

## Report from Working Group A

### *What does an emerging nuclear energy state need from the nuclear fuel cycle?*

#### **What is the purpose of nuclear fuel assurances?**

There was general agreement that the development of nuclear energy is a purely national issue, and further, that most states starting nuclear power programmes will make the sovereign choice not to develop enrichment or reprocessing technology. In light of this, the purpose nuclear fuel assurances was questioned and it was suggested that their real motive was the denial of technology. Indeed, another speaker highlighted that the background to this discussion was the inequalities within the non-proliferation regime between nuclear-weapon states and non-nuclear-weapon states as well as between nuclear technology suppliers and non-suppliers.

Two justifications for fuel assurances were offered. First, they could make it even more likely that states will rely on the international market for fuel, thereby serving non-proliferation goals. Second, given the cost to states of developing enrichment technology from scratch, they could actually enable the spread of nuclear energy and, in this way, could help overcome the inequalities between suppliers and non-suppliers. Indeed, one speaker placed fuel supply assurances in the context of fulfilling article IV of the Nuclear Non-Proliferation Treaty. However, a number of speakers acknowledged that there were a number of misconceptions about fuel assurances and that there was a need for greater clarity about their purpose.

#### **What concerns do states have about the current enrichment market?**

Although there was general confidence in the current enrichment market, some concerns were expressed about its future. It is limited, both in terms of the number of suppliers and the geographical spread of enrichment plants. This led some to worry about monopolistic practices or the market's ability to service a significant expansion in nuclear energy. Another delegate expressed concern about fluctuations in the price of fuel. Against this background, a number of speakers from states developing their first reactors said that they viewed international fuel supply guarantees as desirable, especially given the very significant capital costs of developing nuclear reactors. In developing nuclear fuel assurances a number of speakers suggested the need for a very pragmatic, commercial approach. Many saw regional or international approaches as being desirable.

#### **How can fuel assurances be tailored with the front end?**

Interestingly, much of the discussion focused on the back end of the fuel cycle. A number of speakers pointed out the challenges of managing spent fuel for a state that is developing its first nuclear reactors. Even absent any kind of fuel assurance regime, one speaker saw international assistance with on-site interim storage and permanent disposal as being highly desirable. Many saw a role for international assurances at the back end of the fuel cycle, possibly in the form of fuel leasing arrangements or regional or international disposal sites. However, there was

general agreement about the need for more discussion and development of international concepts for waste management.