

Inspection Record – Dutyholder Report			
QBS3 PITE inspection			
Inspection ID	IIS-50609	Inspection Date(s)	29/09/2022 For 2 Days
Dutyholder	Westinghouse Springfields	Site	Springfields Works
Inspection Type	Announced Planned	Site Area / Group	
ONR Purpose	Safeguards	Inspection Source	Safeguards Sub divisional strategy 2021/22
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 Reg10 - Operating records			GREEN
NSR19 Reg11 - Accounting records			GREEN
FSE 3 Competence Management			GREEN
FSE 7 Nuclear Material Tracking			GREEN
FSE 9 Material Balance			GREEN
System (s) – where applicable			
Inspector(s) taking part in Inspection			
Lead Inspector [REDACTED]			
Attending [REDACTED] [REDACTED] Office for Nuclear Regulation			
[REDACTED] [REDACTED] Office for Nuclear Regulation			

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1. Scope

1.1 Aim of Inspection

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), specifically evidence that SFL had appropriate Physical Inventory Take (PIT) arrangements in place and that they were adequately implemented.

Specifically, ONR will assess compliance with the following regulations of the Nuclear Safeguards (EU Exit) Regulations 2019 (NSR19):

Regulation 6 - Accountancy and control of qualifying nuclear material (Inc schedule 2, specifically parts 2, 7, 13, 14 and 15)

Regulation 9 - Operation of an accountancy and control plan

Regulation 10 - Operating records

Regulation 11 - Accounting records

To form effective regulatory judgements on Springfields Fuels Limited's compliance with the NSR19 regulations listed above, ONR considered ONMACS expectations, FSE 3, 7 and 9.

1.2 Inspection Scope

This inspection was focussed on the MBA QBS3 and a targeted sample of the implementation of arrangements, procedures and evidence will be examined in relation to the PIT and internal PIV at QBS3 – Enriched Uranium Residues Recovery Plant (EURRP), hex cylinder wash plant, decontamination facilities.

I sought to draw an independent and informed regulatory judgement that these arrangements and procedures of Springfields Fuels Limited's system for accountancy and control were implemented in a manner proportionate to and appropriate for the qualifying nuclear facility.

The inspection included the following activities:

Examination of the arrangements and procedures for undertaking the PIT at Springfields Fuels Limited:

Confirmation that the PIT arrangements and procedures were appropriate for the Basic Technical Characteristics (BTC) of the facilities.

Collecting evidence that the PIT arrangements are appropriately implemented, including:

Confirming that the PIT procedures in place are being adequately implemented.

Confirming that PIT procedures are available and used by those performing the PIT, consistent, approved and owned by an appropriate or responsible person.

Sought evidence that staff key to maintaining NMAC and who are involved in undertaking the PIT are suitably qualified and experienced.

Confirming that data processing methods are up to date, used as instructed in the arrangements, appropriately understood by the user and produce validated outcomes.

Sought evidence that PIT arrangements and procedures allow the facilities to be in an appropriate state to ensure the best possible results are obtained which, in turn, provides confidence that regulatory reports are accurate.

1.3 Relevant Regulatory Guidance

The following regulatory guidance corresponds with this inspection

Name
ONR Nuclear Material Accountancy, Control, and Safeguards Assessment Principles (ONMACS)
SAFEGUARDS TECHNICAL INSPECTION GUIDE
SAFEGUARDS TECHNICAL ASSESSMENT GUIDANCE
ONR Nuclear Material Accountancy, Control, and Safeguards Assessment Principles (ONMACS)
Nuclear Material Accountancy Technical Assessment Guide Safeguards

2. Summary Statement

In accordance with the Office for Nuclear Regulation (ONR) Safeguards' operational schedule 2022-2023 (CM9: 2022/2873), ONR Safeguards is required to undertake a number of safeguards compliance inspections at the Springfields Fuels Limited Site (SFL). An inspection was undertaken to assess Springfields Fuels Limited's compliance with the requirements of the Nuclear Safeguards (EU Exit) Regulations 2019 (NSR19) in relation to evaluating the implementation of arrangements and procedures in relation to performing a Physical Inventory Take (PIT) and internal Physical Inventory verification (PIV) at MBA QBS3 - Enriched Uranium Residues Recovery Plant (EURRP), hex cylinder wash plant. decontamination facilities.

The inspection comprised of discussions with Springfields Fuels Limited's staff, sampling and review of their arrangements, accounting records and other source documentation. This also included plant walkdowns and observing Springfields Fuels Limited's staff undertaking the internal PIV. This was carried out in line with ONR's guidance which can be found on ONR's website (onr.org.uk).

Based on the sampled evidence I judge Springfields Fuels Limited is implementing appropriate and proportionate arrangements for the undertaking of a PIT at an overall corporate site level. I am not satisfied that Springfields Fuels Limited is implementing the appropriate and proportionate arrangements for undertaking a PIT at MBA QBS3 level and also for the production of the accountancy reports. I consider this to represent a shortfall against have raised a level 4 Regulatory Issue to seek improvement and monitor progress against this compliance shortfall.

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 Fuel Ltd
[REDACTED]	[REDACTED]	Springfields Fuels Ltd

3.2 Record

Evidence

Prior to the inspection, I reviewed the site-wide formal written arrangements contained within the Springfields Fuels Ltd Nuclear Materials Accountancy and Control Plan under FSE 9 [SSI 752, Rev 3, dated June 2022] that defines the dutyholders duties and processes to ensure Physical Inventory Takes are performed in line with NSR19 Regulation 15. In addition, I also examined the formal written arrangements for undertaking a PIT at the Enriched Uranium Residues Recovery Plant (EURRP) and the Cylinder Wash Facility (CWS) (QBS3) [OI_I006, Stocktake Procedure Issue 9, dated March 2022] which delivers those site wide arrangements for the implementation of a PIT within the aforementioned facilities.

Regulatory Issue 10819: The Springfields Fuels Ltd Nuclear Materials Accountancy and Control Plan submission [SSI 945, Rev 0, dated Jan 2020] does not refer to the formal written arrangements for undertaking a PIT at EURRP and CWS. This is a shortfall against regulation 7 (1) of the Nuclear Safeguards (EU Exit) Regulations 2019 which requires the operator to produce an accountancy and control plan which sets out the accounting and control system for the qualifying nuclear material in that facility. This shortfall is being addressed by the operator via existing RI 10819 following and as such I am referencing this existing issue.

The PIT process started earlier this year than previous at SFL, starting with a review in February by the SFL's Safeguards team looking at the schedule and if this worked well for the team based on the previous PIT. I reviewed the PIV schedule which is maintained by the SFL's Safeguards Office. The document is agreed and made available for all the people involved in the PIT activities; it describes in detail, the sequence of the actions in place to take and verify the physical inventory. The document identifies the relevant people responsible for every action, the MBA and workstations involved; it also captures the PPE requirements at every area where the actions take place. The Safeguards team also looked back at last year's PITe Inspection and updated and reissued SSI 752 based on the lessons learnt. They provided me with evidence that the issue/ comments made during the last PITe by ONR were listed and the changes were made to their instructions. I consider this learning from experience to be in-line with my regulatory expectations under ONMACS FSE 10 – Quality assurance for NMAC. This was also evidenced by the last PIT

being undertaken less than 14 months ago in line with Reg 15(3)

SFL's Security and Safeguards Manager presented and talked through the appropriate arrangements to prepare, take and verify their physical inventory. I reviewed the Job Aid 04: Independent PIV Inspector expectations and Inspection plans which outlines the expectations of the PIT in each area. This document also refers to SSI 752 as the main instruction which outlines the PIT and verification process. This instruction is a Safeguards PIT instruction detailing the activities that are required to be undertaken by all personnel involved in the PIT across the site. Each MBA has their own instruction bespoke to that Facility detailing how the PIT will be carried out. These were sampled on the plant walkdown. Therefore, based on this sample, I judge that the dutyholder has adequately implemented their arrangements at a corporate level in line with the expectations in ONMACS FSE 9

SFL's Security and Safeguards Manager gave a presentation detailing the Inventory Taking Process and also the PIV – Independent Verifiers Pre-Job Brief. This detailed the activities that are undertaken by the Material Custodian (MC), Verifiers and the SFL Nuclear Material Accountancy (NMA) team. I discussed these roles in detail along with the training required in order to appoint the relevant personnel into the key roles. I sampled an appointment letter and assessment for the MC at EURRP, I judged that this was adequate and in line with the process that was detailed in the arrangements along with the expectations of FSE 3.

SFL's Security and Safeguards Manager also presented the process that would be carried out by the NMA team once the PIT had been undertaken and what information would be provided from the MC to the NMA team. This process was captured briefly in a flow diagram however it did not have any formal instruction detailing the activities undertaken by the NMA team. I also identified that within the activities undertaken, accountancy discrepancies can be raised and the actions for investigation and resolution of these discrepancies should also be detailed. From that sample, I judge that the dutyholder did not have the adequate arrangements in place to support the production of the accountancy reports. I identified this as a regulatory shortfall under NSR19 Schedule 2 and FSE 4 and 8 in ONMACS. Details of this is summarised below:

Level 4 Regulatory Issue(RI - 11092):The Springfields Fuels Ltd to ensure formal written arrangements are in place for all Nuclear Material Accountancy duties during and after the PIT. Also, for similar arrangements to be in place for qualifying nuclear facilities within QBS3. This is to ensure they are appropriate, proportionate, approved and owned by the appropriate responsible person and adequately implemented by staff involved in undertaking the PIT and carrying out duties associated with PIT activities.

SFL's Security and Safeguards Manager explained that due to the Inspection taking place in parallel with the PIT being carried out, the accountancy reports for QBS3 had not yet been produced. Due to that I was unable to sample the reports against the stock sheets and process that was explained. I requested for a copy of the sufficient source documentation to carry out this sample once these reports have been produced and submitted to ONR. This sample is due to take place. The dutyholder requested that for future PITe Inspections, would ONR consider to carry these out after the PIT has been

conducted and the reports have been produced. I agreed that approach would be more beneficial also for ONR and it's something that I will raise with the Site Lead Inspector.

Regulatory Observation: It is burdensome for the operator to host an inspection whilst undertaking a PIT and they are unable to provide some records required for the inspection as they are not produced until after a PIT.

The dutyholder also explained that due to sickness within the Safeguards NMA team, there may be a risk that the declarations will be submitted late again this year. I asked the duty holder to keep me updated if this will be an issue and if so, how late will the declarations be as this may have an impact on reporting to the IAEA. I raised this as a regulatory observation highlighting resilience within the team. This was raised under FSE3 – Competence Management

Regulatory Advice: Due to the risk of potentially missing the deadline for the declaration submission, SFL are to consider how best to increase resilience within the team. This issue also caused late submissions to the previous years declarations.

Prior to the PIT activities taking place, SFL carries out a daily pre-job brief with the different key persons involved in the PIT: MCs, NMA, site independent inspectors. This was delivered by the Security and Safeguards Manager. I observed the pre-job brief ahead of the QBS3 PIT and also prior to that sampled the presentation given to personnel involved. I was satisfied that the information delivered reflected the arrangements in place at SFL for the PIT.

I reviewed evidence in support of the implementation of arrangements that ensure that EURRP qualifying nuclear facility (QNF) is in an appropriate configuration to ensure the best possible results are obtained during the PIT and that QNM held in the process area is minimised, as required by the operators site-wide formal written arrangements [SSI 752, Rev 3, dated June 2022] and the Basic Technical Characteristics (BTC) submission for EURRP [QBS3 BTC, Issue 11, dated Jan 2022]. I sampled dutyholder records and undertook a plant walkdown to establish the facility was in an appropriate configuration for the PIT and that plant cleanout operations had been undertaken, in line with the dutyholders arrangements. I sampled the following:

EURRP Plant Work Week Schedule, dated w/c 26th September 2022.
Furnace 5-6 Inspection Check-sheet, OI: OA B5 CCC/238 and Process Sheet 223/530, Rev 6 dated 29th Sept 2022 and signed by the plant controller.

From that sample, I judge that the dutyholder has adequately implemented their arrangements to ensure sampled areas of the facility had been subject to plant cleanout ahead of the PIT. I identified one regulatory shortfall relating to the Springfield Fuels Ltd arrangements for a PIT, which is summarised below:

Level 4 Regulatory Issue (RI-11093): The Springfields Fuels Ltd formal written arrangements for undertaking a PIT in both EURRP and CWF do not capture the standard for plant conditions and inventory status that the facilities should attain in readiness for a PIT, as required by the site-wide formal written arrangements [SSI 752, Rev 3, dated June

2022]. I requested that the operator undertakes a review of both arrangements to ensure that standards are enshrined within the document that are appropriate, proportionate and reflect the current facility configuration. The dutyholder concurred with this observation and I am raising a L4 regulatory issue to seek improvements and monitor progress in addressing this shortfall.

I reviewed the arrangements for undertaking a PIT within both EURRP and CWF [OI_1006, Stocktake Procedure Issue 9, dated March 2022 &] and sought evidence of their implementation under the supervision of a suitably qualified and experienced person and undertaken in accordance with written arrangements.

During the plant walkdown I held discussions with the facility material custodian and operations manager, it became apparent that the dutyholders formal written arrangements for a PIT in EURRP were not being utilised by facility staff in support of PIT operations, did not clearly identify responsibility for the PIT and did not adequately describe the operations to be undertaken by staff in support of a PIT. The dutyholder concurred with this observation and outlined that the facility material custodian ensures that staff are set to work with a clear and comprehensive pre-job brief. Regulation 6 & Schedule 2 (14) of NSR19 requires that dutyholders have procedures for a PIT that are appropriate and proportionate for the basic technical characteristics of the facility; these procedures fall short of that requirement and as such I am raising a level 4 regulatory issue to seek improvements relating to this shortfall. This regulatory issue is captured as part of the previous issue raised:

Level 4 Regulatory Issue(RI - 11092):The Springfields Fuels Ltd to ensure formal written arrangements are in place for all Nuclear Material Accountancy duties during and after the PIT. Also, for similar arrangements to be in place for qualifying nuclear facilities within QBS3. This is to ensure they are appropriate, proportionate, approved and owned by the appropriate responsible person and adequately implemented by staff involved in undertaking the PIT and carrying out duties associated with PIT activities.

The MC was able to demonstrate a clear awareness of their responsibilities for NMACS during the undertaking of a PIT within both CWF and EURRP and the dutyholder was able to provide evidence in support of the implementation of the sampled PIT activities in accordance with formal written arrangements, this included the production of stock sheets for all inventory locations within the facility and evidence in support of samples taken from sampled inventory locations. I undertook a plant-walkdown and visually confirmed that stock sheets reflected on-facility conditions.

From that sample, I judge that the dutyholder has broadly undertaken the key operations in support of a PIT within QBS3 however, that those operations were not implemented in accordance with adequate formal written arrangements (as mentioned above). The dutyholder concurred with this finding. This regulatory issue is captured as part of the previous issue raised:

Level 4 Regulatory Issue(RI - 11092):The Springfields Fuels Ltd to ensure formal written arrangements are in place for all Nuclear Material Accountancy duties during and after the PIT. Also, for similar arrangements to be in place for qualifying nuclear facilities within

QBS3. This is to ensure they are appropriate, proportionate, approved and owned by the appropriate responsible person and adequately implemented by staff involved in undertaking the PIT and carrying out duties associated with PIT activities.

I reviewed evidence in support of the implementation of arrangements that ensure the appropriate performance of measurement systems utilised as part of the PIT in QBS3. I sought evidence that EIMT work had been undertaken in accordance with schemes laid down in writing, as required by the Plant Maintenance System (PMS) and the dutyholders formal written arrangements. I sampled dutyholder records for the calibration of key measurement equipment throughout QBS3 and carried out a plant walkdown to establish the adequacy of implementation of a number of activities carried out. I sampled the following:

SFL 04112021-253 – Balance Calibration Certificate confirming that the CWF & EURPP Accountancy Weigh Balance had been calibrated on 4th November 2021, in accordance with OI/PFS/01.94.

Certificate of calibration for weight set no. 1859, certificate number 9583, issued by West Yorkshire Trading Standards Calibration Services on 13th July 2022

Regulatory Advice 2: Springfields Fuels Ltd were unable to provide evidence in support of routine metrological confirmation arrangements being in place or functional checks being undertaken on the EURRP and CWF Accountancy Weigh Balances. I raised this as a regulatory observation, highlighting that this is relevant good practice, as set out in FSE 6 of ONMACS and ISO 10012:2003 and a regulatory requirement of NSR19 Regulation 6 (6). The dutyholder concurred and agreed to take an action to review the current measurement management system arrangements within QBS3 against international standards.

From that sample, I judge that the dutyholder has adequately implemented their arrangements that ensure the appropriate performance of measurement systems utilised as part of the PIT however, that these arrangements are not in accordance with international standards and do not meet the requirements of NSR19 Regulation 6 (6). The dutyholder concurred and agreed with this judgement and agreed to undertake a review of the measurement management system against the international standards set out in ISO 10012:2003.

Judgement

In line with the ONR Inspection Rating Guide, based on the sampled evidence during the course of the intervention at Springfields Fuels Ltd, I consider a rating of GREEN against the following as identified within the scope of inspection:

QBS3 Enriched Uranium Residues Recovery Plant (EURRP), hex cylinder wash plant decontamination facilities - NSR19 Regulations 6, 9 (1), 10 (1), 11 (1-4), 15, 20, schedule 2 and ONMACS FSEs 3, 6, 7, 8, 9

I identified a number of shortfalls which have been raised as Level 4 Regulatory issues and also raised two pieces of regulatory advice.

Observations / Advice

Level 4 Regulatory Issue(RI - 11092):The Springfields Fuels Ltd to ensure formal written arrangements are in place for all Nuclear Material Accountancy duties during and after the PIT. Also, for similar arrangements to be in place for qualifying nuclear facilities within QBS3. This is to ensure they are appropriate, proportionate, approved and owned by the appropriate responsible person and adequately implemented by staff involved in undertaking the PIT and carrying out duties associated with PIT activities.

Level 4 Regulatory Issue (RI-11093):The Springfields Fuels Ltd formal written arrangements for undertaking a PIT in both EURRP and CWF do not capture the standard for plant conditions and inventory status that the facilities should attain in readiness for a PIT, as required by the site-wide formal written arrangements [SSI 752, Rev 3, dated June 2022]. I requested that the operator undertakes a review of both arrangements to ensure that standards are enshrined within the document that are appropriate, proportionate and reflect the current facility configuration. The dutyholder concurred with this observation and I am raising a L4 regulatory issue to seek improvements and monitor progress in addressing this shortfall.

Regulatory Observation: It is burdensome for the operator to host an inspection whilst undertaking a PIT and they are unable to provide some records required for the inspection as they are not produced until after a PIT.

Regulatory Advice: Due to the risk of potentially missing the deadline for the declaration submission, SFL are to consider how best to increase resilience within the team. This issue also caused late submissions to the previous years declarations.

Regulatory Advice 2: Springfields Fuels Ltd were unable to provide evidence in support of routine metrological confirmation arrangements being in place or functional checks being undertaken on the EURRP and CWF Accountancy Weigh Balances. I raised this as a regulatory observation, highlighting that this is relevant good practice, as set out in FSE 6 of ONMACS and ISO 10012:2003 and a regulatory requirement of NSR19 Regulation 6 (6). The dutyholder concurred and agreed to take an action to review the current measurement management system arrangements within QBS3 against international standards

3.3 Regulatory Issues

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

Issue	Title
RI-10819	Springfields Fuels Limited to address the shortfalls identified in the ACP.
RI-11092	The Springfields Fuels Ltd to ensure formal written arrangements are in place for all Nuclear Material Accountancy duties during and after the PIT. Also, for similar arrangements to be in place for qualifying nuclear facilities within QBS3.

RI-11093	Springfields Fuels Ltd to undertake a review of arrangements for undertaking a PIT at EURRP and CWP facilities
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