Inspection Record – Dutyholder Report			
Springfields Fuels Ltd			
Inspection ID	IR-51993	**Inspection Date(s)**	12/10/2022 For 1 Days
Dutyholder	Westinghouse Springfields	**Site**	Westinghouse Springfields
Inspection Type	Announced Planned	**Site Area / Group**	
ONR Purpose	Nuclear Safety	**Inspection Source**	IRR17

Subject (s) of Inspection

Activity	**RAG Rating**
IRR17	GREEN

System (s) – where applicable

Inspector(s) taking part in Inspection

Lead Inspector

[redacted]

Attending

[redacted] [redacted]

[redacted] [redacted]

This report is an automated extract of data from the ONR WIReD Inspection database.

1. Scope

1.1 Aim of Inspection

The purpose of this inspection is to gain assurance that the arrangements within the Springfields Fuels Ltd are compliant with the Ionising Radiations Regulations 2017 (IRR17).

1.2 Inspection Scope

The scope of the intervention will be compliance with IRR17 and specifically:• Regulation 8 – Radiation risk assessments• Regulation 9 – Restriction of exposure• Regulation 14 - Radiation protection adviser• Regulation 15 – Information, instruction, and training• Regulation 17 - Designation of controlled or supervised areas• Regulation 18 - Local rules and radiation protection supervisors• Regulation 20 - Monitoring of designated areas

1.3 Relevant Regulatory Guidance

The following regulatory guidance corresponds with this inspection

Name

2. Summary Statement

This report presents the findings of a planned intervention that was undertaken in order to assess compliance with the Ionising Radiations Regulations 2017 (IRR17) at the Springfields Fuels Limited licensedsite.

The intervention consisted of an examination of the implementation of arrangements to secure compliance with the requirements of IRR17 by discussion with key facility personnel and inspections of facilities/ plants. The key requirements examined were those relating to the following IRR17 regulations and areas:

Regulation 8 – Radiation risk assessments
Regulation 9 – Restriction of exposure
Regulation 14 – Radiation protection adviser
Regulation 15 – Information, instruction, and training
Regulation 17 – Designation of controlled or supervised areas
Regulation 18 – Local rules and radiation protection supervisors
Regulation 20 – Monitoring of designated areas
Details of any IRR17 events and how these have been addressed

I was content that the facility management and Senior Health Physicists – Radiation Protection Advisors had demonstrated compliance with IRR17. The Health Physicists – Radiation Protection Advisors understood the current and future radiological challenges associated with current work, with adequate dose monitoring and controls demonstrated.

I considered the documents submitted to ONR were of an adequate standard. The risk assessments and supporting documentation provided, confirmed input from the (facilities) Health Physicists – Radiation Protection Advisors.

The findings of this inspection have been shared with, acknowledged and accepted by Springfields Fuels Limited Senior Health Physicists – Radiation Protection Advisors Independent Nuclear Assessment, as part of normal inspection feedback.

Overall, I judged that, on the basis of evidence sampled at the time of this inspection, compliance with IRR17 was demonstrated and an inspection rating of Green (no formal action) is appropriate.

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]	
[redacted]	[redacted]	

[redacted]	[redacted]	
[redacted]	[redacted]	
[redacted]	[redacted]	

3.2 Record

Evidence

A brief overview of the Springfields Fuels Limited Radiological Protection (RP) team was provided. Representing Springfields Fuels Limited was the two Senior Health Physicist – Radiation Protection Advisors, two members of the Independent Nuclear Assessment, the Plant manager for the Enriched Uranium Recovery Plant (EURP) and a member of the sites Regulatory Liaison team.

We were advised that the Springfields Fuels Limited RP team comprises of (in total), 2 Radiation Protection Advisers (RPA), one Health Physicist and one assistant Health Physicist.

The Senior Health Physicist – Radiation Protection Advisors advised that recruitment is an ongoing challenge and currently there is an advert for a head of Radiological Protection.

Regulation 8 – Radiation risk assessments
Prior to the inspection, examples of Risk Assessments (RA) were requested. One example was provided (one with an associated corrective work order). Of these five documents provided a detailed review of this RRA was undertaken:

Radiological Risk Assessment (RRA), Reference 220905, dated 5 September 2022.

RRAs undertaken at Springfields Fuels Limited are written by the Senior Health Physicist – Radiation Protection Advisors. It was advised that a task Method Statement is provided to the Senior Health Physicist – Radiation Protection Advisors, who then develop the RRA. Throughout the development of the RRA, routine and non-routine meetings are scheduled to review and discuss details of the ‘task’ to support the development of the RRA. This was acknowledged as an example of good practice.
In addition, we were provided a document which detailed the Springfields Fuels Limited arrangements for RP practices and controls re. supporting work [Springfields Fuels Limited Plant Modifications - Guidance to PMP Form SSI 563C, Rev 9, dated January 2019]. This document provided the instruction for radiological protection (RP) to provide input and

identify the aspects of the work which require RP controls.
We viewed the RRA which was judged to be broadly compliant with regulation 8, ACoP, paras 70 and 71. During the review of the RRA, I enquired regarding several minor observations and areas that I would wish to understand in more detail. These ranging from:

the risk matrix used;
the requirement to undertake a radiation dose estimate (i.e. eye doses) and;
inclusion and detail re. contingency arrangements.

With respect to the risk matrix, Springfields Fuels Limited use an assessment matrix allowing a scoring system to be used in order to assess several hazards. Within this matrix, there is an ‘indicator’ re. estimated dose rate – this allows for a score to be recorded against 4 criteria e.g. ‘1 if up to 5μSv/hr’. Within the RA itself, I noted that other than a breakdown of the internal dose estimate, there was a radiation dose estimation pertaining to eye dose for example detailed in the RRA provided. This is a requirement of Regulation 8, ACoP para 70 (b) ‘estimated radiation dose rates to which anyone can be exposed’.
In addition, the RRA includes a section titled ‘Contingency Plan’. This section acknowledges certain faults/ scenarios etc. but does not provide in my opinion detail useful instructions re. Regulation 8, ACoP paragraph 70 (k) & (l) requires:

(k) possible accident situations, their likelihood and potential severity; and
(l) the consequences of possible failures of control measures – such as electrical interlocks, ventilation systems and warning devices – or systems of work.

Recommendation 1
Regulation 8 of the Ionising Radiations Regulations 2017 requires that an employer must make a suitable and sufficient assessment of the risk to any employee relating to activities involving with the work ionising radiation. A suitable and sufficient radiation risk assessment should consider the matters outlined in paragraphs 70 and 71 of the approved code of practice associated with the Ionising Radiations Regulations 2017. The risk assessment that was provided during our visit did not consider all aspects that are relevant to the hazard they were assessing, specifically paragraphs 8b relating to assessment of eye and extremity dose and 8k, 8l and 8m relating to doses associated with wounding during work in C3/C4 areas.

Recommendation 2
Regulation 5(1) of the Management of Health and Safety at Work Regulations 1999 requires that every employer shall make and give effect to arrangements as are appropriate, for the effective monitoring and review of the preventive and protective measures. During our inspection it was relayed that radiation protection risk assessments and documentation was being produced without a framework of monitoring and review. It is our opinion that radiation protection risk assessments would benefit from an appropriate

peer review.

Observation 1
During our visit the extent of the responsibilities of the radiological protection function were discussed. The RP function was delivering support to all facilities on site as well as several decommissioning and change projects along with a significant burden on training, site inspections and managing dosimetry. The significant workload and low number of radiation protection resource left the function stretched.
Despite the recommendation and observations noted above, I judge that the current RAs being used Springfields Fuels Limited are adequate.

Regulation 9 – Restriction of exposure
Doses of staff working with Ionising radiation were monitored on a three-monthly basis (whole body and internal radiation monitoring of actinides). Doses estimates for 2022 (based on first two quarters) are below 2.0mSv (whole body). The employees with the highest annual doses are involved in fuel handling operations and work was being carried out to improve shielding and lower their dose.

Regulation 14 – Radiation protection adviser
Regulation 14 requires that every employer engaged in work with ionising radiation must consult such suitable radiation protection advisers as are necessary. Both Radiation protection Advisers were suitable for their appointment by Springfield Fuels Limited in that they have specific knowledge, experience and competence required for giving advice on the working conditions on site

Regulation 15 – Information, instruction, and training
Regulation 15 requires that every employer must ensure that those of its employees who are engaged in work with ionising radiation are given appropriate training. This was provided by providing adequate site and building inductions along with role-based radiation protection training. All training was given in house by Springfield Fuels Limited staff.

Recommendation 3
Regulation 15(e) of the ionising radiation regulations 2017 requires that an employer must ensure that employees who are engaged in work with ionising radiation be given appropriate training and that the training be repeated at appropriate intervals. At the time of our visit refresher training for radiological protection was being carried out at intervals of 5 years. From observations of some poor practice of employees whilst on site it would indicate that the frequency of training should be reviewed.

Regulation 17 – Designation of controlled or supervised areas
The controlled areas that we observed during the facility walk down were designated appropriately

Regulation 18 – Local rules and radiation protection supervisors
Prior to the inspection Springfield Fuels Limited provided examples of their local rules:

[redacted] and Associated Buildings. Ref SSI 693B, Issue 26/09/2022.

Local Rules Primary Containment Areas. Ref SSI 693B, Issue 26/09/2022.

one describes a large facility [redacted] and the second where C4 work areas were expanded temporarily (Local Rules Primary Containment Areas). Both were adequate and contained all the requirements as given in paragraph 336 of the Approved Code of Practice and Guidance associated with the Ionising Radiations Regulations 2017.

Regulation 20 – Monitoring of designated areas
Procedures, training and equipment were in place to enable employees to carry out appropriate monitoring of areas and themselves. Monitors were being maintained and tested appropriately. Personal contamination monitoring was carried out using appropriate hand-held monitors, there was no portal monitoring or a staffed barrier to ensure monitoring procedures were followed.

Recommendation 4
Regulation 5(1) of the Management of Health and Safety at Work Regulations 1999 requires that every employer shall make and give effect to arrangements as are appropriate, for the effective control, monitoring and review of the preventive and protective measures. During our inspection it was observed that there was no control or monitoring of contamination control procedures at the entrance to the controlled area as it was unmanned and did not have an automated portal monitor.

Details of any IRR17 events and how these have been addressed

All safety significant events are recorded by the shift plant manager and added to event monitoring system. Events are rated and triaged and all relevant persons involved in safety are able to see the log. A good reporting culture was observed along with a good triaging of incidents.

Observation 2
During the visit it was observed that some waste related issues were being entered into a system to record safety related issues. These waste issues were due to extra monitoring and waste sentencing procedures applied by Springfield Fuels Limited and were not environmentally or safety significant. The number of waste related issues being raised on a safety reporting system could mask true safety significant events.

Facility/ plant walk downs

A plant walk down of building [redacted] was carried out. Three areas where expanded C4 work was being carried out were observed, two of these areas had their contamination control monitors outside the C4 dressing area in a C2 area. The extant local rules for primary containment areas requires monitoring at source equipment to check for contamination on clothing at the barrier itself. Due to the remote location of these monitors, it would not be possible to follow the extant local rules. As this is part of an overall contamination control procedure there was also risk of spreading radioactive material from a C4 area to a C2

Recommendation 5

Regulation 18(3) of the ionising radiations regulations 2017 requires that an employer take all reasonable steps to ensure that any local rules which are relevant to the work being carried out are observed. During the plant walk down several instances of noncompliance with the local rules were observed in that Local rules for entering and leaving C4 areas require monitors be available at the barrier to check for contamination, at the time of our visit we observed monitors being stored remotely from barriers. Their location would preclude employees from following the extant C4 exiting procedure as laid down in the extant local rules.
As part of the contingency plans for contamination release several monitors were kept throughout the facility. It was observed that these monitors were not fixed to the walls and were missing in some locations. Springfields Fuels Limited should raise this issue within their own issues database and provide evidence of resolution by the end on November 2022

Recommendation 6

Regulation 13(2)(b) of the ionising radiations regulations 2017 requires that any employee under the employer’s control who may be involved with contingency plan arrangements have been issued with suitable dose meters or other devices. At the time of our visit contamination monitors associated with contingency plans (monitoring at source instruments) were not available at their agreed locations.
Evidence of poor working practice was observed on the main drying process line where a glove box operative did not fit his hands into gloves appropriately and created possible trapping and puncture risk. An operative was also observed not wearing appropriate PPE.
The general house keeping of the facility was poor in places as equipment was being stored in corridors and on a suspended criticality station. In several places throughout the facility the signage was inadequate as it was either no longer relevant or obscured.
Springfields Fuels Limited should raise this issue within their own issues database and provide evidence of resolution by the end on November 2022

Judgement

Overall, I judged that, on the basis of evidence sampled at the time of this inspection, compliance with IRR17 was demonstrated and an inspection rating of Green (no formal action) is appropriate. The following recommendationswere raised

Recommendations
Regulation 13(2)(b) of the ionising radiations regulations 2017 requires that any employee under the employer's control who may be involved with contingency plan arrangements have been issued with suitable dose meters or other devices. At the time of our visit dose meters associated with contingency plans (monitoring at source instruments) relating to contamination were not available at their agreed locations.

Regulation 18(3) of the ionising radiations regulations 2017 requires that an employer take all reasonable steps to ensure that any local rules which are relevant to the work being carried out are observed. Local rules for entering and leaving C4 areas require monitors be available at the barrier to check for contamination, at the time of our visit we observed monitors being stored remotely from barriers. Their location would preclude employees from following the extant C4 exiting procedure as laid down in the extant local rules.

Regulation 8 of the Ionising Radiations Regulations 2017 requires that an employer must make a suitable and sufficient assessment of the risk to any employee relating to activities involving with the work ionising radiation. A suitable and sufficient radiation risk assessment should consider the matters outlined in paragraphs 70 and 71 of the approved code of practice associated with the Ionising Radiations Regulations 2017. The risk assessment that was provided during our visit did not consider all aspects that are relevant to the hazard they were assessing, specifically paragraphs 8b relating to assessment of eye and extremity dose and 8k, 8l and 8m relating to doses associated with wounding during work in C3/C4 areas.

Regulation 15(e) of the ionising radiation regulations 2017 requires that an employer must ensure that employees who are engaged in work with ionising radiation be given appropriate training and that the training be repeated at appropriate intervals. At the time of our visit refresher training for radiological protection was being carried out at intervals of 5 years. From observations of some poor practice of employees whilst on site it would indicate that the frequency of training should be reviewed.

Regulation 5(1) of the Management of Health and Safety at Work Regulations 1999 requires that every employer shall make and give effect to arrangements as are

appropriate, for the effective monitoring and review of the preventive and protective measures. During our inspection it was relayed that radiation protection risk assessments and documentation was being produced without a framework of monitoring and review. It is our opinion that radiation protection risk assessments would benefit from peer review.

Regulation 5(1) of the Management of Health and Safety at Work Regulations 1999 requires that every employer shall make and give effect to arrangements as are appropriate, for the effective control, monitoring and review of the preventive and protective measures. During our inspection it was observed that there was no control, or monitoring of contamination control procedures at the entrance to the controlled area as it was unmanned and did not have an automated portal monitor.

Observations / Advice

During our visit the extent of the responsibilities of the radiological protection function were discussed. The RP function was delivering support to all facilities on site as well as several decommissioning and change projects along with a significant burden on training, site inspections and managing dosimetry. The significant word load and low number of RP resource left the function stretched.
During the visit it was observed that some waste related issues were being entered into a system to record safety related issues. These waste issues were due to extra monitoring and waste sentencing procedures applied by Springfields Fuels Ltd and were not environmentally or safety significant. Although a good reporting culture was noted it was the opinion of the inspectors that the number of waste related issues being raised on a safety reporting system could mask true safety significant events.

3.3 Regulatory Issues

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

Issue	Title