Whatton Consulting Limited

REPORT

ICMI Re-Certification Summary Report

Lučební závody Draslovka a.s. Kolín

Submitted to:

International Cyanide Management Institute (ICMI)
1400 I Street, NW - Suite 550
Washington, DC 20005
UNITED STATES OF AMERICA

Lučební závody Draslovka a.s. Kolín
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Submitted by:

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1.0 SUMMARY AUDIT REPORT FOR CYANIDE TRANSPORTATION OPERATIONS

Name of Cyanide Production Facility: Lučební závody Draslovka a.s. Kolín

Name of Facility Owner: Lučební závody Draslovka a.s. Kolín

Name of Facility Operator: Lučební závody Draslovka a.s. Kolín

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2.0 SITE OVERVIEW

Draslovka's production site in Kolín, Czech Republic has been ICMC-certified and registered since March 24, 2011, with no suspension since then.

The scope of this audit covers the cyanide manufacturing process (raw materials through to packaging) at Draslovka's Kolín facility. It does not include the loading and transportation of the finished product off-site. Other chemical manufacturing processes undertaken at Draslovka were not included within the scope of this audit, except where systems or processes were shared with those involving cyanide production or they served as an example of how a shared system was applied.

2.1 Background

The Draslovka facility is located on the southeast side of the town of Kolín (which is located around 50 km east of Prague). A site location map (Figure 1) is presented at the end of this section. The Draslovka facility is located in a mainly industrial/commercial area of Kolín although some residential land use is located adjacent to part of the facility.

Activities at the Draslovka facility commenced around 1906 and included the production of cyanides.

The company currently manufactures a range of products at the facility including cyanides and chemicals whose origin are cyanide.

The site has around 300 employees and has a certified quality management system in accordance with ISO 9001, environmental management system in accordance with ISO 14001, occupational health and safety management systems in accordance with ISO 45001 and energy management in accordance with ISO 50001. The site is also in the Responsible Care program, which is a voluntary health, safety and environmental initiative of the global chemical industry and it received a silver medal in the EcoVadis awards.

The site produces around 23,000 tonnes per annum of cyanide products.

Cyanide is manufactured at the facility using the Andrussow process. In this process, natural gas (methane), ammonia and oxygen are reacted over a platinum/rhodium catalyst to form hydrogen cyanide (HCN) gas. The

HCN gas is then absorbed into caustic soda to form a solution of sodium cyanide (or potassium hydroxide to form potassium salts). This cyanide liquor is then concentrated, crystallised, dried and compacted into solid sodium cyanide.

3.0 SUMMARY AUDIT REPORT

Auditors Findings

Draslovka a.s.

☒ **in full compliance with**

☐ in substantial compliance with

☐ not in compliance with

The International Cyanide Management Code

This operation has maintained FULL COMPLIANCE with the International Cyanide Management Code throughout the previous three- year audit cycle.

Audit Company: Whatton Consulting Limited

Audit Team Leader: Dale Haigh - Lead Auditor

Email: dalehaigh@whattonconsulting.com

Dates of Audit

The Re-certification Audit was undertaken over 4 days, between 10 and 13 February 2025, with additional review of documents and questions both before and after the site visit.

The audit was undertaken by Dale Haigh of Whatton Consulting. Dale Haigh is pre-certified as an ICMI Lead Auditor and ICMC Production Specialist and he acted in this capacity during the audit.

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management Institute for Code Verification Auditors.

I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Verification Protocol for Cyanide Production Operations and using standard and accepted practices for health, safety and environmental audits.

CyPlus Supply Chain No. 6- Finland Supply Chain		
Name of Facility Draslovka a.s.	Signature of Lead Auditor	Date April 2025

4.0 PRINCIPLE 1 – OPERATIONS

Design, construct and operate cyanide production facilities to prevent release of cyanide.

Production Practice 1.1: **Is the operation in full compliance, substantial compliance, or non-compliance with Production Practice 1.1? Explain the basis for the finding.**

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Production Practice 1.1**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Production Practice 1.1; design and construct cyanide production facilities consistent with sound, accepted engineering practices and quality control/quality assurance procedures.

The facility designs and constructs its cyanide production facilities consistent with sound, accepted engineering practices and quality control/quality assurance procedures.

Historically the site's cyanide production and storage facilities were designed and constructed in accordance with quality assurance programs and these records have been retained. These facilities were also shown to have been built accordance to design. Appropriately qualified personnel reviewed facility construction and provided documentation that the facility was built as proposed and approved. All design and construction quality information (including historic information) is held on file.

During the last three years the main site developments have involved upgrades of the packing area with automation to the filling and packing line. The drum preparation line was also modernised by inserting plastic curtains to limit dust, and adding additional line to provide additional capacity. In addition, upgrades to the wastewater treatment plant included installation of an improved pH measurement system (new probe) and a process level indicator. Neither of the recent developments required external approval.

The site is also inspected annually by several departments (Czech Inspectorate, City of Kolín, Police of Central Bohemian Region, Work Inspectorate, Fire Brigade, and Regional Environmental Inspectorate) under the law of prevention of serious accidents. The last inspections were in 2023 and 2024 and no issues were identified. The Environmental Department also review the site each year, and the last inspections were in 2023 and 2024.

Annual safety inspections also include a review of all equipment performed by certified external engineers (the engineers are certified by the authorities to be able to inspect and test process equipment including reaction vessels, pipelines, pressurised systems). The materials used for construction of cyanide production facilities are compatible with the reagents and processes used by the operation and based on a standard procedure. Maintenance is completed three times a year and is planned and example shut-down calendars and reports were observed.

The hydrogen cyanide and sodium/potassium cyanide production facilities have automatic systems or "interlocks" at critical areas to shut down production systems and prevent releases due to power outages or equipment failures. These include Electronic (SCADA) controls, automatic shut-down measures and alarms.

Wastewater is treated on site and closely controlled prior to discharge, with continuous monitoring and automatic shut-down.

The facility also has a monitoring system for hydrogen cyanide in air containing 9 in plant (cyanide plant) detectors and 26 perimeter detectors. Should the monitored levels exceed relevant criteria then the system will alarm and the plant would be shut down manually. Cyanide is managed on a concrete (or other) surface to minimise seepages to the subsurface. Inspections of the manufacturing plant, wastewater treatment plant, tanks, bunds and surface of the floors across the plant are performed monthly to quarterly depending on plan and are recorded. Maintenance and calibration is managed by the Maintenance Department using dedicated software.

Containment measures across the site appeared to be effective and historic calculation show that the bund is more than capable of holding storm water from a 1 in 100 event and the largest tank release. All pipe work carrying liquid cyanide is constructed with containment (i.e., within two concentric pipes).

The facility also operates a spill containment procedure. The use of the automatic shut-down valve on the wastewater discharge line was observed during an emergency drill during the site inspection. Spill absorption materials are also available and are inspected periodically.

Solid cyanide is stored with measures to avoid or minimise the potential for exposure of cyanide to moisture. Wooden containers, are filled into a polyethylene bag which is sealed and this bag is wrapped within a polypropylene bag which is also sealed. Tins of solid cyanide are also stored inside polyethylene bags which are sealed and then kept within the sealed tin. The temporary store inside the cyanide plant and the main warehouse used to storage cyanide has ventilation. Cyanides are stored separately from any incompatible materials.

Measurement of the Work Environment includes periodic measurement of cyanide. Results were confirmed as less than the OEL (measured at 0.4 mg/m3 as CN), as dust. The site itself is secure and only approved persons are allowed into site. Further security controls are applied at the entrance to the plant and warehouse areas.

Production Practice 1.2: **Is the operation in full compliance, substantial compliance, or non-compliance with Production Practice 1.2? Explain the basis for the finding.**

☒ **in full compliance with**

The operation is

☐ in substantial compliance with **Production Practice 1.2**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Production Practice 1.2; Develop and implement plans and procedures to operate cyanide production facilities in a manner that prevents accidental releases.

The facility has developed and implemented plans and procedures to operate cyanide production facilities in a safe and environmentally sound operation.

Draslovka has an integrated management system which includes quality, environment, safety and responsible care. All of these documents undergo review and revision.

The technical documentation and organisational procedures align with the requirements of the site use permit, the integrated inspections by the local authority and the IPPC permit (which ensures environmental controls and requires monitoring information to be reported to the regulators).

The facility does have procedures for contingencies for non-standard operating situations that may present a potential for cyanide exposures or releases and has a change management and deviation management plan.

The facility has developed specific procedures for non-routine and emergency situations including fire protection management (OS 22 01), an internal emergency response plan (OS 22 02), emergencies and extraordinary activities (OS 24 02) and the water management emergency plan (OS 25 03). Training is provided for these plans and procedures and mock drills have been performed.

Incidents can be identified in a number of ways at the site including visual identification (high risk areas are included in CCTV monitoring), monitoring of cyanide levels and alarm levels from the continuous hydrogen cyanide gas monitoring system, and monitoring and alarm levels from the effluent monitoring system. Spill management practices are included the water management emergency plan.

The facility uses monitoring devices to confirm that controls are adequate to limit worker exposure to hydrogen cyanide gas and sodium or potassium cyanide dust. This is undertaken with personal monitors and the remote monitoring inside and outside the cyanide plant, which have alarms, that if activated call internal and external emergency services.

The facility has a standard procedure which describes how production is controlled and planned changes are managed and Environmental, health and safety management representatives are actively involved in reviewing and signing off any change.

Preventative maintenance and calibration programs are in place and activities documented. The majority of the planned preventative maintenance occurs within planned shut-down periods. Examples shut down plans, calibration and relevant records for 2023 to 2025 shut-down periods were observed. Process parameters are constantly monitored, and the instrumentation is calibrated.

Procedures are in place and being implemented to prevent unauthorized/unregulated discharge of cyanide contaminated water to the environment. No cyanide release incidents have occurred in the past three years. If there is a spillage an alarm is raised and the surface water shut off valve is immediately closed to prevent any contaminated water/liquid cyanide being released. An emergency response drill acting out such a release and closing of the emergency shut-off valve was observed during the site inspection by the auditor in February 2025. Procedures to manage spills are contained within the Internal Emergency Plan and the Water Emergency Management Plan.

The facility has environmentally sound procedures for disposal of cyanide or cyanide-contaminated solids and wastes. Limited waste is produced in the process.

There are procedures to ensure that the cyanide is packaged and labelled as required by the political jurisdictions through which the packaged cyanide will pass. Example of these labels were seen online during the audit and were seen on relevant packaging by the auditor during the site inspection.

Production Practice 1.3: Is the operation in full compliance, substantial compliance, or non-compliance with Production Practice 1.3? Explain the basis for the finding.

	☒ **in full compliance with**	
The operation is	☐ in substantial compliance with	**Production Practice 1.3**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Production Practice 1.3; Inspect cyanide production facilities to ensure their integrity and prevent accidental releases.

The facility conducts routine inspections of relevant equipment including; the structural integrity of tanks and for signs of corrosion and leakage; the integrity of secondary containments and for the presence of fluids, available capacity and to ensure that drains are closed and locked if necessary to prevent accidental releases to the environment; and pipelines, pumps and valves for deterioration and leakage.

Draslovka conduct routine inspections of the cyanide manufacturing plant which includes a visual check of the integrity of the structures (including tanks, valves, pipelines and containment systems) on a six-monthly basis by the Cyanide Plant Manager. Any issues identified are notified to the maintenance team.

In addition to the visual monitoring there is a requirement for statutory (required under Czech law) inspection and testing of certain equipment by external companies. Equipment involved in external certification inspection includes storage and reaction vessel tanks.

Statutory testing requirements are planned each year by the maintenance department. Any issues that are visually observed as a concern are reported to the maintenance department for inspection and repair as required.

Inspection frequencies are sufficient to assure that equipment is functioning within design parameters. The nature and date of corrective actions are documented, and records are retained.

5.0 PRINCIPLE 2 – WORKER SAFETY

Protect workers' health and safety from exposure to cyanide.

Production Practice 2.1: **Is the operation in full compliance, substantial compliance, or non-compliance with Production Practice 2.1? Explain the basis for the finding.**

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Production Practice 2.1**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Production Practice 2.1; develop and implement procedures to protect facility personnel from exposure to cyanide.

The facility has developed procedures to minimize worker exposure during normal plant operations, non-routine and emergency operations, and maintenance related activities. Draslovka's procedures include details of control systems to limit worker exposure during all scenarios. Example procedures were observed by the auditor. Training is provided in these procedures.

There are specific procedures for non-routine and emergency situations including; Internal Emergency Plan (OS 22 02); Emergencies and Extraordinary Activities (OS 24 02), Emergency Service (OS 24 05) and Water Management Emergency Plan (OS 25 03).

In order to ensure the plant is operating effectively and thus limiting exposure the plant is designed, constructed and operated in accord with legislative requirements. Each year integrated inspections are performed by a range of regulatory authorities and led by the Czech Inspection Authority. They perform checks on equipment systems and operations for one inspection and environmental permit requirements on the second inspection. Example inspection reports were reviewed and identified no major non-conformances.

A site wide monitoring system (for HCN and other gases) has been installed both at the site perimeter and within facilities that is continually monitored. Individuals operating and working in the plant are also provided with training about activities they are involved with, hazards at the facility, alarm systems and measures to take in the event of an incident. Permits are used for maintenance activities.

The facility does solicit and consider worker input in developing and evaluating health and safety procedures by issuing draft procedures for comment, employee involvement is also written into ISO45001, employees can also get involved through trade union organisation and can also notify their superior or head of area or contact the safety officer.

The facility has identified areas and activities where workers may be exposed to hydrogen cyanide gas and/or cyanide dust and has several ways to identify and manage the risk of cyanide exposure. Control measures adopted are according to the level of risk.

The SDS and legal requirements identify risks associated with hydrogen cyanide gas and cyanide dusts and the risks are evaluated using a standard procedure. It identifies whether further control measures are required.

The facility uses monitoring devices to confirm that controls are adequate to limit worker exposure to hydrogen cyanide gas and sodium or potassium cyanide dust to 4.7 parts per million (5 mg/m3) or less, as cyanide.

The facility uses both fixed (26 on site boundary and a total of 17 inside the plants) and portable monitors that measure hydrogen cyanide gas (HCN). Cyanide in dust is also measured every three years in relevant production areas. The detectors are designed to alarm at the on-site Fire Brigade Control Room. Should these alarms be activated then emergency services are automatically called to respond.

In addition, portable HCN gas monitors are also used by Draslovka staff on entry into the production areas and by emergency response staff. The portable monitors have an alarm setting at 1 ppm (whole shift occupational exposure level) and 3 ppm (maximum level).

Hydrogen cyanide monitoring equipment is maintained, tested and calibrated as directed by the manufacturer.

The facility ensures a buddy system is used (no lone working allowed) and has communication measures in place.

If assistance is required on Site, then there is an emergency number (333) which can be dialled to alert the internal emergency services who will attend immediately. An additional mobile number is also posted in each area of the Cyanide Plant.

The facility does assess the health of employees to determine their fitness to perform their specified tasks. The Site has a procedure which states details of the program which include initial medical checks, periodic medical checks and exit medical checks. The procedure defines different categories depending on the role. The Site's procedure is aligned with the Czech legal requirements for employee health checks.

The facility has a clothing change policy or procedure for employees, contractors and visitors that enter areas with the potential for cyanide contamination of clothing. For clothing there is a strict policy that it cannot be taken outside the premises and has to undergo laundry cleaning.

The procedure states that the employer must provide PPE and the employee is obliged to wear the PPE assigned and according to the training provided. Mandatory PPE requirements are set for areas and/or activities. During the site inspection, the required PPE was seen to be worn by workers.

Draslovka use warning signs advising workers of the presence of cyanide and indicating where necessary that suitable personal protective equipment must be worn. The use of signage at the plant was observed during the site visit. At the time of the site inspections adherence to PPE was of a high standard.

The facility has procedures which provides examples of the types of signs that are required to be used across the facility.

Induction training (which provides details of signage and PPE requirements) examples provided by the Site to the auditor indicated the PPE requirements at the site. All personnel are prohibited from smoking, eating and drinking and having open flames in areas where there is potential for cyanide contamination.

There is also a ban on alcohol consumption and addictive substances or using alcoholic drinks or drugs in the code.

Production Practice 2.2: Is the operation in full compliance, substantial compliance, or non-compliance with Production Practice 2.2? Explain the basis for the finding.

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Production Practice 2.2**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Production Practice 2.2; develop and implement plans and procedures for rapid and effective response to cyanide exposure.

The facility has developed written emergency response plans and procedures should cyanide exposures occur.

The facility has the following written procedures to manage its emergency response; OS 22 02 Internal Emergency Response Plan; OS 24 02 Emergency and Extraordinary Activities; OS 24 05 Emergency Services to deal with Emergencies and Crises; OS 25 03 Water Emergency Plan. Mock drills have also been used by Site to test the procedures. An example mock drill was performed during the site visit (involving contamination of the water and closing the shut-off valve) and was observed by the auditor.

Showers, low-pressure eye wash stations and non-acidic fire extinguishers are located at strategic locations throughout the facility. In the cyanide operations area, there are non-acidic fire extinguishers. A small number of acidic powder extinguishers (CO2) solely for electrical devices only are available. Fire extinguishers are formally inspected at least every six months by the cyanide production manager and safety department and records of this inspection are recorded. The fire extinguishers are inspected four times a year by the safety department. Records are retained and examples were reviewed on site by the auditor. The fire extinguishers are also checked by an external contractor, annually.

Water, oxygen, resuscitation equipment, cyanide antidote, and a means of emergency communication and notification are readily available for use in the plant and were observed during the site inspection by the auditor. The oxygen equipment is also inspected twice annually by an external contractor SZDT Lubor, Vesely.

Communication of an emergency situation is via an audible alarm, and communication with external medical persons is by calling 155 (emergency number). The facility inspects its first aid equipment on a regular basis. Check sheets were observed by the auditor.

Safety Data Sheets (SDS), first aid procedures and other informational materials on cyanide safety is in the language of the workforce and is available to workers in the areas where cyanide is handled. These were observed by the auditor during the site inspection.

Storage and process tanks, and containers and piping containing cyanide are identified to alert workers of their contents. The direction of cyanide flow in pipes is indicated and was observed by the auditor during the site

inspection. The facility has a procedure for Piping and Tank Labelling and a procedure for hazardous warning signs that should be located on tanks and in areas where cyanide containing materials are located.

Employees, visitors and contractors are initially provided with induction training that provides information about the hazards of working with cyanide and the procedures in place to deal with these hazards.

The facility has a decontamination policy and procedure for employees, contractors and visitors leaving areas with the potential for skin exposure to cyanide. All employees, contractors and visitors leaving areas after they have worked in locations that may give rise to skin exposure to cyanide have to take a shower and then wear clean clothes. If contamination occurs then this is regarded as an emergency and the fire brigade would provide the decontamination.

The facility has a health centre which is staffed with a doctor during the general office hours. The health centre manages the health assessment of employees as well as managing incidents occurring. Outside of general office hours the local hospital is on support from paramedics and doctors. They are aware that the site is a cyanide production facility and have been involved in mock drills at the site.

In addition to the health centre, there is also an emergency response room at the cyanide plant equipped with shower, eye wash (through use of adjustable shower), first aid equipment, resuscitator, Cyanokit® cyanide antidote (this can only be administered by doctors in accordance with Czech law). The Cyanokit® antidote administering instructions that were provided were in the Czech language and were stored with the kits.

All workers at Draslovka are also provided with first aid management training every 3 years, with a refresher each year. All firefighters (23 people) are trained in first aid following the national directive on first aid provision (all types). The facility's emergency response plan includes the transport of workers to offsite medical facilities.

For every emergency event the external emergency services are called immediately as a matter of course. On calling the local hospital they provide a paramedic and ambulance. The local hospital is approximately 4 minutes' drive from the facility by ambulance.

The local hospital is aware that the site is a cyanide production facility. The local paramedics from the Ambulance service provide first aid training to staff on site are aware of cyanide use and hazards and are also involved in mock drills at the site.

The External Emergency Plan (a formalised arrangement between the site and local authority including local emergency services) was developed by the local authority. This included local hospitals and clinics and informed them about the potential hazards at Draslovka.

The local hospital has been in correspondence with the facility regarding Cyanokits® held by the facility. These antidotes are handed over to the medical staff in the event that a cyanide exposure has occurred and have to be administered by doctors in accordance with Czech law.

Procedures have been implemented for the investigation and evaluation of cyanide exposure incidents. No cyanide exposures have occurred in the past three years. The facility does have a procedure to follow in the event of an incident and this follows the requirements in Czech law.

6.0 PRINCIPLE 3 – MONITORING

Ensure that process controls are protective of the environment.

Emergency Response Practice 3.1: **Is the operation in full compliance, substantial compliance, or non-compliance with Production Practice 3.1? Explain the basis for the finding.**

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Production Practice 3.1**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Production Practice 3.1; Conduct environmental monitoring to confirm that planned or unplanned releases of cyanide do not result in adverse impacts.

The facility monitors cyanide in discharges to surface water and in surface and groundwater upgradient and downgradient of the site.

The Draslovka site has a direct discharge to the River Labe on the north east boundary of the site that includes water from the waste water treatment facility and the surface water drainage system.
Water that may contain cyanide or other contaminants is treated through the wastewater treatment facility prior to discharge. This includes contaminated groundwater from beneath the site which is a legacy issue that the Regional Authority (Městský Úřad v Kolíně) are aware of. Draslovka carries out remediation of groundwater at the site on behalf of the Regional Authority.

In the event of a spill in the surface water drainage system, any water collected, after the system has been isolated, is pumped to the waste water treatment plant by the fire brigade.

The waste water is treated on a batch process and is tested prior to discharge to ensure that the relevant legislative and other requirements are complied with. The waste water is then sent to the site drainage system where it combines with other non-contaminated wastewater.

The discharge to the River Labe is a dedicated discharge point solely for the Draslovka, Kolín facility. Monitoring of the waste water is undertaken at this point continuously using a pH meter (as an indicator of contamination). Sampling is also completed by an accredited laboratory (Labtech). Discharge volumes are also monitored.
The laboratory results for the water discharged into the river, collected at the on-site monitoring location were provided for review for 2022 to 2024. Total cyanide and WAD results for the same time period are less than 0.5 mg/l.

The IPPC Permit for the site has a total cyanide limit of 1.6 mg/l above which, operations and procedures must be reviewed, and an absolute maximum total cyanide limit of 4 mg/l which must not be exceeded. All monthly measurements during the period 2022 to 2024 (inclusive) have been below 0.5 mg/l total cyanide.

The River Labe is monitored twice per year downgradient of the discharge location from the site with all results at the site's surface water discharge point (during the period 2022 to 2024) are less than 0.022 mg/l free cyanide.

The flow rate for the River Labe near the site are monitored weekly and an estimated flow rate of 34.26m3/second is the calculated total average river flow rate. The dilution that this will provide for water discharging from site (0.0222 m3/s based on site data for 2022 to 2024) is at least 1500 times dilution and will therefore cause the WAD cyanide concentration in the river downstream of the site (due to discharge from the site) to be well below 0.03 mg/l.

Downgradient analysis of samples taken from the river also confirm that free cyanide is <0.022 mg/l during sampling in 2022 to 2024.

There is historic contamination of cyanide in the groundwater underneath the site, which is due to activities during the Second World War including the destruction of the site during an air raid, and poor practice during the communist era. The Regional Authority (Městský Úřad v Kolíně) considers the cyanide from these sources as legacy issues and that Draslovka are not responsible. The Regional Authority has installed a groundwater remediation system to manage the contaminated groundwater which Draslovka operate on their behalf. The abstracted groundwater is passed through the Site's wastewater treatment plant along with other cyanide contaminated waste streams. Draslovka does not have a responsibility to meet the groundwater quality criteria, although monitoring wells four times per year.

The facility does limit the atmospheric process emissions of hydrogen cyanide gas or cyanide dust such that the health of workers and the community are protected. The IPPC permit sets air emission limits. A review of the results for February 2022 indicated that results for are below the required concentration or mass limits. A further monitoring exercise is planned early in 2025.

A site wide monitoring system (for HCN and other gases) has also been installed both at the site perimeter and within facilities that is continually monitored internally both in production control rooms and the fire brigade control room. Fixed monitors are found in the following locations; 26 detectors at locations on the boundary of the site, 9 detectors inside the HCN gas production building and 8 detectors inside the solid cyanide production building. Fixed monitors are manufactured by MSA, are calibrated and alarm.

All site worker working in the cyanide process area wear personnel cyanide gas detectors. These have alarm limits set at 1ppm and 3ppm and are periodically calibrated in accordance with manufacturers requirements. Monitoring of cyanide in air, wastewater, surface water and groundwater is conducted at frequencies adequate to characterize the medium being monitored and to identify changes in a timely manner and adequate to characterize the medium being monitored and to identify changes in a timely manner.

7.0 PRINCIPLE 4 – TRAINING

Protect communities and the environment through the development of emergency response strategies and capabilities.

Training Practice 4.1:	**Is the operation in full compliance, substantial compliance, or non-compliance with Production Practice 4.1? Explain the basis for the finding.**	
The operation is	☒ **in full compliance with**	**Production Practice 4.1**
	☐ in substantial compliance with	
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Production Practice 4.1; Train employees to operate the facility in a manner that minimizes the potential for cyanide exposures and releases.

The facility trains workers to understand the hazards of cyanide and refresher training is periodically conducted. The first level of training provided once an employee joins the company includes general requirements as well as chemical hazards and cyanide). Additional training includes working in the cyanide plant and worker safety and fire prevention training and depending on the role. All procedures are on the intranet and available to employees at any time. Workers are therefore provided with refresher training in the handling of cyanide every year. Example records were observed on site and records are kept on file.

The facility trains workers in the use of personal protective equipment. When PPE is provided to employees they have to sign for it and confirm that they have received training in how to use it. Example records were observed. Specialist training is also provided for use of filter masks, detection, protective suits for use in hazardous areas (including the cyanide production areas) and Self-Contained Breathing Apparatus.
There is also appropriate signage around the site to indicate the PPE requirements for each area which were observed by the site auditor.

The facility trains employees to perform their normal production tasks with a minimum of risk to employee health and safety and in a manner that prevents unplanned releases through formal and informal means. This training is refreshed each year. Employees also undergo formal training with the relevant head of department and external organisations to help them perform their normal production tasks.

Major Accident training is provided each year. Emergency planning training is also provided each year. Examples of training records were observed by the auditor for the period 2022 to 2024.
Training elements necessary for each job are identified in training materials and each year a training plan is developed.

Training is provided by appropriately qualified personnel. The training plan includes details of internal and external training. The HR Manager keeps records of qualifications of external training persons and examples were seen. Internal trainers also have to hold relevant qualifications and details of these qualifications are held on site.

The facility does evaluate the effectiveness of cyanide training which is ascertained through a range of techniques including written tests, verbal tests and observation of work.
All training courses are reviewed each year by the HR Manager.

The effectiveness of emergency training is also assessed through the completion of drills. The drills are evaluated, and any lessons learned identified.

Training Practice 4.2:	**Is the operation in full compliance, substantial compliance, or non-compliance with Production Practice 4.2? Explain the basis for the finding.**	
	☒ **in full compliance with**	
The operation is	☐ in substantial compliance with	**Production Practice 4.2**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Production Practice 4.2; Train employees to respond to cyanide exposures and releases.

The facility trains workers in the procedures to be followed if a cyanide exposure or release occurs.

Before working in areas involving the use of cyanide, employees are provided with training in the Emergency Plan and in managing cyanide releases. Examples of this training for the past three years were observed by the auditor.

Training is provided on the procedures to be followed in the event of a cyanide release, which includes the Internal Emergency Plan and the Water Management Emergency Plan. Production workers have additional training on the release of dangerous chemicals (especially cyanide).
Emergency Procedures are revised from time to time, comments are provided from employees before the revised procedure is issued. Once revised the procedure is issued and an email sent to everyone to inform them that a new version is available.

Mock emergency drills are conducted periodically as part of the Emergency Plan evaluation process. Employees are trained how to respond to worker exposure to cyanide. This process starts in induction training which all employees receive. Training in the emergency plan is also provided annually. First aid training is also provided to staff.

The Internal Emergency Plan contains details of the first aid measures for people affected by exposure to cyanide and employees are trained in this procedure. The fire brigade is called for all emergencies. The fire brigade will activate medical assistance. The local ambulance service will also be called for all exposures. Outside office hours the medical assistance is primarily the attendance by the ambulance service. When there is exposure to cyanide there is also evacuation of the required area and this process is also detailed in the Internal Emergency Plan.

Training records are retained throughout an individual's employment documenting the training they have received. Examples of training were observed for training in 2022, 2023 and 2024. Training records are held by Human Resources and kept by the head of the relevant department.

8.0 PRINCIPLE 5 – EMERGENCY RESPONSE

Protect communities and the environment through the development of emergency response strategies and capabilities.

Emergency Response Practice 5.1: **Is the operation in full compliance, substantial compliance, or non-compliance with Production Practice 5.1? Explain the basis for the finding.**

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Production Practice 5.1**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Production Practice 5.1; prepare detailed emergency response plans for potential cyanide releases.

The facility has developed Emergency Response Plans to address potential releases of cyanide on site or that may require response including: The Internal Emergency Plan; the Water Management Emergency Plan; the Emergency and Extraordinary Activities; the Emergency Service; and the External Emergency Plan. The Internal Emergency Plan and Water Management Emergency Plan are produced by Draslovka and reviewed by the Regional Authority in addition to other stakeholders. The Internal Emergency Plan follows regulatory requirements and only requires updating when the regulatory changes are made.

Training is provided for these plans and procedures and mock drills have been performed and records of the training and rills have been reviewed by the auditor.

The Plans consider a range of potential failure scenarios which are relevant to the site-specific environmental and operating circumstances

The External Emergency Plan details the actions to be undertaken by the Kolín emergency services and the Regional Authority in the event of a major incident including evacuation of the community surrounding the site if required. This would be done by the police and Kolín fire brigade. In addition, Draslovka has a public address system and alarm that would be heard by the immediate surrounding neighbours.

The Emergency Plan contains a trauma plan detailing the first aid actions required, location of first aid kits, antidote administering instructions, availability of the on-site doctor and general first aid instructions. A large number of staff are provided with first aid training including all emergency responders.

The Water Emergency Plan details how contamination of surface water or groundwater can be prevented. A mock drill mirroring a cyanide leak of the drainage system was performed during the site inspection and was observed by the auditor.

Emergency Response Practice 5.2: **Is the operation in full compliance, substantial compliance, or non-compliance with Production Practice 5.2? Explain the basis for the finding.**

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Production Practice 5.2**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Production Practice 5.2; designate appropriate response personnel and commit necessary resources for emergency response.

The facility has involved the workforce and other stakeholders such as potentially affected communities in the emergency response planning process.

The Internal Emergency Response Plan was created by a third party (Separa eko)who involved the fire brigade, Heads of Departments, and employees. When emergency response planning documents are updated, drafts are provided to all employees for comment before the final draft is produced.

When the Internal Emergency Response Plan and Water Emergency Plan are updated they are also sent to the Regional Authority who send them on to a wider set of regional authorities including; Central Fire Service; Central Bohemian Health and Sanitation Services/Medical Response; Central Bohemian Work Inspectorate; Central Bohemian Integrated Rescue Services; Czech Environmental Inspectorate; and the State Ministry of the Environment.

When the External Emergency Plan is updated by the Regional Authority this is sent to Draslovka for the company to comment before it is finalised. The Internal emergency plan is the starting point for the external emergency plan.

The facility has made potentially affected communities aware of the nature of the risks associated with accidental cyanide releases and has consulted with them. The Regional Office of the Central Bohemian Region have also published emergency response information for the public on their website and issued a leaflet for all the stakeholders living in the nearby area.

In addition, there are periodic drills at the site which involve the Regional Authority and the emergency services such as: National fire-fighting crews; Police; Crisis management department of Kolin Authority; Hospital of Kolin and the ambulance service.

The facility has identified external entities having emergency response roles, and involved those entities in the cyanide emergency response planning process. The Regional Authority incorporates all departments in charge of Kolín's fire service, paramedics and hospitals. In this capacity the Regional Authority departments comment on internal procedures and creates the External Emergency Plan from these internal emergency plans.

The hospitals have been required to be directly involved in order for their capacity to deal with such an emergency to be detailed within the External Emergency Plan and what back up capacity may be required. This is detailed in the External Emergency Plan.

In the event of any exposure of workers on site an ambulance is requested and therefore there is a clear communication process between the site and the external responders. This is detailed in the Internal Emergency plan. There is also a flow chart in the External Emergency Response Plan that details contact numbers and which services should be contacted by who, the appropriate parts have been integrated into the internal emergency plan. The External emergency response plan describes roles and activities in an emergency and has hot line contact numbers.

The facility engages in regular consultation and communication with stakeholders to ensure that the Plan addresses current conditions and risks through the Regional Authority reviewing internal procedures. There is also consultation every year during the integrated inspection by the Regional Authority.

Draslovka also engages in regular communication with the emergency services in order to undertake the emergency drills on site with a drill involving outside emergency services being undertaken at least every three years (at least 1-2 mock drills each year with the local component of integrated rescue service.

The level of communication with the Kolín Municipal office is such that the external detector readings are sent electronically to the Kolín Municipal office every half an hour. Therefore, the Kolín Municipal office can determine if there are any issues at Draslovka.

Emergency Response Practice 5.3: **Is the operation in full compliance, substantial compliance, or non-compliance with Production Practice 5.3? Explain the basis for the finding.**

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Production Practice 5.3**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Production Practice 5.3; designate appropriate personnel and commit necessary equipment and resources for emergency response.

The Emergency Response Plans detail the following:
Designates primary and alternate emergency response coordinators with explicit authority to commit the resources necessary to implement the Plan. This includes the Head of the Intervention Services (fire brigade) at Draslovka and then his deputy (or head of the relevant). The roles of people involved in top management that link with the Intervention Manager are also stated.

The plans identify in detail the teams involved in response to emergencies and the resources used and specifies the duties and responsibilities of the coordinators and team members from the Draslovka fire brigade team.
Members of the Fire Brigade have the same training as the municipal fire service. The Training requirements for the Fire Brigade in 2025 were observed.

The Emergency Response cards contained in each building detail the procedures to be followed in the event of an emergency which vary depending on the building. The first response is always to contact the fire brigade. The Internal Emergency Response Plan also has 24-hour contact information for the head of each department. The Internal Emergency Plan contains a flow diagram which shows the various parties that are to be contacted in the event of an emergency together with the contact numbers, including 24-hour contact information.

The fire brigade has all of the necessary emergency equipment, which is listed in the Internal emergency response plan and this includes fire engines, spill clean-up materials, first aid equipment and gas detection monitors. In addition, all of the departments have appropriate first aid equipment oxygen, SCBAs and this is also present on the first aid room outside HCN production Building SO-01. Equipment was observed by the auditor during the site visit.

There are procedures to inspect emergency response equipment and assure its availability when required.
All equipment is also checked, inspected and maintained. This is managed by the Safety department in accordance with a procedure. External support from approved external contractors is provided for some equipment (e.g. the oxygen and resuscitation equipment and cyanide monitoring equipment). Inspection records were observed.

The external and internal emergency plans detail the role and responsibilities of the medical rescue services and fire services. There is also reference to specific activities for different hospitals.

The facility has a health centre staffed with a doctor and nurse during office hours. Outside of office hours medical support is obtained from the local hospital.

If there is a release of cyanide that may impact the local community (i.e. the town of Kolín), the fire brigade will inform the town's police and Kolín's fire brigade, who will implement the External Emergency Plan.
Periodically (at least once per year) there is a drill involving all of the relevant external parties. Including hospitals and medical facilities. The last one was on 28 November 2024. The facility has confirmed that outside entities included in the Plan are aware of their involvement. They have also been informed about using Cyanokits, including being informed, provided with the manual of use and confirmed that they expect to be provided with this kit from the Head of the Intervention team in the event of an emergency.

Outside emergency entities also review the external emergency plan every three years.

Emergency Response Practice 5.4: **Is the operation in full compliance, substantial compliance, or non-compliance with Production Practice 5.4? Explain the basis for the finding.**

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Production Practice 5.4**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Production Practice 5.4; develop procedures for internal and external emergency notification and reporting.

The Plan includes procedures and contact information for notifying management, regulatory agencies, outside response providers and medical facilities of the emergency, as appropriate.
The Internal Emergency Plan contains a flow diagram that shows the various parties to be contacted in the event of an emergency together with the contact numbers and this includes regulatory agencies, external response providers and medical facilities. In addition, the Emergency Response Cards contained in each building detail the procedures to be followed in the event of an emergency. The first response is always to contact the on-site fire brigade. The fire brigade will then inform all of the relevant agencies internally and externally, where required, including the Kolín police station. Example Emergency Response cards were observed on site by the auditor.

The External Emergency Plan includes procedures and contact information for notifying potentially affected communities of the incident and/or response measures. The Plan also includes procedures for communication with the media.

Draslovka also have Communication Officers who have the responsibility of co-ordinating the company's response to the media in the event of an emergency. They would liaise with the National Fire Brigade who also have a duty to inform media about emergency incidents.

No serious incidents involving cyanide have occurred in the past three years. The operation does have a written procedure for notifying ICMI of any significant cyanide incidents.

Emergency Response Practice 5.5: **Is the operation in full compliance, substantial compliance, or non-compliance with Production Practice 5.5? Explain the basis for the finding.**

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Production Practice 5.5**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Production Practice 5.5; Incorporate remediation measures and monitoring elements into response plans and account for the additional hazards of using cyanide treatment chemicals.

The Emergency Plans describe specific and appropriate remediation measures.
The Internal Emergency Plan contains specific response actions to the release of hydrogen cyanide gas or solid cyanide. Employees must do everything possible to prevent migration into the drainage system and any contaminated soil must be removed and placed in the retention basins for neutralisation and subsequent treatment.

The Water Management Emergency Plan also details actions in the case of any contaminants entering the site drainage system. It details the use of the emergency quick seal valve and drainage shut off valves.
Specific responses include remediation of solids and liquids and recovery or neutralization of solutions or solids; Soils are to be removed down to depth of leak and placed in decontamination area until handed over to an authorised person. For other media, all contaminated equipment will de decontaminated in accordance with the fire brigade's operational code.

Spill clean-up debris is collected and disposed/treated by an approved waste management company.
Alternate drinking water supplies are not required due to the distance to the potable water borehole and the fact that site is hydraulically contained.

Any release of a chemical such as sodium hypochlorite, ferrous sulphate or hydrogen peroxide to the river is prohibited under national legislation unless the appropriate permits have been obtained. The site therefore complies with the prohibition on the use of such chemicals by complying with national legislation.

If cyanide contaminated water were to be released from site into the River Labe it would be the River Authority's responsibility for any treatment.

The Plan addresses the potential need for environmental monitoring to identify the extent and effects of a release, and include sampling methodologies, parameters, and where practical, possible locations.
The Water Management Emergency Plan (OS 25 03) details that where necessary Draslovka may undertake monitoring including upstream and downstream of the facility to determine the extent of contamination. This monitoring would be undertaken by an appropriate laboratory to approved standards. Laboratory employees also carry out additional regular sampling of the water discharged from the site and they carry out analysis which is reported to Site.

In addition, a mock drill involving release of cyanide into the site's drainage system which ultimately releases into the Rive Labe was observed during the site inspection in 2025 by the auditor.

The Emergency plans note that the site's monitoring system is used to detect any HCN gas leaks, in the plant and outside and these are linked to the alarm system.

Emergency Response Practice 5.6: **Is the operation in full compliance, substantial compliance, or non-compliance with Production Practice 5.6? Explain the basis for the finding.**

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Production Practice 5.6**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Production Practice 5.6; Periodically evaluate response procedures and capabilities and revise them as needed. The Plan includes provisions for reviewing and evaluating its adequacy on an established frequency.

The Plan includes provisions for reviewing and evaluating the plan's adequacy on an established frequency. The Internal Emergency Plan to be reviewed every 5 years or sooner if there is a 10% change in capacity, in the technology used, or in relevant legislation.

There is also a legal requirement for the two main elements of the Emergency Response Plan (Internal Emergency Response Plan and Water Management Emergency Plan) to be reviewed on a three yearly basis. Draslovka reviews the internal emergency response plans every year and updates them if required. These two plans have to be reviewed and approved by the Regional Authority. Draslovka confirmed that the Local Authority has approved the latest Emergency Plans.

The External Emergency Plan is revised if there are any change in the site's safety report (required under the SEVESO Directive) and they must also produce material for the external emergency plan that they have to hand over to Regional Authority. Mock Drills are also required to be performed involving the external emergency responders and was last performed on 28 November 2024.

Environmental inspections are performed annually by the regulating authorities and this includes a review of emergency plans and measures.

Mock emergency drills are conducted periodically to evaluate the operation's plans, training, resources, and preparedness for response to cyanide releases and to cyanide exposures of workers. Mock drills are required by law because of the nature of site activities and these requirements are also detailed in the emergency plans.

Mock Drill (report) to verify external emergency plan, 28 November 2024 – This was organised by the Czech National Fire Brigade and included a leak and the functionality of perimeter monitoring system was being checked. The drill was attended by the Central Bohemian Fire Brigade, Police, Draslovka Kolin Fire Brigade, Medical Rescue Service, Kolin Hospital and representatives of the Municipality of Kolin. A summoning of the crisis team for the City of Kolin was also organised. This type of mock drill is completed at least every three years

A number of Internal emergency mock drills are performed on Site each year. Not all of these relate specifically to cyanide incidents although the drills are relevant in terms of assessing emergency response as a whole.

At least one of these mock drills each year involves a cyanide leak in the surface water drainage system and an incident in the cyanide production area. Last year in February there were 3 mock drills in cyanide production area: 6/2/24, 24/1/24 and 26/1/24 – rescuing an employee contaminated with cyanide from an inaccessible area.

16 mock drill reports were reviewed from the past three years. A live drill was also observed during the site inspection by the auditor.

Signature Page

Whatton Consulting Limited

Dale Haigh
Lead Auditor

Date: April 2025