

Inspection Record – Dutyholder Report			
Fire & Explosion Hazards Inspection			
Inspection ID	IR-52900	Inspection Date(s)	09/07/2024 For 2 Days
Dutyholder	Westinghouse Springfields	Site	Springfields Works
Inspection Type	Announced Planned	Site Area / Group	
ONR Purpose	Nuclear Safety; Conventional Health and Safety	Inspection Source	DFW Planning Round, COMAH Safety Report Findings
Subject (s) of Inspection			
Activity			RAG Rating
COMAH - Control of Major Accident Hazards Regulations 2015			GREEN
Regulatory Reform (Fire Safety) Order 2005			GREEN
LC 23 - Operating rules			AMBER
LC 24 - Operating instructions			GREEN
LC 27 - Safety mechanisms, devices and circuits			GREEN
LC 28 - Examination, inspection, maintenance and testing			GREEN
LC 10 - Training			GREEN
System (s) – where applicable			
Inspector(s) taking part in Inspection			
Lead Inspector <div style="background-color: black; height: 1.2em; width: 100%;"></div> Attending <div style="background-color: black; height: 1.2em; width: 100%;"></div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div></div> <div>Lead Inspector</div> <div>Office for Nuclear Regulation</div> </div>			

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1. Scope

1.1 Aim of Inspection

The aim of the inspection was to consider Springfield's implemented measures to prevent, control and mitigate fire and explosion hazards affecting both nuclear safety and life safety. This included reviewing Springfield's examination of fires through their safety case documentation as well as building fire risk assessments and arrangements for compliance with the Regulatory Reform (Fire Safety) Order. With respect to explosion hazards, the inspection considered risks associated with nuclear safety and conventional health & safety focussing on compliance with the Dangerous Substances & Explosive Atmospheres Regulations (DSEAR).

Systems relevant to Major Accident Hazard (MAH) scenarios associated with hydrogen were also inspected as part of findings identified during Springfield's COMAH 2023 Safety Report - 5 year review (PR-01235).

1.2 Inspection Scope

A rated Fire & Explosion Safety Themed Inspection – to include a compliance inspection against:

- The Regulatory Reform (Fire Safety) Order (RRO) 2005.
- Dangerous Substances & Explosive Atmospheres Regulations (DSEAR) 2002
- Control of Major Accident Hazards (COMAH) Regulations 2015
- Licence Condition (LC) 10 - Training
- Licence Condition 23 – Operating Rules.
- Licence Condition 24 – Operating Instructions.
- Licence Condition 27 – Safety Mechanisms, Devices & Circuits.
- Licence Condition 28 – Examination, Inspection, Maintenance & Testing.

The inspection will focus on the topics of fire & explosion safety covering both nuclear fire safety and life safety. The LC23 and LC24 parts of the inspection will focus on the implementation of the internal hazards safety cases covering the site hydrogen compound and the Oxides Fuel Complex (OFC). The LC27, LC10 and LC28 parts of the inspection will focus on the implementation of any derived safety measures relevant to fire & explosion safety within these safety cases. Further aspects related to fire & explosions life

safety including fire safety management will be inspected as part of compliance with the duties set out in the RR (FSO) and DSEAR. This will cover the hydrogen compound, the admin block and the Enriched Uranium Recovery & Reprocessing Plant (EURRP). Inspection activities would be expected to be supported by walkdowns of the relevant facilities.

With respect to COMAH this inspection fulfils the Predictive Intervention #2 noted within the 5-yearly review COMAH conclusions record associated with PR-01235.

1.3 Relevant Regulatory Guidance

The following regulatory guidance corresponds with this inspection

Name

2. Summary Statement

This inspection was a themed inspection to assess Springfield Fuels Ltd (SFL) arrangements to support fire and explosion safety. The inspection also sampled the implementation of those arrangements on site. Specifically the inspection covered:

Life Fire Safety (LFS) and compliance with the Regulatory Reform (Fire Safety) Order (RRFSO)

Internal Hazards (Fire & Explosion) and compliance with the following license conditions:

- LC 10 – Training
- LC 23 – Operating Rules
- LC 24 – Operating Instructions
- LC 27 – Safety Mechanisms, Devices and Circuits
- LC 28 – Examination, Inspection, Maintenance and Testing

Compliance with the Dangerous Substances & Explosive Atmospheres Regulations (DSEAR)

Compliance with the Control of Major Accident Hazards (COMAH) regulations and follow-up of actions defined in the 5-Yearly COMAH review conclusions record – captured in WIRED Permissioning Record – PR01235.

The inspection was carried out in line with relevant Technical Inspection Guides (TIGs) such as NS-INSP-GD-073 Issue 2 – The Regulation of Life Fire Safety Provision on GB

Nuclear Sites. The inspection consisted of examination of the licensee's arrangements covering the above topics, meetings to assess the implementation and management of each topic at a site level and walkdowns of the Oxides Fuels Complex (OFC), Enriched Uranium Residues Recovery Plant (EURPP), Hydrogen Compound and Administration Block facilities.

This intervention was undertaken by three inspectors from the Office for Nuclear Regulation's (ONR) Nuclear Internal Hazards & Site Safety (NIHSS) specialism, one inspector from the Chemistry and Chemical Engineering specialism and the Springfield site's Nominated Site Inspector.

Several findings were noted during the inspection:

It was noted that inspectors were allowed to enter the hydrogen storage compound, which has a Zone 1 hazardous area, without changing to anti-static clothing and footwear as identified in the site standard (SSI 734). Additionally, it was noted that the calculation of hydrogen event frequency contained a probability of hydrogen ignition factor of 0.1. This is not aligned with relevant good practice. Additionally a factor of 0.1 is applied for the frequency of hydrogen deflagration vs a jet fire. This is not supported by the geometry of the hydrogen compound. A level 4 regulatory issue has been raised to address these shortfalls against the DSEAR and the implications for Occupied Building Risk Assessment (OBRA).

It was noted that there were some examples, within OFC, where Springfields were unable to demonstrate adequate control of combustibles despite the building having some known vulnerabilities to fire. A level 4 regulatory issue has been raised to address this shortfall.

The current nuclear fire safety assessment for OFC considers fire on an individual Fault Sequence Group (FSG) basis and only considers the potential impact of SSCs which support the individual fault. A holistic view of fire which considers the potential impact of fire spread on SSCs which potentially support multiple FSGs is not covered. Additionally, the process for compliance with operating assumptions (the lowest tier of safety case operating rules) lacked clarity leading to inconsistent application in areas sampled. Given the buildings known vulnerability to fire a Level 3 regulatory issue has been raised to address this shortfall.

It was noted that Springfields do not currently have formal emergency guidance identifying the strategy and actions required to deal with a potential leak of hydrogen at the site compound. This is not aligned with Schedule 4 of L111 (The guide to The Control of Major Accident Hazards Regulations 2015). A level 4 regulatory issue has been raised to address this 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]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

3.2 Record

Evidence

General Information

SFL outlined that the Oxides Fuels Complex (OFC) was opened in the late 1990s with the first iteration of COMAH assessment produced in 2003. It was later acknowledged that consolidating safety case information into the COMAH assessment allows for easier interpretation of requirements to plant personnel. ONR queried how recommendations which are raised within assessment work are tracked. SFL responded that F-Papers (ALARP papers) are produced which are a collation of all actions coming out of Hazard Analysis (HAZANs). Actions are then tracked by plant safety case owners and reviewed by the MSC in the local area. For significant findings they are reviewed at NSC level. SFL also stated that a sign off sheet is produced for each action and these are reviewed either independently or by the HAZAN/Paper lead. Therefore the review of each action is two stage. An F-Paper is produced to discuss all the recommendations made within a COSR. The typical COSR requirement is D8.1 Conventional Fire and D8.2 Nuclear Fire as well as D8.3 Hazardous Area Classification. Other hazards outside of fire are usually addressed as initiators for radiological/chemotoxic events. Examples of F-Papers and the associated close outs were seen by ONR.

SFL noted that a legacy BNFL technical manual is used as part of the assessment methodology. SFL clarified that the legacy technical manual is not relied upon but is still an available resource, recognising that it likely does not comply with modern standards. A judgement is made on the current applicability for each section of the safety case. SFL noted that safety case are kept current through the Long Term Periodic Review (LTPR) and Short Term Review (STR) (1-3 years) processes as well as the modification process. SFL explained that training assessors are appointed both on a per discipline and area basis. The approach to training is graded dependent on factors such as nuclear safety importance, complexity etc. There are generally three categories of training, induction, role specific and behavioural however, training needs analysis for individuals is bespoke and can include external training.

The overall training needs analysis is comprised of a role proficiency graph and an operational capability index (OCI) which is split into jobs, roles and authorities. Role profile graphs are held by individuals or line managers in operational area. These are live documents and reviewed annually. Line managers have responsibility for reviewing training needs however, this can be supplemented by external organisations if required. An example was provided of external training in CDM provided by HSE. ONR queried how shared services were managed when they do not report to one specific part of the plant. SFL responded that the OCI provides management with an overview of skill base for an operational area. SSI 791 on the capability of shared services was noted which provides a RAG rating against each support function (this was observed on the day of the inspection). SFL also clarified that this was distinct from the nuclear baseline requirements which are captured within SSI890. Individual plants also have specific training and pass access is not granted without completion of all required training.

Internal Hazards & Fire Safety

This section has been written by the Internal Hazards & Fire Safety Inspector.

I conducted a themed inspection on fire and explosion hazards at the Springfields Fuels Limited (SFL) site. This was a planned inspection undertaken as part of the intervention strategy for the Decommissioning, Fuel and Waste Sub-Division and addressed both life safety and nuclear safety. The requirement for the inspection was informed by work completed as part of the Topical Peer Review on fire protection. I targeted the nuclear fire safety case for OFC, the explosion hazard analysis for the site hydrogen facility as well as fire risk assessments for OFC and the administration building as part of life fire safety portion of the inspection.

SFL explained that OFC has seen a full upgrade of the Fire Alarm & Detection System (FADS) to an L2 standard. This is really an L1 system with some derogations. Intervention by firefighting personnel is a defence in depth measure only. SFL provided an overview of the nuclear fire assessment process which includes a check against ONR Safety Assessment Principles, an assessment against HAZANs, a review of claims and a review of common cause failures and potential unrevealed fires. SFL stated that for newer safety cases FADS and emergency lighting are designated as Safety Related Instrumentation (SRI). SFL stated that the [REDACTED]

Fire loadings below the CCR have been reviewed and a fire compartment floor installed.

SFL also noted that the plant should fail safe in the event that the CCR was lost.

ONR noted that this appeared to be an implicit claim on the building compartmentation although SFL stated that this was more an expectation. SFL noted a weak point on conduction through walls and that signage and building management is a key barrier to fire spread due to build up of combustibles. ONR stated that there did not appear to be a bounding fire scenario identified and that a review of individual fault sequences potentially sliced the safety case up without assessing the totality of risk due to fire. SFL acknowledged that this was a possible gap in the fire analysis in terms of loss of large areas. SFL noted that it was unlikely to commit people to a building in the event of fire however, [REDACTED] offered by the building construction offers some protection. SFL outlined that a compartmentation survey conducted in 2020 improved penetration

seals sufficiently to have confidence in the fire barriers which are present within the building. ONR queried how internal hazards were identified generally. SFL responded that this was carried out from a hazard source perspective rather than being process driven. Consequential hazards are considered by the domino key word within the HAZOP process.

ONR queried how recommendations raised in the nuclear and conventional fire papers for OFC were closed out and tracked. SFL stated that they would provide the F-Paper on the recommendations raised (this was provided post inspection). However, some of the action close outs were observed by ONR on the day. In the case of shortfalls in compartmentation noted in OFC a full compartmentation survey was undertaken with gaps graded from 1-5 based on their safety significance e.g. part of CCR, escape route or protected stairs. ONR requested a copy of the compartmentation survey which was received.

In the case of the noted shortfalls in the building FADS, SFL reported that a new system specified to L1 standards had been installed. In practice the system is L2 as there are some derogations from the requirements for L1. The detection coverage has now been checked against safety case claims and was found to be correct. A FADS consistent with L1/L2 coverage was observed within OFC.

It was noted that the Project Management Process (PMP) includes fire as a consultee and this is applied across all facilities. SFL stated that the categorisation of safety modifications does not currently consider fire risk but there is an ongoing discussion on the use of the PMP process for smaller modifications. The balance of chemotoxic, nuclear, fire and COMAH risks needs to be understood. SFL confirmed that fire evacuation drills were carried out on a 6-monthly basis. A fire log book is maintained in the OFC CCR with MITIE being responsible for the testing of services area which includes lighting, FADS and extinguishers.

SFL provided an overview of the maintenance of the FADS within OFC. Daily checks are completed by the plant controller which involves a confirmation that the main panel is not showing any alarms or faults. If fault is reported then a maximo request can be raised depending on the nature of the fault. Weekly checks are carried out by the site F&RS (Mitie) who use a break glass to test device actuation and confirm that alarms sound, historic isolations are also reviewed. The weekly check sheet is recorded within the building log book. Marlow Fire (external contractor) are used to perform the quarterly inspection. Job cards are raised on a zone basis rather than a device basis in this case. SFL reported that management inspections of buildings are used to capture the status of fire loading and that the fire responsible person is involved in these walkdowns however, fire loading is not specifically tracked on a day-to-day basis and not targeted for control close to steelwork.

A fire door maintenance report was observed and new doors were confirmed to have required plugs and test evidence. SFL reported that they were prioritising the installation of new fire doors across site. SFL provided an overview of the status of the fire team at SFL. A new team member who is ex F&RS is currently in training for the fire safety manager role. Initially this will be fire risk assessment training supported by on the job completion of simple buildings FRAs. The completion of a fire engineering degree at UCLAN is planned. SFL noted that they could be supported by external contractors as needed. Additional resilience across the business was also noted, at least two further staff members who could step in to complete FRAs etc due to past experience. Training certificates for [REDACTED] were observed.

SFL explained that the fire actions database issues a notification to building owners upon update and at 1 week before actions are due. SFL explained the compartmentation strategy for the admin building which is subdivided with a central atrium. Hazardous rooms such as plant and boiler rooms are sub-compartmented. SFL noted that there were some issues on the closure of fire issues around site and this was believed to be due to a lack of resource. SFL noted that the escalation routes for fire risk assessment actions were to raise a corrective action plan and then the nuclear safety committee if the CAP is not complied with.

Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002
This section has been written by the Chemical Engineering Inspector.

I conducted this DSEAR inspection following an action from the 2023 COMAH assessment of Springfields submission (PS Int 3). This action recommended conducting a DSEAR inspection at Springfields due to observed shortfalls in the duty holder's submission. I targeted the DSEAR inspection on the Hydrogen Storage Facility (HSF) and the Enriched Uranium Residue Recovery Plant (EURRP), as both facilities contain chemicals that could result in an explosive atmosphere during a fault scenario.

The duty holder gave a presentation of how the DSEAR safety case is addressed for each facility via the provision of a suitable hazard analysis (HAZAN). A further document then underpins the resulting hazardous area classification (HAC) for each facility. I sampled the HAZAN's for EURRP and the HSF and other associated documentation and I noted that they contained several shortfall recommendations. I sampled the close-out of a single shortfall recommendation regarding the use of anti-static clothing in the HSF. However, I did not consider the close-out answered the shortfall and did not meet my expectation. This was further confirmed during the walk round to this area where there were no visible signs for clothing to be worn and no clarity of when this clothing is to be worn. This was also outside the site standard (SSI 734). I consider this is a shortfall against DSEAR regulation 7(5) and will raise a L4 regulatory issue to bring the duty holder back into compliance.

Furthermore, I considered that the duty holder could not clearly explain what the facility DSEAR safety case was as many modifications had been undertaken. Post-inspection the dutyholder supplied a list of the modifications that address the differences and confirm what is the DSEAR safety case. I view it as appropriate.

I sampled the implementation of the Safety Actions identified in the HAZAN in the operating instructions. I found that the high-level safety actions were identified appropriately, however those designated as Operating Assumptions were not identified. I consider this a shortfall against good practice regarding suitable operating limits and control (LC23(3)). I provided advice to the duty holder to consider adding these. The licensee accepted and the Site Inspector will follow up as part of a level 3 regulatory action regarding LC23(1) compliance.

Springfields discharges its DSEAR responsibilities via a site standard (SSI 734), that I consider appropriate. To confirm its implementation, I went on an inspection visit to the HSF and EURRP and sampled equipment located in a DSEAR hazardous area. I noted that the equipment was suitably identified with appropriate markings and met the required

designation. I then saw that these items were suitably identified in the maintenance database and maintained appropriately. However, there was a light fitting in the HSF that had failed its maintenance inspection and the status of that item was unknown. The duty holder stated they would review and consider what action to take. I consider the response appropriate.

The duty holder explained that all individuals working within hazardous zones undertake basic DSEAR training. Extra training is then supplied based on the role undertaken. I consider the approach undertaken as appropriate and confirmed that individuals had the appropriate training. Nevertheless, I identified that the duty holder relies on a third party to perform the DSEAR risk assessments and other supporting documentation with an internal intelligent customer to provide suitable oversight. This is appropriate but the intelligent customer is a singleton resource and provided advice that the duty holder could provide further resilience.

Control of Major Accident Hazards (COMAH)

This section has been written by the COMAH Specialist inspector.

I conducted this emergency preparedness inspection following an action from the 2023 COMAH assessment of Springfields Fuels Ltd. submission (PRED REV1). This action recommended Springfields Fuels Ltd. to update their existing COMAH consequence modelling with an assessment of potential consequences in the event of a hydrogen trailer explosion (or equivalent major leak). Springfields Fuels Ltd. determined that this was a credible scenario and may amend their emergency response. I targeted the Hydrogen Storage facility (HSF) as this was the reference accident of a major accident involving Hydrogen.

The dutyholder gave a presentation on how the hydrogen scenario has been incorporated into the on-site emergency plan and confirmed appropriate discussion with the local authority with regards to incorporating the scenario into their off-site emergency plan. There is work for the site to do in terms of determining the information they intend to send members of the public who sit within the public information zone (PIZ) as determined by COMAH. I noted the site use the Detailed Emergency Planning Zone under REPPiR which encompasses the PIZ. There is a requirement to inform these members of the public as to the risk of a hydrogen explosion and any specific measures to take over and above those currently in place. Public information is required to be sent annually, the site explained that they will review this following their next emergency exercise, I am satisfied with this approach.

The dutyholder confirmed that site personnel had been briefed on hydrogen and the changes to the emergency plan. Furthermore, the on-site fire service receive training on several types of fire from the Fire Service College at Moreton-in-Marsh. The dutyholder was unable to confirm whether this training involved hydrogen fires. It is vital to ensure staff are trained in actions to take in the event of an site emergency.

I discussed the required action from site fire team following an activation of the low-pressure hydrogen alarm. The dutyholder explained a series of actions including the use of thermal imaging to identify any hydrogen fires. I asked whether this had been formally documented as an emergency instruction, the site produced OFC-SO-C155 (Hydrogen Start up-down), OFC-SO-C1216 (Alarm Response) and OFC-SO-C1054 (Hydrogen

Operations) these documents did not prescribe action to take at the HSF which has a larger inventory, hence were not adequate.

I also questioned whether the emergency response had been practiced to minimise the risk of human error. The dutyholder explained that this had not formed part of their emergency exercise process but considered it would be beneficial.

Judgement

The Internal Hazards and Fire Safety specialist inspector has provided the following judgement.

The following points which form my overall judgement are based on the facts established as part of the inspection, discussions with the nominated site inspectors and my own judgement on the presentations and information provided by the licensee:

SFL have SQEP resource to assess internal hazards and fire safety and have an established process in place for developing nuclear fire safety assessments and supporting HAZANs.

The life fire safety condition of buildings is assessed through both fire risk assessment and supporting conventional fire safety assessments where required. Conventional fire safety assessments for OFC were found to be broadly adequate.

No specific operating rules are derived with respect to fire safety however, claims are made on the FADS within OFC and implicit claims are made on the compartmentation installed within the building. Recent projects have been undertaken to improve the standard of both.

The OFC facility has known vulnerabilities to fire and does not meet current fire safety relevant good practice.

The FADS system within OFC appeared to be appropriate for the risk within the building and a suitable maintenance regime is in place. Compartmentation has been supported by a recent survey and the facility is in the process of replacing fire doors throughout. Examples of both were observed during the facility walkdown.

The nuclear fire safety assessment considers fault sequence groups at an individual level only and does not consider fire holistically. Given the buildings known vulnerabilities to fire this presents a potential gap within the safety case as the totality of potential consequences is not fully understood.

With regards to the above facts, I consider that the site is complying with licence conditions (LCs) 24, 27 & 28 within the context of internal hazards. However, I judge that the nuclear fire safety case is not fully complete and this represents a shortfall against LC 23 – Operating Instructions with respect to the adequacy of the safety case LC23(1). I therefore judge that an ONR inspection rating of (GREEN) is appropriate for each license

condition inspected with the exception of LC23 which I rate as (AMBER).

With respect to the life fire safety portion of the inspection despite some minor shortfalls observed which will be followed up through a Level 4 Regulatory issue, I consider that the site complies with the requirements of the Regulatory Reform (Fire Safety Order) 2005. I consider that an ONR Inspection Rating of (GREEN) is appropriate.

The Chemical Engineering specialist inspector has provided the following judgement.

I consider that the licensee is adequately implementing the requirements of the DSEAR, based upon my sampling and the evidence presented by the duty holder. I therefore judge that, an ONR inspection rating of adequate (GREEN) is appropriate for this intervention. Nevertheless, I consider the raising of one level 4 regulatory issue and an additional action within a level 3 regulatory issue linked to LC23 compliance as appropriate. One will be focussed on the improvements to DSEAR and the other on the duty holder showing compliance with the Operating Assumptions identified in the safety case.

The COMAH specialist inspector has provided the following judgement

I consider that the licensee is adequately implementing the requirements for emergency planning, relating to the COMAH Regulations 2015. I therefore judge that, an ONR inspection rating of adequate (GREEN) is appropriate for this intervention. However, a level 4 issue will be raised to ensure a formalised guidance is developed and evaluated on a periodic basis, in accordance with Schedule 4 of L111 (The guide to The Control of Major Accident Hazards Regulations 2015).

Observations / Advice

The Internal Hazards and Fire Safety specialist inspector has provided the following advice and observations.

Several examples of poor housekeeping were observed during the walkdown of OFC with some life fire safety issues also observed within the administration block. These included: Missing contact information on laydown space resulting in no obvious owner of mixed combustible Various combustibles noted in the vicinity of Low Voltage switchgear including missing doors of storage cabinets PVC bag of batteries observed alongside other wastes in circulation corridor (this was observed to have been moved the next day after being reported to building management) Scaffold boards observed to be stored next to structural steelwork and in the vicinity of an oil leak from a kiln gearbox Multiple instances of wood and mixed combustibles including large amounts of packaging in caged area encompassing unprotected steelwork Unsealed penetration observed within plant room. Appeared to provide a potential route for fire spread into false ceiling void above office

areas.

Given the number of examples a Level 4 regulatory issue will be raised focussed on the control and management of combustibles.

During the walkdown of hydrogen storage compound I questioned whether the emergency hydrogen banks manual connection operation was regularly practiced. SFL responded that this operation was not practiced. I queried whether the manual emergency banks had ever been used. SFL responded that there was no knowledge of their use over the lifetime of the plant. I advised that SFL may wish to review whether the entire hydrogen inventory of the compound was required given the manual banks had not been used and their connections not practiced.

The Chemical Engineering specialist inspector has provided the following advice and observations.

The probability of hydrogen ignition is given as 0.1 in the HSF HAZAN [REDACTED]. In the EURRP HAZAN [REDACTED] no probability of hydrogen ignition is given. I gave advice to the dutyholder that hydrogen ignition probability could be 1 based on the fault scenario. It is my opinion that this a shortfall against DSEAR regulation 5 and I consider a Level 4 regulatory issue is required. I noted that we were allowed to enter the HSF, which has a Zone 1 hazardous area, without changing to anti-static clothing and footwear as identified in the site standard (SSI 734). I gave advice that the clothing requirements before entry to the HSF should be clarified. The duty holder accepted this advice. Coupled with the HSF area signage (see observations below), this will be followed up by a level 4 regulatory issue. At EURRP, I observed a flam cabinet in a maintenance workshop. The flam cabinet was appropriate, but I gave advice that the recommended good practice is that each flam cabinet should have an inventory with set limits. I also noted that potentially the cabinet could be moved from a band saw. The duty holder accepted, and the Site Inspector will monitor as appropriate. I noted that the duty holders maintenance team do not hold relevant competence in installing DSEAR rated equipment and relied on a third party to install and test. I asked whether this covered like-for-like replacement. The duty holder was unsure. I provided advice for them to confirm whether the current DSEAR competence displayed by the maintenance operators was appropriate. The licensee accepted and will review. The duty holder to consider the process by which compliance to safety case Operating Assumptions is confirmed.

The COMAH specialist inspector has provided the following advice and observations.

Schedule 4 of L111 (The guide to The Control of Major Accident Hazards Regulations 2015) states that the internal emergency plans should 'where necessary, the arrangements for training staff in the duties they will be expected to perform and, as appropriate, co-ordinating this with the emergency services;' training and exercising the site fire service to confidently a hydrogen release and probable hydrogen fire is vital to safeguard their safety and minimise the risk of the realisation of a major accident. I advised the dutyholder that a formal emergency guidance should be developed, identifying the emergency strategy and actions required for a potential leak at the HSF. I view that due to the potential infrequent nature of this fault condition that if called on demand the site fire personnel may not be familiar with the required actions. I shall progress this advice through raising a level 4 regulatory issue. In relation to the emergency instruction. I advised the dutyholder to ensure periodic emergency exercises are completed based on the action identified in the emergency guidance. I shall progress this advice through raising a level 4

regulatory issue. At HSF I noted there was a metal ladder that was in poor repair within the zoned area. I requested that this was removed from area and discarded as it should not have been within the zoned area and was no longer fit for use, due to its condition. At the workshop area within Enriched Uranium Residue Recovery Plant (EURRP) I observed an abrasive wheel that had extensive side use. This increases the risk of the wheel shattering due to the imbalance of forces (ref: HSG 17). I requested that use of the abrasive wheel ceased, and the wheel replaced. I also recommended the dutyholder have a toolbox talk with the engineers regarding the issue. Whilst at EURPP I observed a Work Safety Control Program (PTW) for work on the hydrogen distribution system in relation to the site's Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) substantiation. The PTW was scheduled to be open for three weeks, I questioned the dutyholder as to whether that was appropriate, and if so, how they were ensuring control of the activity. I consulted the sites documentation SSI 555 (Work Safety Planning & Permit to Work), this confirmed the site allow permit to stay open for four weeks but did not determine any control or monitoring requirements. HSG 250 (Guidance on permit-to-work systems) does not give a definitive time period as to the length of time a PTW can be open but does state that all work must be adequately controlled. I am aware the dutyholder is in the process of reviewing their PTW arrangements, consequently I am not going to raise a regulatory issue, verbal advice was given to the dutyholder in relation to ensuring the PTW review satisfies the requirements for adequate monitoring and supervision of all PTWs, this should be a risk based approach.

3.3 Regulatory Issues

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

Issue	Title
RI-12185	Improvements to DSEAR management at Springfields
RI-12186	Control of Combustibles within OFC
RI-12187	Emergency Arrangements for Hydrogen Fires
RI-12190	Adequacy of Nuclear Fire Safety Assessment for OFC