US-Ukraine stalemate over nuclear weapons

Washington. Ukraine's opposition to the complete relinquishment of strategic nuclear weapons located on its soil is hardening, and the process began even before the latest Russian crisis increased its security concerns, according to US representatives recently returned from two meetings on disarmament held in Kiev.

Indeed some observers fear that international concern about the fate of the 170 intercontinental missiles which remain under Russian control on Ukrainian territory may be counter-productive. Officials and politicians in the troubled republic are being drawn to the issue, says one disarmament expert, because the more belligerent their stance, the more attention they get.

The meetings were organized in the Ukrainian capital late last month. One, sponsored by the American Association for the Advancement of Science (AAAS), focused on the disposal of nuclear weapons in Ukraine itself, while a United Nations symposium addressed the wider question of disarmament across the former Soviet Union.

One concern raised at both meetings was that the United States — in common with France and the United Kingdom — may not be in a good position to advise Ukrainians that nuclear weapons are a costly and ineffective way of meeting their defence needs.

Another concern is whether the West is either able or willing to meet Ukraine's demands. The United States wants it to sign the international non-proliferation treaty as a non-nuclear state — the nuclear weapons on its territory are not under its control — and to comply with US-Soviet agreements on strategic weapons reductions by sending the weapons to Russia for dismantling.

But Ukraine says that, before doing so, it needs security guarantees from the West, money for the fissile materials it sends to Russia, and more money to help with the dismantlement process and the redeployment of up to 80,000 soldiers associated with the weapons sites. The United States is said to be offering \$175 million for the

entire process; Ukraine wants \$3 billion.

Ukraine says that it has no intention of seeking operational control over the missiles on its territory, and the US officials say that this desire appears to be genuine. Marshall Brown of the US Arms Control and Disarmament Agency, who attended the AAAS meeting, says that in his personal view "realists" in Ukraine are "losing interest in the retention of nuclear weapons".

But James Doyle, an analyst with Science Applications International Corporation who also attended the AAAS forum, believes that "the trend is in the opposite direction". Doyle fears that a dangerous stalemate will continue.

The United Nations forum in Kiev does not appear to have been any more hopeful. "The mood is moving in favour of retention, not relinquishment", says one US attendee. With turmoil in Russia, and the West's interest in Ukraine apparently focused on this single, thorny issue, the prospects of a speedy resolution are not bright.

Colin Macilwain

Ig Nobel prizes reward fruits of unique labour

Boston. On the night of 7 October, a handful of Nobel laureates and hundreds of science 'enthusiasts' descended on the Massachusetts Institutes of Technology (MIT) for the announcement of the 1993 Ig Nobel prizes. These prizes, which are as feared as their Stockholm counterparts are coveted, are awarded for research that "cannot or should not be reproduced".

The event, which was being held for the third time, is sponsored by *The Journal of Irreproducible Results* (JIR) and the MIT Museum, and the evening's festivities were hosted by the journal's editor Marc Abrahams, Sheldon Glashow (Nobel laureate in physics, 1979) and William Lipscomb (Nobel laureate in chemistry, 1976). 'Ig Nobels' were presented in 11 categories, although not all the "winners" saw fit to attend the ceremony. "I don't see how this could possibly help me or my company", one of the absentee ignobelists explained.

The prize for psychology went to John Mack of the Harvard Medical School and David Jacobs of Temple University for lending credence to the notion that thousands, if not millions, of people have been abducted by aliens from outer space. Neither Mack nor Jacobs was there to accept the honour, but an alleged assistant attorney general took the stage, reminding the audience that "kidnapping is still a federal offence".

Paul Williams of the Oregon State Health Division and Kenneth Newall of the Liver-

pool School of Tropical Medicine captured the Biology award for their pioneering study, "Salmonella excretion in joy-riding pigs". The prize for literature went to the 972 co-authors of a *New England Journal of Medicine* paper published in this year's 2 September issue. Journal editor Marcia Angell stood in for the 972 heart specialists, describing the division of labour: each co-author was responsible for exactly two words.

Robert Faid of Greenville, South Carolina made even more elaborate calculations, showing that the odds of Mikhail Gorbachev being the "Antichrist" are approximately 8,606,091,751,882 to one. Faid's efforts were rewarded, not surprisingly, with the mathematics 'Ig'. French researcher, Louis Kevran, won the physics prize for his conclusion that the calcium in a chicken's eggshell is created by cold fusion.

The final 'Ig', in the field of medicine, went to James Nolan of the Guthrie Clinic in Sayre, Pennsylvania, and two colleagues, for the painstaking report "Acute management of the zipper-entrapped penis", published in *The Journal of Emergency Medicine*.

Demonstrators protest against the planned destruction of subatomic particles in the Superconducting Super Collider

The 1993 ceremony included a new feature, "The Heisenberg Certainty Lectures", presented by a number of luminaries. Alan Lightman (author of *Einstein's Dreams*) delivered his lecture in Pig Latin. Sheldon Glashow spoke in English, although he was frequently interrupted by members of the PLO (Proton Liberation Organization), protesting against the Superconducting Super Collider. "Billions of subatomic particles will be threatened every picosecond," one protester shouted. "Stop the carnage!"

On this night, however, another heckler had the final word. At the end of the ceremony, a man yelled from the balcony, "What a waste of time!". Perhaps, but many felt it was time well wasted. **Steve Nadis**