

MANUFACTURING CONSENT - presented by Val Drummond -for RPIC (Renewable Power, the Intelligent Choice, Prince Albert, Sask.)

I will begin by saying how disappointed we are that this consultation process is being rushed through the province to meet the nuclear industry's preferred development timeline. We are all dancing to a nuclear industry tune right now. We, at RPIC were informed last week that we could make a 15 minute presentation here today. We are pleased that you are willing to hear our voices. But I am one member of a group which has 81 active members. We had to rush around to try to express the wishes of our very diverse group and get the notes in within a few days time. We are a democratic organization. Democracy takes time. My question is this, Mr. Perrins. Why the rush? Why should only 10 communities be chosen and then given a mere 2 1/2 hours for input? Why is there no time for individual presentations in the communities? Why are we, members of the public with jobs, families and busy lives, being asked to respond to a huge document so shortly after it has been released?

As much as we respect you personally for having made great efforts to improve this process, the process itself is still not acceptable.

First, Mr. Perrins, I'm sure you will remember the days of the Berger Inquiry. As you know, Mr. Berger visited all 35 communities in the MacKenzie Valley as well as communities across the NWT and the Yukon. He did not finish his report until he was sure he had heard and understood all the voices who needed to speak. Compare the Berger Inquiry to this present set of "consultations". Here we are dealing with nuclear reactors, reactor waste dump sites and expanded uranium mining. This decision is significant in the same way the Mackenzie Valley pipeline decision was. Quite frankly, the impact on northerners will be huge and they, most seriously of all, are not being consulted adequately. A choice to go nuclear at this time in Saskatchewan will change this province forever. There are huge social and environmental impacts to be considered, which will never even begin to receive the study and thought required, in these few weeks. RPICs first concern is the rush.

2. Our second concern involves the terms of reference for these consultations.

At a time of global climate crisis and at a crossroads in the history of energy production in our province, it is unacceptable to focus our entire attention on only one of our energy options. Saskatchewan has been blessed with an abundance of wind, solar, biomass, small stream hydro and other possibilities. We need to look at renewable energy sources in an honest way and compare them fairly with nuclear power well BEFORE we dedicate millions of dollars to the research and promotion of a single choice.

3 Our third concern regards the privileged voices in this process (by privileged voices I mean those that helped to create the report and now get to tell the government how much they like it). Firms such as Golder & Associates, CAMECO, Bruce Power, and AREVA, are being granted further opportunities to influence the final "consultation report". These contributors to the UDP report have had input for five months, with the assistance of paid staff. And still they need MORE time to counter the efforts of rushed, unpaid volunteers in civil society?

4. Our number four concern is that this is already a done deal. And what evidence do we have to make us think that way?

1) Premier Wall spoke in Ottawa this spring to the Canadian Nuclear Association and announced that Saskatchewan is going to lead a nuclear revival in the new west.

2) Clifton and Associates are currently rushing ahead with advice to the government about how to completely overhaul the Saskatchewan Ministry of Environment. The ultimate result will be: (1) corporations will receive approval much more quickly, (2) corporations themselves will do their own monitoring for environmental compliance, for the most part, and (3) arms-length entities, apart from government, will set up the environmental standards to be met by the corporations. What a perfect set-up, to facilitate the development of more uranium mines, nuclear reactors and nuclear dump sites, without the inconvenience of regulatory bodies.

3) We also notice that the Wall government is withholding from the people of Saskatchewan important information which would help us understand the true implications of the UDP report. For example, the public is not able to look at documents about Crown Investment Corporation's involvement with the UDP. Also, the consultant's report (by MK Jaccard & Associates) which has informed the government's new policy on Climate Change, is - that's right - not available to the public. This lack of transparency, combined with the rush to consult, will insure that the "consultation" will be over before most people are able to inform themselves sufficiently.

Let me finish with a cautionary tale about a present-day uranium mine site in Saskatchewan. AREVA, one of the privileged contributors to this "consultation" process, is currently applying for renewal of its licence for decommissioning at the Cluff Lake Mine site, with the obvious intention of turning that mine site back to the province in ten years' time. AREVA Canada's CEO recently announced to the Prince Albert Chamber of Commerce that the Cluff Lake Mine site has been (and I quote), "returned to its natural state". This, of course, isn't even vaguely true. AREVA wants to convince the province to take back that mine site after only 10 more years. We, the taxpayers of Saskatchewan, will be responsible for dealing with the radioactive contamination which will eventually spread through the local environment, when AREVA's short-term decommissioning methods begin to fail. And they will fail. We are talking about radionuclides with half-lives of well over a thousand years. Ethically, we cannot leave this kind of legacy to our children and grandchildren and great-grandchildren. And yet, the UDP wants us to do MORE uranium mining and to build nuclear reactors, which will create even more radioactive tailings as well as highly radioactive waste, which no one knows how to safely and permanently dispose of yet. So, Mr. Perrins, with many thanks to you for improving this consultation process in the ways that were open to you, I feel compelled to put on record our observations about the process and how it is grievously flawed.

We do have one question. Will your recommendations be binding on government?

TOWARDS A VALUE BASED ECONOMY

The bold portions of this document compose the presentation itself. The rest of this document that is not in bold is background information for clarity. When I use the word "I", I have the full support of our organization, Renewable Energy the Intelligent Choice (RPIC).

PROCESS

What this whole process needs to be about is in what direction we want to take this province. At the end of it the government should be asking for a mandate which I don't think the electorate gave them in the last election. **What we don't have is a transparent process** where all the cards are laid on the table for all to see, **very little opportunity for the "general public" to educate themselves on issues, or to voice their opinion. No funding for alternative visions or time to prepare** and no opportunity in

place for the public to be truly involved in the decisions that are going to be made. I get the feeling that the **people in the north, who are are going to most affected by expanded development of lower grade deposits are being given even less opportunity for education and response in this process. Farmers, whose land will likely be at risk, will also have little time to prepare input or participate. If their operations become irradiated there is no insurance they can buy.** According to someone from Enterprise Saskatchewan, the farmers are all on board with nuclear anyway - I have to ask myself what is the benefit of a nuclear reactor to a farm operation - **could renewables provide less risk to their operations while improving their bottom line? The youth of this province are also not being consulted** and they are the ones who are are going to be left with the legacy of the decisions we are about to make. Everything seems to be rushing ahead to get things in place so the public can have time to forget or will feel that the things have progressed too far to reverse. **The report seems to be written by a lobby** of what I would like to call the in crowd **who** want to steer the process in a single direction. They **are determined to enhance the uranium industry and to take the province** the rest of the way **into all aspects of the nuclear chain.** They remind of the kind of teenagers that live to party and engage in risky behaviours that they feel they have under control. But it is not hormones and youthful exuberance that are driving this lobby and I am not convinced they are being honest with us.

Alternatively, there is a group of people who are saying whoa up a bit, we can get to where we want to go using technologies that pose little risk to the general public and can probably bring more positive benefits to a greater number of people. Why are we not even considering these other options.

MOVE TOWARDS GREEN ECONOMY

The Europeans have a long history with a lot of lessons learned along the way and a large population to bring forward. They **have tried nuclear** (some for reasons that were not peaceful), experienced the down side, and many have made a decision to see if they can do it better, with less risk and more benefits. They have learned from their choices **and progressive nations made the determined decision to pursue the renewable energy path.** One of the other main drivers is climate change and the desire to leave a favourable legacy to future generations. They are finding lots of opportunity for research. **They are finding the answers to meet their base loads.** They are finding the answers to **employment and education and training. They are building robust, industrial green economies that are going to be more competitive than nuclear economies. The Germans alone have more than 250,000 renewable energy related jobs. The costs for nuclear were always going up and the legacy to future generations has always been a questionable one in terms of care of long lived nuclear waste, dangers from reprocessing waste, plant emissions, decommissioning, nuclear weaponry and depleted uranium artillery and the human and technical factors that weave themselves through every facet.** They are getting out of nuclear. **Countries around the world have contributed \$200billion towards a green economy.** The Global Green Economy is currently **pegged at being worth \$4trillion** - they want in on that. The report put out by the Alberta Federation of Labour points that in Alberta alone there is a possibility of 200,000 green jobs

Somehow I **have a hard time visualizing a windmill or a solar collector as a weapon of mass destruction. They don't require any fuel and do not consume large amounts of our water resources. They don't produce any waste and should be relatively easy to decommission. Their carbon footprint is getting smaller. The wind and the sun are resources available to all, not just the affluent or to those desperate for a nuclear weapons that in the end could destabilize us all.**

MINING

What is Saskatchewan's nuclear future. Nuclear is dying. **The world is turning more and more to green renewable energy. There is no nuclear renaissance** - they are losing share and when you take in life cycle costs it is not economic and there are better ways to cut carbon emissions. **The resource upon which nuclear depends is running out. The easy to access, high grade deposits are depleting. What's left will require more energy, and carbon to dig out, likely there will be more incidents and spills to contend with and more tailings containing acids, heavy metals, and radionuclides to be cared for and monitored for generations to come.** The UDP report suggests that **this is going to require more roads and power infrastructure to be built at public cost.** They also want to keep the cost of business to a minimum which I feel is going to mean reduced benefits to Saskatchewan to improve the companies' bottom line. **They don't want to pay any increase in the cost to gain the rights to a mineral claim, they want the environmental process streamlined and shortened** when it has already been largely removed to Ottawa and away from the public consciousness. **They want to streamline consultation with First Nations.** Both our knowledge of the environment and 1st nations issues are dynamic. **They want a reduced royalty structure and they want more foreign investment allowed. In short the benefits for depleting our resource are being diminished and when it runs out or becomes uneconomic WE ARE GOING TO BE LEFT HOLDING THE BAG. Even now Areva plans to walk away from their Cluff Lake responsibilities.** The other thing we should be looking at is **who are we selling Uranium to – I don't think the people of Saskatchewan would choose our uranium to be sold to any country that is, or is likely to use it for military purposes and there must be safeguards to make that happen. China, Iran, India, Pakistan, France, Argentina, Korea...**

VALUE ADDED

To add insult to injury they don't want us to get into the value added areas of the nuclear chain where, in most industries, the best profits are to be made. Then they want us to buy back these products for our own nuclear power generation. Personally, I think **the value added end is just going to present another level of risk than I am not willing to tolerate.** I also think there are other interests at work here. I think **the Americans want our supply of depleted uranium which they might not have access to if we did our own refining and enrichment. They also want the plutonium for nuclear weapons that can be garnered from reprocessing nuclear wastes. Again, the plutonium will not only present a significant toxic and long lived radiation risk to the environment but it will also pose a significant security risk.** Add into that the risks involved with transporting nuclear waste and weapons grade material. I have to wonder about Port Hope. The federal government seems to be indicating that there is very little risk in radioactive pollution at that site and yet they are willing to spend millions for cleanup. **If the refining facilities are working okay there, why are we considering building another here? If they are not working well, then why would we want one?**

R & D

In terms of research and development, **there is lots can be done in the renewable energy sector that could put us in a respected and leadership role if we committed to it.** Even technologies like solid oxide fuel cells could help us use our nonrenewable resources considerably better and cheaper than carbon capture and sequestering technologies that will be used for oil field enhancement that even the tar sands companies aren't jumping at. However, while these technologies may buy us a little time, they shouldn't preclude renewables.

Many flaunt the creation of radioisotopes for medical purposes as a driving force for research. **Triumph Laboratories in Vancouver has shown that these isotopes can be produced by electron acceleration without the risks of a reactor and probably significantly lower costs. The**

\$300million that went into designing a new generation of isotope reactors - The Maples - has been written off due to design/safety issues.

POWER

In terms of power generation, **if you look at some of the investment rating services such as Moody's the installed cost of nuclear reactors is 7 to 8 times the cost of coal, largely due to unpredictable cost overruns and are a bad investment that should only be entered into if the project is 100% guaranteed by the public.** The report gives the impression that new generation reactors have been able to take care of all the safety issues and cost overruns of older models. **The US has not accepted licensing for the safety systems for the new generation AECL reactors. The Areva reactor being built in Finland is being found to have deficiencies in their safety systems as well for which Finland is threatening to close down construction. England is also recognizing these and is threatening to pull out of their reactor agreement with Areva.** Areva is in serious trouble with its regulators and financial backers in France as well. **Should the safety systems fail on these new breed of reactors the results could be even more catastrophic than older models.** On top of this the **Finnish reactor (and one in France as well) which is using the new modular approach is seriously behind schedule and over budget.** If this is anything like the modular systems being used for building upgraders for the Alberta tar sands we can expect more of the same. **We should not be subsidizing a mature nuclear industry or guaranteeing their cost overruns - either they are competitive or not.** If a proponent's developments necessitates a concentration of capacity in one location that requires **changes to the Saskatchewan grid, that should be at the proponent's cost** but the grid will remain property of the province. If proponent is going to dominate such a large amount of our capacity then **they will have to pay any extra cost of bringing in power during shutdowns and refurbishing. These things as well as all the other life cycle costs of the development including waste management and decommissioning should be part of "their" electrical price.**

During the operation of reactors there are routine releases of radioactive materials into the environment and the **German Kikk study suggests that proximity to reactors increase risks of cancer - particularly in children with actively growing bodies. I worry about the tritium which is released into the water and the atmosphere (as I worry about the radioactive material being vented from our mines and mills).** I think **alpha emitters are extremely dangerous when there is the possibility of life forms ingesting them.** Second to the long lived nuclear waste itself, I think the tritium and other alpha emitters are the greatest Achilles heels to this industry. **The industry talks about controlled releases** but in my mind and those of many International organization **there is no safe level of radiation. When you dilute radioactive materials** you do not reduce the risk posed by the radiation - **you spread that risk out** so its affects can be felt within an expanded portion of the environment, albeit less concentrated. And the longer the half life of these radioactive materials the longer they can affect our environment over and over and over again. Alpha emitters can have significant health effects and cancer risks once ingested or breathed in and exposed to sensitive internal tissues. So far epidemiological studies are not being carried out by Canada to determine health effects because regulators insist their emission standards are safe - how do they know? In addition to the tritium releases we might expect in Saskatchewan air and water, **we must also consider the thermal pollution and what its effects will be on our river aquatic systems.**

If we take a look at what the actual reason for all this increased energy demand is, I cannot come to any other conclusion than tar sands. This being said, and if true then I think we really have to sit back a little and take a look at the full picture here, if that is possible. **If true, I think we have to take account of the cumulative impact of all this development because together it packs one hell of an impact as**

opposed to a number of separate developments. The tar sands are a huge Green House Gas emitter. **to promote nuclear as low carbon and then utilize it to produce oil is an oxymoron. We are getting the carbon, water pollution, habitat destruction, acid rain, and a complexity of infrastructure and social issues anyway and we will be introducing long lived environmental contaminants at the same time to the mix. The worst of all worlds. The tar sands** are also large emitters of nitrous oxides and sulphur dioxides (as are our mills at our northern mines) **which are major contributors of acid rain which are being produced in Alberta tar sands operations and more than 60% of which falls back down in our northern lakes and forests and killing their ecosystems. Combine the water usage** required for the tar sands and the nuclear reactors proposed with the effects of climate change on our river flows, **I think we will have a problem.** Then there is all the toxic crap that is leaking out of the tailings ponds further impacting the river systems and all that depend on them. [The oil sands contribute 1.8 billion litres of toxic waste per year.](#)

WASTE

In terms of disposal of nuclear waste, I don't feel that **Saskatchewan has any obligation to accept used fuel back.** Whomever bought and used it knew full well that these wastes are long lived and potentially very dangerous and would need to be disposed of / managed in an acceptable manner. This being said, **I think those who have bought our fuel need to take on the moral responsibility of not producing any more waste until socially and environmentally acceptable solutions have been found. In particular we shouldn't be building any new nuclear capacity** until this and many other issues around nuclear have been found. Given the unpeaceful history of the world, this may be difficult. This should be an incentive to pursue safer technologies. One of **the major stumbling blocks to even deep waste disposal** was the presence of water throughout the earth's crust. **No guarantee could be given that this water wouldn't be capable of returning it to the surface. Surface mine tailings pose a similar risk, perhaps more so.** This has been despite billions of dollars being spent in research by many countries. **The US, for instance, has spent over \$10 billion at Yuca Mountain alone. It is extremely presumptuous for any government to express an interest in accepting nuclear waste** until the answers are to be found. That being said, a lot of waste has been accumulated already on the surface and needs to be taken care of. **Certainly any storage of radioactive material above ground will always be considered a security risk** during unsettled periods of our history yet to come. We have had experience at Cluff Lake with storage of radioactive wastes in concrete containers above ground - perhaps we need to revisit this as well. A compromise solution that is not fully socially and environmental acceptable should dictate an immediate shutdown of the industry. **To continue to hoist these wastes on the shoulders of future generations is unconscionable.** A single repository site would also come with significant risks in terms of transportation risks. Temporary storage of waste until it can be **reprocessed may also not be acceptable if reprocessing results in even more wastes being created and more radioactive releases are made to the atmosphere and aquatic environments.**

RENEWABLES

On the other hand **the installed cost of renewables is getting closer to that of coal and project times are significantly shorter which makes them a more attractive investment.**

All power producers should get a premium added to their price they receive for the power they generate for avoided capacity costs to Saskpower and they should get a premium for that power source's life cycle reduction in GHG emissions over coal. However **the government and Saskpower need to be proactive in Energy conservation and energy efficiency measures which can significantly reduce our capacity demand and which are far more efficient at creating jobs and reducing pollution**

than even the renewable power options. **In Vermont, they have found that for every dollar they invested in conservation and efficiency they saved \$1.69.**

When we combine biomass, cogeneration and conservation and energy efficiency in the mix with solar wind and hydro I think we can find a way to reduce and guarantee our base load requirements. (Something the UDP report dismisses outright and therefore dismisses renewables as a serious option.) I think this can be done as we phase out our coal technologies. Life cycle - nuclear produces about a third of natural gas GHG. However if we combine cogeneration with natural gas facilities and other industrial sources we can greatly increase the efficiency of these units narrowing the gap considerably. **If we tender out our increased capacity needs as we plan phase out of coal, we can encourage communities to become involved in value added processing industries that could benefit from cogeneration and biomass that use existing waste more efficiently, reduce the amount of pollution going into our atmosphere and that will help build their communities. It will also allow farmers and cooperatives to engage in projects like wind farms.** At a recent wind seminar, a crowd of at least two hundred was mostly composed of hands on kind of people like farmers. **Renewable technologies are well suited to the skills and lifestyles of the people of this province. Thin film photovoltaics are going to offer exciting opportunities to home owners to produce their own electricity and put power onto the grid and consider it as an investment at the same time** because it will avoid increased electrical system increases. **If options were put forward to pay for all the power they put on grid at an avoided cost price to the facility this just gets better and better for all the renewable energy options. Hey, add on a carbon reduction premium.** I see the electrical grid as a very useful tool to facilitate a variety of ventures which will also be unavailable if a large portion of our capacity is promised to a nuclear generator.

CONCLUSION

If Saskatchewan continues its obsession with nuclear, our costs are going to continue to go up, our risks will accumulate and we will find our economy in an uncompetitive position, looking for a bailout - very much like the situation we are finding ourselves with our gas guzzling vehicles and homes we can't afford. We need to grow up. There is no long term future for uranium. At its very best, the nuclear industry is one of risk management with fairly significant risks at that, if systems fail. It is a dying technology - PLEASE, let it die!! Slow this process down and make it more transparent and more inclusive in terms of both involving all citizens and the education that is provided for all the options that we can choose from.

Many of the figures used to support a green economy that I have used in this document come from the report recently commissioned by the Alberta Federation of Labour.

SINCERELY,

STEVE LAWRENCE -RPIC MEMBER