

to the IDC, but allows the IDC to produce a seismic event bulletin within hours, rather than days as in the former system.

These changes have probably brought the GSE's ISMS concepts to what might be considered a final design stage. Implementation and testing of a prototype system are now required. This is what currently occupies the GSE.

### **Moving Towards the Final ISMS**

For GSETT-3, the United States has offered to install, develop and operate a prototype IDC in Washington. The GSE will designate the seismograph stations that should be involved in GSETT-3 from among the best around the globe, some of which may be newly installed for this purpose. The primary seismograph stations mentioned above, called "alpha" stations, which will transmit continuous data in real time to the IDC, will probably number about 50. In addition there will be designated about 100 "beta" stations, whose seismic data the IDC will automatically extract in order to improve the computed locations of seismic events detected by the alpha stations. Canada is expecting to contribute the Yellowknife Array and three or four stations of our national network as alpha stations and a number of other national network stations as beta stations. This system, composed of the prototype IDC and networks of alpha and beta stations, will be built up gradually over the next year. The GSE has set a target date of January 1995 by which enough of the system should be ready for full-scale testing.

The GSE has established three special working groups to manage GSETT-3, one each for planning, operations and evaluation. Many of the key developments will involve procedures to be implemented at the IDC and will involve a high degree of automation: in detection, using the alpha network; in acquiring additional data from the beta network; and in computing the most accurate possible locations for the seismic events in the distributed event bulletins. Many seismologists from the GSE delegations are expected to contribute to these developments at the IDC over the coming year. Many countries, including Canada, will also have to devote resources to modifying procedures in their national seismograph networks so that data from the designated stations can be made available to the experiment and, eventually, to monitoring compliance with a CTBT.

The CTBT negotiations that will begin in the Conference on Disarmament in early 1994 are expected to draw heavily on the technical expertise of the GSE. The negotiating framework may require a number of special tasks by this experienced group and individual national delegations will be calling on their experts for advice. However, it is expected that the negotiators will want GSETT-3 to continue, in order to demonstrate the feasibility of the

ISMS concepts that have been carefully refined by the GSE over many years. The exact form and composition of the final ISMS will, of course, be decided by the negotiators, and GSETT-3 can be modified as final agreements are reached. Ideally, we will see a gradual transition from the GSETT-3 system into the final, negotiated ISMS that will be ready for full-scale operation when a comprehensive test ban treaty has been agreed. ■

### **Role for PTBT in CTBT?**

*As the result of an initiative of a group of non-aligned countries, a conference to consider converting the Partial Test Ban Treaty (PTBT) into a CTBT was held in New York in January 1991. The Conference was unable to reach a unanimous conclusion so it adopted, by vote, a decision in which the States Parties acknowledged the complicated nature of certain aspects of a CTBT, especially with regard to verification of compliance and possible sanctions against non-compliance, and expressed the view that further work needed to be undertaken. The President of the Conference was mandated to conduct consultations with a view to achieving progress on those issues and resuming the work of the Conference at an appropriate time. The vote for this decision was 74 in favour, 2 against (US, UK) and 19 abstentions. Canada abstained because: (1) it regretted that the draft decision was pressed to a vote, which tends to polarize positions rather than build on the common ground shared by all parties; and (2) the draft decision inaccurately stated that there was agreement where no agreement, in fact, existed.*

*Pursuant to the 1991 Amendment Conference decision, a special meeting of the States Parties to the PTBT was held in New York on August 10 and 11. Presided over by Indonesian Foreign Minister Ali Alatas, the meeting was convened to enable PTBT parties to exchange views on developments regarding nuclear testing and to consider the feasibility of resuming the work of the Amendment Conference. Parties agreed on a series of steps designed to keep the PTBT Amendment Conference option alive, while at the same time ensuring that the main CTBT negotiations will take place at the CD in Geneva. The following are excerpts from the statement to the meeting by Canadian Ambassador for Disarmament Peggy Mason, delivered on August 11.*

I join with all those before me in extending my appreciation to you, Mr. President, for the convening of this meeting, which affords us a most timely opportunity (1) to evaluate recent positive developments towards the achievement of a ban on all nuclear test explosions in all environments for all time and (2) to consider how the PTBT Amendment Conference process might contribute in as constructive a way as possible towards this long-standing goal of the international community. In this regard, we are particularly heartened by the very positive attitude demonstrated at this meeting by the depositary states as well as by all the other delegations who have spoken before me....

Today we have the historic decision of the Conference on Disarmament to give its *Ad Hoc* Committee on a Nuclear Test Ban a mandate to negotiate a comprehensive test ban treaty. It is completely clear that the ingredient that has proven so elusive for so long is now present in abundance — I refer of course to the political will to negotiate a CTBT forthwith.

The issue before this informal meeting of States Parties to the PTBT is, then, how can we ensure that this process best contributes to the negotiation in Geneva to ensure that the result is — and here I quote my Australian colleague, who I believe has found the most all-encompassing form of words — a legally binding, effectively verifiable, universally applicable, multilaterally supported and enduring CTBT. To that I would add: and to ensure that this result is achieved in as expeditious a manner as possible.

There is much to negotiate in Geneva particularly with respect to the verification regime. Efforts must now be fully concentrated on Geneva to ensure the work of the