

## Shielding Integrity Certificate

- Description:** Neftemer Source Housing NFT01
- Serial Number:** NFT01/001
- Specification:** ANSI N538 1979 'Classification of Industrial Ionising Radiation Gauging Devices.'  
IAEA TS-R-1 'IAEA Transport of Radioactive Materials'  
ISO 7205 1986 'Radionuclide Gauges-Gauges Designed for Permanent Installation'
- Test Procedure:** The housing was loaded with Cs137 source, serial number, activity on 27.6.07 was 3.56GBq. A survey of the dose rate on the surface of the housing was made using a mini series 1000 dose meter with the shutter in the 'OFF' and 'ON' positions. When the shutter was in the 'ON' position then measurements were not taken directly in the radiation beam.
- Test Results:** The maximum recorded dose rate on the surface of the housing with the shutter in the 'OFF' position was found to be 3.0uSv/h and at 1metre from the housing 0.1 uSv/h. The maximum recorded dose rate on the surface of the housing with the shutter in the 'ON' position was 3.0uSv/h and 0.1 uSv/h at 1 metre from the housing.
- The housing is designed to use a Cs137 source up to 5.55GBq. The above results can be scaled to estimate the dose rates on the housing when loaded with a 5.55GBq Cs137 source. The maximum surface dose rate would be 4.7uSv/h and the dose rate 1 metre from the source would be 0.16uSv/h.
- Conclusion:** The unit is suitable for use as a fixed industrial gauge and for transport as an excepted package when loaded with Cs137 sources of up to 5.55GBq.

### Approved on behalf of High Technology Sources Limited

Name: Duncan Aston

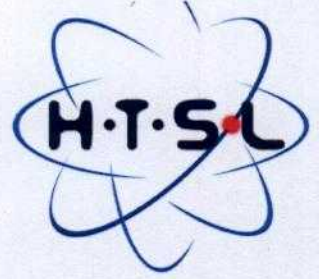
Signature:

Date: 27<sup>th</sup> June 2007

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## Shutter Endurance Certificate

- Description:** Neftemer Source Housing NFT01
- Serial Number:** NFT01/001
- Specification:** ANSI N538 1979 'Classification of Industrial Ionising Radiation Gauging Devices.'  
ISO 7205 1986 'Radionuclide Gauges-Gauges Designed for Permanent Installation'
- Test Procedure:** The shutter was opened and closed manually 100 times in succession. The shutter mechanism was checked for signs of wear and to ensure that the shutter returned to the 'OFF' position when released.
- Test Results:** There was no sign of wear or damage after the test. The shutter mechanism continued to operate correctly, including returning the shutter to the 'OFF' position when released.
- Conclusion:** The unit is suitable for use as a fixed industrial gauge.

### Approved on behalf of High Technology Sources Limited

Name: Duncan Aston

Signature: *Duncan Aston*

Date: 27<sup>th</sup> June 2007

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