

K16(G71)

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Proposal Abstract K16(G71)

1. **Arms Control Problem:**
Nuclear weapons - comprehensive test ban
2. **Verification Type:**
 - (a) Seismic sensors
 - (b) Remote sensors - satellites
3. **Source:**
Netherlands. "Working paper concerning seismic detection and identification of underground nuclear explosions". CCD/323, 18 March 1971.
See also: - CD/7, 1 March 1979.

4. **Summary:**

The Netherlands summarizes its view of existing capabilities for seismic monitoring in the Northern Hemisphere as follows:

- (1) Explosions can be identified with a "reasonable probability" down to a seismic magnitude m_b 5.5 or a yield of about 50 kt in hard rock.
- (2) Earthquakes can be identified above m_b 4.8-5.1 with a high degree of confidence.

The working paper then lists three technical methods of improving seismic identification including new methods of analysis and new equipment. By using these techniques it is suggested that the identification threshold can be lowered perhaps to a level of 10 kt in hard rock.

The paper also suggests that both cratering after a blast in dry soil and the extensive mining operations necessary for seismic decoupling of blasts in hard rock are probably detectable by satellite observation. This is important in reducing the possibility of evading a test ban.

In March of 1979, the Netherlands introduced a technical working paper (CD/7) entitled: "On the use of short-period initial motion data for discrimination purposes".