



Yara Management System

Document type:

Procedure

Valid for organisation:

Sluiskil

Valid for location/facility:

Persoonlijke veiligheid en arbeidsomstandigheden

(HAE-026168) WORK PERMIT SYSTEM

Notes:

- Added flow diagram 'handing in of work permit' (version 2).

1. Purpose, scope and target group

1.1 Purpose

The purpose of this procedure is to describe the Yara Sluiskil work permits system. The purpose of work permits is to enable employees to safely carry out activities that are outside the day-to-day operation of the production installations.

1.2 Scope

This procedure describes the requirements relating to the Yara Sluiskil work permits system, from the planning and determination of risks involved in the activities that are to be carried out, to the preparation and performance of these tasks. Yara Sluiskil uses an electronic permit system. The paper permit system is the back-up in the event of a failure in the electronic system. This procedure applies to both the electronic and paper work permit system. Where there are differences between the two systems, this is clearly indicated.

The procedure is applicable in all cases in which:

- A. activities are carried out by suppliers and maintenance personnel
- B. activities are related to the unblocking of clogged-up/crystallised pipes/appliances by Yara production staff of the department concerned (see appendix 2 for a more detailed description)

If the permit issuer judges that, for whatever reason, a permit application does not meet the requirements laid down in this procedure, he/she should refuse the issue of the permit, and inform the applying party of the reason for refusal.

This procedure does **not** apply to normal activities in the suppliers plant and central workplaces.

1.3 Target group

The target group consists of all persons who carry out activities for Yara Sluiskil.

1.4 Training

Training and re-training: see [HAE-028220](#)HESQ training courses.

1.5 References

Yara-HOPS 1-02, Yara- TOPS 1-15.

1.6 Revoking work permits

1.6.1 Calamity:

- In alarm phase 0, all work permits in the department where the calamity occurs will fall due.
- In alarm phase 1, all work permits in the department where the calamity occurs will fall due.

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- In alarm phase 2, all work permits for the entire site will expire.

The activities should be suspended and if possible one should report to the issuer. If this is not possible, you should go to the nearest evacuation assembly spot and report via the available emergency telephone.

Those people who are present in the plant on the basis of registration of presence for activities which do not require a work permit (see appendix 2, A) should leave the installation and report in the control room or via the emergency telephone from the nearest evacuation assembly spot.

1.6.2 Changed plant situations:

In the event of a change of management in a (part of a) plant, such as the return to operation of an installation component, the work permits for that part will lapse. Think of putting an installation part back into operation.

1.6.3 Removed safeties:

Removing safeties and replacing fuses may only be done after the work permit for the work in question has been submitted at the permit issue point.

1.7 Exceptions

During factory shutdowns, it is permissible to deviate from this procedure. The procedure relating to the issuance of work permits, valid for the shutdown, must be described in the Safety Plan that is created on the basis of [HAE-026107](#).

Insofar as that has not occurred, this procedure is applicable.

2. Definitions

Definition	Toelichting
Issuer's direct line manager	A head of department or his/her appointed replacement who must grant permission in the event of high-risk activities to carry out the work in accordance with the established control measures.
Electronic Work Permit (EWP)	Software program for digitally issued work permits.
Excavation Permit	Document/written permission to carry out excavation work or other work in the soil. Note: excavation permit always in combination with a work permit.
Lifting permit	Document / written permission to perform lifting work with mobile cranes. Please note: a lifting permit can be issued separately, depending on the circumstances (for example for loading and unloading outside a risk area).
Hot work permit	Written permission to perform welding, burning and grinding work.
Co-signer work permit other department	When work is carried out by a department within the zone of another department, the person in charge of this department must sign a copy (for information and for the environment where the work is performed). The copy remains with the relevant other department.
Operator	Operator production / supervisor maintenance
Start Work Analysis (SWA)	The SWA (also called LMRA) is a short risk assessment that is carried out immediately before the start of the work at the workplace by the employees who will perform the work.
Task Risk Analysis (TRA)	The TRA is a systematic analysis of a task with the aim of identifying and eliminating/reducing/controlling possible risks. High-risk work is subject to TRA. In EWP, after choosing a certain work, it is automatically assessed whether it concerns high-risk work.
Place of issue	The place where the work permit is issued: - Production department: issuing counter of the department.

	<ul style="list-style-type: none"> - Other departments: the office of the local designated person or its replacement. - Special circumstances: during special circumstances (project, stop, TUR) it is the location as indicated in the safety plan.
Executor	Person who, in accordance with the work permit system, performs certain activities in accordance with the agreements.
Work supervisor	Responsible for carrying out certain activities with one or more persons. For the work supervisor, sufficient knowledge of one of the following languages is necessary to enable communication; Dutch English German.
Work permit	Document with written permission for carrying out work specified on the permit.
Work permit applicant	Person who applies for the work permit for the work to be performed.
Work permit issuer	The person responsible for the operations of the factory or area in which the work is performed.
Work permit issuer post-handover	During the handover of the issued permit(s) between persons in charge of departments (PROCOs), the open work permits are discussed and, to signify handover, the person in charge of the department (Production Coordinator) who is taking over the duty puts his signature on the work permit. In the case of an electronic work permit, this is done digitally.
Zone classification for the work permit system	Demarcation of departments / site / area for the work permit system.  WVzone 09012019.pdf

3. Tasks, competencies and responsibilities

The following tasks and responsibilities are applicable:

Role	Responsibilities	Tasks
Applicant	Responsible for having certain work performed. Applies for a work permit.	Applies for a work permit. Describes the activities to be performed. Signs application.
Issuer	Completes the work permits and issues them to those who are coming to perform the work.	Determines risk category of work permit. Determines whether a Task Risk Analysis must be carried out. Signs permit for issuance to personnel and attends to signature by work supervisor/personnel carrying out activities covered by ordinary work permit, and signature of work permit and TRA by all personnel performing work in the case of a high-risk permit. Issues work permit. Attends to formal handover of work permits for activities which will run on beyond his period of duty. Renews work permit. Sees to it that a check is carried out on the performance of the work/the workplace. Archives the work permit. In the case of production installations, this is the Production Coordinator and, in the event of a

		complete absence, the Assistant Production Coordinator. If the PROCO present is not able to issue a WP for a certain time during his shift, this will be done by the assistant PROCO. This person must be aware of the other permits issued in the area in order to be able to adequately assess whether other work can take place. For the other departments, the designated replacement of the relevant department will take over this task during the issuer's absence. In addition, the issuer is responsible for the correct application of this procedure and is authorized to revoke work permits if the work leader or executive(s) do not comply with the provisions set out in the work permit or TRA, or otherwise run unnecessary risks.
Person responsible for E&I	Gives permission for electrical activities.	Gives permission for performance of electrical activities in accordance with the established control measures.
Issuer's direct line manager	Gives permission for high-risk activities.	Gives permission for performance of high-risk activities in accordance with the established control measures.
Personnel member / Work supervisor of personnel member	Responsible for the performance of the work. Responsible for compliance with control measures.	Signs work permit and declares his agreement with stipulated requirements. Carries out work in conformity with agreements. Work supervisor informs all personnel members of own team (ordinary work permit) and ensures signature of the integrated SWA by these persons. Leaves workplace clean afterwards. Hands in work permit.

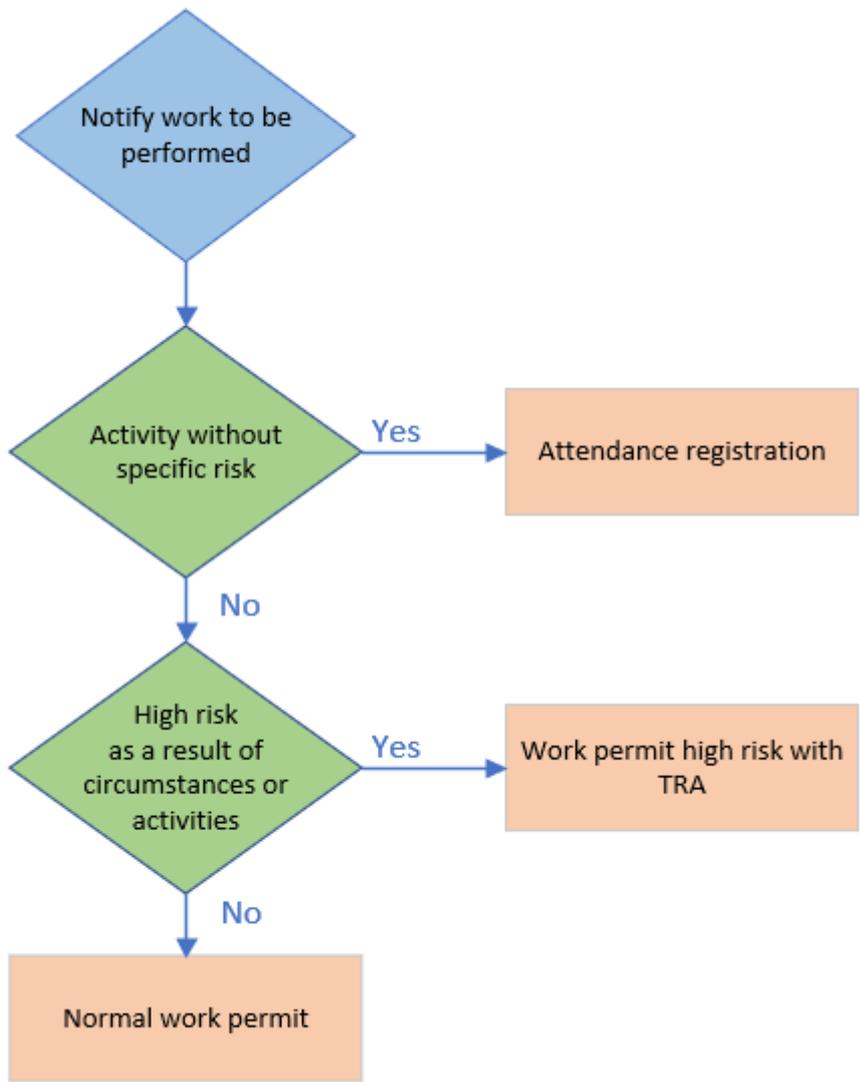
4. Procedure

4.1 Determination of risk category

With every activity to be performed, it must be established what the risk category is, so that the correct control measures can be taken. The activities are classified into three risk categories:

Category	Required permit	Explanatory notes
Without specific risk	Registration required	In exceptional cases, registration will be sufficient. See Appendix 2.
Normal risk	Normal work permit	The standard work permit. Is in principle <u>always</u> necessary. See Appendix 2.
High risk	Work permit for high-risk activities	For activities in which a high risk to persons and surroundings can occur, or which involve high risk of disturbance/interruption of process(es). This is a Risk Analysis Level 2.

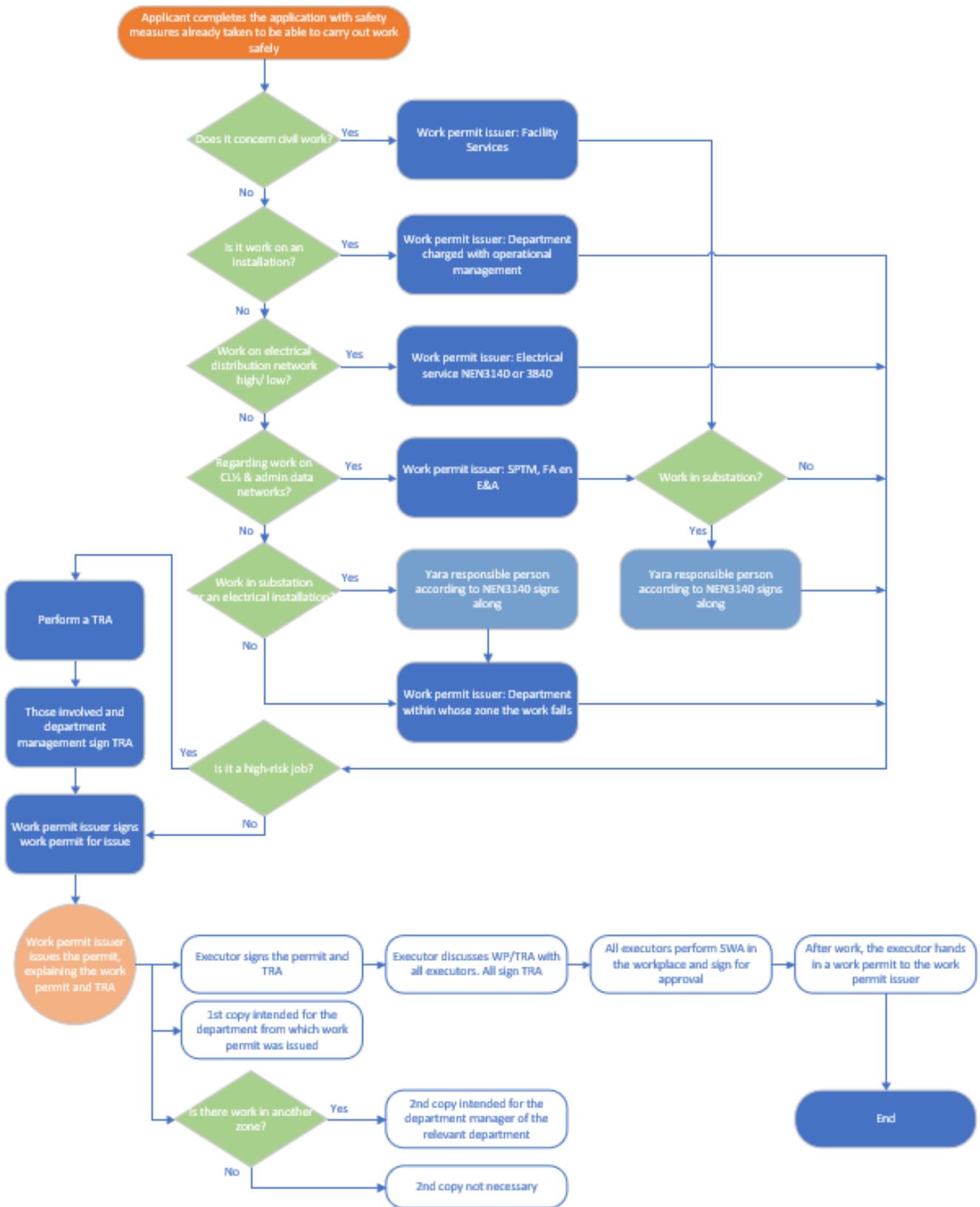
In appendix 2 a more detailed elaboration of the various categories is given. Attention: this is an indication! It is the responsibility of the Issuer to determine the ultimate risk category. The diagram below specifies how one determines which permit is necessary.



4.2 External factors (including weather conditions):

If, during the performance of activities, but also during presence on-site in situations not requiring a work permit, factors beyond human influence such as extreme weather conditions (extremely strong wind, thunder) constitute a danger to the persons who are performing the work, then in all reasonableness it should be considered whether to cease the activities (temporarily); this in consultation with the issuer of the (possible) work permit.

4.3 Schematic overview for issuing the work permit



4.4 Start Work Analysis (SWA)

The SWA is for the purpose of making people conscious of a number of safety-related circumstances *before* commencement of the work. The work supervisor discusses the SWA with everyone who has an executive involvement in the work. After that, each personnel member has to sign the SWA.

- The SWA is an integrated part of the work permit.
- The SWA is discussed by the work supervisor.
- The SWA is signed by each person involved.
- With high-risk work (= TRA-mandatory), the correct workplace (pipeline, flange, pump, etc.) is indicated by a production employee in the field.
- On a sample basis, check the SWAs in the field to ensure that they have been correctly filled in.
- During maintenance shutdowns, deviations from this can be described in the Safety Plan.

4.4 Welding, burning and grinding permit

All welding, burning and/or grinding work is classified as high risk (=TRA) and should be carried out with a continuous gas analyser (%LEL) on site, with the exception of official workplaces.

Prior to the issue of the work permit with permission for hot work, an instantaneous measurement should be carried out, making use of a gas analyser other than the continuous meter provided.

See also [HAE-025445](#) Control, use and application for Explosivity meters and other meters.

4.5 Task Risk Analysis (TRA)

The purpose of a Task Risk Analysis (TRA) is to determine the risks associated with certain activities and to establish the correct control measures to be taken in order to minimise the risks identified.

The TRA is integrated in the digital work permit system. Choosing certain activities or checking off one of the questions determines whether a TRA is required.

A TRA must be jointly carried out by, at minimum, the following involved parties:

- Representative(s) from the department where the work activities will be carried out (issuer).
- Representative(s) from the Yara service under whose responsibility the work activities are being carried out.
- Representative(s) of those who are to carry out the work activities in question.
- If desired or if necessary, other expert(s) may also be asked to participate in the TRA.

The parties involved and the issuer's direct line manager sign the TRA form (EWP = digital / paper WV = on paper).

When a work permit with TRA is issued, the TRA should be discussed with, and signed by, all parties involved.

The activities specified on the Task Risk Analysis form are split up into so-called task steps in the logical sequence of the working method. For each task step:

- the risk is described.
- the control measures for restricting the risk to a minimum are defined.
- the person responsible for carrying out the control measures is specified.

This also entails that in the TRA account should be taken of emergency situations that are directly connected with the performance of the work: extra measures (organisational, technical) concerned with the bringing to safety of an employee or employees who, despite good preparation, end(s) up in an emergency situation. In this connection, think in terms of material(s) necessary for rescuing someone from a confined space. In such a case in which extra control measures are needed for the (possible) rescue of employees, reference is made in the TRA to the 'Rescue Plan'.

The Rescue Plan includes the correct control measures, and is appended as a separate document to the work permit.

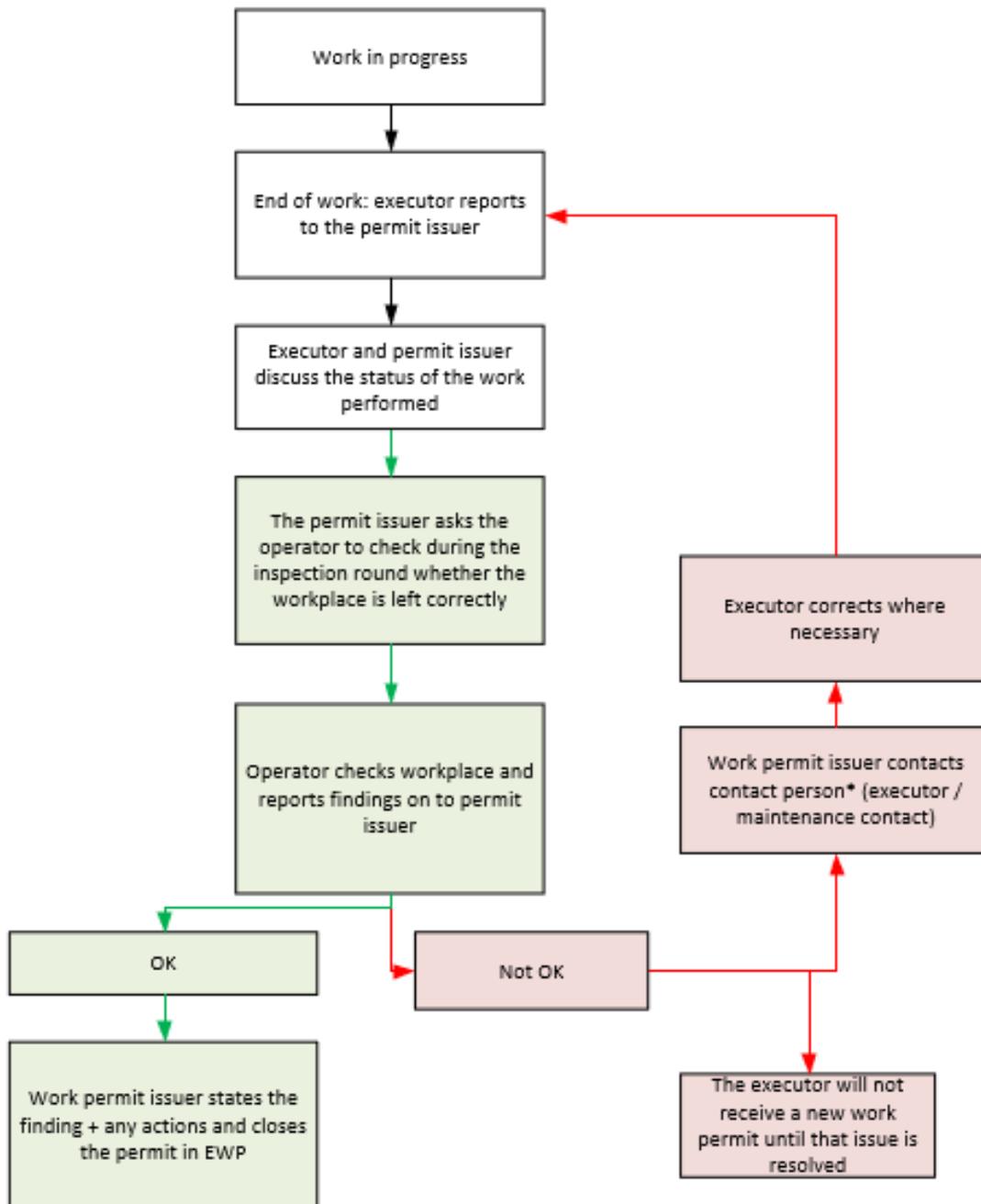
4.7 Registration of presence of personnel

Before entering a safety zone (within the blue lines), you must report to the control room as indicated on the signage along the safety zone. Anyone who does not belong directly to the production staff must either have a work permit or be registered in the registration book. With this, the responsible of the department always knows who is in safety zone. This also prevents unnecessary risks from being run by the company emergency response team during a possible calamity. When leaving the safety zone, you must always unsubscribe from the registration book.

For activities performed outside the blue lines, as mentioned in appendix 2 under A, which may take place anywhere on the entire site, a central registration obligation is applicable.

4.8 Completion of the work

After completion of the work, the work permit is handed in according to the flow chart below, to the work permit issuer



Legend:

- Executor = the person who performs the work.
- Permit issuer = the person who issues the permit for the work.
- Operator = operator production / supervisor maintenance.
- * = Mentioned on the permit.

4.9 Other stipulations

4.9.1 Activities under the direction of the Facility service

For activities carried out under the direction of the facility service – being activities of a constructional nature on buildings (inside or outside), but not, however, including work on installations, paving work outside the safety zones or work on green spaces – the work permit is issued by the person in charge from the Facility service.

Work supervisor/personnel take(s) a copy of the work permit to the person in charge of the department, for purposes of notification and evaluation. If the person in charge of the department in which the activities have to be carried out has strong technical objections, direct consultation with the issuer of the work permit is desirable.

The copy remains with the person in charge of the department; if applicable, another copy is handed in at the other departmental section for purposes of notification. Welding/burning/grinding permits are in all cases issued by the person in charge of the department/zone where the activities are to be carried out.

4.9.2 Work on third-party installations

For the installations of 'third parties' situated on the Yara Sluiskil site, in which these 'third parties' themselves carry out activities within these installations and bear the responsibility for the application of possible control measures.

This procedure shall apply to:

- Gasunie receiving stations: Gasunie, insofar as they are carrying out work on their own installations
- WarmCO CO2 plot: Atlas Copco/WarmCO, insofar as they are carrying out work on their own installations.
- Evides: for their own installation.

4.9.3 Work on electrical distribution network high + low.

A few examples:

- 15/6 KV transformers (the large ones at the plants)
- 6 KV transformers
- High-voltage switchgear of transformers
- Work on rail systems

4.9.4 Work on non-departmental data network.

For the above activities, the flow should be as follows:

1. Application: by representative/person in charge of 'third parties' or appointed Yara employee.
2. Measures to be taken: by representative/person in charge of 'third parties' or appointed Yara employee.
3. Issuer: representative/person in charge of 'third parties' or appointed Yara employee signs permit as issuer, after all control measures have been determined and indicated on the permit.
4. Copy of work permit: representative/person in charge of 'third parties' or appointed Yara employee takes copy of the work permit to the PROCO of the department within whose area of responsibility the installation of the 'third parties' is located; this as notification of the intention to carry out activities. The PROCO checks if there are no conflicts with his/her department at the time of endorsing the copy.

After termination of the activities, the copy is endorsed, and the entire permit is endorsed. The complete permit remains in the appointed archive of the department within whose area of responsibility the installation of the 'third parties' is located.

A few examples:

- Office IT network
- Non-departmental critical data networks between departments

4.9.5 Nitrates/Urea

Activities carried out by departmental production personnel which relate to the unblocking of clogged-up/crystallised pipes and appliances are characterised as high-risk work, and a work permit and TRA are mandatory.

Removal of accumulations/chunks of solid product or (auxiliary) substances from process/installation components can cause a high-risk situation for the employee, and should be assessed as such by the issuer. For these types of activities, a work permit should be issued in any case, possibly supplemented with a TRA, depending on the possible risks (falling chunks, etc.)

For activities in the production, storage and offloading of nitrates, welding, burning and grinding activities may only take place if another method of working is not possible; this in connection with the dangers of fertiliser substances containing nitrates.

In cases that *do* occur, extra precautionary measures are taken (use of fire-resistant cloth, extra water for fire-extinguishing).

4.9.6 Radioactive sources

If activities take place on or in the vicinity of radioactive sources, this must be notified to the expert within HESQ. During non-destructive materials testing (NDT), the Urea and Nitrates departments should always be informed.

4.9 Main connections between the relevant safety procedures.

	Work permit (incl. welding, burning and grinding)	Excavation permit	Lifting permit
Validity period	Max. 8 hours, or longer if the job is carried out continuously by the same persons. Max. 24 hours in total.	2 months	1 day
Retention period / location after end of work Ref: HOPS 1-02	1 year, issuer	1 year, drawing office	1 year, issuer
Signature, Yara	Issuer	Drawing office, person in charge of E&I and Facility service	Planning employee and PROCO (or his deputy)
Special stipulations / procedures (if applicable)	<ul style="list-style-type: none"> - Making electrical equipment/power supply safe, HAE-025968 - Confined spaces, HAE-026167 - On-stream leak detection, HAE-025100 - Maintenance & Hygiene, HAE-026427 - ATEX, HAE-026427 - Overhead work, HAE-026195 - Radioactive sources, HAE-026452 - Removal of asbestos, HAE-028222 - Solo work, HAE-028330 	Excavation permit, HAE-026861 WION notification for excavation work outside the site. In the event of doubts concerning pipes/cables of third parties (via Facility Service or HESQ).	Lifting permit, HAE-026858 Crane logbook / crane inspection certificate required. Check lifting equipment and place of work.
Registration of expertise	Mandatory registration work permit Issuers training at HR		Crane operator certificate

	Validity period	Approval required from		
Digital work permit	Max. 8 hours, or longer if the job is carried out continuously by the same persons. Max. 24 hours in total.			
Digital work permit	Request at least 36 hours in advance.			
Work permit copy	Max. 60 days	Production replacement	Manager	or
Work permit template	Max. 365 days	Production replacement	Manager	or
LOTO copy	Max. 60 days	Production replacement	Manager	or
LOTO template	Max. 365 days	Production replacement	Manager	or

5. Lockout / Tagout (LOTO)

5.1 Purpose

The unambiguous application of the Lock Out Tag Out system (hereinafter referred to as LOTO) as a component of the Safe work permits system. The LOTO system should be applied during activities on (part of) an installation, if 'energy' (in the form of pressure, temperature, electricity, hazardous substances, etc.) may possibly enter into the part of the installation that has been rendered free for the performance of the activities.

By systematically affixing a Lock to those places behind which the energy is located (cut-off valves, safety fuses) and identifying (Tagging) them, and maintaining an administration regarding these measures (LOTO register) as a component of the work permit issued for the job, the unwanted release of that energy is prevented.

5.2 Definitions

Definition	Explanation
Fieldlock	An operating impeder (handwheel ratchet, cable, safety switch and suchlike, with fitted padlock) on appendages and suchlike, for the purpose of securing and guaranteeing an energy-blocking installation.
Lock	<p>Lock of a particular colour, provided with a unique key with key ring. All locks are available from (and are issued by) the WP issuer.</p> <p>Explanatory note: the system of 'personal locks' is not applied at Yara. From the perspective of safety techniques, it makes no difference whether a lockbox is secured with a personal lock, or with a lock that is provided by the WP issuer, the key of which remains in the possession of the foreman. The use of personal locks requires a large number of extra locks, so that also the chance of having to apply the (undesired) Emergency Procedure increases as a result of loss, or if due to unforeseen circumstances the holder of the personal lock is not present (any longer) on company premises.</p> <p>The following are distinguished:</p> <ul style="list-style-type: none"> - RED locks: locks to be used by production employees in order to render a system safe. RED locks all have a unique lock number. - GREEN locks: locks to be used for rendering electrical installations safe. GREEN locks all have a unique lock number. - BLACK locks: locks to be used by the foreman for securing the 'lockbox' allocated for this job. BLACK locks all have a unique lock number, and are issued by the WP issuer. - BLUE locks: locks to be used by the WP-issuer for securing the 'lockbox' allocated for this job. BLUE locks all have a unique lock number.
Lockbox	Metal box in which keys of field locks are stored for safekeeping, and which can be secured with the locks of the employee carrying out work and the work permit issuer.
LOTO plichtig	Activities which, on the grounds of the risks, are 'LOTO-mandatory', as it is called; this at the judgment of the work permit issuer(s). By definition, those activities for which the work should be safeguarded from energy-charged impact coming from the installation during the performance of the work. LOTO-mandatory activities should be applied for at least 36 hours in advance, before 3.30 p.m. In the event of doubt as to whether an activity is LOTO-mandatory, the planner of the work should contact the WP issuer about this.
LOTO-registratie	Registration form that records all the steps of the LOTO system. In the case of an electronic work permit, this is done digitally.
LOTO-werkinstructie	An inventory, created and checked by production staff, of the LOTO points, and the VP, indicated on a diagrammatic drawing (see doc. LOTO work instruction). Work instructions are stored systematically, for use (after check on validity) during later activities on the system for which the work instruction was created.
Tag	Card with data (enter date, name of person placing lock and tag, number of work permit for which the lock and tag has been affixed) fastened, together with the lock, on the cut-off valve, safety fuse(holder), etc.

Verificatiepunt (VP)	The point by means of which it can be established whether the disengaged system is indeed energy-free. In the column 'LOTO point' on the LOTO registration form, the VP is made recognisable with the letters 'VP'.
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5.3 LOTO procedure

The following must be prepared for every work that is subject to a LOTO and therefore a work permit:

Production creates a digital instruction in which all, and the correct, LOTO points are identified with a number. Each LOTO point will be noted with its respective number. A LOTO box is prepared, containing all necessary LOTO locking measures, including RED locks.

5.3.1 LOTO procedure for **EWP**

Step 1

E&I or FLM-E, if identified on the LOTO work instruction, renders the installation safe. A distinction must be made here between rendering electrical work safe and rendering non-electrical work safe. However, FLM-E can only be render safe non-electrical work on switch boxes that are suitable for the use of LOTO. If the switch box is not suitable for LOTO, one should act as if they are rendering electrical work safe and this should therefore be carried out by E&I.

Below is the table in which it is indicated which things must be carried out for the various activities:

Activities	Securing by?	GREEN lock on drawer/field?	Placing a label at GREEN lock?	Using a green fuse note?	Placing a 'do not switch' sign?
Electric	E&I	Yes	Yes	Yes	No
Electrical distribution	E&I	No	No	Yes	Yes
NON-electrical (FLM-E)	FLM-E	Yes	Yes	No	Nee
NON-electrical (non FLM-E)	E&I	Yes	Yes	No	Nee
Other (lock not possible)	E&I	No	No	Yes	Yes

Note 1: When using the green fuse note, the pink copy is deposited in the lockbox and the white copy is kept with the LoTo form for the administration of the WV provider.

After the function has been electrically secured, the key number or, if no green lock has been used, the number of the green note is entered on the LOTO form "in LOTO". The security is registered by name. The key and/or the pink copy of the fuse note will be deposited IN a lockbox designated and marked for this job at the office of the WV provider.

After rendering safe, the VP (Verification Point) must be checked. This is a test start of the installation and any interlocks must be taken into account. This is filled in on the LOTO form made for this job.

[HAS-005959 FLM-E Operational manual](#)

Step 2

Production department renders installation (component) safe in accordance with work instruction (empties it out, renders it pressure-free, possibly flushes it out, etc.) and checks VP (Verification Point). All points identified in the work instruction are secured with appropriate locking material with unique red locks and tagged. VP (can/may be multiple VPs) are locked in the open position in accordance with work instruction, and tagged with a red lock. Keys are deposited **INSIDE** the lockbox allocated and marked for this job (label on outside displaying WP number), in the office of the WP issuer. The numbers of the keys are entered on the LOTO form "in LOTO" made for this job. The security is registered by name.

Step 3

Foreman/work supervisor of work team comes for WP; WP issuer – or a person appointed by the WP issuer – goes together with foreman to check VP.

If VP is OK, then foreman places a black lock (to be issued by department) on the outside of the lockbox (with tag) that has been allocated and marked for this job. Key remains in the possession of the foreman of the work team until the end of the job (Contents of the lockbox of step 1 & 2)

If during the field check of the VP it turns out that the installation component cannot be released, it must be examined whether the work instruction should be adjusted (use other cut-off valves further up- and/or downstream.) If this is the case, then the work instruction must be adjusted, and step 2 must be gone through again.

Exception: if the job consists of disconnecting a motor, the black lock will remain attached to the lockbox until the motor is reconnected. Interim opening of the lockbox is possible by means of a TRA and the presence of E&I.

Step 4

WP issuer secures lockbox with a blue lock with tag; key goes into LOTO key cabinet. On the work permit, in column C1, the word 'yes' is entered in the field 'LOTO-mandatory'. The LOTO registration form created for this job is completed for Level 4 (with name in capital letters).

Subsequently, the work permit can be issued in accordance with the normal WP procedure. During the performance of the work, the job continues to retain the status of step 4. After termination of the job, at the time of handing in the WP the activity is assigned the status of step 5.

Step 5

Foreman/work supervisor of the person(s) carrying out the work hands in the work permit after termination of the activities. The foreman/work supervisor removes the black lock, and hands back the lock and the key to the WP issuer. The work permit issuer removes the blue lock. Handing in a work permit is completed according to the procedure. The contents of the lockbox (keys from steps 1&2) become available.

Step 6

Production department takes keys for red locks out of the lockbox and (if so desired) makes the installation ready for operation once again. If the installation does not have to be made ready for operation (under pressure', etc.), all field locks are removed and rendered available for a subsequent LOTO-mandatory job. The security is registered by name.

Step 7

E&I or FLM-E takes the key of the green lock out of the lockbox, and the electric lock is removed. Removed fuses are replaced by E&I based on the pink copy of the fuse note in the lockbox (if present). The installation parts are then made ready for operation. The LOTO form made for this job is completed in the LOTO section. The job is now finished, and the installation can/may be used. The security is registered by name.

5.3.2 LOTO procedure for the paper work permit system

The LOTO-mandatory activity is subsequently assigned the status of LOTO Level 1.

Level 1

E&I or FLM-E, if identified on the LOTO work instruction, renders the installation safe. A distinction must be made here between rendering electrical work safe and rendering non-electrical work safe. However, FLM-E can only be render safe non-electrical work on switch boxes that are suitable for the use of LOTO. If the switch box is not suitable for LOTO, one should act as if they are rendering electrical work safe and this should therefore be carried out by E&I.

Below is the table in which it is indicated which things must be carried out for the various activities:

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Electrical distribution	E&I	No	No	Yes	Yes
NON-electrical (FLM-E)	FLM-E	Yes	Yes	No	Nee
NON-electrical (non FLM-E)	E&I	Yes	Yes	No	Nee
Other (lock not possible)	E&I	No	No	Yes	Yes

Note 1: When using the green fuse note, the pink copy is deposited in the lockbox and the white copy is kept with the LoTo form for the administration of the WV provider.

After the function has been electrically secured, the key number or, if no green lock has been used, the number of the green note is entered on the LOTO form "in LOTO". The security is registered by name. The key and/or the pink copy of the fuse note will be deposited IN a lockbox designated and marked for this job at the office of the WV provider.

After rendering safe, the VP (Verification Point) must be checked. This is a test start of the installation and any interlocks must be taken into account. The LOTO registration form created for this job is completed for Level 1 (with name in capital letters). Subsequently, the activity is assigned the status of Level 2. [HAS-005959 FLM-E Operational manual](#)

Level 2

Production department renders installation (component) safe in accordance with work instruction (empties it out, renders it pressure-free, possibly flushes it out, etc.) and checks VP (Verification Point). All points identified in the work instruction are secured with appropriate locking material with unique red locks and tagged. VP (can/may be multiple VPs) are locked in the open position in accordance with work instruction, and tagged with a red lock. Keys are deposited **INSIDE** the lockbox allocated and marked for this job (label on outside displaying WP number), in the office of the WP issuer. The LOTO registration form created for this job is completed for Level 2 (with name in capital letters).

Subsequently, the activity is assigned the status of Level 3.

Level 3

Foreman/work supervisor of work team comes for WP; WP issuer – or a person appointed by the WP issuer – goes together with foreman to check VP.

If VP is OK, then foreman places a black lock (to be issued by department) on the outside of the lockbox (with tag) that has been allocated and marked for this job. Key remains in the possession of the foreman of the work team until the end of the job. The contents of the lockbox (of Level 1 & 2) will then no longer be accessible. The LOTO registration form made for this job is completed for Level 3 (with name in capital letters). The representative of production and the foreman/work leader both do this in column Level 3. Subsequently, the activity is given the status of Level 4.

If during the field check of the VP it turns out that the installation component cannot be released, it must be examined whether the work instruction should be adjusted (use other cut-off valves further up- and/or downstream.) If this is the case, then the work instruction must be adjusted, and Level 2 must be gone through again.

Exception: if the job consists of disconnecting a motor, the black lock will remain attached to the lockbox until the motor is reconnected. Interim opening of the lockbox is possible by means of a TRA and the presence of E&I.

Level 4

WP issuer secures lockbox with a blue lock with tag; key goes into LOTO key cabinet. On the work permit, in column C1, the word 'yes' is entered in the field 'LOTO-mandatory'. The LOTO registration form created for this job is completed for Level 4 (with name in capital letters).

Subsequently, the work permit can be issued in accordance with the normal WP procedure. During the performance of the work, the job continues to retain the status of Level 4. After termination of the job, at the time of handing in the WP the activity is assigned the status of Level 5.

Level 5

Foreman/work supervisor of the person(s) carrying out the work hands in the work permit after termination of the activities. The foreman/work supervisor removes the black lock, and hands back the lock and the key to the WP issuer, and completes LOTO registration form in column Level 5. WP issuer removes the blue lock, and completes LOTO registration form in column Level 5. The handing-in of the WP is completed in accordance with the procedure. The contents of the lockbox (keys of Levels 1 & 2) are rendered available.

The (finished) job is assigned the status of Level 6.

Level 6

Production department takes keys for red locks out of the lockbox and (if so desired) makes the installation ready for operation once again. If the installation does not have to be made ready for operation (under pressure, etc.), all field locks are removed and rendered available for a subsequent LOTO-mandatory job. The LOTO registration form created for this job is completed for Level 6 (with name in capital letters).

The (finished) job is assigned the status of Level 7.

Level 7

E&I or FLM-E takes the key of the green lock out of the lockbox, and the electric lock is removed. Removed fuses are replaced by E&I based on the pink copy of the fuse note in the lockbox (if present). The system components are then set up for operation. The LOTO registration form created for this job is completed for Level 7 (with name in capital letters). The job is now finished, and the installation can/may be used.

5.4 Administration

The LOTO registration form and the work instruction, together with the work permit, are stored in accordance with the requirements which apply to the retention period for work permits. The work instruction is also stored electronically, and kept as a basis for a work instruction for the same installation component at some later time. The department attends to this administrative completion.

5.5 Exceptions

During a maintenance shutdown, it can be described in the Safety Plan written for the maintenance shutdown how the LOTO system will be applied, together with the description for the work permits regime applicable during the maintenance shutdown.

5.6 Emergency situations/deviations

If it is necessary to deviate from the above-named procedure concerning LOTO as described above – as a result, for example, of the loss of a key or an emergency situation – one may deviate from the normal procedure. The WP issuer, together with a direct line manager (a person who is listed on the duty roster for that department, just as with the signing of a TRA for high-risk work), will establish that the work is finished, or suspended, and that the installation is technically in good order and ready to be powered-up once again, so that the field lock(s) can be removed without risk.

The following checklist should be used for cutting through LOTO keys:



Checklist loto
knippen (versie 29-0)

5.7 LOTO documents

Work flow	Bijlage
Work flow LOTO in EWP	 Flow loto in EWP.pdf
Workflow LOTO in the paper work permit system	 Flow LoTo.pdf
LOTO registration form for the paper work permit system	 LoTo Registratie Rev. 5.pdf

Appendix 1 - Cross-departmental activities

The digital work permit has no copies. For cross-departmental work, it is necessary to make a copy of the work permit and to deposit it in the relevant department.

Please note, if the relevant department is or has an ATEX zone and the activities are in or near this area, this must be reported to this department 48 hours in advance.

Example of use of the various copies:

The Facility service issues work permit for mowing grass at various places (In example: Reforming D / E.)

Applicant (personnel carrying out activities) receives from issuer:

- The original
- A copy of the original which he deposits at the department concerned.

Appendix 2 - Risk classification of activities

This appendix gives a classification of activities on the basis of the possible risks. This classification is intended as an indication. It is the responsibility of the Issuer to determine the definitive risk category.

A. Activity without specific risk (registration of presence at control room)

In the following cases, one is subject to registration:

Work visitors, both:

- External (not Yara personnel): for example, for orientation or determination of progress
- Internal: Anyone who does not belong to the production personnel of the department concerned should register themselves.

A few examples of activities which require registration:

- Small-scale activities by E&I (e.g. withdrawing fuses).
- Sampling.
- Reading meters.
- Cleaning activities and sweeping activities outside a Safety zone but within the zone area of the department (HAS03998.dwg).
- Retrieving industrial waste within the department (regular waste flows).
- Small-scale constructional activities in building.
- Central heating installation in building.
- Loading and unloading of goods items (report to department).
- Loading and unloading of non-hazardous substances.
- Loading and unloading of hazardous substances. A checklist is used for this purpose. See procedure [HAE-025795](#).

For the retrieval of waste containers or the emptying of waste containers by the regular waste-disposal company in conformity with the regular route, central registration at the Facility Service is applicable.

B. Normal work permit

In the following cases, a normal work permit (at minimum) is required:

- All activities carried out by contractors that do not fall under the registration obligation.
- Activities carried out by own production personnel relating to the removal of accumulations/chunks of solid product or (auxiliary) substances from process/installation components can cause a high-risk situation for the employee, and should be assessed as such by the issuer. For these types of activities, a work permit should be issued in any case, possibly supplemented with a TRA, depending on the possible risks (falling chunks, etc.).
- All activities carried out by Gasunie.
- Activities carried out by Yara personnel, both within and outside of daytime working hours that do not fall under the registration obligation.
- E&I activities in substations, with the exception of small-scale activities such as withdrawing fuses.
- Excavation work.
- Lifting activities except as stipulated in point 2 under 'attention'.
- Activities in which people are working with a possible source of ignition, such as: welding, grinding, cutting and hacking/chopping activities, heating up, annealing, diesel generators/motors or the use of non-explosion-proof tools.
- Sampling, if not present on sampling list.
- Activities that are carried out across the entire site.
- During cleaning activities within the safety zones.
- Brushing/sweeping activities within the safety zones.
- Mowing grass.
- Plumbing work.
- Work on air-conditioning systems.
- E&I activities.

C. high-risk due to circumstances or activities to be carried out

If there is a question of high risk, then a high-risk permit should be applied for.

High risk can occur in the following cases:

1. Due to special operational circumstances in the plant such as immediate danger from the factory, installation or surroundings; for example, as a consequence of lack of oxygen, poisonous or highly inflammable substances.

A few examples:

- Opening of systems (pipes, appliances) which have not been flushed out and from which poisonous, very aggressive or highly inflammable substances may be released. In this connection, think, for example, of: hydrogen, methane, ammonia, MDEA, liquid CO₂, caustic solutions, acids, systems under pressure.
- Environment with vapours, gasses, or dust above the threshold limit value, for which reason respiratory protection must be worn.
- Entering confined spaces with above-mentioned dangers.

2. Because the activities to be carried out can in themselves cause direct personal danger due to the tools, materials or resources used.

A few examples:

- Clearing clogged-up/crystallised pipes by using steam, also if this is being done by production personnel.
- High-pressure cleaning (pressure higher than 250 bar).
- Working with sources of ionising radiation.
- In unusual circumstances: activities in which people are working with a possible source of ignition, such as: welding, grinding, cutting and hacking/chopping activities, heating up, annealing, diesel generators/motors or the use of non-explosion-proof tools. If the activities take place in an ATEX-zoning area (zone 0, 1, or 2) according to the departmental zoning drawing, this should be stated on the work permit in section A6. Account should then be taken of sources of ignition as a consequence of the activities or the material used.

3. As a result of activities of a high complexity that can have influence on other units.
4. If a new, or adjusted, working method or procedure is being employed, there may be a question of high risk.

In all other cases, the departmental leadership determines whether there is a question of unusual operational circumstances.

D. Excavation work:

If excavation work is involved, the (mandatory) excavation permit will always be accompanied by a TRA, drawn up to determine the underground risks and to agree on the associated management measures.

The work permit linked to the excavation permit automatically assumes high-risk work. For this, a TRA belonging to the work permit must be drawn up, in which the above-ground risks and associated control measures are determined.

Appendix 3:

Naam	Bijlage
Blank TRA-form (for paper work permit system).	 TRA formulier_REV_05-20
Blank rescue plan	 Reddingsplan yara rev 3.docx
SWA forms (for paper work permit system)	<ul style="list-style-type: none">- SWA-Dutch: XSLU 3650297- SWA-English: XSLU 3650298- SWA-French: XSLU 3650294- SWA-German: XSLU 3650293