. Secretariat is an opportunity to “inform a large and interested public that the voluntary approach is simple and more effective than the regulatory approach”, as stated by Jean-Marie Sala, Director of Environmental Affairs for Alcan, in a study of Voluntary Environmental Action (Roewade, 1996: 41).

We found out from our respondents that there are three main challenges with the reporting mechanism within A.R.E.T.:

1. The first one is mixed reporting methods: A.R.E.T. Secretariat receive data from its participants that was generated in different ways and delivered in different styles, resulting in unclear reduction numbers that are often not comparable (Gallon, 1997:11).

“... we realized that we are not reporting the same way, within the company and we are not reporting the same way within the Industry.” (Interview with an industry member)

2. The second challenge is the different reference year: A.R.E.T. allowed companies to set their base years for reporting to account their reductions to early. Companies that

began participating in A.R.E.T. in 1994 were allowed to pick a base year as early as 1987-88. Thus, a company could count their past reductions from a baseline chosen up to seven years earlier to their participating to A.R.E.T.. Other companies that entered A.R.E.T. in the years to follow picked their base years any time after 1987. So every company is not ascribed the same base year resulting in tendency to distort and modify results. A proper voluntary environmental measure would pick the year the program started as the base year, which in the case of A.R.E.T. is 1994 (Gallon, 1997: 9).

“It's not the same reference year for all the companies. The program I think started in 1993 or '92 and the reference year I think they begin at '88. You can take the years between '88 and '93 and that's changed the data a lot. For PCBs, if I take data from '88, I see a 100% reduction but if I take it from '93 I see a very small reduction. Maybe the data would be more accurate if the years of reference would be the start of the program. If you want to know what the program brings to the emissions of pollution, I think you have to be on the same reference year of the program. I don't know why they permit...Maybe it's a good reason, but for me it is not clear. Maybe for the first year it was fun because even in the first year they see a 'reduction' in emissions, like 11.9 mega-tons, kilo-tons and 23.3...You have one-third of reductions in the first year, that's very spectacular but it's because of what I said before; it's not true, it's not in one year. But they said years a bit loud, people think it's '92 and that's not true.” (Interview with an industry member)

3. The third challenge is the one-way reporting: all our interviewees indicated that they do their part in reporting to the A.R.E.T. Secretariat, but they don't get proper feedback other than series of reports, that are intended for the public, the Environmental Leaders. Those who are sitting on the A.R.E.T. stakeholders table (usually they are the associations of different industries), and are meeting twice a year for A.R.E.T. are better

informed than others of what is really happening with A.R.E.T., but not everyone in A.R.E.T. is knowledgeable enough of what is happening with the program.

“ (A.R.E.T. Secretariat) gave me a copy on A.R.E.T., like they send me this report to say "This is what we have in your file It's a reminder that we need your update." And send it back to the mill to say: "Don't forget you need to do your update." But we want to revamp them to see exactly what is going on.”
(Interview with an industry member)

In addition, the reports that the participants got from A.R.E.T. were often received late. At the time of the interviews all of my interviewees didn't get the last report: Environmental Leaders 3, even after 4 months from being published. One participant stated that he does not have any kind of feedback or contact with the Secretariat until they need him to report:

“I never really go to a meeting and I'm surprised the third report is ready, is available. Communication is deficient in the program in my opinion. Yes I was thinking the program was stopped. I was surprised when I received a letter at the beginning of the month asking for our data for 1998. I was very surprised; it's very late to ask for data of 1998 in June 1999.” (Interview with an industry member)

There is no single national reporting venue in Canada today for all environmental initiatives, whether regulatory or voluntary, to reduce or eliminate toxic emissions. Instead, each programme has its own reporting schedule and format. In addition, the National Pollutants Release Inventory (NPRI), a mandated reporting system, tracks the emissions of selected substances (Environment Canada, 1999). The lack of coordination

in reporting makes it difficult to obtain comprehensive perspective on the emissions reductions that are taking place and their significance (Ibid.). An argument can be made that, since A.R.E.T. substances are of concern to human health and environmental protection, they should be added to the NPRI. Presently, only 54 A.R.E.T. substances out of 117 are reported under NPRI (Ibid.). Participants in our study agree on such an idea, since it helps in mainstreaming the reporting process and cuts costs and efforts.

“We argued with the government that they should add all A.R.E.T. substances to the NPRI list... and it's bizarre, that the government even though industry groups have agreed to add these substances to the list, hasn't done that!” (Interview with an industry member)

“... we are working for the N.P.R.I. because it's regulated so it's kind of more urgent- we realize that we are not reporting (with A.R.E.T.) the same way, within the company and we are not reporting the same way within the Industry.” (Interview with another industry member)

Although adding A.R.E.T. substances to NPRI as a common reporting venue for all voluntary initiatives would increase public confidence in reported A.R.E.T. reductions as the validity of these reports would be subject to NPRI's regulatory requirements, this very fact, however, may lead to some sectors to reconsider their participation in A.R.E.T..

Consensus, Learning, and Innovation in the Issue of Reporting in A.R.E.T.:

Participants in the study all consented that the present reporting mechanism in A.R.E.T. is lacking and needs to be revamped to meet the requirements of the A.R.E.T. initiative and any other initiative similar in nature to A.R.E.T.. There was no consensus on the preferable method of reporting among respondents. They learned from practice that what

they are reporting to A.R.E.T. doesn't represent the reality or the nature of the reductions, because of the different base year that they are reporting accordingly and because of the different styles and methods of reporting from one company to another. Not to mention, they view that the reporting process itself is time, effort, and money consuming, and does not pay anything back to them in terms of benefit because the reports that they get from the A.R.E.T. Secretariat are not enough and doesn't provide the big picture for them.

Innovation in this issue lies in the fact that participants are considering adding A.R.E.T. reporting to that of NPRI to gain credibility and unite efforts. The latter idea is also part of the modification aspect the participants are looking to change about A.R.E.T.'s reporting mechanism. Another way to modify reporting, in A.R.E.T. participants, would be to agree on a certain base year for reporting, decide on a certain method of reporting so numbers and figures could be clearer to compare, and opening channels of communication with A.R.E.T. Secretariat to get feed back on the reporting done by participants.

4.3.2. Verification:

This issue is also related to the issues of Third party role and Government role previously discussed.

The lack of verification of emissions reductions adversely affects A.R.E.T.'s credibility. It is tightly connected to the problem of recruiting an objective third party for verification and the problem of accurate reporting in A.R.E.T..

“One of the problems is that there is a lack of ways of verifying the emissions and reduction of the emissions that they report are actually true. And it’s not just a weakness of voluntary, it’s a weakness for regulatory as well... Because unless you have an enforcement officer measuring every day, it could be misreporting and there’s not enough enforcement to be able to say accurately every single emission that is reported is correct.” (Interview with Secretariat)

At issue is not so much a concern that emission reductions may be deliberately exaggerated as selective reporting by some participants and the absence of a recognized measurement protocols that ensure consistent and reliable reporting results (Environment Canada, 1999: 12).

Industry has argued that the issue of verification is largely one of perception, that the requirement that the emissions reports to the A.R.E.T. Secretariat be signed by a senior company executive gives them greater authority than routine reporting under the current regulatory regime which doesn’t have to be similarly validated. However, it is presented as not being sufficient by A.R.E.T.’s final report (Leiss, 1997). This stems from the fact that in order to ensure public trust, a voluntary initiative, such as A.R.E.T., must not just be effective; it must demonstrably be so in order to be accepted publicly as a credible alternative to regulations. Whenever industry makes a claim about an environmental outcome, it must be prepared to back it up with verifiable data before the claim will be accepted as legitimate (New Directions Group, 1997).

Verification is essential to earning and retaining public trust which, in turn, are prerequisites to realizing the full benefits of a voluntary approach, such as increased

sales, pre-empted future regulations, improved staff and customer satisfaction, and differentiation from free riders (Bregha & Moffet, 1997:11).

Participants in the Future of A.R.E.T. Workshop (1997) agreed that verification of the reported releases of A.R.E.T. substances is critical for ensuring credibility and confidence in the A.R.E.T. programme. Many participants pointed out that various verification efforts were already taking place in the form of publicly available reports, audits by Responsible Care®, internal audits (in some larger companies), and through NPRI. To this effort, it is possible to verify some releases by comparing NPRI and A.R.E.T. data. The problem, however, is that there is very little consistency; A.R.E.T. participants verify their reductions in various ways using different methods that are not always comparable, which detracted from the credibility of A.R.E.T. (Versteeg, 1998). Versteeg (1998) suggested a number of formats for verification for A.R.E.T.:

- All A.R.E.T. releases could be tracked through the NPRI, although it was noted that differing requirements under the two programs do pose a problem.

This same method was mentioned by one of our respondent, who is representing a certain industry sector, and how they tried to encourage others to follow suit:

“On A.R.E.T. table, we as an association, comment on companies' reports but the secretariat is responsible for writing the final report. So that's it for the evaluation mechanism. Also, they cross-reference with NPRI... there might be some discrepancies cause it might not be the same guy filling the two reports, but two different people. So the numbers sort of speak for themselves unless someone thinks that the company is making up numbers and that's inconsistent with the regulatory reporting in NPRI. So I guess there is a very good verification but it would be much better if all the

A.R.E.T. substances were added to NPRI, and the government has finally moving in that direction... but it has taken an awful lot of effort to make it move there.” (Interview an industry member)

- A regular audit could be made a condition of A.R.E.T. participation; although there was concern expressed that this might act as a disincentive to participation in the program.
- An independent, third party “hard audit” could be carried out on a random basis. Government scientists and environmental professionals could be involved in the audit.
- A system of “peer audits” might be constructed, whereby a panel of other industry participants (sectoral or nonsectoral) or sector associations verifies the reductions claimed by a particular company. This might encourage cross-fertilization of best practices. However, it was noted that such a system might pose a threat to the confidentiality of business information and that it might not appear credible to outside stakeholders.
- The “juried verification of the largest claimed reductions” (Versteeg, 1998: 6) as opposed to a facility-by-facility verification, could be carried out on the basis on established criteria. An “awards system” could be built into this juried verification in order to properly recognize those companies that achieve the greatest reductions.
- Make the current situation more transparent; companies should be more open and formal about the manner in which they are currently verifying their reductions.

Of course, the verification process and its quality depend on adequate resources to do a proper job and the quality of data. It will be important to compare the cost to the benefits of verification in selecting from the options above. It is also necessary to determine who will pay for the verification services:

- Individual participants;
- The program (i.e. participants could pay into a central fund, which would pay for all verifications, as required); or
- The government. (Environment Canada, 1999)

In the related issue of none prescribed reporting format, the absence of consistent identified yardsticks to measure or estimate emissions is widely seen as a weakness in A.R.E.T. and NPRI reporting (Roewade, 1996). Agreed protocols to measure, estimate and report on emissions would help demonstrate the degree to which the programme is effective.

Consensus, Learning, and Innovation in the Issue of Verification:

All participants consented that there is a major need of a verification process to make the program more credible for the public and to monitor its progress. At the same time, they agreed that such a verification mechanism would consume lots of time, efforts and resources.

“... it's a lot of energy to collect data and if data don't improve our performance, then why collect data?” (Interview)

“A lot of work that we have, since it's not regulated, it's voluntary program and we do it but maybe we don't spend so much time on it because there's so much else to do that are more urgent or are compliance-related so you have to do it. (We need to) be part of a monitoring program and that's it, and kind of feel that everybody is doing it. But follow up is lacking.” (Interview with an industry member)

Yet it seems that the interview participants are not sure how to evaluate their levels of emissions cuts.

“I guess we evaluate them according to A.R.E.T. goals. And the A.R.E.T. goals are very specific. You know: 90% cuts of grade 1 substances and 60% for the rest. Um, but the one other thing that is in A.R.E.T. is that efforts are accepted and encouraged because I mean any effort is better than no effort.” (Interview with an industry member)

Participants still seemed to think that the best method for the time being and the future is to compare A.R.E.T. reporting with the NPRI measurement to get credibility from the latter's regulatory nature:

“What “we” did and we started this pretty much after A.R.E.T. was designed, we felt that a mechanism to provide credibility... and that companies were actually doing what they said they were doing would require reporting of they are doing under A.R.E.T. like the NPRI (the National Pollution Release Inventory) regulations, cause there, you are required by law to report your emissions and all the things on this NPRI list. Now it happens that half of the A.R.E.T. substances are on the NPRI list also, but that's by accident. We argued with the government that they should add all A.R.E.T. substances to the NPRI list...” (Interview with Secretariat)

And while one industry association claimed to have a better verification system that could be adopted into A.R.E.T., it disclosed that their system lacks public credibility because of its voluntary nature, which doesn't hold much in the public eye.

“We have a better tracking system than NPRI, but because it wasn't regulatory, we finally came to the realization that the public has more confidence in this regulatory one (NPRI) even if it was inferior.” (Interview with an industry representative)

Learning in this issue took the shape of awareness by participants of the importance of a verification mechanism; no matter what style or shape it takes, just to attain public trust in their results. While innovation in this issue is nonexistent since participants didn't think of new ways for verification. The way they want to change the programme and modify its verification mechanism is to apply other existing and tried-and-true methods that are readily available in other programmes to A.R.E.T..

To summarize, consensus in this issue took the form of an agreement among all our interviewees of the need for an efficient verification mechanism to replace the numerous verification mechanisms adopted by the different members of A.R.E.T.. The interviewees learned of the importance of adopting a unified verification method presented.

4.3.3. Communication:

Leiss stated in a study done on A.R.E.T. in 1996, that A.R.E.T. helped to create a network among its participants that will last, both between and within the different

sectors. However, that was not totally true in our case. Our industry participants expressed their concerns in terms of their communication channels with A.R.E.T. and with other A.R.E.T. stakeholders. It seems that A.R.E.T. Secretariat does not contact A.R.E.T. participants unless it is time for them to report to the table or to send them the Environmental Leaders Report. Otherwise, the participants are left to make the contact with the secretariat if they needed something,

“I usually phone them two weeks before the July deadline (for reporting)... And they send me this every year, which are the results of the previous year. They say "This is what we have in our bank for '97. Don't forget to report the '98 and have all the information from each.” (Interview with an industry member)

The same participant lacked information on how the programme is going because of lack of effective communication with A.R.E.T. Secretariat: “I don't have enough feedback from them to see where they are, if they have done something. So I have no clue.” (Interview with an industry member)

Another industry participant confirmed the general view stated by other participants within different industries.

Researcher: “Ok so how would you describe the communication between you and the A.R.E.T. Secretariat? Is it formal, informal...?”

Interviewee from a certain industry sector: “Well, I just get letters like this, that's about all.”

Researcher: “So they don't even call you to see how you are doing then...”

Interviewee: “No.”

Researcher: “Do you feel that A.R.E.T. helped in solving environmental problems?”

Interviewee: “I don't know...I don't get enough information out here.”

It is worthy to note that our participants who were within the sectors of industry, are the one who complained about the lack of communication and feedback, while those who are representing industry associations, and who are attending the A.R.E.T. committee meetings twice a year, along with government stakeholders, thought that the communication process is a good one.

Researcher: “do you believe that this communication between you and A.R.E.T. was successful? Do they understand more about what's happening in (your) Industry?”

Interviewee with an industry representative: “Yes, I think so.”

A.R.E.T. Secretariat, itself, thinks that A.R.E.T. was successful in opening communication avenues between the participants:

“Before there was anybody in the program, we didn't have contacts... I think (A.R.E.T.) has opened up communication more in terms of some companies within a sector will go to other companies in a few cases to get help, to exchange ideas. Say with the stakeholders, it provided a lot of the, a major venue for discussions between Health Canada, Industry Canada, Environment Canada, all of them have very different mandates and the industry groups as well. I can't say what communication was like before but we see there is a fair amount now.”
(Interview with Scretariat)

The problem arises when those associations do not involve their members in the A.R.E.T. feedback network.

Researcher: “I know you didn't attend the roundtable itself, but do you have any idea of what's going on the roundtable, whether the negotiation affects you in certain matters?”

Interviewee from a certain industry sector: "I have no clue. I'm pretty sure that if something that we want... that people around the table, they would come with their knowledge on behalf of people in their own sectors, what kind of issues they have. But no I have no...."

Researcher: "Do you have knowledge of who is representing your sector on the A.R.E.T. committee?"

Interviewee: "No."

Researcher: "OK and if you have concerns, you say that you call directly A.R.E.T...."

Interviewee: "Yes."

Researcher: "But do you know if they (A.R.E.T. and your association) discuss it or not?"

Interviewee: "No I have no clue. If I had a major issue, let's say, and I didn't know what to do about it then I would talk about it as well during the association meetings and mention as well to the chairman of the committee and he will speak for the Industry or I believe he will speak for the Industry. I don't even know if, no I have no clue who is at the table for us."

The problem of deficiency of communication does not entail communication between participants and A.R.E.T. programme only, but also include communication between participants themselves, whether within the same sector or among different sectors.

Researcher: "Have you ever met with people from other sectors of Industry and spoke to them about A.R.E.T.?"

Interviewee from a certain industry sector: "About A.R.E.T. specifically?"

Researcher: "A.R.E.T. and the means and the ways...?"

Interviewee: "No."

Researcher: "It never came up?"

Interviewee: "No. But once the revamping would be done, it would be easy for me to do that. But I am not there yet to be able to do that."

Researcher: "Do you think there is cooperation happening among participants or it is more an individualistic approach? In which way?"

Interviewee: "Well when they need something, they phone me back right away. And if they have a question, we'll answer to them right away. Communication is good..."

Researcher: "Between you and them (A.R.E.T.)..."

Interviewee: "Yes, person to person. But I don't see any working group between A.R.E.T. and the Industry or even among the companies."

Another participant had the same view, confirming the fact that not much communication is taking place among sectors:

Researcher: "Were there any groups that you didn't have prior relations with before A.R.E.T. and now you have stronger relations or different kinds of relations because of A.R.E.T.?"

Interviewee from a certain industry sector: "No, not really but it's just another opportunity to meet people that maybe you won't see very often but no new faces. It's a different group working a different perspective. A lot of the players there are the same from previous tables."

Researcher: "Do you think that because of what you are doing at your organization, do you by that influence other players within A.R.E.T. from other sectors?"

Interviewee: "I don't think so."

Researcher: "And you don't think you are influenced by them?"

Interviewee: "You may have an indirect impact, but I think it's more the fact that you are an emitter of that same substance. I don't think there's much more conversation between sectors."

Consensus, Learning, and Innovation in Communication:

There is a split consensus in this issue among the interviews participants according to their state of association to A.R.E.T.. Those members who are part of the different industry sectors, and who are not sitting on the A.R.E.T. committee, complained that there is not enough feedback from A.R.E.T. Secretariat to inform them of occurrences in the programme, other than the annual reports Environmental Leaders 1, 2 & 3. They want to change that in A.R.E.T. 2000, so they would feel more involved and interactive with others, and at the same time, feel more motivated to reach their mutual goals.

“(The kind of improvements we want to see within A.R.E.T.) is better communication with the company/companies and better communication too with A.R.E.T. to share information, to motivate... Motivation to collect data, motivation to decrease the pollution by giving tricks (incentives)... to share conditions; how to collect data easier or a better way to collect data, things like that. And the data have to be homogeneous...” (Interview with an industry member)

At the same time, A.R.E.T. participants who were sitting on its committee (industry associations, and government departments, along with A.R.E.T. Secretariat) didn't face the same problem. For them communication seemed to be fine, not knowing that there is a link missing between them and their sectors members. The reports are not an efficient way of communicating mandate and results to A.R.E.T. members, and there should be another mechanism of communicating to fill this vacuum. The members who are suffering from lack of communication are the one who will be driving the re-evaluation and change bandwagon in the future A.R.E.T., to get over this shortage.

As for learning and innovation in this issue, our participants admitted that they didn't learn much from other A.R.E.T. members because not much communication took place amongst them. However, only those who are sitting on A.R.E.T. committee learned something about other committee members' positions and perspectives, and had a better understanding for them. Innovation is lacking in this issue simply because none of our participants brought up any idea to change the situation or modify it in a certain way. So that is going to be a challenge for A.R.E.T. 2000 to deal with.

To summarize, there was no consensus observed in this issue, nor learning, or innovation, implying that A.R.E.T. should give special attention to its communication mechanisms.

4.3.4. Negotiation:

In this issue we will discuss the perception of the study participants about the process of collaboration in A.R.E.T. in terms of the negotiation and decision-making forms on the table.

A.R.E.T. initially took the form of a multistakeholder consultation process (1992-93) tasked with discovering methods for achieving the reduction and/or elimination of toxic substance emissions (Leiss & al., 1997). It then took the form of a "challenge" to Canadian industry to voluntarily take action in this area, which is the present form of A.R.E.T. under analysis here. In the first phase of the A.R.E.T. programme, participants then managed to reach consensus on two main A.R.E.T. objectives: to design criteria for defining toxicity, and to compile lists of target substances based on these criteria (See

section on Substances listing) (Leiss, 1996: 18). But when participants were faced with the third objective- to decide on the course of action to be undertaken by industry after the criteria were developed and substances were identified, suddenly there seemed to be a lack of framework in the negotiation process, and nobody could reach an agreement on that. In a study done by VanNijnatten (1998) on the A.R.E.T. programme, her study respondents reported uncertainty about how decisions were to be made. One of her interviewee stated, "There were no formal rules for consensus/agreement, just a willingness to participate." The method for reaching agreement was variously described as "fighting it out", "general agreement around the table", "not necessarily requiring unanimity", "implicitly requiring unanimity" and "can everyone live with that?!" (VanNijnatten, 1998)

At this point of the programme, the ambiguity inherent in the process weakened any incentive for representatives to try to convince their constituencies that compromises were worthwhile, a difficult task under any circumstance (VanNijnatten, 1998). In the end, tensions among stakeholders proved too great, and the NGOs decided to leave the table (See former section on the issue of NGOs).

In the phase to follow, in 1994 and after, when the A.R.E.T. challenge was issued, most of the negotiation made on the A.R.E.T. table was to discuss the annual reporting and how to increase participation and results. This negotiation phase only involved representatives of the industries and government, who sat on the A.R.E.T. committee.

One of our study respondents described the whole story of the A.R.E.T. negotiation process best when he stated:

“ You have to go back to the original A.R.E.T. table before the environmentalists left for that (negotiation dynamics). The reporting thing is on negotiation now, but the challenge was set then and now we're watching the numbers flow. So there is nothing you can negotiate about now.” (Interview with an industry representative)

Our industry participants, who aren't part of the A.R.E.T. committee, had no certain views about the mechanisms of discussion on the table since they don't attend any of its meetings. But certainly that didn't prevent them from having certain perception of the dynamics on the table. One participant thought of A.R.E.T. as a bureaucracy:

“Very administrative. A red tape kind of program. Nice to have but a lot of... like a big machine.” (Interview with an industry member)

On the other hand, those who are part of the A.R.E.T. Committee complimented the present negotiations on the table.

“(A.R.E.T. has been) very positive. The meetings have been chaired by environment Canada. They have been very professional. The agendas have been carefully distributed in advance. There has been ample opportunity for all parties to be heard... There are always differences in points of view and they're often expressed at the meetings. Because the meetings have involved only Industry and government, there have been relatively minor disagreement points... very civil proceedings.” (Interview with government representative)

Another participant described the negotiation dynamics as positive because it covers different point of views.

“I think some of the strengths are that you get a lot of diverse points of view and that leads to a lot good discussions because you don't have just Industry deciding what they want to do; you have the Industry, government and through Environment Canada and Health Canada you get the environment and health views sort of protected.” (Interview with Secretariat)

Yet it seems that the civilized nature of the present proceedings stems from the fact that the issues at hand and under discussions are not conflictive in nature for those on the table. Committee members mostly discuss adding new members, general program maintenance, and the future of A.R.E.T..

“There haven't been a lot of decisions recently that have required everybody to vote “yay” or “nay” for. It has to be kind of, the stakeholders get together and they discuss an issue and some action items will come out of it or some suggestions will be put forward...So it hasn't been very much... (The main issue that are usually discussed at the A.R.E.T. committees) is always your general program maintenance, or like, you know, someone has asked does this constitute something or should we reclassify or what should we do about that...Those are the kind of things that...Usually there's some good discussion but some things tend to not get resolved when they are really specific in nature... lately, most of the focus has been on the future of A.R.E.T.. As the year 2000 drives nearer, and that's kind of the end of the mandate of the current program, the short-term goals, all of them are for the year 2000. Of course A.R.E.T. also has long-term goals, which extend beyond, but most people see the program as up until 2000. So there has been a lot of discussion about where we go, whether we keep it and modify it or start something new...” (Interview with Secretariat)

One major incident that interrupted the smoothness of the present negotiation flow was the struggle that one of the Aluminum industry companies is facing with reducing a

certain toxic substance that goes into the production of Aluminum, and is hard to replace at the mean time (see consensus in the issue of Substance Listing).

“...There wasn't really a consensus reached on what to do with it so it was kind of left because a lot of stakeholders wanted to not go back to the substance list and change it...” (Interview with Secretariat)

The departure of the NGOs reduced the divergence in perspectives making it easier for A.R.E.T. stakeholders to reach agreement on the issues discussed after 1994. The present table is waiting for a multistakeholder consultation table, one that will include more participants along with the NGOs, to take place in 2000 to determine the issues that it won't deal with at the moment. These issues include the evaluation of the substances lists, evaluation of the A.R.E.T. mandate and target deadlines.

Consensus, Learning, and Innovation in the Issue of Negotiation:

There is no consensus in this issue among the respondents of A.R.E.T. about the present negotiation process. Whilst committee members applaud the negotiation process and describe it as being “positive” and “civil”, one would notice that the issues under negotiation are general in nature, and don't deal with the mandate of the program nor pose any threat to any participant's position of view. Thus, we might wonder if there is really anything important that is being negotiated in the present time. Even with the Aluminum issue, that requires reevaluating the substances list of A.R.E.T., it was left for the next multistakeholder consultation table to deal with it. Other A.R.E.T. participants, who are not part of the committee, have no idea of how the negotiation process going, and have no immediate reaction. Learning in this case was observed in the form of

committee members getting to know each other's point of views and accomplishing understanding. Innovation wasn't observed here, and though major modification needed to revamp the negotiation process, none was expressed by the study respondents.

CHAPTER FIVE: DISCUSSION:

When assessing the consequences of the collaboration process in A.R.E.T. it seems that conventional ways of thinking are not very helpful. We are looking for tangible consequences that are perceived clearly by our respondents in terms of consensus, learning, innovation, and process adaptation. Sometimes the consequences are not tangible, nor clear to observers. As a result of a thorough case study, Turcotte (1996) found the roundtable to be a failure from a formal point of view, as no formal management blueprint –the initial objective- was agreed upon, yet she found the multistakeholder initiative to have relevant outcomes in terms of symbol creation and social network development among stakeholders. Innes & Booher (1999) contend that while consensus building can produce implementable, mutually beneficial agreements among contending players, its most important results may be less tangible. Consensus building process can change the players and their actions. They can produce new relationships, new practices, and new ideas. They can have second and third order effects years after a process is over. Consensus building may be effective even when it does not accomplish what its participants or sponsors originally intended. The most important consequences may be to change the direction of a complex, uncertain, evolving situation, and to help move a community toward a higher levels of social and environmental performance because its leadership has learned how to work together better and has developed viable, flexible, long-term strategies for action.

Keeping this in mind, we proceed with the discussion of this case in terms of its outcomes as perceived by the study participants whether tangible or non-tangible.

5.1. Consensus:

The units of analysis that consensus was detected from A.R.E.T. stakeholders participating in this study's interviews are the following: Voluntary vs. Regulatory, Elimination vs. Reduction, Social responsibility, NGOs, Recruitment of New Members, Third Party Participation, Reporting, and Verification. It is important to note however, that in the issues of Voluntary vs. Regulatory and Elimination vs. Reduction, documentary analysis showed that the NGOs didn't consent on them. Concerning issues of Targets list, Free Riders, Role of Government, Communication, and Negotiation, no consensus was reached.

Non-consensus in the latter issues reflected the positions of the participants within A.R.E.T., and their affiliations. Those who are affiliated with the Government didn't call for a more prominent role for the government in A.R.E.T., for example, thus reflecting the government's position in that issue. On another hand, those participants that are sitting on the A.R.E.T. Committee didn't find a problem in A.R.E.T.'s communication process, while those who were not part of the committee declared it lacking.

Graham, Mintu and Rodgers (1994) described the Problem-Solving Approach in multilateral negotiation (or PSA) as the degree to which bargainers use cooperation, collaboration and information exchange in arriving to a solution. The lack of PSA would be characterized by a win-lose, or zero-sum approach. We can determine that consensus in the previously mentioned issues is equal to PSA, while issues that reached non-consensus is similar to zero-sum outcome.

In the “3R” roundtable case, Turcotte (1996) found out that consensus reached among table stakeholders was based on a general theme or was met by juxtaposition. In other words, consensus was reached on “macrocategories”, not the “microcategories” within the macro one. The same can be said in this study; when consensus was reached among participants it was general in nature. They agreed on the need to implement certain changes and modifications to A.R.E.T.’s collaboration process (i.e. verification, reporting, substances listing, role of government, role of NGOs), yet they didn’t have a clear frame of how to go about pursuing these changes. That might explain why they reached consensus in these matters, as diversity limits consensus to generalities (Turcotte, 1996). Another reason might be the fact that A.R.E.T. goals and framework is ambiguous to its participants making it difficult for them to implement their ideas, since Getz (1995) observed that regulations resulted from multilateral agreements where easier to implement when formulated clearly and precisely with unambiguous directions and ranked objectives.

However, one must keep in mind that the type of consensus we are dealing with here is limited to current A.R.E.T. members, a group that is limited notably by the absence of NGOs. For the unit of analysis of “Voluntary vs. Regulatory” which was agreed upon among our respondents – they consented that voluntary initiatives are the best approach to deal with environmental problems –, the resulting consensus could have been totally altered if NGOs still participated. They left because they thought that a voluntary approach is preferable, and their view has been that voluntary initiatives are weak means

to protect the environment and that Government should look into developing regulatory measures instead.

There was still enough diversity among the A.R.E.T. stakeholders (ten different industry sectors, environmental agencies, plus other governmental departments) which played a role in not reaching consensus in certain issues, as was also observed in Turcotte's study (1996), where she stated that consensus can only be reached if all divergent rationales can agree on the object. The main problem in our study is not the ambiguity of the objectives of A.R.E.T., rather, it is the ambiguity of the means to reach these objectives, as was the problem observed in Turcotte's study (1996). That might be due to the nature of voluntary initiatives that try to encourage people to participate rather than discourage them.

It is a common mistake when a process fails to produce consensus among its partners to conclude that it was a failure. The truth is that consensus building processes also produce informal agreements and understandings that are not tangible (Innes & Bohor, 1999), which is the case in A.R.E.T.. In the San Francisco Estuary Project (SFEP) studied by Innes et al. (1994), a consensus process to prepare a plan for the San Francisco Bay and Sacramento River Delta, participants came to agree that there was a decline in the water quality, although some had not believed it at the outset. After much discussion, they also agreed on how to define and measure the problem.

We concur in our case with Turcotte's (1996) conclusion that the multistakeholder roundtable didn't reach exploitation agreements because the consensus developed was general and ambiguous. We also think that, like in the case discussed by Innes and Booher (1999), the consensus building process might contribute to future formal or informal agreements. In this manner it would serve a symbolic role (Turcotte, 1996).

5.2. Learning:

Learning was observed in the following issues: Substance Listing, Voluntary vs. Regulatory, Social Responsibility, Free Riders, Role of NGOs, Third Party, Reporting, and Negotiation. The nature of learning is different from one subject to another. The term "Free Riders" was a new term to deal with for some participants, which they didn't deal with either before or in another similar initiative. The idea of "Social responsibility", on the other hand, was more focused here for the participants, because the concept of a voluntary initiative requires that participants believe in their societal and environmental role.

Substances categories and listing was one of the most successful learning declared by all participants; it made them knowledgeable of what substance to go after and its level of toxicity, and bio-accumulation. The issue of reporting was more of learning in a negative manner; that is, participants learned that their varied reporting systems are not working and that they should seek another. Learning also took the form of an awareness and consciousness of such issues as the importance of NGOs participation in A.R.E.T., the

importance of voluntary initiatives in environmental protection, the importance of third party verification for the success of A.R.E.T..

Most importantly however, is that A.R.E.T. helped different sectors and agencies to collaborate, even if it is indirect, and be aware and understanding of each others' domains, successes and difficulties as they each attempt to achieve the objectives of A.R.E.T.. This corresponds with Turcotte's (1996) findings that learning about the social structure at the domain level in the 3R table was an important outcome of that multistakeholder collaboration process. This also correspond with Innes & Booher (1999) concept of learning as an intangible outcome of a consensus building process:

“...these can be thought of as social, intellectual, and political capital... In every process we observed, participants contended that they established new or stronger personal and professional relationships and built up trust, which allowed genuine communication and joint problem solving. With social capital, they felt less hostile to others' views, were more likely to share knowledge, and were likely to negotiate other potentially conflicting issues. In most cases, stakeholders also built shared intellectual capital, including mutual understanding of each others' interests, shared definitions of problem, and agreement on data, models, projections, or other quantitative or scientific descriptions of the issues. Finally, stakeholders develop political capital and begin to work together outside the consensus building process to influence public action in ways they were unable to when acting individually”.

Although not all the previously mentioned outcomes are apparent in the case of A.R.E.T., it might happen in the long run or if certain changes were done to the process.

The previous statement by Innes and Booher (1999) relates in certain aspects to Gray's (1989) concept of "required diversity" for potential learning to occur in a multistakeholder process. Turcotte's study (1996) also supports the notion that diversity is needed for participants representing diverse groups of stakeholders to learn from each others in a roundtable. Our study's results confirm this notion, although the lack of a good communication system between stakeholders not sitting on the A.R.E.T. Committee limited their potential for more learning.

In a study done by Barker & Camarata (1998) on 'Learning Organizations', they state that the amount, timing, and kinds of communication used within an organization are paramount to learning. We can conclude the same for our collaboration forum in the A.R.E.T. case. Then again, it might be the diversity of the stakeholders that made communication deficient among A.R.E.T. participants, thus affecting their learning. Lane & Lubatkin (1998) maintain that one firm's ability to learn from another firm depends on the similarity of both firms in their: (1) knowledge bases, (2) organizational structures and compensation policies, and (3) dominant logics. The differences of these factors among the varied A.R.E.T. stakeholders (i.e. differences in industry sectors, organizations' sizes and structures, organizational cultures) might have hindered potential learning and limited it substantially.

It is worthy to note that the kind of learning observed in A.R.E.T. falls under the learning by discovery type mentioned by Van de Ven, Polley, Graud, and Venkataraman (1999). Most of the learning occurring among partners of A.R.E.T. concentrated on expanding

and discovering possible action alternatives to reach consensus and attaining A.R.E.T.'s goals.

We conclude in our case that A.R.E.T. roundtable helped the stakeholders to acknowledge their toxic discharges and the measures of fighting this problem. It made them also aware of the importance of collaborating to get results and the need to meet halfway to reach consensus on all the issues that they can't totally agree upon.

5.3. Innovation:

Innovation in this case was hard to detect due to the complexity of factors at play in the collaboration process. Only one respondent from the industry sector stated that his company innovated and created new substances to use as an outcome of A.R.E.T., instead of those that are deemed persistent, bioaccumulative, and toxic (PBTs). Still the reason might be that he is in the chemical production and supply field, and he is following customers' preferences, rather than A.R.E.T. objectives. The reason behind this conclusion is that other respondents stated that any innovation that took place in their facilities or production processes was not primarily a result for taking part in A.R.E.T.. As a matter of fact, it is more of a result of other existing regulating initiatives, governmental regulations, and customers' and public pressure.

The only two issues in this study that witnessed some kind of innovation was in firms' social responsibility role, where firms trying to get public support and revamp their images in their eyes, attempted to reach the public in new ways. Helping schools to re-

cycle, creating environment-friendly school and neighborhoods programs, and launching awareness days and fairs are some of the few methods which companies are trying to create to declare that they are socially and environmentally responsible. Nevertheless, innovation in this issue is more a corporate behavior innovation, rather than innovation in means and ways of production. Whether A.R.E.T. triggered this kind of innovation in social responsibility is not quite clear, yet we know that joining the initiative entitles the idea that one has to adhere to social responsibility as part of it. This finding is in synch with the notion of 'reflexive social process', where the social structure of the collaboration will evolve into a mode more akin to an open-ended, self-organizing system in which the structure itself may undergo one or more social transmutations, and innovation is more likely to result, not only in terms of an innovative product but also in terms of social innovations related to the collaborative process itself (Roberts & Bradely, 1991: 222). We can see the results of that in A.R.E.T. participants launching more social and environmental programs, and at the same time demanding more transparency in communication within and outside of A.R.E.T. to get feedback.

This last note takes us to our second issue that innovation was apparent in reporting. Since the present reporting mechanism was considered lacking by the study participants, because it is different from one A.R.E.T. participant to another which complicate and distort results, they all agreed that the best way to solve the problem is to add A.R.E.T. reporting to the NPRI one (the National Pollution Release Inventory is a regulatory program) to gain credibility and unite efforts. Although the NPRI reporting system existed long before A.R.E.T., yet for A.R.E.T. participants to use in a new way and in a

different context, that is to control A.R.E.T. emissions, we consider this truly innovative in thinking.

In addition, when analyzing the element of innovation in the data obtained from the study participants, it was observed that they had ideas for future innovations that didn't take place yet in the current A.R.E.T., and are waiting for A.R.E.T. 2000 to determine whether to go forward with these innovative modifications or not. Good examples would include, adding or taking off new elements from the substances lists as new research have shown new conclusions about these elements, and the need to invite back NGOs to the A.R.E.T. table and change participants attitude towards them. Still, these future innovations are general in nature and lack a definite frame and means of implementation.

All observed innovation is considered incremental innovation, or first-order change as stated by Watzlawick, Weakland, & Fisch (1974), where modifications and refinements are readily interpreted within the existing normative order and no radical qualitative alteration occurred to the system. This also corresponds with Turcotte's (1996) findings in her 3R case where innovation mainly consisted of typologies refinement and marginally increasing the problem's tractability.

The lack of radical innovation might be due to lack of dynamic group discussions and weakness of the consensus building. As mentioned previously in the literature review, Innes & Booher (1999) maintained that because consensus building involves dynamic

group discussions it is more likely to produce innovative ideas, strategies, and actions that are new to the context and which change the direction of policy.

5.4. Limitation of Multistakeholder Collaboration:

We can conclude that the limitations of participatory methods become a problem where exaggerated confidence in their efficacy leads to their being used exclusively and critically (Pelkey, 1996). Organizations and individuals can have unrealistic confidence in the efficacy methods per se. Enthusiasm for Participatory methods should not blind us to their limitations, particularly where their application has become routine (Gueye, 1995; Chambers, 1995). In addition, as many donors agencies, non-governmental and, increasingly, government organizations are committing to participatory methods, it is particularly important to see these in the broader context of who is using them, how, and what for (Biggs & Smith, 1998). There are specific historical and institutional conditions that shaped any coalition-building case.

Huxham and Vangen (1996, 1998, 2000) stated that among the factors which tend to induce collaboration inertia, and consequently limiting it from reaching its goal are: difficulties in communicating due to differences of professional languages and organizational cultures; difficulties in developing joint modes for operating when different organizations have different internal procedures than each other; difficulties in managing the perceived power imbalances between partners and the associated problem of building trust; difficulties of managing the accountability of the collaborative venture to each of the partner organizations and to other constituencies while maintaining a

sufficient degree of autonomy to allow the collaborative work to proceed; and difficulties with the sheer logistics of working with others who are based in physically remote locations. It is interesting to note that the same factors apply in the A.R.E.T. case limiting a totally successful collaboration.

Gray & Wood (1991:19-20) stated, in their review of available theories and case studies of collaboration, that there was no single theoretical perspective or framework that can serve as a main foundation for a general theory of collaboration, and that they are limited to the contexts and cases they were constructed for and within. Biggs & Smith (1998: 240-241) examined cases in which participatory methods have apparently been influential in shaping technology development. However, the authors concluded that this influence depended on quite specific historical and institutional conditions and not on the coalition-building behavior in specific. In other words, the backgrounds of the stakeholders collaborating seemed to have more influence on determining the success or failure of that collaboration than the process of collaboration itself.

CONCLUSION:

Not meeting a project's goals is not necessarily an evidence of the failure of its collaboration process since this process is usually a complex and interrelated one, where lots of factors come to play. In this study we attempted to view the outcomes of the multi-stakeholders collaboration process as witnessed in the A.R.E.T. project. We found out that in terms of consensus, learning, and innovation, the process was not a total success, nor a total failure. The consensus reached was general in nature, while there was no consensus in the details (or micro-categories, as described by Turcotte, 1996). Learning took the form of gaining awareness of other stakeholders' problems and needs. Innovation consisted of marginal modifications and not radical changes. There were particular categories in which the collaboration had a positive impact on. Participants of the A.R.E.T. multistakeholder roundtable perceived it as a success. We tried to understand some of the dynamics that operate in a collaboration process to reach some kind of insight about how to facilitate more adaptive and successful collaborative planning but more research is required to generalize findings and work with them.

Our research has focused on multistakeholders roundtables, which is a small part of the larger phenomenon of collaboration among organizations. Furthermore, our research scope is limited to one embedded case study, and while its mechanisms compose some of its ingredients, there are other factors, which are not at play here, that might work better with other different cases. We have to understand that each case has its distinguishing characteristics that make it unique in its nature, and this study is only a step towards revealing the more complex interaction of elements behind the phenomenon of

collaboration in all these seemingly different cases. Yet case studies have the advantage of providing rich results, which could be transferable to other situations. The main results of the A.R.E.T. case study which seem to present higher possibility of transferability to other multistakeholder initiatives are the following:

- Consensus was reached among A.R.E.T. participants in general subjects, not the specifics.
- Diversity of participants in A.R.E.T. made it hard for them to reach consensus in more specific issues, but contributed to their learning in A.R.E.T..
- Learning in A.R.E.T. took the form of an awareness of other participants' point of views, domains, and situations.
- Few innovations took place in A.R.E.T.. They consisted of marginal modifications and not radical changes, and they co-occurred with the A.R.E.T. process, yet they were mainly a result of participants' individualistic efforts, or other outside pressure, such as governmental regulations and public pressure.
- Participants of the A.R.E.T. multistakeholder roundtable perceived it as a success.

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**APPENDICES:
APPENDIX A:**

List of A.R.E.T. Participants by Industry Sector

(Source: Environmental Leaders 3, 1999)

Aluminum

Alcan Smelters and Chemicals Ltd.
Jean-Marie Sala or Michel Lalonde
Tel (514) 848-8277 Fax (514) 848-1215
Arvida Aluminum Smelter, PQ
Beauharnois Aluminum Smelter, PQ
Isle-Maligne Aluminum Smelter, PQ
Shawinigan Aluminum Smelter, PQ
Vaudreuil Chemical Works, PQ

Chemical Manufacturing

Ashland Chemical Canada Ltd.
Roland Blondin (Operations Manager)
Tel (905) 823-1800 Fax (905) 823-5293

BASF Canada Limited
David Peters (Senior Ecology and Safety Engineer)
Tel (416) 674-2541 Fax (416) 674-2586
Brantford, Sarnia, Toronto and Windsor, ON

Bayer Inc.
Sarnia Site, ON
Walter D. Frais (Associate Env'tal Engineer)
Tel (519) 337-8251 Fax (519) 339-7711

Celanese Canada Inc.
Dr. Andy M. Day
Tel (403) 471-0323 Fax (403) 471-0113
Edmonton Plant, AB
Millhaven Site, ON

Chinook Group
Sombra Plant, ON

B.K. (Bob) Patel (Senior Env'tal Engineer)
Tel (519) 892-3411 Fax (519) 892-3417

CXY Chemicals Canada Ltd.
Kerry Peters
Tel (403) 234-6750 Fax (403) 234-1091
Amherstburg Facility, ON
Beauharnois Sodium Chlorate Plant, PQ
Brandon Chlorate Plant, MB
Bruderheim Facility, AB

North Vancouver Facility, BC
Nanaimo facility, BC

Cytec Canada Inc.
Niagara Falls, ON
George Slaney (Manager, Env'tal Services)
Tel (905) 374-5812 Fax (905) 374-5879

Delmar Inc.
Lasalle Plant, PQ
Pierre Plante (Vice-president)
Tel (514) 366-7950 Fax (514) 366-5665

Dow Chemical Canada Inc.
Don Hames (Env'tal Quality)
Tel (519) 339-3505 Fax (519) 339-3417
Fort Saskatchewan Site, AB and West Coast Distribution Centre, North Vancouver, BC
Ken Tsang Tel (403) 998-8440
Sarnia Site, ON
Jorma Salmikivi Tel (519) 339-3344
Varenes Site, PQ
Raymond Paquin Tel (514) 652-1024

Dupont Canada Inc.
James M. Taylor (Manager, Env'tal Affairs)
Tel (613) 548-5099 Fax (613) 548-5297
Ajax Manufacturing Operation, ON
Maitland Manufacturing Operation, ON

Eka Nobel Canada Inc.
Ron Jarvis (President)
Tel (819) 843-8942 Fax (819) 843-3269
Magog Site, PQ
Regis Laberge Tel (819) 843-8942
Valleyfield Site, PQ
Jean Goyette Tel (514) 377-1131

ELf Atochem Canada Inc.
Distribution Centre, Oakville, ON
J.W. Hilborn (President, Performance Chemicals & Polymers Division)
Tel (905) 827-9841 Fax (905) 827-7913

Ethyl Canada Inc.
Corunna Production Facility, ON
Pat Allan (Manager, EHS)
Tel (519) 481-1644 Fax (519) 481-1602

H.L. Blachford Ltd.
Montreal, PQ
Robert McMillan (Operations Manager)
Tel (514) 938-9775 Fax (514) 938-8595

Hercules Canada Inc.
Burlington, ON
Victor Wong
Tel (905) 632-7861 Fax (905) 333-3718

Huntsman Corporation Canada Inc.
Guelph Plant, ON
Ken Schroeder, Env'tal & Industrial Hygiene Coord.)
Tel (519) 824-3280 Fax (519) 824-8572

Hydro Agri Canada (formerly Nutrite)
Hydro Agri Maitland, ON
Iyasu Burru, (Env'tal Engineer)
Tel (613) 348-3681 Fax (613) 348-3043

Kronos Canada, Inc.
Varenes, PQ
Mr. Gabriel Dionne
Tel (514) 929-5064 Fax (514) 929-5100

Lubrizol Canada Limited
Niagara Falls, ON
Stavros Roussakis (Technology Manager)
Tel (905) 358-5778 Fax (905) 358-0253

Methanex Corporation
Alan Fung (Env'tal & Quality Services Coord.)
Tel (403) 528-1389 Fax (403) 529-9171
Kitimat Methanol Plant, BC
Medicine Hat Methanol Plant, AB

Montell Canada Inc.
Varenes, PQ
Claude Audet (Chef - Securite/Environnement)
Tel (514) 449-8500 Fax (514) 652-7042

Nacan Products Limited
J.M. Shepherd (Corp. V.P., Env'tal Affairs)
Tel (905) 454-4466 Fax (905) 454-4918
Boucherville Plant, PQ
Vancouver Plant, BC

Nalco Canada Inc.
Burlington Manufacturing Site, ON
Joanne Bortolotto (Corp. Env'tal Specialist)
Tel (905) 333-6117 Fax (905) 632-0849

Nalco/Exxon Energy Chemicals Canada Inc.
Chemical Manufacturing Plant, Nisku, AB
Brett Misener (Operations Supervisor)
Tel (403) 955-6904 Fax (403) 955-6922

Neste Resins Canada
Ste Therese Facility, PQ
May O'Brien (Environmental Engineer)
Tel (905) 712-0900 Fax (905) 712-0901

NOVA Chemicals Ltd.
April Broughton (SHER Analyst, Env'tal Protection)
Tel (403) 750-3622 Fax (403) 290-6801

Corunna Site, ON

Anna Madajczuk Tel (519) 862-2911

Joffre Manufacturing Site, AB

Brian Young Tel (403) 342-9423

Sarnia site, ON

Bob Huggett Tel (519) 332-1212

St. Clair River Site, Corunna, ON

Ted Klerstead Tel (519) 862-1445

OxyChem Durez Canada

Fort Erie, ON

Tim Currah (Env'tal Coordinator)

Tel (905) 871-3206 Fax (905) 871-7979

Petromont Inc.

M. Jean Carpentier

Tel (514) 640-7400 Fax (514) 645-5029

Site de Montreal-Est, PQ

Site de Varennes, PQ

PPG Canada Inc.

Beauharnois Plant, PQ

Denis Faucher

Tel (514) 429-4641 Fax (514) 429-3499

Procter & Gamble Inc.

Kevin Mahoney (Regulatory Affairs Manager)

Tel (416) 730-5919 Fax (416) 730-4122

Rhone-Poulenc Canada Inc.

Seay Harder (Manager, HSE)

Tel (905) 821-4450 Fax (905) 821-4733

Mississauga Plant, ON

Charles Frey (HSE) Tel (905) 270-5534

St. Catharines Plant, ON

Valleyfield Plant, PQ

Rohm and Haas Canada Inc.

West Hill Plant, ON

Dale Stevenson (SHE Manager)

Tel (416) 284-4711 Fax (416) 284-7779

Saskatoon Chemicals Ltd.

Doug Humphreys (Supervisor, Laboratory & Env'tal Services)

Tel (306) 931-7767 Fax (306) 933-0888

Shell Chemical Canada Limited

Chemical Operations, Calgary, AB

Rick Weidel (Manager, HSE)

Tel (403) 691-3795 Fax (403) 691-3331

Shrader Canada Ltd.

Oakville, ON

Lurdes Martins (Technical Services Manager)

Tel (905) 847-0222 Fax (905) 847-5404

Solutia Canada Inc. (formerly Monsanto)

Ib Andren (Manager, EHS)

Tel (514) 366-4855 Fax (514) 366-9933

LaSalle Plant, PQ

Myriam Paquin Tel (514) 366-4855

Stepan Canada Inc.

Surfactant Manufacturing Plant, Longford Mills, ON

Linda Tucker (Env't & Safety Manager)

Tel (705) 326-7329 Fax (705) 326-4523

Sterling Pulp Chemicals Ltd.

Sheila Burke (Corporate & Env'tal Affairs officer)

Tel (416) 234-7524 Fax (416) 237-1347

Buckingham, PQ; Thunder Bay, ON; Grande Prairie ,AB; Vancouver, BC

Synergistics

St-Remi, PQ

Yves Blanchet (Env'tal Manager)

Tel (514) 454-3931 Fax (514) 454-5800

Union Carbide Canada Inc.

Prentiss Plant, Red Deer, AB

Darren Lysak (HSE Engineer)

Tel (403) 885-7000 Fax (403) 885-7270

Uniroyal Chemical Ltd.

Elmira Manufacturing Facility, ON

Tim Boose (Manager, Energy & Env'tal Control)

Tel (519) 669-1671 Fax (519) 669-3273

VFT Inc.

Hamilton Plant, ON

Gord Gilmet (Technical Manager)

Tel (905) 548-5524 Fax (905) 544-4942

Witco Canada Inc.

Dr. Theo Eliades

Tel (416) 284-1661 Fax (416) 284-1011

Upton Road Plant, Scarborough, ON

West Hill Plant, ON

Chemical Specialties

3M Canada Company

W. Ian Service (Senior Specialist)

Tel (519) 452-6166 Fax (519) 452-6015

London Facility, ON

Morden Plant, MB

Perth Plants, ON

Advanced Monobloc, A Division of CCL Industries

Penetanguishene, ON

Albert Gorab, V.P. Operations

Tel (705) 549-7471 Fax (705) 549-7961

Canada Colors & Chemicals Limited
Marv Havery (Regulatory Consultant)
Tel (416) 449-2600 Fax (416) 449-4269
Brampton & Colborne, ON; Montreal, PQ; Vancouver, BC

Crown Cork & Seal Canada Inc.
James (Jim) Armstrong (Regional Manager, EHS)
Tel (905) 660-2112 Fax (905) 669-5059
Plant 233, Concord, ON
Plant 234, Montreal, PQ
Plant 244, Concord, ON
Plant 246, St. Laurent, PQ
Plant 250, Winnipeg, MB
Plant 257, Chatham, ON

Reckitt & Colman Canada
Toronto, ON
Anna Olacz (Director of Quality Assurance)
Tel (416) 201-7471 Fax (416) 255-5150

Recochem Inc.
Marina Kovrig (Director, Comm. & Reg. Affairs)
Tel (905) 791-1788 Fax (905) 791-7140
Montreal Facility, Napierville, PQ
Ralph Carmichael Tel (514) 341-3550

Zep Manufacturing of Canada
Dorval, PQ
Yves Potier (Regional Manager)
Tel (514) 631-9041 Fax (514) 631-8049

Electrical Utilities

Alberta Power Limited
Joe Kostler (Manager, Env'tal Affairs)
Tel (403) 420-3429 Fax (403) 420-5410

British Columbia Hydro and Power Authority
MargA.R.E.T. Jones (Env'tal Consultant)
Tel (604) 528-1681 Fax (604) 528-7740

East York Hydro-Electric Commission
Robert Wong (Project Engineer)
Tel (416) 396-3054 Fax (416) 396-3130

EPCOR - Edmonton Power
Les Johnston (Manager, Env'tal Affairs)
Tel (403) 448-3488 Fax (403) 448-3059

Hydro Québec
Benoit Vanier (conseiller en performance environnementale)
Tel (514) 289-3719 Fax (514) 289-4977

Manitoba Hydro
Morrison Deonarine (Occupational Health Officer)
Tel (204) 474-3229 Fax (204) 474-4820

New Brunswick Power Corporation
Leo Burns (Senior Technical Specialist)
Tel (506) 458-3022 Fax (506) 458-4390

Newfoundland and Labrador Hydro Corporation
Mr. David J. Kiell (Director, Env'tal Services and Properties)
Tel (709) 737-1400 Fax (709) 737-1231

Newfoundland Light & Power Co. Limited
Bernie J. Ryan (Director, Env'tal Policy)
Tel (709) 737-2929 Fax (709) 737-5832

Nova Scotia Power, Inc.
NSPI system (5 generating stations)
Mr. Osmundo Betancourt, (Env'tal Policy & Programs)
Tel (902) 428-6874 Fax (902) 428-6124

Ontario Hydro
Generating, Transmission and Distribution Operations
Octavio Melo (Senior Corp. Planner, Env'tal Responsibility & Leadership)
Tel (416) 592-3049 Fax (416) 592-7097

SaskPower
Robert Stedwill (Manager, Env'tal Programs)
Tel (306) 566-2877 Fax (306) 566-3428

TransAlta Utilities Corporation
Michael Leait (Senior Engineer)
Tel (403) 267-4996 Fax (403) 267-7372
Keephills Thermal Generating Plant, Duffield, AB
Sundance Thermal Generating Plant, Duffield, AB
Wabamun Thermal Generating Plant, AB

Winnipeg Hydro
Rick Kotak (Safety Branch)
Tel (204) 986-3971 Fax (204) 772-3872

Government

Department of National Defense
R.D. Edgecombe (Hazardous Materials, Directorate Env'tal Protection)
Tel (613) 945-7737

Environment Canada
Berny Latreille (Manager, Greening Operations)
Tel (819) 997-4218

National Capital Commission
Stewart E. Hamill (Chief, Corp. Env'tal Stewardship)
Tel (613) 239-5595 Fax (613) 239-5337

Natural Resources Canada
Richard Arseneault (Manager, Office of Env'tal Affairs)
Tel (613) 995-3420 Fax (613) 995-5719

Nicholas Radzichowsky
Tel (613) 996-9192 Fax (613) 995-5719

Other Manufacturing

Benjamin Moore & Co., Limited
Tom Aroella (Env'tal Affairs Administrator)
Tel (416) 766-1173 Fax (416) 766-9677
Montreal Facility, PQ
Toronto Facility, ON
Vancouver Facility, Aldergrove, BC

Bridgestone/Firestone Canada Inc.
Usine de Joliette, PQ
Jean-Marc Picard (external services manager)
Tel (514) 756-1061 Fax (514) 756-1826

Chrysler Canada Ltd.
Paul Hansen (Manager, Env'tal Affairs)
Tel (519) 973-2864 Fax (519) 973-2613
Assembly, Trim, Casting & Distribution Plants
Windsor, Brampton, Ajax, and Etobicoke, ON

Gates Canada Limited
Gordon Howarth (Env'tal Specialist)
Tel (519) 759-4141 Fax (519) 752-6773
Belt Processing Plant, Brantford, ON
Hose Processing Plant, Brantford, ON

GE Plastics Canada Ltd.
Cobourg, ON
Wayne Broadworth (Mgr., Env't & Plant Engineering)
Tel (905) 373-3987 Fax (905) 373-3922

General Electric Canada Inc.
Dr. H.R. Hosein
Tel (905) 858-5676 Fax (905) 858-5218
GE Lighting, Oakville, ON
Peter Formosa Tel (905) 849-2028
GE Meters, Québec, PQ
Claude Losier (EHS) Tel (418) 682-8512
Motors & Industrial Systems, Peterborough, ON
Michael Laplante Tel (705) 748-7661
Nuclear Products Dept., Peterborough, ON
R.A. Keay Tel (705) 748-7622

Husky Injection Molding Systems Ltd.
Manufacturing Operations, Bolton, ON
Valerie Chort (Director, Environment)
Tel (905) 951-5000 Fax (905) 857-4691

IBM Canada Ltd.
Bromont Technology Plant, Bromont, PQ
Richard Mireault (EHS Manager)
Tel (514) 534-6396 Fax (514) 534-7019

ICI Canada Inc.

Glenn A Wood (SHE Assurances Manager)

Tel (416) 229-8255 Fax (416) 229-8483

ICI Explosives, Brownsburg, PQ

CLOSED - Cornwall Chemicals and Forest Products

Kodak Canada Inc.

Toronto, ON

Wendy Paterson (Env'tal Specialist)

Tel (416) 766-8233 Fax (416) 760-4474

Michelin Tires (Canada) Ltd.

Dan Wurster (Manager, HSE)

Tel (902) 755-6040 Fax (902) 755-4171

Bridgewater Facility, NS

Granton Facility, New Glasgow, NS

Waterville Facility, Kentville, NS

Plastmo Ltd.

Brampton, ON

Allan Skjodt (Plant Manager)

Tel (905) 793-9462 Fax (905) 793-3997

Rauscher Plating Limited

Gary Rauscher (President)

Tel (519) 658-4636 Fax (519) 654-0088

Saint John Shipbuilding Limited

Saint John, NB

Mr. Alan Phillips (Mgr., Health & Safety)

Tel (506) 633-4444 Fax (506) 632-5915

Theratronics International Limited

Donna Rickard (OHN and Safety Officer)

Tel (613) 591-2100 Fax (613) 591-0518

Waltec Plastics

Bob Lamoureux (Materials Manager)

Tel (705) 526-7801 Fax (705) 526-3521

CLOSED- Midland, ON

Mining and Smelting

Barrick Gold Corporation

John Martschuk (Director, Env'tal Services)

Tel (819) 757-3691 Fax (819) 757-4731

Golden Patricia & Holt McDermott Mines, ON; Doyon & Bousquet Mines, PQ

Battle Mountain Canada Ltd.

Walter Sencza (Env'tal Director)

Tel (807) 238-2108 Fax (807) 238-2044

Golden Giant Mine, Marathon, ON

Scott Honan Tel (807) 238-1121

Holloway Mine, ON

Silidor Mine, Rouyn Noranda, PQ

Cambior Inc.

Gail Amyot (ingenieure en environnement)

Tel (514) 878-3166 Fax (514) 878-0635

Mine Bouchard-Hebert, Destor, PQ

Mine Geant Dormant, Val d'Or, PQ

Mine Gonzague-Langlois, Val d'Or, PQ

Usine Yvan Vezina, Destor, PQ

Cominco Ltd.

Walter J. Kuit

Tel (604) 685-3011 Fax (604) 685-3019

Trail & Kimberly, BC; Polaris, NT

Echo Bay Mines Ltd.

Mr. Hugh Ducasse (Manager of Loss Control & Env'tal Affairs)

Tel (403) 890-8779 Fax (403) 890-8814

Lupin Operation, NT

Falconbridge Limited

Albert Cecutti (V.P. - Environment)

Tel (416) 956-5700 Fax (416) 956-5757

Kidd Metallurgical Division, Timmins, ON

Don Grenville Tel (705) 235-7734

Kidd Mining Division, Timmins, ON

Linda Byron Tel (705) 267-8789

Sudbury Operations, Falconbridge, ON

Bruce Mikkila Tel (705) 693-2761

Highland Valley Copper

Logan Lake, BC

R.A. Hamaguchi (Senior E't Engineer)

Tel (250) 523-2443

Homestake Canada Inc. / Prime Resources

Ms. Sharon Meyer (Env'tal Analyst)

Tel (604) 684-2345 Fax (604) 684-9831

Marathon, ON; Stewart & Penticton, BC

Hudson Bay Mining & Smelting Company Ltd.

W.W. Fraser (Director of Environment)

Tel (204) 687-2171 Fax (204) 687-5793

Flin Flon Smelter Complex, MB

Joel Nilsen Tel (204) 687-2074

Inco

Tom Burnett (Director, EHS)

Tel (416) 361-7678 Fax (416) 361-7864

Copper Cliff, ON and Thompson, MB

Les Mines Selbaie

Joutel, PQ

Suzie Belanger (Env'tal Superintendant)

Tel (819) 756-2491 Fax (819) 756-2298

Les Ressources Aur

Mine Louvicourt, Val-d'or, PQ

Louis Racine
Tel (819) 736-3551 Fax (819) 736-2348

Noranda Metallurgy, Inc.

Mr. Hennie Veldhuizen (V.P. - Environment)
Tel (416) 982-3982 Fax (416) 982-3543

Canadian Electrolytic Zinc, Valleyfield, PQ

Daniel Daoust Tel (514) 373-9144

CCR Refinery, Montreal East, PQ

Jaques Pageau Tel (514) 645-2311

General Smelting of Canada, Lachine, PQ

Daniel Daoust Tel (514) 373-9144

Horne Smelter, Rouyn-Noranda, PQ

Alain Bergeron Tel (819) 762-7764

Noranda Mining & Exploration, Inc.

Mr. Hennie Veldhuizen (V.P.-Environment)
Tel (416) 982-3982 Fax (416) 982-3543

Brunswick Mining Division, Bathurst, NB

Robert Butler Tel (506) 547-3099

Brunswick Smelting Division, Belledune, NB

Paul Deveau Tel (506) 522-7005

Gaspe Mines, Murdochville, PQ

Victor Chapados Tel (418) 784-4370

Heath Steele Division, Miramichi, NB

Michael Patterson Tel (506) 623-4724

Matagami Division, PQ

Natasha Veljanovski Tel (819) 739-2511

CLOSED- Boss, Bell, Brunswick Fertilizer, Mattabi, Brenda, & Geco

Placer Dome (CLA) Limited

Mr. K.D. Ferguson (Manager, Env'tal Affairs)
Tel (604) 661-1916 Fax (604) 661-3785

Balmerton & Timmins, ON; Fraser Lake & Houston, BC; Val d'Or, PQ

Sherritt International Corporation

Fort Saskatchewan, AB

H. Siebert (Superintendent of Env'tal Services)

Tel (403) 992-7118 Fax (403) 992-7744

Kent Brandt Tel (403) 992-7423

The Cobalt Refinery Company

Fort Saskatchewan, AB

H. Siebert (Superintendent of Env'tal Services)

Tel (403) 992-7118 Fax (403) 992-7744

Kent Brandt Tel (403) 992-7423

Westmin Resources Limited

Dr. David Mchaina (Env'tal Engineer)

Tel (604) 895-8419 Fax (604) 681-0357

Myra Falls Operation, Vancouver Island, BC

Premier Gold Operation, Stewart, BC

Oil, Gas and Petroleum Products

Imperial Oil Limited

R.G. O'Farrell, Public Affairs Department
Tel (416) 968-5506 Fax (416) 968-4272
Manufacturing and Oil production and refining Operations
Sarnia & Nanticoke, ON; Dartmouth, NS; Edmonton, AB

Safety-Kleen Canada Inc.
Renato Legati (Senior EHS Manager)
Tel (519) 648-2291 Fax (519) 648-2033
Breslau Re-Refinery, ON

Shell Canada Limited
Linton L. Kulak (Director- HSE)
Tel (403) 691-2091 Fax (403) 691-3321
Petroleum Operations
Sheldon Wamboldt (Advisor, Sustainable Dev't)
Tel (403) 691-4080 Fax (403) 691-3321

Suncor - Sunoco Group
Thomas Brown (Manager, Env'tal Affairs)
Tel (519) 383-3625 Fax (519) 383-3678
Sarnia Refinery, ON

Synchrude Canada Ltd.
Fort McMurray, AB
Gary Burns (Manager, Env'tal Services)
Tel (403) 790-5385 Fax (403) 790-4105

Ultramar Ltd.
Pierre Pelletier (directeur affaires environnementales)
Tel (418) 835-8110 Fax (418) 833-9600
Raffinerie de St-Romuald, Levis, PQ

Pulp and Paper

Abitibi-Consolidated Corp. (formerly Abitibi-Price)
Brian Steinback
Tel (416) 203-5048 Fax (416) 203-5003
Fort William Division, Thunder Bay, ON
Kim Brown Tel (807) 725-7403
Iroquois Falls Division, ON
Monique Grenier Tel (705) 258-4273
La Compagnie Gaspésia Ltée, Chandler, PQ
Jean Guérard Tel (418) 689-5294
Papeterie Alma, PQ
Denis Moreau Tel (418) 668-9400
Papeterie Beaupré, PQ
Lyne Tremblay Tel (418) 827-6476
Papeterie Kénogami, Jonquiere, PQ
Jacques Paradis Tel (418) 695-9227
Stephenville Division, NF
Michael Wilson Tel (709) 643-7526

Abitibi-Consolidated Corp. (formerly Stone-Consolidated)
All Ontario Divisions
Gary Rogozinski (Env'tal Manager)
Tel (807) 274-8816 Fax (807) 274-5992

Fort Frances Division, ON

Douglas Raoul Tel (807) 274-8939

Kenora Division, ON

Christine Hansen Tel (807) 467-3167

All Québec Divisions

Florent Villeneuve (Ingenieur Confirme - Environnement)

Tel (807) 274-8816 Fax (807) 274-5992

Belgo Division, Shawinigan, PQ

Yvon Thibault Tel (819) 536-8230

Laurentide Division, Grand-Mere, PQ

Gilles Michaud Tel (819) 533-2564

Port Alfred Division, La Baie, PQ

Caroline Lachance Tel (418) 544-9705

Wayagamack Division, PQ

Pierre Lacoursiere Tel (819) 373-9230

Avenor Inc.

W.M. Vrooman (V.P., Environment)

Tel (613) 247-4304 Fax (613) 247-1605

Dalhousie Operations, NB

Daniel Bourgoin Tel (506) 684-9311

Dryden Operations, ON

Phil Slack Tel (807) 223-9408

Gatineau Operations, PQ

Brian Mooney Tel (819) 643-7200

Gold River Operations, BC

Phil Lum Tel (604) 283-7941

Thunder Bay Operations, ON

Susan Merideth Tel (807) 475-2131

Bowater Mersey Paper Company Ltd.

Frances M. Younker (Process Engineer)

Tel (902) 354-3411 Fax (902) 354-5964

Newsprint Facility, Liverpool, NS

Canadian Forest Products Ltd.

Dave Hughes (Env'tal and Energy Engineer)

Tel (604) 661-5249 Fax (604) 661-5235

Howe Sound Pulp & Paper Ltd., Port Mellon, BC

D.B. Shepard Tel (604) 884-2425

Prince George Pulp & Paper Mills, BC

Doug Sigfusson Tel (250) 561-3623

Cariboo Pulp and Paper Company

R.J. Salmons (Technical Manager)

Tel (250) 992-0216 Fax (250) 991-0709

Quesnel Kraft Pulp Mill, BC

Cartons St-Laurent

Paul Tessier (Directeur, Environnement)

Tel (819) 676-8115 Fax (819) 676-8120

Usine de La Tuque, PQ

Cascades Cabano Inc.

Réal Lagacé (Responsable de l'environnement)

Tel (418) 854-2803 Fax (418) 854-3942

Cascades Inc.

Stephane Bertrand (ing. Stagiare)
Tel (819) 363-5708 Fax (819) 363-5755
Kingsey Falls Pulp & Paper, PQ
Plastiques Cascades, Kingsey Falls, PQ
Richard Cloutier Tel (819) 363-5708

Cascades Lupel Inc.

Cap de la Madeleine, PQ
Richard Laramée (Superintendant, Production)
Tel (819) 695-8007 Fax (819) 373-4379

Casco Impregnated Papers, Inc.

Mr. Tim Merkley (Env'tal Coord.)
Tel (905) 372-1896 Fax (905) 372-1355
Cobourg Plant, ON

Crestbrook Forest Industries

Brian Stevenson (Env'tal Supervisor)
Tel (604) 422-3261 Fax (604) 422-3932
Pulp Mill Division, Skoockumchuck, BC

Daishowa Inc.

Jaques G. Roberge (Directeur a l'Environnement)
Tel (418) 525-2581 Fax (418) 525-2873
Division de l'usine de Québec, Québec, PQ
David Durham Tel (418) 525-2836

Desencrage Cascades, Division de Rolland Inc.

Breakeyville, PQ
Dany Tremblay
Tel (418) 832-6115 Fax (418) 832-5598

Désencrage CMD

Cap de la Madeleine, PQ
Conrad Boissonnault
Tel (819) 379-4079 Fax (819) 371-9193

Domtar Inc.

Michel Meunier
Tel (514) 848-6523 Fax (514) 848-6558
Beauharnois Facility, PQ
Raman Nayar Tel (514) 848-5273
Cornwall Facility, ON
Raman Nayar Tel (514) 848-5273
Lebel-sur-Quevillon Facility, PQ
Paul Lafreniere Tel (819) 755-2254
Red Rock Facility, ON
Ron Allan Tel (905) 671-7310
St. Catharines Facility, ON
Raman Nayar Tel (514) 848-5273
Trenton Facility, ON
Robert Rowbottom Tel (905) 671-7310
Windsor Facility, ON
E. Audy or P. Inglis Tel (819) 845-8269

Donohue Inc.
St-Félicien Pulp Mill, PQ
Jaques Angers (environnement et énergie)
Tel (514) 847-7700 Fax (514) 847-7780

E.B. Eddy Forest Products Ltd.
Dr. Jared Fein (Corp. Mgr., Env'tal Services)
Tel (905) 339-3136 Fax (905) 339-3173
Espanola Division, ON
Island Paper Mills Co., New Westminster, BC
Ottawa/Hull Division, ON/PQ

F. F. Soucy Inc.
Riviere-du-Loup, PQ
Sophie Deschenes (Ingenieure de procede)
Tel (418) 862-6941 Fax (418) 867-1134

Fletcher Challenge Canada Limited
Chuck Easton (Env'tal Supervisor)
Tel (250) 287-5200 Fax (250) 246-6369
Crofton Pulp and Paper, BC
Graham Kissack Tel (250) 246-6227
Elk Falls Pulp and Paper, Campbell River, BC
Mackenzie Pulp, BC
Rick Hogan Tel (250) 997-2448

Harmac Pacific Inc.
Ken Morrison (Senior Process Technologist)
Tel (250) 722-4266 Fax (250) 722-4330
Harmac Operations, Nanaimo, BC

Irving Forest Products Ltd.
Mr. Richard W. McLean
Tel (506) 635-6666 Fax (506) 635-1059
Pulp & Paper and Tissue Mills, Saint John, NB

Kimberly-Clark Corporation
Kimberly-Clark Nova Scotia, New Glasgow, NS
Dayle Smith (Env'tal Specialist)
Tel (902) 752-8461 Fax (902) 752-9149
Terrace Bay Pulp, ON
Mr. Rodger Ferguson (Env'tal Coord.)
Tel (807) 825-9821 Fax (807) 825-3322

Kruger Inc.
Robert Jobin (Corp. Env'tal Manager)
Tel (514) 343-3100 Fax (514) 343-3138
Corner Brook Pulp & Paper Ltd, NF
Kruger Inc. & Kruger PTR Inc., Trois Rivieres, PQ
Kruger Inc. & Kruger Urban Forest Products, Bromptonville, PQ

MacMillan Bloedel Ltd.
Wayne Maksylewich
Tel (604) 439-8331 Fax (604) 439-8352
Engineered wood products, Vancouver, BC & Nipigon, ON
Paper mills, Powell River & Port Alberni, BC

Noranda Forest Inc.

John Roberts (VP, Environment)
Tel (416) 982-7225 Fax (416) 982-7328

Edmunston NB sulphite pulp - Fraser Papers
La Sarre PQ Oriented Strandboard - Norboard
Masson PQ Newsprint - James Maclaren
Prince George BC Kraft Pulp - Northwood Pulp & Timber
Thurso PQ Kraft Pulp - James MacLaren
Val d'Or PQ Oriented Strandboard - Norboard

Perkins Papers Ltd.

Jean-Robert Brunelle Tel (514) 444-6400
Candiac Tissue Mill, PQ

Repap Enterprises Inc.

Kathy Abusow (Corp. Env'tal Consultant)
Tel (514) 846-6209 Fax (514) 846-1328
Repap New Brunswick Inc., Miramichi, NB
Stuart Almost Tel (506) 627-3727

Skeena Cellulose Inc.

Murray Webster (Technical & Customer Service Manager)
Tel (250) 627-7800 Fax (250) 624-0337
Skeena Pulp Operations, Prince Rupert, BC
Patrick O'Brien Tel (250) 627-7800

St. Anne-Nackawic Pulp Company Ltd.

M.A. Robitaille (Mgr. Tech. & Env'tal Services)
Tel (506) 575-3373 Fax (506) 575-3282
Nackawic Pulp Mill, NB

Stora North America

Derrick Cameron (Manager, Environment and Technical Services)
Tel (902) 625-2460 Fax (902) 625-2098
Stora Port Hawkesbury, NS

Strathcona Paper Company

Napanee, ON
Bryan Best (Chief Operating Officer)
Tel (613) 378-6672 Fax (613) 378-6158

Tembec Inc.

Line Roy (Coordonnatrice Environnement)
Tel (819) 627-4454 Fax (819) 627-1458
Temiscaming complex, PQ

Tolko Manitoba (formerly Repap Manitoba)

Jayne Sheppard (Process Engineer)
Tel (204) 623-8587 Fax (204) 623-5891

Weldwood of Canada Limited

Todd Andrews (Technical & Env'tal Services Mgr.)
Tel (403) 865-2251 Fax (403) 865-8550
Hinton Division, AB
Phil Whitney Tel (403) 865-2251

Weyerhaeuser Canada Ltd. - Alberta Div'n

John Zagar (Director of Env'tal Affairs)
Tel (250) 828-7608 Fax (250) 828-7580

Drayton Valley OSB and Sawmill, Edson OSB Mill, & Slave Lake OSB Mill, AB

R.M. (Bob) Olson Tel (403) 452-5395

Grande Prairie Operation, AB

Susanna Chung Tel (403) 539-8131

Weyerhaeuser Canada Ltd. - B. C. Div'n

Jack MacDonald (Mgr., Tech. & Customer Service)
Tel (604) 828-7267 Fax (604) 828-7585

Kamloops Pulp Mill, BC

Maari Hirvi Tel (250) 828-7602

Weyerhaeuser Canada Ltd. - Saskatchewan

John Zagar

Tel (250) 828-7608 Fax (250) 828-7580

Prince Albert Pulp & Paper, SK

Tony Kaptein Tel (306) 953-1856

Steel

Aciers Inoxydables Atlas, Division of Sammi

Tracy, PQ

Marcel Martellini (Gerant-Genie Industriel & Env.)

Tel (514) 746-5274 Fax (514) 746-5283

Algoma Steel Inc.

Fraser L. Craig (Safety, Environment & Security)

Tel (705) 945-2371 Fax (705) 945-2972

Steelworks & Tubular Business, Sault Ste. Marie, ON

W. Craig Knight Tel (705) 945-3149

Atlas Specialty Steels, Division of Sammi Atlas

Welland, ON

Donald G. Marr (Manager, Environment)

Tel (905) 735-5661 Fax (905) 735-1044

Karen Watt Tel (905) 735-5661

Co-Steel Lasco

T.B. Wesolowski

Tel (905) 668-8811 Fax (905) 668-9361

Whitby steel mini-mill, ON

Dofasco Incorporated

Vasudha Seth (General Manager, Environment & Energy)

Tel (905) 548-7200 Fax (905) 548-4267

Hamilton Operations, ON

Ian Shaw (Specialist, Environment & Energy)

Tel (905) 548-4483 Fax (905) 548-4267

Gerdau Courtice Steel Inc.

Robert J. Downie (Env'tal Coord.)

Tel (519) 740-2488 Fax (519) 740-2601

Steel mini-mill, Cambridge, ON

Gerdau MRM Steel

Candi Bezte (Env'tal Scientist)
Tel (204) 667-2505 Fax (204) 667-2505
Steel Mini-mill, Selkirk, MB
Bob Kneale (Project Manager)
Tel (204) 482-3241 Fax (204) 482-7700

Ivaco Rolling Mills Limited Partnership

Joel E. Hartley (Env'tal Engineer)
Tel (613) 675-4671 Fax (613) 675-2407
Rod Mill and Melt Shop, L'Orignal, ON

Slater Steels Inc.

William Brown (Mgr. Manufacturing Services)
Tel (905) 548-8104 Fax (905) 549-4652
Hamilton Specialty Bar, ON

Stelco Inc.

T.F. Huxley (General Mgr.- HSE)
Tel (416) 528-2511 Fax (416) 577-4441
AltaSteel Ltd., Edmonton, AB
Alvin Bortnick Tel (403) 468-7380
CHT Steel Company Inc., Richmond Hill, ON
A.L. Armstrong Tel (905) 884-5000
Frost Wire Products Ltd., Hamilton, ON
N.D. Clark Tel (905) 528-8895
Hilton Works, Hamilton, ON
R.R. Haber Tel (905) 528-2511
Lake Erie Steel Company Ltd., Nanticoke, ON
G. Saldanha Tel (905) 528-6662
Stelco Fasteners Ltd., Brantford, ON
D. Webster Tel (519) 754-4400
Stelco McMaster Ltee, Contrecoeur, PQ
Luc Chabot Tel (514) 652-1112
Stelfil Ltee, Lachine, PQ
D. Barras Tel (514) 367-2424
Stelpipe Ltd., Welland, ON
B.C. Howlett Tel (905) 735-7473
Stelwire Ltd., Burlington Works, ON
W.C. McDiarmid Tel (905) 528-9473
Stelwire Ltd., Parkdale Works, Hamilton, ON
D.D. Strong Tel (905) 528-2511
Welland Pipe Ltd., ON
L. Ventresca Tel (905) 735-8338

Sydney Steel Corporation

Steel Mini-Mill, Sydney, NS

Appendix B:

A.R.E.T. Stakeholders Committee Members (Source: Environmental Leaders 3, 1999)

- Chemical Institute of Canada
- Comite de Sante Environnementale du Quebec
- Canadian Chemical producers' Association
- Canadian Electricity Association
- The Alliance of Manufacturers and Exporters Canada
- Canadian Manufacturers of Chemical Specialties
- Canadian Petroleum Products Institute
- Canadian Pulp and Paper Association
- Canadian Steel Producers Association
- Mining Association of Canada
- B.C. Ministry of Environment
- Nova Scotia Department of Environment
- Ontario Ministry of Environment
- Environment Canada
- Health Canada
- Industry Canada
- A.R.E.T. Secretariat

APPENDIX C:

A.R.E.T. Substance List (Source: A.R.E.T. Website)

LIST A-1

(meet or exceed criteria for toxicity, bioaccumulation and persistence)

A.R.E.T.'s vision for substances on this list is the virtual elimination of emissions into the environment from human activities. The short-term goal is for a 90 per cent reduction in emissions by 2000.

Polychlorinated Biphenyls (PCBs)

Polycyclic Aromatic Hydrocarbons (PAHs) as a group (The following specific PAHs met or exceeded the criteria for List A-1.)

Benz(a)anthracene
Benzo(a)pyrene
Benzo(e)pyrene
Benzo(b)fluoranthene
Benzo(j)fluoranthene
Benzo(k)fluoranthene
Benzo(g,h,i)perylene
Chrysene
Dibenz(a,h)anthracene
Dibenzo(a,i)pyrene
Dibenz(a,j)acridine
7H-dibenzo(c,g)carbazole
Fluoranthene
Indeno(1,2,3-c,d)pyrene
Perylene
Phenanthrene
Pyrene
Nitro-PAHs
1,6-dinitropyrene
1,8-dinitropyrene
Chlorinated Organics
Hexachlorobenzene
alpha-hexachlorocyclohexane
gamma-hexachlorocyclohexane
4,4'-methylenebis(2-chloroaniline)
Octachlorostyrene
Pentachlorophenol
2,3,7,8-tetrachlorodibenzofuran
2,3,7,8-tetrachlorodibenzo-p-dioxin
Metal compounds
*Methyl mercury
Tributyltin

LIST A-2

A.R.E.T.'s goal for substances on this list is for the reduction of emissions to levels that are insufficient to cause harm. The short-term goal is for significant reduction in emissions.

*1,4 dichlorobenzene

CASRN
106-46-7

**Cadmium compounds (inhalable & soluble inorganic forms)

*The toxicity criterion was met for possible carcinogenicity by accepting IARC (International Agency for Research on Cancer) classification of "possible human carcinogen."

**The selection process was unable to take into account specific metal compounds, and therefore scores for metals were based on a composite score for several metal species. For cadmium, actions may be tailored to such compounds as CdCO₃, Cd(OH)₂, CdC₁₂, CdO, and CdSO₄. The concept of virtual elimination of discharges for metals is under discussion and was not resolved by A.R.E.T..

CASRN

56-55-3

50-32-8

192-97-2

205-99-2

205-82-3

207-08-9

191-24-2

218-01-9

53-70-3

189-55-9

224-42-0

194-59-2

206-44-0

193-39-5

198-55-0

85-01-8

129-00-0

42397-64-8

42397-65-9

118-74-1

319-84-6

58-89-9

101-14-4

29082-74-4

87-86-5

51207-31-9

1746-01-6

22967-92-6

688-73-3

*For prevention/control actions, mercury should be addressed (see List B-2)

LIST B

For the List B substances, the vision is reduction of emissions to levels that are insufficient to cause harm. The short-term goal is a 50 per cent reduction by 2000.

LIST B-1

(meet or exceed criteria for toxicity & bioaccumulation)

PAHs

Anthracene

7,12-dimethylbenz(a)anthracene

Dimethylnaphthalene

Chlorinated organics

3,3' dichlorobenzidine

Hexachlorocyclopentadiene

2,4,6-trichlorophenol

Other

bis(2-ethylhexyl)phthalate

*Tetraethyl lead

CASRN 120-12-7

57-97-6

28804-88-8

91-94-1

77-47-4

88-06-2

117-81-7

78-00-2

*Degrades to lead, which is persistent (see List B-2).

LIST B-2

(meet or exceed criteria for toxicity & persistence)

PAHs

Benzo(a)fluorene

Benzo(b)fluorene

Dibenz(a,h)acridine

Chlorinated organics

alpha-chlorotoluene

bis(2-chloroethyl)ether

Bromodichloromethane

Carbon tetrachloride

Chloroform

Chlorodibromomethane

1,2 dichloroethane

Methylene chloride

1,1,2,2-tetrachloroethylene

2,3,4,6-tetrachlorophenol

Metal compounds

Arsenic (inorganic)

Asbestos

Beryllium

Chromium (Cr6+)

Cobalt (inorganic, soluble)

Copper (inorganic salts)

**Lead (all forms except alkyl)

***Mercury (elemental and inorganic)

Nickel (inorganic, inhalable, soluble)

Silver (soluble inorganic salts)

Uranium (inorganic, inhalable, soluble)

Zinc (inorganic, inhalable, soluble)

Other

o-anisidine

Cyanides

4,6 dinitro-o-cresol

1,4 dioxane

Ethylene oxide

2-naphthylamine

2-nitropropane
Thiourea

CASRN
238-84-6
30777-19-6
226-36-8

100-44-7
111-44-4
75-27-4
56-23-5
67-66-3
124-48-1
107-06-2
75-09-2
127-18-4
58-90-2

N/A*
1332-21-4
7440-41-7
N/A*
N/A*
N/A*
N/A*
N/A*
N/A*
N/A*
N/A*
N/A*

90-04-0
57-12-5
534-52-1
123-91-1
75-21-8
91-59-8
79-46-9
62-56-6

*CASRN not applicable. The selection process was unable to take into account specific metal compounds, and therefore scores for metals were based on a composite score for several metal species.

**See also tetraethyl lead on List B-1

***See also methyl mercury on List A-1

LIST B-3

(meet or exceed toxicity criterion)

Chlorinated organics

bis(chloromethyl) ether
Epichlorohydrin
1-bromo-2-chloroethane
1-chloro-4-nitrobenzene

1,2-dibromo-3-chloropropane
1,2-dichlorobut-3-ene
2,4-dichlorophenol
1,3 dichloropropene
1,1,2-trichloroethylene
Aromatics
4-aminoazobenzene
4-aminobiphenyl
Aniline
Benzene
Benzidine
Dimethylphenol (mixed isomers)
2,6 dimethylphenol
2,4 dinitrotoluene
2,6 dinitrotoluene
1,2 diphenylhydrazine
2-methylpyridine
Phenol
Toluene diisocyanates
Nitrosamines
N-nitrosodimethylamine
N-nitrosodiphenylamine
N-nitroso-di-n-propylamine
Other
Acetaldehyde
Acetamide
Acrolein
Acrylamide
Acrylonitrile
1,3 butadiene
Chlorine dioxide
n-dodecane
Ethanol
Ethylene dibromide
Ethylene thiourea
Formaldehyde
Hydrazine
Hydrogen sulphide
Methyl isobutyl ketone
4-nitrosomorpholine
Quinoline
Tetramethylthiuram disulphide
Vinyl bromide

CASRN

542-88-1
106-89-8
107-04-0
100-00-5
96-12-8
760-23-6
120-83-2
542-75-6
79-01-6

60-09-3
92-67-1

62-53-3
71-43-2
92-87-5
1300-71-6
5706-26-1
12:1-14-2
6006-20-2
122-66-7
109-06-8
1088-95-2
264711-62-5

62-75-9
806-30-6
6211-64-7

75-07-0
60-35-5
107-02-8
79-06-1
107-13-1
106-99-0
10049-04-4
112-40-3
64-17-5
106-93-4
96-45-7
50-00-0
302-01-2
7783-06-4
108-10-1
59-89-2
911-22-5
137-26-8
5938-60-2

**APPENDIX D:
A.R.E.T. Questionnaire**

Specific research questions	Questions to ask participants	Specific questions to trigger potential discussion
<ul style="list-style-type: none"> - How was the MPC generated? Membership? 	<ol style="list-style-type: none"> 1. How did you become a member of A.R.E.T.? 2. How were you approached to become a member in A.R.E.T.? 3. Why did your organization participate in A.R.E.T.? 4. What were your goals? 5. What were the incentives? 6. Prior to this forum, did you participate in other collaboration tables (similar projects and forums)? 	<ul style="list-style-type: none"> - According to you, why was your organization invited to participate? - How did you react to the possibility of participating to the forum? - If yes, what were they? - Were they of the same kind or different? In what? Examples. - Was your role the same or different? In what? - In what was your participation to a collaboration table different from the participation to a press conference, an inquiry commission, a public audience, a consultation, another table of collaboration?
<ul style="list-style-type: none"> - Difference between Participants & Partners of A.R.E.T.? 	<ol style="list-style-type: none"> 7. Are you a participant &/or a partner in A.R.E.T. project? 	<ul style="list-style-type: none"> - In your opinion, what is your definition of a partner in A.R.E.T.? - What is your definition of an A.R.E.T. participant? - How do these two roles are alike? How do they differ?
<ul style="list-style-type: none"> - Communication between members? 	<ol style="list-style-type: none"> 8. How do you keep in contact with other Participants? 9. How do you keep in contact with A.R.E.T. Partners? 10. And with the A.R.E.T. secretariat? 	<ul style="list-style-type: none"> - Formal and non-formal communication?

<ul style="list-style-type: none"> - How did the negotiations go in the MPC? 	<ol style="list-style-type: none"> 11. What did you think of the functioning of A.R.E.T.? 12. According to you, what were the strengths and weaknesses of the process? 	<ul style="list-style-type: none"> - How would you qualify the work (the negotiation) in the collaboration table? (pleasant, unpleasant? Easy, difficult?) - According to you, what are the factors that favor A.R.E.T.? - According to you, what are the constraints facing A.R.E.T.? - In your opinion, what is a good meeting? Examples? - Do you have the impression that some organizations have dominated the collaboration table? Which organizations? Why? - Do you have the impression that some organization did not intervene enough in the process? Which organizations? Why?
<ul style="list-style-type: none"> - How did participants undertake the MPC? 	<ol style="list-style-type: none"> 11. Personally, how did you feel about the A.R.E.T. process? 12. Are there images or metaphors that you use when you talk about A.R.E.T.? Which ones? Explain. 13. Did you attend all scheduled meetings? 	<ul style="list-style-type: none"> - What do you appreciate in forums? - What do you least like? - Are there sources of frustration in the collaboration tables? Which ones? Examples? - Was the process a motivating experience? Demotivating? - Were there groups with which you had preferred to interact? Why? Examples. - Are there images or metaphors that the forum reminded you of? Which ones? Explain. - What were your reasons for not attending these meetings?
<ul style="list-style-type: none"> - How did participants undertake the MPC? (cont'd) 	<ol style="list-style-type: none"> 14. Are there events in the unfolding of the process that had a particular meaning for you and your organization? 15. Were there events in your organization that had an impact on your participation to the collaboration table? 	<ul style="list-style-type: none"> - What strategies and tactics did your organization use? - What strategies and tactics do you think the other actors used?

<ul style="list-style-type: none"> - According to participants, what would be the favorable necessary conditions to have a follow up in terms of actions? 	<p>16. If the collaboration table was to be done again, what would have to be done differently? (please consider that you are a public figure)</p>	<ul style="list-style-type: none"> - What would you suggest to favor the resolution of the problems? - What would you suggest to improve the process? - What would you be ready to do your self to improve it? - What would you suggest to favor a environmentally favorable follow up to the collaboration table? - What would you suggest to favor a better attribution of roles and responsibilities?
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Foundations for the basic questionnaire framework structuring the interviews with the participants of A.R.E.T. concerning consensus

<ul style="list-style-type: none"> - According to the participants to the MPC, was there a final consensus? 	<p>17. What were the outcomes of A.R.E.T., in your opinion?</p> <p>18. According to you, was there consensus that resulted from A.R.E.T.?</p> <p>19. Do you feel that the consensus resulted through A.R.E.T. was satisfactory to you and your organization?</p> <p>20. Were there issues discussed in A.R.E.T. for which a consensus was not reached for?</p>	<ul style="list-style-type: none"> - Are there outcomes for A.R.E.T.? If yes, which one (s)? - If yes, Which one (s)? - If no, Which one? Why? - If yes, in which way? - If no, why not? - If yes, which ones? Examples. - If no, how do you explain it? - What ideal result would you have wanted from the process? - Ideally, what role would you had liked your organization to play? - Ideally, What role sharing would you had wanted between sectors? Examples.
<ul style="list-style-type: none"> - Were roles or responsibilities attributed to organizations (or sectors) by the negotiated order? 	<p>21. At the end or during the A.R.E.T. process, did you have the impression that responsibilities were attributed to organizations? Examples.</p>	<ul style="list-style-type: none"> - At the end or during the A.R.E.T. process, did you have the impression that responsibilities were attributed to your organization? Examples. - At the end or during the process, did you have the impression that responsibilities were attributed to other organizations? Examples.

<ul style="list-style-type: none"> - According to participants, did the MPC enable to improve the quality of the environment? 	<p>22. Do you think that A.R.E.T. will trigger improvements for the quality of the environment?</p>	<ul style="list-style-type: none"> - If yes, which ones? How? - If no, why?
<ul style="list-style-type: none"> - According to participants, did the MPC permit to establish future interactions between organizations? 	<p>23. Are there groups with which you did not have prior relations and with which you developed relations since A.R.E.T.?</p> <p>24. Do you have the impression that new codes of conduct were established following the negotiations of A.R.E.T.?</p>	<ul style="list-style-type: none"> - If yes, which ones? To do what? - What were your prior relations with the organizations that participated in the forum? - If not, why? - If yes, which ones? - If not, why?

Foundations for the basic questionnaire framework structuring the interviews with the participants of A.R.E.T. concerning learning and innovation

<ul style="list-style-type: none"> - According to the participants, do MPCs trigger learning? 	<p>25. Personally, Do you think that your participation in the A.R.E.T. project lead to a learning experience for you?</p> <p>26. How about your organization?</p> <p>27. What did you learn from other actors in A.R.E.T.?</p> <p>28. At the level of your industry, do you feel that A.R.E.T. was useful for learning for organizations in your industry?</p>	<ul style="list-style-type: none"> - What did you learn something from this forum? - If not, why? - Did you apply any of the other actors' strategies in A.R.E.T.? Such as? Examples. - If not, Why not? - If so, can you give me examples? - If no, why not?
<ul style="list-style-type: none"> - According to the participants, do MPCs trigger innovations? 	<p>29. Did the interactions between your organization and the other organizations through A.R.E.T. trigger innovations?</p> <p>30. How about at your industry level, do you feel that A.R.E.T. triggered any kind of innovations among organizations in the industry?</p>	<ul style="list-style-type: none"> - If so, Which ones? And how? - If no, why not? - If so, Which ones? And how? - If no, why not?

Foundations for the basic questionnaire framework structuring the interviews with participants of A.R.E.T. participants concerning other results

<p>- According to the actors, were actions or changes engaged as a result of the MPC? If yes, which ones?</p>	<p>31. Personally, do you think that A.R.E.T. reached its objectives?</p> <p>32. According to you, will A.R.E.T. yield favorable actions in terms of the environment?</p> <p>33. Were some activities or behaviors of your organization adjusted as a result of A.R.E.T.?</p> <p>34. Do you think that some organizations have adjusted their activities or behaviors as a result of A.R.E.T. negotiations?</p>	<p>- In what way?</p> <p>- In what way(s)? Examples.</p> <p>- How? Examples.</p> <p>- If no, why not?</p> <p>- Who & How? Examples.</p> <p>- If no, why not?</p>
<p>- According to the actors, were the approached problems in the MPC solved? Which ones?</p>	<p>35. Do you feel that A.R.E.T. helped in solving environmental problems? Which ones? How?</p> <p>36. Do you think that there were some factors that limited the collaboration table of A.R.E.T. from solving certain problems? What were they?</p>	<p>- If yes? How? Examples.</p> <p>- If no, why not?</p> <p>- If yes? How? Examples.</p> <p>- If no, why not?</p>

APPENDIX E:

List of A.R.E.T. Related Documents:

Bregha, Francois & Moffet, John (1997) From Challenge to Agreement: Background Paper on the Future of A.R.E.T.. Resources Futures International, Ottawa.

Chambers R. (1995) Making the best of going to society. PLA Notes No. 24, International Institute for Environment and Development, London, October.

Environment Canada (1999) Consultation Paper on the Future of A.R.E.T.. Ottawa.

Environmental Leaders 1,2,3: Voluntary Action on Toxics Substances. A.R.E.T. Secretariat (1994, 1997, 1999). Ottawa.

European Environment Agency (1998) Environmental Agreements: Environmental Effectiveness. Environmental Issues Series, EEA: Denmark: 1/3.

Gallon, Gary (1997) Voluntary Environmental Measures: The Canadian Experience. Canadian Institute for Business & the Environment. Montreal, September.

Leiss, William (1996) Lessons Learned from A.R.E.T.: A qualitative survey of perceptions of stakeholders. Working paper Series 96-4. Environmental Policy Unit, School of Policy Studies. Queen's University.

Leiss, William et al. (1997) Final Report: A.R.E.T. Voluntary Codes Project. Prepared for Environmental Affairs Branch, Industry Canada.

Minns, David (1997) "Voluntary-action" for environmental protection provides business benefits. Canadian Chemical News, 8/49.

New Direction Group (1997) Criteria and Principles for the Use of Voluntary Non-Regulatory Initiatives (VNRIs) to Achieve Environmental Policy Objectives, (mimeo).

Pelkey, N. (1996) Please Stop the PRA RRA Rah. OUT of the SHELL 5/1: 17-24.

Position of the Non-Governmental Organizations in the Accelerated Reduction/Elimination of Toxics (A.R.E.T.) Consultation. Letter to Assistant Deputy Minister Clarke, Environment Canada. September 17, 1993.

Purchase, B. (1996) The Political Economy of Voluntary Codes, paper presented to Exploring Voluntary Codes and their Role in the Marketplace. September 1996. Ottawa.

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Versteeg, Hajo (1998) Final Report: Summary of Proceedings of Future of A.R.E.T. Workshop. Held December 11, 1997, in Ottawa, Ontario.