



# Nuclear Safeguards Bill Fact Sheet

## Euratom Safeguards Inspections

January 2018

### OVERVIEW OF EURATOM'S CURRENT ROLE

Under the Euratom Treaty, all Member States (including the UK) subject their civil nuclear material and facilities to nuclear safeguards inspections and assurance carried out by the European Commission on the behalf of Euratom.

It is therefore European Commission's Euratom Safeguards Directorate that acts as the '**State System of Accountancy and Control**' (SSAC) in meeting particular international safeguards reporting obligations for the UK and other Euratom Member States. Euratom operates as the central **Nuclear Material Accounting and Control** (NMAC) system for all civil UK nuclear installations subject to safeguards.

Civil nuclear installations that are subject to safeguards and use particular nuclear material (e.g. Uranium, Plutonium, Thorium) are required to provide Euratom with **Basic Technical Characteristics** of their facilities. The Basic Technical Characteristics in respect of an installation contain a description of operations and the methods and means that the operator employs to account for the nuclear material they possess. Euratom performs verifications and carries out on-site inspections. Further reporting requirements are detailed in Commission Regulation (Euratom) No. 302/2005.

### RELATIONSHIP BETWEEN EURATOM AND IAEA INSPECTIONS

Some inspections in the UK are undertaken jointly by inspectors from both Euratom and the International Atomic Energy Agency (IAEA). The safeguards agreements that the UK currently has with the IAEA and Euratom ensure that unnecessary duplication of efforts is avoided, helping ensure best use is made of available resources.

### OVERVIEW: PURPOSES AND METHODS OF INSPECTION

During inspection visits, Euratom check the correctness of the operators' nuclear materials accounting and control systems and verify the nuclear material accounts and related justification documents, as well as the physical stock. This is done through, among other things, the use of measurement equipment, surveillance equipment, tamper proof seals and sampling.

Euratom verification of the declarations of nuclear material flows and inventories by the operators can be split into different categories:



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### First Layer Verifications

- Basic Technical Characteristics verification
- Nuclear materials declarations check
- Operator measurement system evaluation
- Transit matching
- Records verification

### Physical Verifications

- Verification of the declared inventory
- Verification of the declared flow and transformations of nuclear materials

## MORE DETAIL: PURPOSES AND METHODS OF INSPECTION

### First Layer Verifications

*Basic Technical Characteristics verification* is a periodic review to ensure that the information written down in the Basic Technical Characteristics continues to be correct and complete. This is completed through on-site verification.

*Nuclear materials declarations check* is an automated verification of timeliness, syntax, content, conformity and coherence of information supplied by the operator. Nuclear operators submit their data in electronic form which is automatically fed into a database which verifies the information supplied.

*Transit matching* is a key element of the Euratom safeguards system. Transit matching is an automated verification process whereby declared shipments of nuclear material between accountancy areas (termed Material Balance Areas) within the EU correspond with declared receipts.

*Records verification* is a semi-automatic check to verify that nuclear materials declarations correspond with declarations received. The declarations have to correspond to accounting records of the nuclear operator, the accounting records need to be supported by appropriate operating records and operating records need to be consistent with the Key Measurement Points as defined in the Basic Technical Characteristics. Verification is through both desk-based work and on-site visits.



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### Physical Verifications

For the *verification of nuclear material flows and inventories* (Physical Verifications) Euratom employ a proportionate approach to inspection depending on the nature and amount of nuclear material handled at the site. In large nuclear installations, inspectors will use both portable and fixed measurement equipment, camera surveillance systems and sealing equipment. These devices provide independent oversight of the operator's industrial processes related to movements of nuclear material. At smaller facilities where the nuclear material inventories are smaller and less sensitive, Euratom inspectors may utilise less complex methods to confirm the operator's nuclear material flow and inventory.

### WHERE TO FIND MORE DETAILED INFORMATION

Further information on Euratom safeguards is available in the nuclear safeguards brochure available from the European Commission:

<https://ec.europa.eu/energy/sites/ener/files/documents/20141007%20Nuclear%20Safeguards%20Brochure.pdf>