

F. CONCLUSIONS AND RECOMMENDATIONS

ADS have the attractive potential to broaden and revitalize nuclear power. ADS address the main concerns and worries of the public regarding nuclear energy. There are still many questions which have to be answered before the engineering design of ADS can become a reality but already today the following points can be made:

- (1) ADS offer a subcritical mode of operation for nuclear power systems, and make them flexible from the operational point of view.
- (2) ADS reduce the long-lived waste burden and offer the way to transmute existing nuclear reactor waste.
- (3) A well designed ADS can ensure a proliferation-resistant fuel cycle and fuel treatment.
- (4) ADS open a promising way to utilize Thorium resources for energy production.
- (5) ADS offer an alternative way to utilize the existing excess of weapons-grade Plutonium for energy production.

Economic and technical developments throughout the world should not be achieved at the expense of the environment. In this context ADS is an attractive option which research institutes and industry should develop and offer to the international community.

The international cooperation under the auspices of international organizations could be focused on:

1. Encouraging and stimulating ADS research in the different countries, particularly in the fields of:
 - a) Assessment of accelerators as drivers for nuclear subcritical systems
 - b) Transmutation of nuclear wastes from commercial nuclear power plants, with special attention to reactor grade Plutonium stocked in the wastes
 - c) Utilization of the excess of weapons-grade Plutonium for power production
 - d) Introduction of the Thorium nuclear fuel cycle
 - e) Non-proliferation / aspects of the ADS-fuel cycle
 - f) Safety assessment of ADS
 - g) Impact of ADS on the radiotoxicity of the fuel cycle
3. Preparing the evaluation of possible synergetic nuclear energy systems based on different scenarios e.g. LWR - FBR - ADS, LWR - ADS etc.
4. Supporting international efforts to organize demonstration experiments on ADS
5. Extending the nuclear data research into the reactions and energy regions of interest for ADS
6. Organizing meetings for information exchange and for coordination of further international efforts.

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