

## NASA's Freedom Not to Use Metric Units

I note with dismay that NASA officials have decided to stick with the English measurement system for the design of the Space Station Freedom, rather than use metric units. According to their newsletter *Station Break* it would cost too much money (estimated at \$221 million) for their contractors to convert to a metric standard! Perhaps they are not aware of the Omnibus Trade and Competitiveness Act of 1988, which mandates that every Federal agency make its purchases in metric units, starting 30 September 1992.

Twenty years ago, we might have smiled at the perennial, abortive attempts to go metric. After all, we scientists were already "bilingual," weren't we? It is a more serious matter today, when we expect the space station to incorporate components and systems manufactured (to metric standards) in Europe and Japan. In fact, \$221 million may be a small price to pay to avert a disaster in space. I submit that English units remain one aspect of American technology that doesn't need protection from our overseas competitors!

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## Radon, Reactors and Relative Risk

Henry Hurwitz Jr (September 1989, page 13) compares the potential added exposure to radon as a result of sealing up houses for energy conservation with the radiological exposure at which operators of US nuclear power plants are required to recommend mass public evacuation, and concludes that the nation is misallocating its resources by spending far more on mitigating the risks from meltdowns and nuclear waste than on reducing the risks from radon.

From the tone of Hurwitz's letter one might be forgiven for believing that he advocates forgoing domestic energy conservation in favor of an expansion in nuclear electricity generation. Surely, risk analysis in this context is irrelevant: A program of active ventilation for houses using proven heat-exchanger technology would be a cost-effective way of lowering occupants' exposure to radon, improving their quality of life, lowering their heating bills and removing the need for an increase in nuclear-generated electricity. While the situation in the UK (with whose statistics

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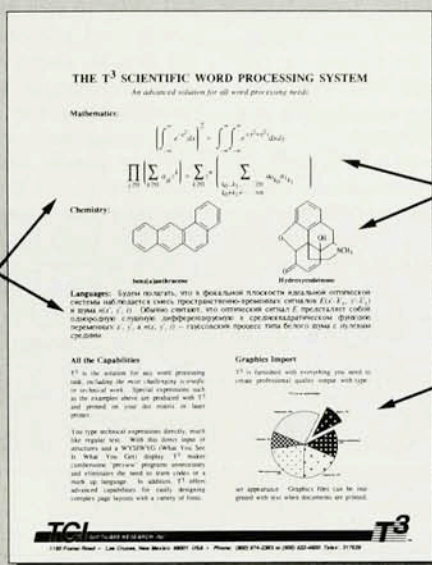


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I am more familiar) is not strictly comparable, instituting such a policy there could cut energy consumption nationally by around 13%, which is rather more than the 2-4% total produced using nuclear generation. Promotion of heat pump use or the construction of combined heat and power plants, possibly small scale, is a similarly promising route.

Nuclear power supporters seem to overlook the fact that while there need not be a shortage of electricity, there will surely be one of oil. Until a viable vehicle battery is developed, a hydrogen economy is instituted, or the US constructs a public transport system running on electricity, the nuclear industry has no real solution to any potential energy crisis.

MALCOLM PARRY  
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10/89

HURWITZ REPLIES: Being a partisan in the nuclear power vs energy conservation debate should not disqualify me from calling for a level playing field. I feel that rather than attempting to justify and perpetuate the radiological double standard now being applied to energy generation and energy conservation, the proponents of energy conservation should join with nuclear power advocates in arguing that the possibility of small incremental public radiological exposures, whether from energy generation or energy conservation, is a small price to pay for reducing the threats to the environment, to public health and to national strategic interests that result from our continued overreliance on energy from the combustion of fossil fuels.

Malcolm Parry's observation that

incremental exposures from indoor radon in sealed-up homes could, in theory, be avoided by forced ventilation using air-to-air heat exchangers does not appear to me to be cogent, because sponsors of residential energy conservation programs routinely shy away from recommending such devices. This is in part because of cost considerations, but I suspect that another factor is an understandable reluctance on the part of energy conservation proponents to risk focusing undue public attention on the indoor-air-quality issue.

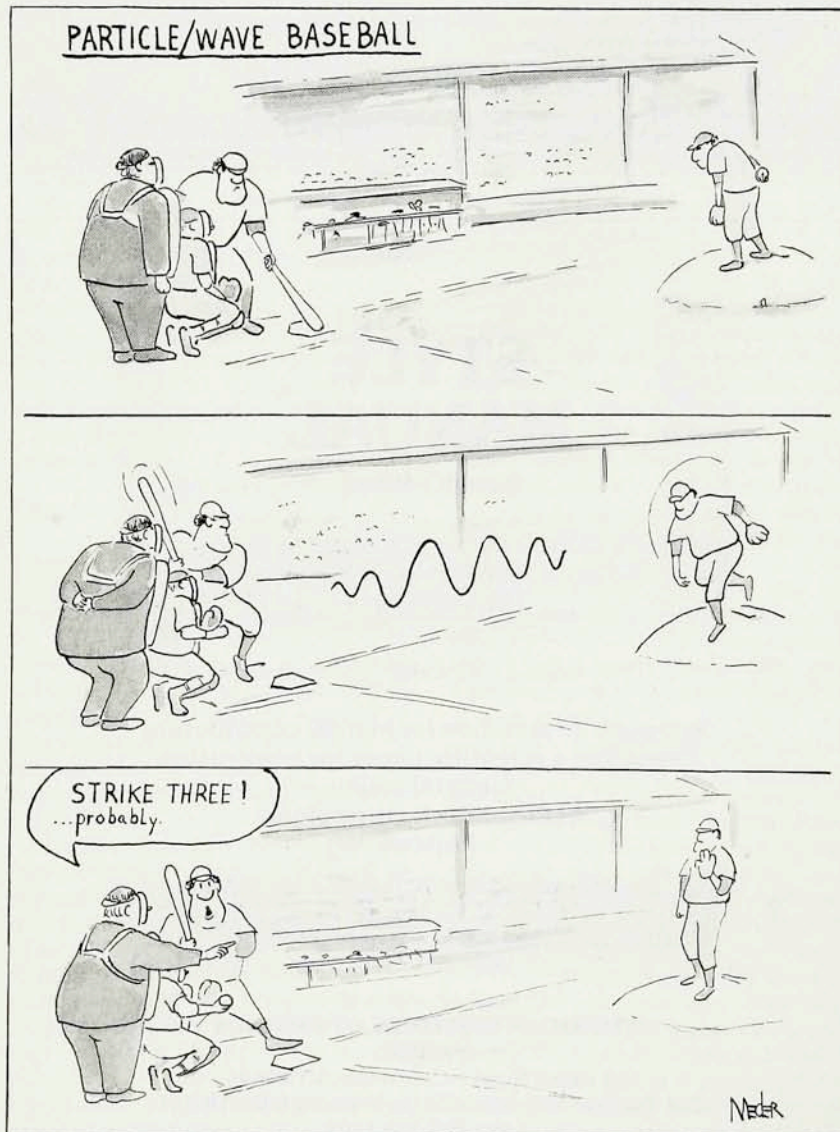
A more consistent public attitude toward low-level radiation would reduce the major obstacle to greater use of nuclear power. It might even stimulate the development and deployment of more efficient and cost-effective heat pumps and electric vehicles, which Parry implicitly admits could expand the applicability of nuclear power as a solution to our growing energy and environmental problems.

HENRY HURWITZ JR

6/90

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## PARTICLE/WAVE BASEBALL



## Seconding Solutions for Third World Science

I very much agree with the views Mano Singham expressed in his Opinion column "Science for Developing Countries" (August 1989, page 61).

Singham proposes the establishment of an international organization that would oversee the peer review of research proposals from scientists in developing countries and fund the proposals recommended by the review groups. For the past four years the Third World Academy of Sciences has been offering research grants in pure and applied mathematics, experimental physics, biochemistry and molecular biology, and pure and applied chemistry to scientists from and working in third world countries. The purpose of these grants is to strengthen and support the research work of promising scientists from developing countries. Each grant amounts to approximately 5000 US dollars—and can be used to purchase equipment, expendable supplies, scientific literature, field studies and services not normally available within the grantee's research institute.

The procedure followed in awarding these grants is identical to what Singham suggests. Research proposals submitted to the academy by scientists from third world countries are sent to experts in the specific field for review and evaluation. A panel of advisers meets three or four times a