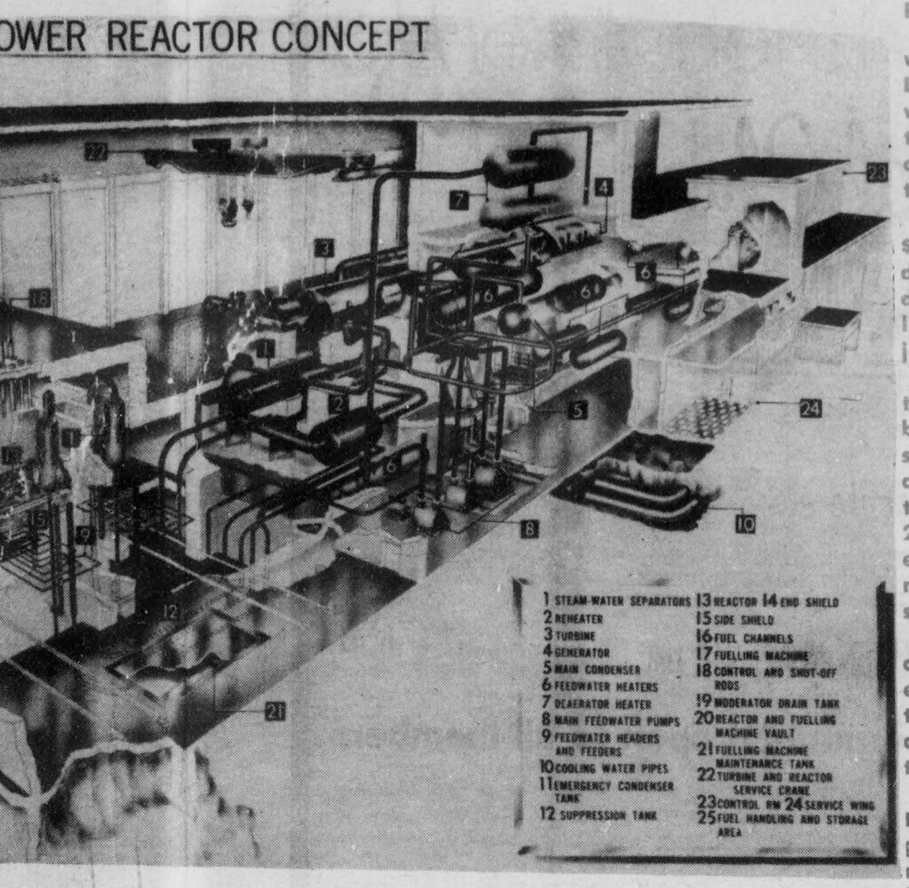
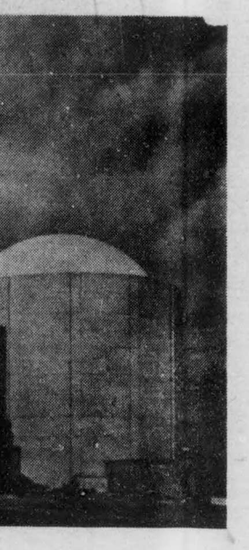
rgy at Point Lepreau

OWER REACTOR CONCEPT





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about for quite some time in the project's early stages. Dozens of strikes and protests later, the official estimate jumped to $684 million, and thence to $720 million. The last is the figure which saw the Conservatives through the elections.

One December morning we woke to a new number . . . $895 million. It amazes me how something as big as $175 million can slip away in one's sleep.

COMPARATIVE COSTS

Everyone, I think, accepts that the final cost will be substantially in excess of a billion dollars. The higher it goes, the longer it will take for power from Point Lepreau to become cost-competitive with that generated by oil.

Assuming a capital cost of $1 billion, a 4 percent yearly increase in the price of oil, and a 7 percent rate of increase in the price of uranium (the rate written into the recent purchase agreement with PEI), electricity from Lepreau will begin to outsell power from Coleson Cove, 10 miles east on the same shore, in the year 1995 or thereabouts.

Either mode, oil or nuclear, is likely to cost over $6 billion to the year 2010 if it manages to produce at 80 percent of capacity. And, as always, the heaviest burden will rest squarely on residential users, especially those with electric space and water heating. six billion bucks is a lot of cash to ask of New Brunswick pockets.

The above are quite conservative figures which arise from the work of the Maritime Energy Coalition (MEC), not to be confused with the alleged Maritime energy Corporation, which still after years of negotiation does not exist. The Coalition will be releasing the results of its work to the media shortly.

Included in the figures for Point Lepreau is $100 million to cover the cost of decommissioning the plant, giving it literally a decent burial at the end of its short and sordid life. The power commission's estimate for the job is $45 million, but this is much too low.

If, God forbid, the reactor produces for its target lifespan of 30 years, the tasks of burying the remains in the earth and doing something (no one knows what) with the actinides - the radioactive waste products of the fission reaction - will fall to us in the year 2010. Labour will cost more, as will everything else. The site will be contaminated with radiation levels that are a matter of speculation.

I won't want to work there, and I'll not be alone in that. De-commissioning will be more expensive than the nuclear cowboys like to think. $100 million U.S. dollars is the assumption current among American operators.

The problem of nuclear wastes calls to mind the sea urchin - it's thorny and I wish it would go away. But the evidence is spooky. I shall expatiate upon that problem in an article to follow.

SPEAK OUT

Democratic governments are not insensitive to public opinion; in our time we have seen people's sense of right and wrong rise up and remove a president of the United States. Rather it is the case that our governments are capable of decisive action only when they feel themselves in accord with the wishes of the people.

A sentiment of public opposition to nuclear power has been visible in New Brunswick, centred about the Coalition. Last year Jimmy Carter, perhaps anticipating the mounting protest against the death-wish technology, ordered a cutback in second-generation (breeder) reactor development.

Those who speak against CANDU are, in the main, well-informed and thoughtful folks, people who like life unhurried, face-to-face. One anti-nuclear group which has sprung up calls itself CANTDU. Their's is the voice of tradition. Life without ulcers.

SAFETY

The safety aspect is disquieting.

The nuclear industry rightly claims a record second to none in terms of ordinary industrial accidents. The hazard is extraordinary and so are the safety measures, though it is true that Morton Schulman walked virtually unmolested into the spent fuel bays of the plant at Pickering, carrying a briefcase. His point was to demonstrate how easily a terrorist or lunatic could import explosives into the area.

Men have died within minutes of exposure to a fission reaction, which occurs at temperatures hitherto unknown on the surface of earth. The industry doesn't like to talk about them. They lie lifeless in lead-lined caskets. Blessedly, they are few.

This is the grave threat of fission energy, the threat which nuclear exponents do their best to sweep under the rug . . . exposure of human beings to radioactivity, whether prolonged contact with accumulated low-level radiation or momentary contact with high-level wastes.

The list of uranium miners who have died of radon-induced lung cancer is longer than your arm. Eldorado, the Crown mining corporation, has had to compensate a number of farmers for lost cattle.

It is common, in refining operations, for waste products not to be buried; radioactive dust is free to blow off the site. On several known occasions, levels of radiation many times the permissible limits have provoked nothing but yawns from those whose duty it is to enforce these limits. Is there sense, I wonder, in defining 'permissible' levels of radiation if no one in authority pays them any attention?

The nuclear industry's safety precautions have been cooly received by a key group of probability experts, the private insurance agencies, who know only too well the magnitude of the risk. Ottawa has found it necessary to pass in 1976 the Nuclear Liability Act, limiting to $75 million the coverage a reactor operator must carry. Most of the expense and all of the damage, should a serious release of radioactivity occur, will be assumed by us.

AD HOC

Recent consumption of electricity, discouraged by an accelerating rise in price, has fallen short of the NBEPC's projections. We generate more than we use, sell some to PEI, Nova Scotia and Maine, and cover the expense of the unused balance.

Several years ago, the power commission launched its regretable "Live Better Electrically" advertising campaign. In retrospect, it appears they may have done so to help meet their own prediction of 9 percent annual growth. Tens of thousands of thermodynamically inefficient resistance heaters are in place around the province, asserting a steady drain, peaking through the winter, on the provincial grid.

Thermally generated electricity wastes two-thirds of its primary energy input, lost as heat into the housings of boilers, pouring through smokestacks into the atmosphere and through drains into our rivers and bays. It is high-grade energy, best suited to tasks which require its excellent thermodynamic quality - lighting, electronics, motive driv, some metallurgy, and a few other applications.

To send it tens or hundreds of miles through transmission lines, with attendant resistance losses, and re-convert it to low-grade heat is simply stupid. Space and water heating needs are best met by solar-wise building, assisted as necessary by the burning of a fuel wherever the heat is needed. Since we live not in Venezuela but in New Brunswick, the fuel ought to be a wood product - a dry firewood, wood chips or pellets, or methanol.

Fish don't wear sneakers, and the NBEPC has no place in the advertising business. No one is permitted to compete with them for our electricity dollars. The task and mandate of the commission is to ensure that electricity is available when people need it, not to create a demand which otherwise would not exist (thus enforcing our dependence on imported oil).

The object of our existence is not to squander as much energy as we can; it is something much deeper, more lasting, and altogether more honest. Electricity is a miraculous tool. It is a task worthy of the minds of coming generations to learn to use it wisely.

EPILOGUE

Nuclear power is at best a stopgap measure. In the long run it creates more, and far more serious, problems than it solves.

Thirty years and more have passed since the acclaimed birth of the 'peaceful atom'. What was then an insurmountable problem is still unsurmounted. Radiation kills.

We are a little farther along than our fathers were. It is possible for us to see a new horizon. Are we going to be men who can do anything we wish, but do not know what ought to be done?

I wish to credit the assistance of Joe Bongiovanni, Brian MacNeish, Ann Ottow, Andy Secord, John Sheehan, Terry Thompson and Steve Woodley in the preparation of this article. In pieces to follow, I shall elaborate on the waste-disposal problem, and review alternatives proposed by the Coalition.

Steve Heckbert is a former student of Mount Allison, now living and writing on the Miramichi. Reprinted from the Argosy Weekly, January 25, 1979 issue.