

Inspection Record – Dutyholder Report			
Safeguards accountancy and Basic Technical characteristics (BTC) inspection (MBA QBSP & QBS1)			
Inspection ID	IR-52510	Inspection Date(s)	23/01/2024 For 2 Days
Dutyholder	Westinghouse Springfields	Site	Springfields Works
Inspection Type	Announced Planned	Site Area / Group	
ONR Purpose	Safeguards	Inspection Source	
Subject (s) of Inspection			
Activity			RAG Rating
NSR19 Reg06 - Accountancy and control of qualifying nuclear material			GREEN
NSR19 Reg09 - Operation of an accountancy and control plan			GREEN
NSR19 Reg14 - Inventory change report			GREEN
NSR19 Reg03 - Declaration of basic technical characteristics			GREEN
NSR19 Reg10 - Operating records			GREEN
NSR19 Reg11 - Accounting records			GREEN
NSR19 Reg12 - Accounting reports			GREEN
Overall Inspection Rating			GREEN
FSE 6 Measurement Programme and Control			GREEN
FSE 7 Nuclear Material Tracking			GREEN
FSE 8 Data Processing and Control			GREEN
FSE 9 Material Balance			GREEN
FSE 10 Quality Assurance and Control for NMACS			GREEN
System (s) – where applicable			
Inspector(s) taking part in Inspection			
Lead Inspector [REDACTED]			
Attending			

[Redacted]

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Regulation

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1. Scope

1.1 Aim of Inspection

Intervention Objectives

ONR nuclear safeguards inspectors conducted a nuclear material accountancy focused compliance inspection of the Material Balance Area QBSP - " Oxide Fuels Complex and finished fuel store " and a Basic Technical Characteristics (BTC) compliance inspection of the Material Balance Area QBS1 " Natural Residue Recovery and Decommissioning Activities" on the 23 and 24 January 2024.

The purpose of this inspection was to seek evidence in support of Springfields Fuels Limited's compliance with The Nuclear Safeguards (EU Exit) Regulations 2019 (NSR19). ONR formed regulatory judgements and provide a rating in line with ONR's inspection rating guidance of Springfields Fuels Limited's compliance against the regulations in 3(1)(3),6(1-4), 9, 10(1),11(1-4),12(1-2) and 14 in NSR19.

Forming effective regulatory judgements on Springfields Fuels Limited's compliance with the NSR19 regulations listed above, inspectors considered the ONR guidance for the assessment of Nuclear Material Accountancy, Control and Safeguards (ONMACS) and the expectations within. There was particular focus on FSE 6, 7, 8, 9 and 10.

1.2 Inspection Scope

ONR sought to draw an independent and informed regulatory judgement that the nuclear material accountancy and control arrangements within the MBA QBSP and QBS1 are accurate and implemented in a manner, which is proportionate to, and appropriate for the qualifying nuclear facilities. This included:

Seeking evidence that accountancy reports provided for the MBA QBSP to the ONR under regulation 14 are traceable and accurate to the supporting source documentation. As part of this inspectors will examine the underpinning operating and accounting records for the accountancy sample (which will be provided later) as well as perform physical verification for a sample of qualifying nuclear material.

Seeking evidence of the correctness and completeness of the Basic Technical Characteristics (BTC) for the MBA QBS1. As part of this ONR will conduct a plant walkdown and hold discussions with relevant Springfields Fuels Limited personnel who have nuclear material accountancy and control responsibilities.

ONR requested discussions with relevant staff and provision of relevant NMAC&S arrangements prior to the intervention.

1.3 Relevant Regulatory Guidance

The following regulatory guidance corresponds with this inspection

Name
SAFEGUARDS TECHNICAL INSPECTION GUIDE
ONR Nuclear Material Accountancy, Control, and Safeguards Assessment Principles (ONMACS)
ONR-INSP-GD-064 - General Inspection Guide

2. Summary Statement

ONR nuclear safeguards inspectors conducted a nuclear material accountancy focused compliance inspection of the Material Balance Area QBSP - " Oxide Fuels Complex and finished fuel store " and a Basic Technical Characteristics (BTC) compliance inspection of the Material Balance Area QBS1 " Natural Residue Recovery and Decommissioning Activities" on the 23rd and 24th January 2024.

The purpose of this inspection was to seek evidence in support of Springfields Fuels Limited's compliance with The Nuclear Safeguards (EU Exit) Regulations 2019 (NSR19).

The inspection comprised of discussions with Springfields Fuels Limited personnel, sampling of documentation, review of implementation arrangements and a plant walkdown. ONR formed regulatory judgements and provided a rating in line with ONR's inspection rating guidance of Springfields Fuels Limited's compliance against regulations 3(1)(3), 6(1-4), 9, 10(1), 11(1-4), 12(1-2) and 14 in NSR19.

To form effective regulatory judgements on Springfields Fuels Limited's compliance with the NSR19 regulations listed above, inspectors considered the ONR guidance for the assessment of Nuclear Material Accountancy, Control and Safeguards (ONMACS) and the expectations within. There was a particular focus on FSEs 6, 7, 8, 9 and 10.

On the basis of the evidence sampled, I judge that Springfields Fuels Limited are implementing adequate arrangements to provide measurement programme and control in line with FSE 6, nuclear material tracking in line with FSE 7, data processing and control in line with FSE 8, material balance within FSE 9 and quality assurance and control for NMACS in line with FSE 10.

3. Record & Judgement

3.1 Staff seen as part of Inspection

The following principal staff were seen as part of this inspection

Name	Role	Company
[REDACTED]	[REDACTED]	Springfields Fuels Ltd.
[REDACTED]	[REDACTED]	Springfields Fuels Ltd.
[REDACTED]	[REDACTED]	Springfields Fuels Ltd.
[REDACTED]	[REDACTED]	Springfields Fuels Ltd.
[REDACTED]	[REDACTED]	Springfields Fuels Ltd.
[REDACTED]	[REDACTED]	Springfields Fuels Ltd.
[REDACTED]	[REDACTED]	Springfields Fuels Ltd.
[REDACTED]	[REDACTED]	Springfields Fuels Ltd.
[REDACTED]	[REDACTED]	Springfields Fuels Ltd.

3.2 Record

Evidence

This hybrid intervention comprised of discussions with Springfields Fuels Limited personnel, sampling of documentation, review of implementation arrangements and a plant walkdown(s).

Basic Technical Characteristics Compliance Intervention (QBS1)

Prior to the inspection, I reviewed the relevant arrangements referenced in the Springfields Fuels Ltd's QBSP BTC relating to FSE 6 and NSR19 Regulation 3(1)(3). I also reviewed the ACP. I conducted a plant walkdown of the QBSP Oxide Fuels Complex (OFC) led by the Conversion Plant Manager.

I conducted a plant walk down of the natural residue recovery and decommissioning activities to gain assurance that the Basic Technical Characteristics (BTC) guide lined up with arrangements on site.

Verification of the periodicity of calibration of each check weight was provided:

A336 – Annually.

A337 – Annually.

Observation– I observed good practice of verification of accountancy and control within [REDACTED] which should be recorded, documented and reflected in the SFL content management system.

Regulatory advice- I observed a shortfall in the identification of samples at QBS1. The related arrangements were made consistent to address a RI raised by ONR, but seem not to be properly implemented. Reg advice to brief clearly the staff at QBS1 on these arrangements. This will be followed up as part of the outstanding RI.

From the areas I sampled in my documentation review, I judged that FSE 6 (Measurement Programme and Control) had been met.

Regulatory Issue (RI-11915)- I observed that Springfields Fuels Ltd are not currently using the correct template for their BTC to fully reflect the decommissioning activities on site and does not accurately describe the fleet of weigh scales within 'Appendix 2'. This results in a minor shortfall against NSR19 Regulation 3(1)(3) (Declaration of Basic Technical Characteristic), whereby, a Level 4 regulatory issue will be raised to bring Springfields Fuels Ltd back to compliance.

Nuclear Material Accountancy Compliance Intervention (QBSP)

I conducted a plant walkdown of the QBSP Oxide Fuels Complex (OFC) led by the Conversion Plant Manager.

Observation – I observed good practice within the OFC Control Room which contained a 'Shift Plan' for each designated area on plant. This outlined who was responsible for tasks on a particular day.

The process of the Oxide Fuels Complex and finished fuel store is in the following order:

- Conversion
- Powder Packing
- Pelleting
- AGR Final Assembly
- LWR Assembly

I targeted the powder packing area as this is the point at which information from the packing sheet is entered onto NUMIS.

Evidence was provided of internal movements within OFC from 'Chemical Area Control System' (CACS) using an Internal Powder Packing feed sheet which records Batch ID and Drum ID. Furthermore, this then feeds into NUMIS and subsequently translates to an ICR. The reference of the drum sampled was KN49%.

I requested evidence of the periodicity of calibration of weight scales within OFC, this was provided via the MAXIMO software system on plant. MAXIMO is the maintenance, tracking and planning system which gives access to the technical information related to the scales and maintenance logs on plant. It also allows staff to be kept informed of the deadlines for scales calibration and current calibration status.

Verification of the periodicity of calibration of the NMAC weight scales was provided:

- JW136– Bi-Annually.
- JW137– Bi-Annually.
- JW138– Annually.

Regulatory Issue (RI-11916)- I observed that the BTC was not fully representative of the process on site. Within the powder packing area, the expected export flow would be from Drum Store to Powder Packing and then onto Export Store. However, this was not reflected in practice and results in a minor shortfall against Regulation 3(1)(3) (Declaration of Basic Technical Characteristic), whereby, a Level 4 regulatory issue will be raised to bring Springfields Fuels Ltd back to compliance. Overall, I judged the site to be meeting Regulation 3(1)(3) of NSR 19.

Based on the arrangements and the evidence sampled as part of this intervention and using regulatory intelligence, I am satisfied that Springfields Fuels Ltd has adequate arrangements for the identification, quantification, tracking of the QNM in the facilities as per FSE 7, and that these arrangements are appropriately implemented. I was also content that NSR19 regulations 10(1), 11(1-4), 12(1-2) and 14 were being met. For FSE 9 I judge that Springfields Fuels Ltd have adequate arrangements in place to ensure that qualifying nuclear material shipped, received, processed and stored within facilities is subject to NMACs arrangements; providing suitable traceability.

I sampled fourteen (14) unique Batch IDs from the QBSP December 2023 reporting period Inventory Changes Reports (ICR) and requested operating records (source documents) for these. The lines were sampled based on their Inventory Change (IC) codes considered of interest (such as change in particular obligation, category change, new measurement or isotope adjustment or due to an identified issue surrounding incorrect CRC number in correction chains). Springfields Fuels Ltd provided the source documents during the inspection, I reviewed them, with the support of ONR Specialist Accountancy Inspectors to ensure that key data elements reconciled with the respective ICRs.

Springfields Fuels Ltd provided me with adequate further explanation where requested. I judged that the ICR lines reflect the physical reality captured within the operating records provided and that the nuclear material accounting performed is adequate, and that the arrangements and evidence seen were in line with the expectations of NSR19. I judge that for FSE 8 and 10 Springfields Fuels Ltd provided sufficient evidence to give assurance that the accountancy samples provided prior to the intervention lined up with ONR expectations and NSR19. However, concerns have been raised surrounding the NUMIS system which will be managed through Level 4 engagements.

Judgement

Overall, I did not identify any major shortfalls against NSR19, or fundamental safeguards expectations as described by the ONMACS. On the basis of the evidence sampled, I judge that Springfields Fuels Limited are implementing adequate arrangements to provide measurement programme and control in line with FSE 6, nuclear material tracking in line with FSE 7, data processing and control in line with FSE 8, material balance within FSE 9 and quality assurance and control for NMACS in line with FSE 10. I also judged that Springfields Fuels Limited are compliant with regulations 3(1)(3), 6(1-4), 9, 10(1), 11(1-

4),12(1-2) and14 in NSR19.

The overall rating of the QBS1 BTC Compliance and QBSP Accountancy Compliance inspection is rated asGREEN.

Observations / Advice

OBSERVATION 1 – I observed good practice within the OFC Control Room which contained a ‘Shift Plan’ for each designated area on plant. This outlined who was responsible for tasks on a particular day. OBSERVATION 2– I observed good practice of verification of accountancy and control within [REDACTED] which should be recorded, documented and reflected in the SFL content management system.

REGULATORY ADVICE - I observed a shortfall in the identification of samples at QBS1. The related arrangements were made consistent to address a RI raised by ONR, but seem not to be properly implemented. Reg advice to brief clearly the staff at QBS1 on these arrangements.

3.3 Regulatory Issues

The following regulatory issues were raised, reviewed or closed as a result of this inspection.

Issue	Title
RI-11915	Revision of the BTC QBS1 (Natural Residue Recovery and Decommissioning Activities)
RI-11916	Revision of the BTC QBSP (Oxide Fuels Complex and Finished Fuel Store)