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The Bellman cometh

The American Nuclear Society, the professional organization of scientists and engineers engaged in nuclear activities and the Atomic Industrial Forum, the trade organization of nuclear businesses and industries, regularly hold their annual conferences in parallel; the most recent joint gathering took place in San Francisco, USA, 16-21 November 1975.

Until 1974 the ANS/AIF meeting was characteristically an occasion for mutual congratulation and enthusiasm. But in 1974 the theme was '20-20': twenty years of the civil nuclear scene, in retrospect and in prospect. The prospect as anticipated in 1974 did not excite the familiar enthusiasm of earlier years. The theme of the 1975 San Francisco gathering, recognising this new trend, was 'An industry challenged'. The events of the intervening 12 months had done nothing to dispel the uncertainty: on the contrary. In consequence, even to a committed critic of nuclear affairs like the present writer, the prevailing mood of the San Francisco conference proved quite disconcertingly gloomy.

Exorcism

The 'challenge' which most upset both organisations - at least on the evidence of the conference sessions - was that of 'public acceptance'. Scarcely a speech failed to include some reference to 'public acceptance', to nuclear opponents and their baleful influence; ritual reference was made to Ralph Nader, in tones recalling those of an evangelist exorcising the arch-demon Lucifer. Throughout the conference major events focused explicitly on 'public acceptance'. On the Tuesday morning one main session of the ANS was devoted to 'Public interest issues in nuclear power'. The opening speaker, Dr Alvin Weinberg, invited the nuclear establishment to take the lead in resolving such issues, by honest self-criticism. But following speakers seemed to suffer from what might be called the 'Bellman syndrome', from Carroll's *Hunting of the Snark*: 'What I tell you three times is true.'

Economics, safety, security, waste management - everything, in the speakers' view, was, if not rosy, at least eminently satisfactory and under control. Only Dr Weinberg expressed persistent doubts.

That afternoon a crowd of some 1200 delegates jammed into the largest ballroom of the San Francisco Hilton to hear the other side of the issue, 'The nuclear critic's point of view'. Jim Harding of Friends of the Earth drew murmurs of discontent with his strictures on nuclear economics; but the timely arrival of copies of his study on a proposed new California nuclear plant, 'The Deflation of Rancho Seco 2', prompted a mass foray to the front of the ballroom. California lawyer David Pesonen, fresh from a \$7.8 million libel judgement against Pacific Gas & Electric over their blockage of 'Powers that be', a TV film critical of nuclear power, recalled the history of the nuclear industry and suggested that it had never established credible technical or economic foundations. Dr Weinberg, as ever the maverick, declared from the floor that he agreed with Pesonen in almost every observation.

Repetition

Wednesday morning the AIF held a 'press breakfast' for journalists, with a panel including Dr Richard Roberts, Assistant Administrator for Nuclear Energy of the US Energy Research and Development Administration. The panel appeared to endorse the 'Bellman syndrome' as the industry

approach, to 'repeat and repeat and repeat their position until it becomes familiar to the public'. It could of course be argued that long-standing dedication to this approach is precisely the reason for the industry's present lack of popular credibility.

Later that morning what would in earlier years have been called the 'Wives' session' - now the 'Guests' session' - offered another example of the same attitude, replete this time with simple mis-statements of fact: for instance 'there is no commercial (nuclear) waste requiring storage today'. The 'guests' included a number who were seeking enlightenment rather than reassurance, and the discussion was at times acrimonious.

The politics of acceptance

The joint ANS/AIF banquet on the Wednesday evening was treated to a rousing address by Congressman Mike McCormack, frequently identified as 'the only qualified scientist in Congress', who was on the staff of the AEC's establishment at Hanford for many years before moving to Capitol Hill. His address included very little science but lavish helpings of hortatory rhetoric, an unashamedly 'us and them' political speech which would have done little to enhance the industry's 'acceptance' by any uninitiated member of the 'public' who might have overheard.

The AIF's full-dress session on 'public acceptance' took place on the final Thursday morning. It began with what must have been a discomfiting treat for the delegates: a slide-show, obviously flown in from Washington overnight, of the rival doings at Ralph Nader's 'Critical Mass 75', which had coincided with the earlier part of the San Francisco conference. The commentary was couched in terms which implied that the commentator did not expect his nuclear audience to have more than a sketchy notion of what the critics were saying. The slides included a plentitude of close-ups; one wonders what would have happened in the Hotel St Francis if unidentified persons had made free with cameras throughout the AIF deliberations. In any event the presentation reinforced the impression that the US industry perceives the issue as polarised almost beyond resolution. Nothing in the succeeding discussions in San Francisco indicated that the industry viewed 'public acceptance' as other than 'acceptance of the industry's view of itself'.

Conference reports

Be that as it may, the whole issue of 'public acceptance' of the nuclear industry is a curious phenomenon, perhaps unique. Has any other industrial activity - steel-making, coal-mining, pulp-and-paper, chemicals - ever found itself so preoccupied with its status in the eyes of the general public? These industries have assuredly encountered their share of public opposition; but in no case has it been seriously suggested that the whole industry might collapse. Just this is now being suggested about the US nuclear industry - and by no means only by its opponents.

The reason may be that the nuclear industry needs now, as it has always needed, a kind of 'public acceptance' which the other industries do not: a readiness on the part of the public to continue to support and sustain economically nuclear undertakings which would otherwise never get off the drawing board. In the US this dates back to the Cooperative Power Reactor Demonstration Program of the later 1950s. The then US Atomic Energy Commission pumped millions of dollars of government - that is, public - money into construction of 'demonstration' nuclear power stations, with the reluctant partnership of US electrical utilities. This partnership was prompted primarily by the threat that otherwise the US government would itself start to generate electricity in competition with the utilities. The utilities feared - rightly, if subsequent government involvement in the civil nuclear field is any guide - that the government would not be constrained by ordinary economic considerations, and would undercut the utilities, jeopardising their corporate futures.

The desires of government

Accordingly, the US began building nuclear power stations; mainly because the government wanted them built, not because there was any credible role for them in the energy economy of the country. Further sustenance was provided by the government's supply of enriched uranium for fuel, from the three gaseous diffusion plants originally built to feed the burgeoning US nuclear weapons programme. The cost of the enriched uranium to the utilities bore little relationship to the costs of constructing and operating the gaseous diffusion plants, which were subsumed in the military budget. At the other end of the 'fuel cycle' (neither then nor now noticeably cyclic in practice) the US government operated until 1970 a plutonium 'buy-back' scheme, in which the plutonium produced in civil nuclear reactors, otherwise valueless to the utilities, was accepted by the government - at a substantial price-level - as part payment for other fuel cycle services like enrichment.

Cosy

While all of these cosy arrangements remained out of the spotlight there was little need for the nuclear industry to concern itself with the public's attitude to its activities. But, as more and more private industries began to thrive on the government's nuclear largesse, embarrassment began to accumulate. The expansion of nuclear generating capacity mopped up all available output from the three government enrichment plants. But there was a distinct lack of eagerness on the part of private industry to take on the thankless task of constructing new plant - perhaps because the government plants had never been compelled to pay their way, leaving enrichment economics a ten-figure mystery.

The first private venture into reprocessing showed a loss for each of the five years it operated; the second proved impossible to operate at all, and is expected to be a \$65 million write-off. The third is caught in the quandary arising from the end of plutonium buyback. If the utilities are to realise any value from reprocessing they must be able to recycle the recovered plutonium in fresh fuel - but the security problems are daunting. Even if they can be plausibly overcome there remains the question as to whether the recovered materials are worth what reprocessing will cost, a matter for increasing doubt.

It is not therefore difficult to appreciate why the nuclear industry is now concerned about 'public acceptance'. The public, in the form of its government representatives, is yet again being invited to put up financial guarantees to encourage utilities to invest in new nuclear stations. Guarantees in the tens of billions of dollars have been mooted by the Ford Administration - not to mention tax relief. Another \$8 billion or so is to be the carrot to persuade 'private' construction of a new gaseous diffusion plant. Uranium Enrichment Associates, the prospective builders, delivered an eager testimonial to their concept to a press conference at the AIF meeting in San Francisco. At another, Dr Roberts, the ERDA Assistant Administrator for Nuclear Energy, introduced the 'President's Plan' for this undertaking, although he found it expedient to let his assistant field some very awkward questions from the floor, as to how exactly this could be called 'private'. During the same week, in Washington, DC, the Congressional battle over renewal of the Price-Anderson Act, providing a \$435 million government indemnity for nuclear facilities, went through another inconclusive skirmish.

Another agency?

The US Nuclear Regulatory Commission (government-funded), studied its responsibility for the supervision of fissile materials, and considered whether to create yet another government agency to exercise this responsibility. ERDA continued its search for a government repository for long-lived

radioactive waste. Congressman McCormack assured a San Francisco press conference that this problem, like all the others, was solved; but in response to a direct question he declined to identify the site he had in mind. Out in Tennessee, the Clinch River Demonstration Breeder Reactor, still a figment of collective imaginations, but keystone of the country's nuclear future, neared the \$2 billion mark - guess whose \$2 billion?

The San Francisco meeting provided a unique vantage point from which to contemplate the interlocking ramifications of today's nuclear industry, with its insatiable appetite for funds, resources, and time. Despite all the industry protestations one lingering feeling persists: 'if the public will accept this they'll accept anything'.

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