

This form will report compliance with your permit as determined by an NRW officer

|                                        |                                                                                                                   |               |               |             |           |                  |       |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------|---------------|-------------|-----------|------------------|-------|
| Site                                   | Royal Mint EPR/KP3135KV/V004                                                                                      |               |               | Permit Ref  | KP3135KV  |                  |       |
| Operator/ Permit holder                | The Royal Mint Ltd                                                                                                |               |               |             |           |                  |       |
| Date                                   | 14/08/2015                                                                                                        |               |               | Time in     | 10:00     | Out              | 15:00 |
| What parts of the permit were assessed | Schedule 5 Notification: Hydrogen cyanide release<br>Visit to discuss remedial action and inspect site of release |               |               |             |           |                  |       |
| Assessment                             | Site Inspection                                                                                                   | EPR Activity: | Installation: | X           | Waste Op: | Water Discharge: |       |
| Recipient's name/position              | Martyn Grant, Environmental Manager                                                                               |               |               |             |           |                  |       |
| Officer's name                         | Rebecca Green                                                                                                     |               |               | Date issued |           | 21/08/2015       |       |

## Section 1 - Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation and any action you may need to take are given in the "Detailed Assessment of Compliance" (section 3). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our Compliance Classification Scheme (CCS). CCS scores can be consolidated or suspended, where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your local office.

### Permit Conditions and Compliance Summary

### Condition(s) breached

|                                                      |                                                      |    |        |
|------------------------------------------------------|------------------------------------------------------|----|--------|
| a) Permitted activities                              | 1. Specified by permit                               | A  |        |
| b) Infrastructure                                    | 1. Engineering for prevention & control of pollution | A  |        |
|                                                      | 2. Closure & decommissioning                         | N  |        |
|                                                      | 3. Site drainage engineering (clean & foul)          | N  |        |
|                                                      | 4. Containment of stored materials                   | A  |        |
|                                                      | 5. Plant and equipment                               | C3 | 1.1.1; |
| c) General management                                | 1. Staff competency/ training                        | N  |        |
|                                                      | 2. Management system & operating procedures          | A  |        |
|                                                      | 3. Materials acceptance                              | N  |        |
|                                                      | 4. Storage handling, labelling, segregation          | N  |        |
| d) Incident management                               | 1. Site security                                     | N  |        |
|                                                      | 2. Accident, emergency & incident planning           | N  |        |
| e) Emissions                                         | 1. Air                                               | A  |        |
|                                                      | 2. Land & Groundwater                                | N  |        |
|                                                      | 3. Surface water                                     | N  |        |
|                                                      | 4. Sewer                                             | N  |        |
|                                                      | 5. Waste                                             | N  |        |
| f) Amenity                                           | 1. Odour                                             | N  |        |
|                                                      | 2. Noise                                             | N  |        |
|                                                      | 3. Dust/fibres/particulates                          | N  |        |
|                                                      | 4. Pests, birds & scavengers                         | N  |        |
|                                                      | 5. Deposits on road                                  | N  |        |
| g) Monitoring and records, maintenance and reporting | 1. Monitoring of emissions & environment             | A  |        |
|                                                      | 2. Records of activity, site diary, journal & events | N  |        |
|                                                      | 3. Maintenance records                               | N  |        |
|                                                      | 4. Reporting & notification                          | A  |        |
| h) Resource efficiency                               | 1. Efficient use of raw materials                    | N  |        |
|                                                      | 2. Energy                                            | N  |        |

**KEY:** C1, C2, C3, C4 = CCS breach category ( \* suspended scores are marked with an asterisk),

A = Assessed (no evidence of non-compliance), N = Not assessed, NA = Not Applicable, O = Ongoing non-compliance – not scored

|                             |   |                                                              |   |
|-----------------------------|---|--------------------------------------------------------------|---|
| Number of breaches recorded | 1 | Total compliance score<br>(see section 5 for scoring scheme) | 4 |
|-----------------------------|---|--------------------------------------------------------------|---|

If the Total No Breaches is greater than zero, then please see Section 3 for details of our proposed enforcement response

## Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- the part(s) of the permit that were assessed (e.g. maintenance, training, combustion plant, etc)
- where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- any non-compliances identified
- any non-compliances with directly applicable legislation
- details of any multiple non-compliances
- information on the compliance score accrued inc. details of suspended or consolidated scores.
- details of advice given
- any other areas of concern
- all actions requested
- any examples of good practice.
- a reference to photos taken

This report should be clear, comprehensive, unambiguous and normally completed within 14 days of an assessment.

On 31<sup>st</sup> July 2015 The Royal Mint (RM) notified Natural Resources Wales (NRW) of an unscheduled release of hydrogen cyanide gas in the building housing CP3. The cause was found to be a newly installed valve which had sprayed a small amount of dilute sulphuric acid into the underground service ducting which was contaminated with a small amount of cyanide salts. Gas monitors in the building had been triggered and when investigated the cause of the release was discovered. The fitters who installed the valve were on their way to check that the valve was operating correctly when the gas alarm was triggered, so even if no hydrogen cyanide had been generated the leak would have been discovered quickly.

Although there was a fugitive emission of hydrogen cyanide gas, the volume of both gas and sulphuric acid was too small to result in a COMAH MATTE (Major Accident to the Environment), so this incident is being investigated under the EPR regime.

The sulphuric acid supply line has been a cause of concern for some time. This meeting was called to discuss RM's proposed course of remedial action and to inspect the site of the leak.

### Agenda – meeting 14<sup>th</sup> August 2015

1. Review of recent pipeline failure.
2. Review of short term action list arising from the pipeline failure in February 2014  
Presentation of evidence to confirm that procedures have been introduced and are being used regularly
  - i. regular, documented inspection of all pipework carrying hazardous materials
  - ii. material compatibility
  - iii. Management of Change (MoC) procedure – use for new and modified systems
  - iv. design standards
  - v. review existing and new plant for compliance with standards
  - vi. testing of installations before going into production.
3. Proposed course of action to minimise further leaks from this sulphuric acid supply line.
4. Discussion and agreement of timescale and actions.
5. Short inspection of site of leak (CP3).
6. AOB.

### Attending:

Sinky Leitch, Head of SHE, RM;  
Martyn Grant, Environmental Manager, RM;  
Ian Young, COMAH Compliance Manager, RM;  
Tony Baker, Head of Engineering, RM;  
Neil Brooke-Smith, Engineering Services Manager, RM;  
Mark Williams, Mechanical Co-ordinator Engineering Support, RM;  
David Richards, SHE Co-Ordinator investigating this incident, RM;  
Kevin Chamberlain, Ageing Plant / Asset Integrity Manager, RM;  
Rebecca Green, PPC Compliance Officer, NRW.

## **1. Review of recent pipeline failure**

The existing sulphuric acid supply pipe was found to be leaking inside its double skin. There was no way of draining the acid, so it was decided that the pipe should be moved to the wall and valves and isolation installed so that it could be drained safely. The installation was carried out and tested according to RM's procedures and completed documents were seen during this meeting. The final inspection was at 15:45 on 30<sup>th</sup> July. The pipe was not leaking and so it was deemed fit for service. The leak occurred at about 7:30 the following morning. A poorly fitting nut on the valve had allowed a small spray of acid to escape into the service duct which mixed with cyanide residues and caused a small release of hydrogen cyanide gas.

**Actions already completed by RM:** "Single Point Lesson", (SPL) issued illustrating correct and incorrect assembly of valve.

Access to valves used for high risk applications has been restricted.

**Actions:** Add second photograph to SPL to show the difference between the two nuts. Document to be modified and sent to NRW by 1<sup>st</sup> September 2015.

Investigate feasibility of using one type of valve across the whole RM site. Report results of investigation to NRW by 4<sup>th</sup> December 2015.

## **2. Review of Short Term action list arising from pipeline failure in February 2014**

Procedures have been issued covering Design and Selection of Piping Systems, SMP 7.2.1, Piping Specifications, SMP 7.2.2 and Procedure for Piping Fabrication, Installation, Inspection and Testing (Metallic and non-Metallic), SMP 7.2.3.

The Management of Change procedures, (MoC) SMP 28.1 and 28.2 and Plant Modification procedure, SMP 6.1 are routinely used for changes to existing pipework and new installations.

- i. The review of the existing sulphuric acid supply pipework is almost complete. The original contractor has been replaced so that the project can proceed more quickly. The inspection schedule will be issued soon. RM were planning quarterly inspections, but NRW have requested that they are done monthly.  
Underfloor service ducts are being checked for residual chemicals.  
**Action:** Results of first routine inspection to be received by NRW by 2<sup>nd</sup> October 2015.
- ii. The valve materials were checked for chemical compatibility using procedure 7.2.1 and Appendix 3 was completed.
- iii. Procedures 6.1, 28.1 and 28.2 are being used for the whole pipework replacement project and were also used for this valve replacement project. Use and closedown of the MoC is strictly controlled. The procedure will be reviewed as some requirements cause non-compliances with other RM procedures.
- iv. Design standards for pipework have been developed and are applied. Installations may be carried out by RM's pipefitters or contractors. Training records were seen.
- v. The review of existing pipework for compliance with standards is still incomplete. Pipework and associated fixtures and fittings in the plating shops have been reviewed, marked with unique asset numbers and photographed. Drawings have been amended to show these asset numbers.  
Pipework elsewhere has yet to be completely inspected and reviewed. There is no inspection schedule. (See item i above).
- vi. The valve modification was installed and tested by a RM pipefitter following 7.2.3. Completed documentation, Appendices B and D, was seen.

### **3. Proposed course of action to minimise further leaks from the sulphuric acid supply line**

- a. Instigate monthly pipework checks until the pipeline supplying sulphuric acid around the site has been re-designed, re-routed, installed and commissioned.
- b. More robust checks to be undertaken for fittings, in the commissioning documentation and a SPL issued, (see item 1 above).
- c. Control of access to valves and fittings.
- d. Replace single skin pipework with double skin.
- e. Two new vibratory finishers will be installed by 31<sup>st</sup> December 2015. These do not use sulphuric acid.
- f. Review use of sulphuric acid in copper plating.
- g. Eliminate use of sulphuric acid where possible.

### **4. Agreed actions and timescale**

- a) The compliance action plan for replacement of the sulphuric acid pipeline presented by RM will take 12 months to complete. The plan also includes the pipeline in the compressor house which leaked in February 2014. This is rather longer than NRW had hoped and consequently any delay will be unacceptable and may result in NRW serving an Enforcement Notice. RM must try to complete the plan earlier than projected. It is understood that resource availability may be the main constraint in completing the plan on time, but RM must ensure that this does not happen.

**Action: RM to update NRW monthly on progress with the compliance action plan. The first update to be received by NRW by 30<sup>th</sup> October 2015.**

**Action: Replace existing sulphuric acid pipeline, including that in the eastern compressor house, as per compliance action plan received by NRW on 14<sup>th</sup> August 2015. To be operational by 1<sup>st</sup> August 2016.**

- b) All pipework carrying sulphuric acid to be inspected monthly.  
**Action: The schedule and results of the first inspection to be received by NRW by 2<sup>nd</sup> October 2015.**
- c) Valves, fixtures and fittings, assembly and use.  
**Completed Action: Access to valve and fittings restricted.**  
**Action: Add second photograph to SPL to show the difference between the two nuts. Document to be modified and sent to NRW by 1<sup>st</sup> September 2015.**  
**Action: Investigate feasibility of using one type of valve across the whole RM site. Report results of investigation to NRW by 4<sup>th</sup> December 2015.**
- d) Review use of sulphuric acid in copper plating  
**Action: Findings to be received by NRW by 2<sup>nd</sup> October 2015.**  
**Action, ongoing: Seek opportunities to reduce or remove sulphuric acid use in all processes across the site.**

### **5. Site Inspection**

The area of CP3 where the leak occurred was inspected. The galvanised duct covers have been sealed to the concrete to stop any seepage from the floor into the duct. The new valve is in the duct and is easily accessible. PVC screens have been erected around the new pipe to contain any future leaks. The installation and surrounding area was neat and tidy.

Installation of the new acid dilution plant is almost complete. It has been completely re-designed and significant safety features, to protect both people and the environment, have been incorporated. Concentrated sulphuric acid will be delivered by tanker, diluted to the required strength in the plant and supplied to the site via the existing pipeline. By next August this pipeline should have been completely replaced with the double skinned design discussed.

The other parts of the site that were inspected were clean and tidy. No areas of concern were noted.

*END.*



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|                  |                              |        |            |
|------------------|------------------------------|--------|------------|
| Site             | Royal Mint EPR/KP3135KV/V004 | Permit | KP3135KV   |
| Operator/ Permit | The Royal Mint Ltd           | Date   | 14/08/2015 |

**Section 3- Enforcement Response**

Only one of the boxes below should be ticked

You must take immediate action to rectify any non-compliance and prevent repetition.

Non-compliance with your permit conditions constitutes an offence and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.

Other than the provision of advice and guidance, at present we do not intend to take further enforcement action in respect of the non-compliance identified above. This does not preclude us from taking enforcement action if further relevant information comes to light or advice isn't followed.

X

In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.

We will now consider what enforcement action is appropriate and notify you, referencing this form.

**Section 4- Action(s)**

Where non-compliance has been detected and an enforcement response has been selected above, this section summarises the steps you need to take to return to compliance and also provides timescales for this to be done.

| Criteria Ref.       | CCS Category | Action Required/Advised        | Due Date |
|---------------------|--------------|--------------------------------|----------|
| See Section 1 above |              |                                |          |
| B5                  | C3           | See Actions detailed in report | various  |

## Section 5 - Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- advise on corrective actions verbally or in writing
- require you to take specific actions in writing
- issue a notice
- require you to review your procedures or management system
- change some of the conditions of your permit
- decide to undertake a full review of your permit

Any breach of a permit condition is an offence and we may take legal action against you.

● We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.

● Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and or suspension or revocation of the permit.

**See our Enforcement and Civil Sanctions guidance for further information**

This report does not relieve the site operator of the responsibility to

- ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- ensure you comply with other legislative provisions which may apply.

### Non-compliance scores and categories

| CCS category | Description                                                                 | Score |
|--------------|-----------------------------------------------------------------------------|-------|
| C1           | A non-compliance which could have a <b>major</b> environmental effect       | 60    |
| C2           | A non-compliance which could have a <b>significant</b> environmental effect | 31    |
| C3           | A non-compliance which could have a <b>minor</b> environmental effect       | 4     |
| C4           | A non-compliance which has <b>no</b> potential environmental effect         | 0.1   |

**Operational Risk Appraisal (Opra) - Compliance** assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

## Section 6 – General Information

### Data protection notice

The information on this form will be processed by the Natural Resources Wales (NRW) to fulfill its regulatory and monitoring functions and to maintain the relevant public register(s). The NRW may also use and/or disclose it in connection with:

- offering/providing you with its literature/services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information Regulations request.

The NRW may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

### Disclosure of information

The NRW will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within twenty working days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

### Customer charter

#### What can I do if I disagree with this compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with the officer's line managers. If you wish to raise your dispute further through our official Complaints and Commendations procedure, phone our general enquiry number 0300 065 3000 (Mon to Fri 08.00–18.00) and ask for the Customer Contact team or send an email to [enquiries@naturalresourceswales.gov.uk](mailto:enquiries@naturalresourceswales.gov.uk). If you are still dissatisfied you can make a complaint to the Public Services Ombudsman for Wales. For advice on how to complain to the Ombudsman phone their helpline on 0845 607 0987.