

**Comment from:**

**Barry Stuart**

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**Nature of Review:** Intention is not to provide a comprehensive or technical review but rather, general observations on the overall effectiveness and integrity of this use of the multi-attribute utility analysis (MUA) process and on how the process might be strengthened and used in the work of the NWMO. Consequently, I make no comment on the outcome, but focus on the process used to reach the outcome.

**Basis of Review:** I have never used multi-attribute utility analysis (MUA). Many years ago, in my role as chief land claims negotiator I had considered using MUA as a means of engaging members of the public in a process that would reveal the complexity and nature of competing interests. I have also thought a more simplified vision of MUA could be used to teach judges about ways to understand and assess the complexity of multi-party complex litigation. Consequently, I come to this task with no practical experience in MUA but with a keen interest in its applicability to complex public issues, and with over 30 years of exploring the challenges of decision making in the midst of conflict as a judge, mediator, circle keeper, facilitator and third party neutral in a wide range of public and private conflicts. Finally, I come with an avid interest in the innovative use of any new decision making processes. The NWMO Assessment Team's use of MUA was both creative and innovative in several respects.

### **MUA – As used by the Assessment Team (AT)**

Processes similar to, or variants of MUA have been used for many years to address complex public issues, including public decisions over the use and location of nuclear waste repositories. I have targeted some of the principal features of MUA as used by the Assessment Team that can make invaluable contributions to crucial aspects of the public decision making process.

**1. Public Participation:** NWMO has thus far, in many aspects of its work, recognized the need for and importance of meaningful public participation. In a very unique and creative way, the assessment team has linked the use of MUA to this work in developing public inputs. Ten questions that captured the most important public concerns over the disposal of nuclear waste were identified through NWMO's public participation processes. These ten questions, slightly reworded and regrouped, became the eight objectives that drove the MUA process. Consequently, the MUA process was directly connected to and grounded on public concerns and values.

To complete the circle that began by deriving the key objectives for the MUA process from the ten questions, the MUA report should be reviewed in a process involving the same or similar members of the public that produced the ten questions. It is important to

test how the eight objectives were interpreted and applied by the Assessment Team and to question if:

- a) the interpretation was appropriate;
- b) the MUA process engaged the underlying essence of these public concerns;
- c) the weighing of factors throughout the use of MUA fairly captured the significance of all public concerns and values

**2. Incorporation of Social and Ethical Concerns:** Most applications of MUA focus principally upon technical questions. The non-technical aspects are often considered once a MUA process has identified and ranked the most suitable options based on technical factors. I was especially impressed by the equal importance accorded to social and ethical considerations throughout the Assessment Team's use of MUA. Six of the eight objectives driving the MUA process were partly or wholly defined by social and ethical values and concerns.

While there are political factors that the MUA process could not address, it would help to know what "social and other considerations" the Assessment Team did not include.

**3. MUA and Complex Public Policy Choices:** Disagreements over public policy often dissolve into polarized camps, each camp imagining worst case scenarios about losing, and with equally inspired imagination, extolling the virtues of winning. These disagreements tend to overly simplify the choices, and look to all or nothing outcomes. Without a process to encompass the big questions, as well as the seemingly inordinately complex technical challenges, the public policy debate over nuclear waste disposal is left to be fought in the same destructive manner over and over again on the battle ground provoked by each proposed site for or proposed technique of waste disposal. These fights over public policy issues are expensive and leave all parties dissatisfied with both the process and outcome. Losers in one battle become more entrenched in their positions and either work to undermine the outcome or prepare to be better armed to do battle the next time.

The MUA process as used by the Assessment Team can explore underlying values, concerns, and interests in ways that reveal many differences to be differences in degree not kind. This use of a MUA process can shift debates into dialogues; dialogues that create the space for new understanding, and new mutual respect. MUA processes by replacing rhetoric with rigorous analysis, by replacing misunderstanding with shared understanding and by exploring the complexity of the issues in digestible chunks, can go a long way to build consensus. By working with the values of each interest group, by revealing the points and causes of differences, MUA can significantly reduce the magnitude of assumed differences. These are the key building materials for exploring creative and innovative solutions and for moving as far as possible from power plays between entrenched camps for the support of key politicians to a constructive search for the best possible options.

## **Strengthening the Use of MUA**

**1. Broader Participation:** Most participants on the Assessment Team had a professional interest in and experience with nuclear waste. While their experience varied in both intensity and depth, except for the Chair and Secretary, none could be considered representative of a lay interest in the subject. The use of MUA can be strengthened by involving a broader spectrum of interest and experience. Accommodating a large number of participants is always a challenge, but innovative uses of different participation strategies can significantly reduce this challenge.

In deciding public policy, rendering complex technical issues within the comprehensible reach of the public is essential. MUA processes have the potential to address this requirement. By breaking down the issues into basic elements and by exposing the primary factors that influence choices a MUA process can make the public debate more accessible to a broader range of participants. Further involving lay members of the public in the MUA process enables the general public to see participants without relevant professional qualifications fully participating in all aspects of the decision making process. For some members of the public recognizing that expert qualifications are not a prerequisite to participate can instill the self confidence to further their participation. Further, some will accord greater faith in outcomes produced by a consensus of experts and lay people.

**2. Community Use of MUA :** Many factors of the MUA process as demonstrated by the Report are ideally suited not just to engage experts, but as well to engage the general public, with or without a sprinkling of experts. The following features are particularly suited to community use of MUA.

- Breaks complex issue into separate parts for choices to be made one at a time
- Has flexibility to review each stage of process that builds to an outcome
- Provides a framework to improve exchange of perceptions, ideas, information and to reveal values underlying interests
- Enables participants to rely on criteria that embrace all concerns
- Criteria used can be very different
- Builds consensus throughout the process in moving towards final outcome

If merged with appropriate ADR processes that promote dialogue and a positive means of embracing conflicts, the MUA process can make an invaluable contribution by engaging the public directly through those involved and indirectly through those who can learn from a community process using MUA.

Can the MUA process be restructured to take less time and be used in different communities? I think so. First, the Assessment Team has completed most of the work needed to adapt the MUA process for community use. Second, much of the work required to assemble the necessary background information has been completed and can be simplified. Third, the Assessment Team has already demonstrated how public concerns and values can be incorporated. Finally, using a variety of ADR techniques can enable

communities to effectively participate in a MUA process. I believe it is possible that a community-based MUA process may be completed in three to four weekend sessions that includes up to five hours of preparation before each session. A specially designed community MUA process can significantly enhance communication among all affected interests. It can flush out within communities what is and is not important, and can be particularly effective in grounding all exchanges on the shared values revealed by the process. The benefits of a community-based MUA process warrant pursuing community interest in developing an appropriate design.

A further thought; an old idea revived. Filming one community-based MUA process could be instrumental in breaking down the formidable complexity of this public choice into manageable elements. Whether the audience agrees or not with the outcome of the process, a film can significantly enhance their appreciation of all aspects of the most reasonable options and of how difficult decisions can be constructively decided. The film can be particularly instrumental in revealing all the decisions that are involved and in demonstrating how different factors influence the decision making process.

### **3. Understanding How Differences Among the Assessment Team Were Resolved:**

In a MUA process those with a more profound understanding of particular issues can work to distort rankings and weighting of factors in ways that ultimately slant analysis to favour a preferred outcome. Consequently, to garner public confidence in outcomes it is important to know the background of participants, the process used to solve conflicts and the reasons for a collective consensus reached by participants.

The Assessment Team's report goes a long way to describe the primary factors influencing all key decisions. Their diagrams on the factors influencing decisions about the eight objectives are excellent and wonderfully reveal much about the dynamics shaping their thinking. These diagrams provide an excellent starting point and road map for others; but more is needed to engender a greater degree of transparency.

While the graphs on performance value scores offered important insights into the evolution of their decisions, more needs to be known about what issues and conflicts were particularly difficult and why. Further, knowing what process was used to resolve critical differences beyond just the use of weighted preferences would have helped track the evolution of the final outcome.

The more difficult the public reach for comprehension of any public policy choice, the more important it is to ensure the processes used for decision making are transparent, open and accessible to the public. The MUA process used by the Assessment Team has made invaluable contributions to making the complex issues of nuclear waste management accessible to the public on a number of fronts. This Report expended much more effort in explaining the factors shaping their decision than any other MUA process I know: Much more than most Court judgments offer. As an aid to others in following the

path of participants in an MUA process, the more known about how differences were addressed and resolved the better (see suggestion of a film... edited of course).

**4. Making Better Judgements:** MUA calls for numerous judgements to move through its process. Making judgements is a tricky business. The process for reaching a judgement not only varies from person to person, but will vary for each person based on the subject matter. The influence of different kinds of evidence and different sources of evidence will vary from one person to the next. For example, some will be more persuaded by expert evidence than others, some more influenced by the credibility of the witness than by the logic of their substantive testimony. Some will retain more from and depend more upon documentary evidence than oral evidence. Each person uses their own standard of proof to reach a conclusion. Many have different standards of proof for different matters. For some it may require a higher standard of proof to prove a nuclear waste option is safe than it is to prove it is economically sustainable.

While not as widely accepted as it should be within the judicial community, judgements are unavoidably a product of one's life experience; an experience that produces cognitive filters. These filters have a powerful influence on how people make judgements. This influence is commonly not appreciated or underestimated by all of us in how we reach judgements in our personal and professional lives. Often we cannot fully explain why we reach certain kinds of judgements.

MUA processes are built on many different kinds of judgements and depend upon the participants' ability to resolve conflicts and reach consensus on many different topics. How can the ability to make judgements and the quality of those judgements be strengthened? Some say good judgement is an innate talent. I say whatever capacity for judgement one is blessed with at birth, many learned skills can enhance the ability to make better judgements, and by including features that enhance the quality of a decision making process the capacity for rendering better judgements can be improved.

Some procedures developed over many years used to improve the quality of Court judgements can be adapted for the MUA process. Obviously the Courts have much to learn from other disciplines about how to improve their capacity to render good judgements. So the adaptation of Court procedures must be carefully considered.

#### **Some Suggestions From Court Processes:**

- Agreeing on and understanding the elements of a common standard of proof for reaching judgements can generate a shared appreciation of the quantum and quality of evidence needed to reach consensus.
- Writing out reasons for a judgement has caused many judges to realize gaps in the evidence or in their analysis. Recognizing these gaps can change outcomes. Written reasons for judgements (or positions taken) at critical points in the MUA process can reaffirm or challenge conclusions. It is as important to use written reasons to test agreements as it is to test disagreements. Finally, written reasons

setting out individual or collective judgements on key questions immeasurably contribute to the transparency of the process, and to the public understanding and acceptance of outcomes.

- Setting standards for the quality of evidence that will be admissible is a cornerstone of the Court process. For an MUA process, it would be foolish to import the Court's rules of admissibility, but it may strengthen the process for participants to have a commonly accepted standard of what kinds of evidence are admissible, and what weight will be accorded to different kinds of evidence. In the very least, shared standards foster a common measure of what can or cannot be credible and to what degree different evidence can be persuasive.
- In the court process arguments by opposing counsel have a pivotal place in the process of reaching a judgement in the Courts. Many deficiencies in the Court's decision making process stem from relying upon adversarial exchanges of counsel. However, several adaptations can be made for the MUA process to retain most of the best contributions that derive from challenging potential outcomes through argument.

#### **Suggestions From ADR Processes:**

- Above all else, in any decision making process, the importance and influence of process on outcome is crucial. An importance often overlooked. Most decision making processes jump start into the substantive challenges without taking time to talk about how to talk. It is not clear whether the Assessment Team invested time in designing a process for their interaction that could maximize their ability to respectfully learn from each other, to participate equally and to engage in the constructive dialogues needed to reach a genuine consensus and to generate creative and innovative solutions. They may have for they did recognize in their report the "need for a well managed dialectic process in which solutions emerge as a result of a broad respectful and fair dialogue among all those involved". I may disagree with the "well managed" part, but the rest is essential for a process such as MUA.
- If properly used, the MUA process engages all participants in a series of conflicts. Developing a process that fully extracts the opportunities in conflicts for innovation and for a productive exploration of new approaches cannot be left to depend upon the vagaries of different personalities or upon an ambiguous pecking order. While charm, wit, and the civilities of professional collegiality may ease the group through differences, all of these skills fail to fully exploit the opportunity each conflict offers for exploring deeper into the issues, and for building a foundation of mutual respect and trust that enables participants to engage each other in constructive dialogues. Participants ,by designing a process for their interaction, immeasurably enhance the quality of the outcomes produced.[The successful adaptation of a MUA process for any community will

depend upon promoting participants to carefully consider and design a process for their interaction.]

**5. External Scrutiny/Inputs:** Can there be an external means of checking the facts relied upon by participants, of challenging their key assumptions and logical errors, and of raising questions about labile preferences? Would any such external inputs unduly intrude on the evolving relationship among participants? One could argue for an external reference panel to highlight errors as the process unfolds, but equally one could argue that while the informational foundation of the process may improve, the impact of an external panel of experts may be more detrimental by undermining the work the group needs to do, and by complicating the process. [Who checks the external boards' views? (etc.)]

### **Concluding Remarks**

I end where the Report began, by underlying their statement that: “Whatever technical method is ultimately selected for implementation, the implementation process must invite and achieve the involvement of citizens at key decision points throughout the process”. This applies equally to involving citizens in the decision making process.

Used in the innovative manner this Assessment Team followed, MUA processes can contribute to broadening and deepening public participation. In relying on the ten questions as the basis for the eight objectives driving the MUA process, the Assessment Team forged crucial connections to the public and achieved their mandate of “developing a set of objectives for the assessment reflecting the concerns and values of Canadians”.

The framework established by the Assessment Team for using a MUA process offers enormous potential not just for complex public decisions concerning nuclear waste management, but for all complex public decisions. I have some quibbles about the Report, but these are eclipsed by the innovative use of MUA that spawned key linkages to the public through incorporating of all public concerns and values, and especially by their work in combining all social, ethical, economic, and technical aspects into one process.

The Report goes a long way to helping all of us appreciate all the parts of this complex issue. This work is a valuable contribution to the vital public discussion needed to ensure informed decisions are made. It further provokes thinking about how MUA can be adapted for different key decisions, and for opening up another means of generating meaningful public participation, as well as a means of enhancing public understanding.

Questions surrounding nuclear waste overwhelm all of us, and will continue to do so for generations. There are no easy choices, no choices that will not call for further reconsideration by all subsequent generations. This is one of the controversial “biggies” of our time, as complex as it is critical. I need to confess that I feared the public, beyond those directly impacted by nuclear waste would not move beyond the intimidating wall of technical complexities to make informed decisions about nuclear waste. A conclusion I confess I reached about my own involvement. Could I ever penetrate the formidable

technicalities of the issue to reach an informed choice? I thought not. The Assessment Team's use of MUA considerably raised my expectations. Perhaps others will conclude as I have that a MUA process may promote the basis for an informed public choice. The framework developed by the Assessment Team made me look again at MUA without the cynicism raised by its usual excessive reliance upon technical issues, upon reducing all questions to a quantitative context and upon engaging only those with relevant expertise. The Assessment Team's use of MUA demonstrated how to move the use of MUA beyond these drawbacks.

An overarching objective of NWMO has been to extend the base of public involvement and appreciation of the multi-faceted issues involved in nuclear waste disposal. Realizing this objective is vital not only to ensuring all interests are addressed and that the best possible outcome is achieved, but as well that whatever the outcome, public support can be garnered by faith in the fairness, transparency and competence of the decision making process. Building upon and expanding on the innovative work of the Assessment Team can render MUA a vital contributor to this overarching goal.

As a lay student of the issue, the Report was exceedingly helpful. From the perspective of a judge, their report is comprehensive and exemplifies the rigorous analysis that renders quality judgements. From the perspective of a process designer, the Report and the work of the Assessment Team provoked new insights about how to address complex issues.

Overall, this report makes an invaluable contribution to the public debate. It matters not if the Report's outcome is accepted. The best part of the Report flows from its unique treatment of and depiction of the factors that all of us must consider in making an informed choice. For all citizens the Report is a much needed road map, with extremely helpful insights about all the places and challenges encountered by all of us on the journey to an informed decision.”

## Biography: Barry Stuart



**Barry Stuart**—former Chief Judge of the Territorial Court of Yukon (now retired), a faculty member of numerous Canadian law schools, and an internationally respected leader in multiparty conflict resolution—has pioneered the use of peacemaking Circles for public processes in North America over the last twenty years.

His professional interests have always centered on decision-making processes, dispute and conflict resolution, and the design and development of consensus-building processes. He has worked as a lawyer, mediator, consensus facilitator, policy analyst to government, chief land claims negotiator, professor, and speaker.

In the 1970s, he played a leading role in shaping environmental law in Canada, founding the Canadian Environmental Law Association and Research Foundation. He lectures and writes on a wide variety of topics and has three books in progress.