



# General Assembly

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**Committee on the Peaceful  
Uses of Outer Space**

**National research on space debris, safety of space objects  
with nuclear power sources on board and problems relating  
to their collision with space debris**

**Note by the Secretariat\***

**Addendum**

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\* The present document was prepared on the basis of replies from Member States received after 3 December 2004.



## II. Replies received from Member States

### Ukraine

[Original: Russian]

1. Ukraine attaches particular importance to the problem of outer space pollution, and designs, operates and upgrades its carrier rockets and other spacecraft with a view to minimizing such pollution. One of the priorities of Ukraine's national space programme is to improve the design of carrier rockets with a view to preventing man-made space pollution. Measures are envisaged to prevent debris creation in near-Earth space in the following carrier rockets that are currently in use or being upgraded or developed by Ukraine, namely Zenit-2, Zenit-2M, Zenit 3-SL, Dnepr-1, Dnepr-M, Tsiklon-3 and Tsiklon-4.
2. With regard to the space debris problem, space research and activities in Ukraine are aimed at the following objectives:
  - (a) The prevention and reduction of space debris resulting from the launch of carrier rockets;
  - (b) The prevention of outer space pollution caused by satellite exploitation;
  - (c) Research on space debris using Ukraine's radio communications systems;
  - (d) Modelling of the processes involved in hypervelocity collisions of macroscopic space debris fragments with satellite construction elements and with samples of construction materials;
  - (e) The development and implementation of technical standards to define general requirements for mitigating orbital pollution caused by the exploitation of space technology.