SAFETY REGULATIONS

at Ringhals

VATTENFALL

Contents

Safety regulations at Ringhals

This is a short summary of the current rules and procedures described in the Ringhals management system.

The safety regulations at Ringhals are intended for suppliers who will carry out work at Ringhals AB. The supplier is responsible for informing relevant staff of the content of this material.

Ringhals is a protected area. All staff are obliged to follow instructions on signs and from security guards. In accordance with the Swedish Protection Act, security guards have the authority to perform authorisation checks, to reject, remove or temporarily apprehend a person, or to confiscate objects that are in breach of the Protection Act and, if necessary, carry out a body search and search bags.

Your contact person at Ringhals can assist with queries.

More information and forms are available via **https://karnkraft.vattenfall.se/ringhals**.

Responsibility

In addition to what is prescribed in current Swedish laws and regulations issued by authorities, all personnel must follow directives and instructions.

Hired companies are obliged to follow Ringhals' rules. If the company or its employees breach the applicable provisions, it will be regarded as breach of contract.

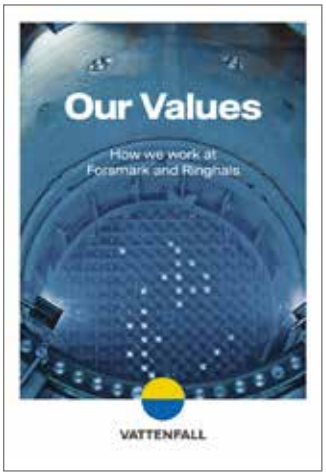
Responsible manager must take the necessary measures if their subordinate personnel do not follow Ringhals' safety and security rules.

Ringhals is responsible for coordination, and designated persons are named for each area at the entrances.

Our Values

At Vattenfall, we work according to "Our Values": four principles that guide us in our daily work and that you, as a contractor, are expected to follow. In the brochure "Our Values", you can read more.

- **Active** – I keep my promises, I simplify and improve, and I contribute to our purpose. Open – I engage with our customers and stakeholders, I collaborate to make a difference, and I act on feedback.
- **Open** – I engage with our customers and stakeholders, I collaborate to make a difference, and I act on feedback.
- **Positive** – I find solutions, I act in a business-oriented manner, and I encourage others.
- **Safe** – I act in a safe way, I care, and I speak up.



Access

Access and documentation
To gain access to a Ringhals worksite, your contact person must pre-register you and you will need certain documentation and training. The contracting management can inform you what training you need in your case. Pose questions to Access Service regarding access training and signing up for "Practical Radiation Protection". Certificates from completed training must be sent/delivered to Access Service.

Documentation:

- Drug test
- Security vetting
- Criminal records check
- Protection and safety training
- Scurity Clearence

To work on the controlled side, the following is also required:

- Fitness for service certificate (formerly medical certificate)
- Practical Radiation Protection – basic level (training)
- Occupational code (obtainable from the access manager)
- Dose reporting for non-Swedish citizen

Security vetting

- That the individual is not under prosecution and does not have a serious criminal record
- That the individual does not have substance abuse issues or serious financial problems
- That grades and certificates verify their reliability over the last three years and that the above has been verified with references
- That the person has passed a security clearance interview

Criminal records check
As part of the security vetting, a criminal records check will be done of personnel who require access to security-sensitive areas or data.

The criminal records check is initiated by Ringhals and sent to the supervisory authority.

Security vetting and criminal records checks carried out and approved at other nuclear power plants do not apply at Ringhals.

A consent for a criminal records check form must be signed by the applicant.

Certificates from security vetting and criminal records checks must be submitted to Ringhals at least 6 weeks before the planned access date. An extract from the civil registration directory or a copy of the individual's passport must be attached to prove their nationality.

For foreign personnel, a "Security Clearance" certificate must be attached. This certificate replaces the security vetting certificate. An extract from the home country's criminal records must also be attached. The extract must be issued by the country's police authority or equivalent. The certificate must be written in Swedish or English. Translations from a foreign language must be certified. A copy of the individual's passport must also be attached to this.

The supplier must contact the designated access officer in all matters relating to the access of persons and vehicles as well as the entry and exit of goods and equipment.

SUA (Safeguarded Procurement)
If it is determined that a SUA agreement is required, the company's management (CEO and Head of Security/ Security Manager) and persons in question must meet the requirements below.

- Active criminal records check for the current assignment
- Security vetting
- Online training:

  - Security Protection (management and external personnel with either physical or logical access)

  - Physical Protection (in cases of physical access)

  - Information and IT Security (in cases of logical access or IT authorization)

- Confidentiality agreement

Security screening
All personnel, goods and vehicles must undergo a security check before being granted access and entry into guarded areas. The following items may not be brought inside.

- Knives
- Explosive substances
- Cameras may only be brought in if there is a valid permit
- Up to 2 litres of chemicals may be brought into the personal safety check if they are approved and have technical labelling

Goods going to a guarded area must undergo a goods security check. The goods must have a consignment note or pick list that clearly describes the contents. The goods must be marked with the sender and recipient and their contact details.

Dose reporting before working in controlled areas
All external workers must show documentation of radiation doses received during the current calendar year.

- For Swedish citizens who participated in radiological work at one of the Swedish nuclear facilities, this information is available in CDIS. Other doses must be reported on a special "Dose report" form signed by the person's employer
- Foreign personnel must at least report the data on the "Dose report" form, which can be accessed via https://karnkraft.vattenfall.se/ringhals

Occupational code
All persons who have access to Ringhals AB must be assigned an occupational code. The occupational code is selected based on occupational category or main job duties. Ringhals' occupational codes are used for dose compilation and are included in annual reporting to SSM.

Vehicles
Private vehicles are parked outside Ringhals industrial area. Parking is only allowed in designated parking spaces.

Before entering, vehicles must be checked by a security guard who approves whether the vehicle may be brought into the area. For personnel who do not have approved access documents, a security guard must drive the vehicle in the Ringhals area.

Return of documents
All access documents and TL dosimeters must be returned at the end of the assignment.

Internal security
All those who are granted access contribute to security work and report observations of significance for security to the management, contact person, or security guard.

Access cards must be visible at all times.

A photography permit is required for all photography and filming at Ringhals. All personnel are prohibited from photographing and filming with a mobile camera inside the industrial fence.

Everyone is responsible for their own belongings and must ensure that they are stored in a safe manner.

Questions? Email your question to us: registerkontroll.ringhals@vattenfall.com

Information Security

Information security is about protecting information and preventing it from falling into the wrong hands, being altered, made inaccessible, or destroyed. Contractors at Ringhals are responsible for understanding how Ringhals information should be handled in a secure, correct, and responsible manner.

Information security covers information that is:

- Physical, e.g., documents, drawings
- Stored/digital in IT environments or control systems in the facility (OT) i mejl eller post
- In emails or postal mail
- Shared or displayed in films or photos, e.g., physically or via Teams
- Spoken in a conversation

Confidentiality and Information Handling

All information handled at Ringhals is classified into confidentiality levels based on its protection value.

Protected information may only be shared with authorized individuals and must be handled according to Ringhals instructions.

Security

Information may only be stored on devices approved by Ringhals or Vattenfall.

Only explicitly approved devices may be used to connect to Ringhals IT and OT environments.

All handling and storage of Ringhals information must take place in systems and applications that have been reviewed and approved according to Ringhals security requirements.

Access and Authorization

Access to systems and information is granted only based on work tasks and minimized according to the principle of least privilege and need-to-know.

All access is logged and regularly reviewed to ensure traceability and compliance with security requirements.

Email

Be cautious when opening attachments from unknown senders.

Sensitive information must not be sent unless it is encrypted.

Incident Reporting

All suspected security incidents must be reported immediately.

End of Assignment

At the end of an assignment, all access to systems and data must be terminated immediately.

All materials belonging to Ringhals must be returned or deleted in accordance with instructions.

The confidentiality agreement remains in effect even after the assignment ends.

Classification Levels

C1-Public	open information, accessible to everyone.
C2-Internal	internal information that may be shared with those working at Ringhals and Vattenfall.
C3-Restricted	internal Ringhals information that must be access-restricted, e.g., facility information.
C4-Strictly Confidential	highly sensitive information intended for a limited number of individuals.
NSI-Restricted/Confidential	information covered by the Security Protection Act with very high protection value.

Documentation containing information about the facilities and systems is classified as the lowest C3 - Restricted and must be supervised during use or kept locked away.

Alarms, evacuation and first aid

Accidents and first aid equipment
First aid materials are available next to each stairwell and from the Health Physics Office.

There are several defibrillators located around the Ringhals area. The locations are marked on the area map on Ringhals' intranet. Ringhals' internal rescue service also have access to defibrillators.

Ringhals' internal rescue service is available around the clock and must always be alerted to the scene of a serious accident.

Emergency number (in case of accident and fire)
On all phones CALL: **0340 - 78 58 99**
On internal telephone CALL: **3333**
(Ringhals central alarm station).

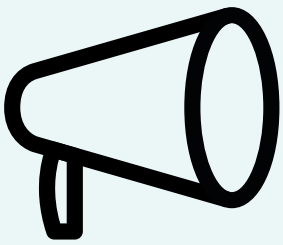
On an external mobile phone, call **112**.
The call will then go to the county alarm centre in Halmstad.
It is important to state that you are calling from Ringhals.

Location awareness
Supervisors or the client's access manager are obliged to ensure that their own and contracted employees are familiar with the workplace, alarm system, evacuation routes and assembly points.

Assembly points
When the "Immediate danger" and "Important message" alarms sound, personnel must gather at the assembly points:

- 1P Entry access
- 2P Lunchroom
- 4P Restaurant Forellen
- RG 25 Kantarellen restaurant
- RG22 Inactive workshop
- RG 54 Ringhallen
- RG 82 Videbergsborg 2

In the event of a fire alarm, the building must be evacuated and the staff must go to the assembly point.



Alarm signals

Immediate danger

0.5 second pulsating sound for a maximum of 60 seconds.

Triggered when evacuation is required.
Go to an assembly point. Wait for further information from the loudspeaker.

Important message

Signal 7 seconds, pause 14 seconds.

Triggered in the event of a breakdown.
Go indoors, proceed to an assembly point.
Information will come via the local radio, loudspeakers or speaker trucks.

All clear

Long auditory signal lasting about 30 seconds.

Signs showing the alarm types used are posted in several places in the facility, e.g. on notice boards, in airlocks and lifts.

General codes of conduct

Alcohol and drugs policy

- Ringhals will not accept you arriving at work under the influence of drugs or alcohol
- Bringing in alcohol and drugs is prohibited
- Random checks are performed

Smoking
Smoking is only permitted in designated areas.

Inclusive workplace
Ringhals is an inclusive workplace with a work environment free from all types of harassment.

Those of us who work at Ringhals are jointly responsible for ensuring that nobody is subject to victimisation.

Housekeeping and tidiness
Employees are responsible for keeping the workplace neat and tidy so as not to jeopardise operations or radiation safety or cause occupational accidents.

Foreign Material Exclusion (FME)
FME means working preventively and thus ensuring that our systems are clear of rags, shavings, etc. Dirt and debris in the wrong places can cause major damage.

Foreign objects and chemical products which enter systems, and end up inside or outside systems, can cause very substantial damage, for example fuel damage, corrosion and expose staff to increased radiation doses by increasing radiation.

Remember:

- Maintain good order and organization in your workplace (housekeeping)
- To use FME protection (for example, open electrical/relay room cabinets, circuit breakers, and open pipe ends)
- To secure equipment and tools that can be dropped
- That to err is human – If you drop something in a system report it immediately!
- That it is your responsibility to notice if you are missing something

Clear plastic must be avoided in controlled areas and is prohibited in FME high risk areas. Personal equipment such as glasses, dosimeters, watches, etc. are exempt from this general prohibition, except in marked FME areas.

If you are unsure, talk to your supervisor!

Use of radio transmitters and mobile phones
There is a general ban on using radio transmitters and mobile phones in operational buildings in protected areas due to the risk of interference with electrical and electronic equipment. Exceptions may be granted for certain equipment.

Mobile phones that are approved by Ringhals and are under contract with a Ringhals supplier may be used.

Radiography - X-ray
Companies that use radiation sources or radiography equipment must hold a permit for this. For radiography using an X-ray tube or radioactive isotope, the Health Physics Office must always be contacted before the work commences. It is the responsibility of the testing company to contact the Health Physics Office and set up the appropriate barriers and signs before X-raying starts.

Isotopes must be kept locked up when not in use.
The Health Physics Office assigns space for storage.

Cordoning and signage
Temporary device intended to draw attention to a hazard and warn against entering a certain area. Cordons must be designed in such a way that they delineate the boundary of an area to which only authorised persons have access. A cordon is to be regarded as a locked door to the space that is cordoned off. The supervisor must approve access before entering the area. Barriers must be signposted with the person in charge and contact details.

Risk assessment

A risk assessment must be carried out before work begins.

The person responsible for operations must ensure that risks are identified, assessed, remedied, documented and communicated.

The risk assessment must be updated when there are changes to operations or when incidents or accidents occur. Ask your supervisor about risk assessments.

Error prevention procedures

Error prevention procedures are used to ensure that work tasks are done safely and sufficiently. Error prevention procedures are described in more detail in the "Our values" booklet.

STARC*

STARC is an approach based on **:**

Stopping – take your time – focus on the task
Thinking – keep raising questions and review
Acting – do the job properly
Reflecting – did it turn out right – could you have done things differently?
Communicating – speak with each other, debrief

In addition to STARC, there are 10 procedures you can use to support your work. By applying them, you reduce the risk of errors occurring.

Questioning attitude	Pre-Job Briefing (PJB)
Self-inspection	Post-Job Debriefing
Use of instructions and compliance	Peer checking
Secure communication	Independent verification
Utilising experience	Workplace coaching (WPC)

*In Swedish, we refer STARC as STARK.

Reporting and utilising experience

In order to develop the business and prevent new incidents, it is important to report risk observations, incidents, work accidents, etc. It is possible to report directly in the reporting system Avärs, via your work management or on a slip of paper dropped in a mailbox (RG 37).

Experience exchange is about learning from one's own experiences as well as those of others. At Ringhals, ERF sheets are used for this purpose. The aim of these forms is to share experiences and to facilitate the use of lessons learned. Areas of application include, for example, information sharing and work preparations such as Pre-Job Briefings (PJB). Safety messages based on reported information are regularly displayed on TV screens.

Pre-Job Briefing (PJB)

PJB is an open dialogue for going over work to be done with those who will be involved and carry out the work. The aim is to focus on and prepare for the task in order to anticipate and remedy risks and problems before starting the work.

Five steps ahead is a shorter version of PJB that consists of 5 questions:

1. Have I done this before?
2. Are there any critical stages?
3. What mistakes can I make?
4. What is the worst that can happen?
5. What can I do to avoid and prevent errors?

Post-Job Debrief (PJD)

PJD is used to review both the work task and the teamwork after completing a job. The purpose is to identify experiences that can improve future performance.

Questioning attitude - Stop when uncertain

Everyone needs to have a questioning attitude. We help each other to ensure that we have the right conditions to carry out the work in a safe manner with the correct quality.

- Approach every new task with vigilance
- Be aware of when things don't feel right – Stop if you are unsure
- Be aware of when things don't feel right – Stop if you are unsure
- Ask questions until you fully understand what you have to do. Do not make assumptions – take nothing for granted
- Be open and receptive when challenged by others

Workplace Coaching (WPC) - Safety Coaching

We coach each other to behave more safely and do better quality work. A coach's most prominent tools are to ask questions, listen and observe. Managers, supervisors and safety coaches carry out regular coaching. You can expect people to come to your workplace and ask curious questions with the purpose of helping.

Industrial Safety

Ringhals AB is certified and works according to ISO 45001.

HSE plan
Contractors must be able to present a contract-specific HSE plan and risk assessment.

Work in operational areas or work on/next to operational components
Work in the facility must be led by a work supervisor appointed by management. The supervisor has special training regarding safety instructions.

Work may not begin before a work certificate or work permit has been obtained by the operational shift supervisor/shift manager in ABH, control room or property management RG. Please note that protection permits must always be collected before work certificates/work permits are issued.

Protective equipment - basic requirement
The basic protective equipment to be used in Ringhals' industrial premises is:

- Safety shoes
- Safety helmet
- Eye protection

The doors to all areas that require protective equipment have signs indicating which protective equipment must be worn.

High-visibility clothing
In the decommissioning area and outside the footpath, high-visibility clothing must be worn.

Each respective employer is responsible for providing personal protective equipment.

Protective equipment for electrical work
Electrical room: When working with electricity, head-to-toe arc-tested clothing with a protection factor of at least 8 cal/cm^2 is required. Clothing worn underneath must be flame retardant. A task-specific risk assessment determines whether additional protection is needed.

The designated protective equipment can be enhanced according to the issued safety permit.

Protective equipment at a construction site
On the construction site, helmet chinstraps must be used and safety shoes must have spike strip protection.

Safety permits

If a safety permit so indicates, the protective equipment may need to be further reinforced. A safety permit is a written notice that specifies which safety measures are required in order for work to be carried out safely. It concerns both protecting personnel and preventing risks in the work environment.

There are three types of safety permits:

- Radiological permit
- Fire protection permit
- Environmental permit

If a safety permit is required, this must be stated on the work certificate or the work permit.

Radiological permit: Before each radiological task (specified on the work certificate/work permit), a special safety permit for radiological work must be obtained from the Health Physics Office. Radiological safety permits specify extra protective measures, among other things.

Radiological permits are required in the following cases:

- In all work in radiologically controlled areas as well as in semi-controlled areas
- For work that involves opening systems that may contain radioactive liquid or gas
- When working with substances that emit ionizing radiation, e.g. X-ray tasks
- If the Health Physics Office specifically requires it

Fire protection permit: For any work that poses an increased risk of fire or spread of fire, a fire protection permit must be obtained from the fire department. For a fire protection permit to be issued, it must be preceded by an assessment of the workplace.

Fire protection permits are required in the following cases:

- For hot and explosive work
- When disconnecting fire detectors
- When drilling holes in the fire cell barrier
- When storing gas cylinders
- For all work in explosion-classified (Ex-classified) areas
- For work that involves opening systems that may contain flammable liquid or gas
- In the case of other temporary deviations from the ordinary fire protection level that are not regulated by an instruction ("technical change")

Environmental permit: Every task that is carried out must be risk-assessed, and the risk assessment must indicate which measures are to be taken to eliminate/minimize the risks that have been identified. For certain tasks, in addition to the risk assessment, an environmental technical permit is required. An environmental technical permit is applied for from the responsible Health Physics Office.

Examples of when an environmental permit must be requested:

- During work where environmental measurements are required
- When entering confined spaces (tanks, cisterns, sewer wells)
- When working in cooling water tunnels
- During work with deadly/toxic chemical products
- During certain work with chemical-dosed systems

Work in confined spaces

Work in tanks, tunnels and other confined spaces can pose a risk of suffocation, poisoning and fire. In the event of an accident, it is more difficult to get the injured person out. When working in confined spaces, an action plan must be drawn up in consultation with the fire department. A hatch guard must be present at all times that work is in progress in the confined space.

Work in heat

Working in heat can pose a risk of incidents and accidents. The duration of the work shift must be adapted to the prevailing conditions.

Lifting devices and lifting equipment

Before lifting begins, a self-check of the equipment must be carried out.

Only approved and marked equipment may be used for lifting tasks. If faults are detected in equipment, the lift must be interrupted and management must be informed.

Temporary lifting devices, e.g. lifting gantries, must be checked and marked. Equipment must be checked annually.

Personnel who carry out lifting at Ringhals must have valid KIKA authorisation.

If the contractor wishes to use the client's lifting devices, they must follow Ringhals' lifting instructions.

If the contractor uses their own lifting devices, this must be reported to Ringhals' lifting device manager.

When steering loads, ropes or "boat hooks" must be used.

Forklift use

Before personnel are allowed to drive a forklift, a written forklift permit must be issued.

Mobile work platform

Written permission is required for use of mobile platforms.

Danger from falling objects

Risks of objects falling must be prevented by e.g. wrapping in plastic, skirting boards, using plastic trays for materials/tools and FME equipment. The area of the floor below may need to be blocked off and signposted before commencing work.

To avoid dropping tools, drop prevention tools must be used, which are part of our FME equipment.

Danger of falling

As soon as both your feet leave the ground/floor, you are working at height and need to assess the risk of falling and take precautions.

Work equipment

When working at more than two metres up or where there is a risk of falling, fall arrest equipment must be used. First action scaffolding must be built, if this is not possible, personal fall protection equipment must be used.

Training is required for using personal fall protection equipment.

Electrical equipment
From an electrical installation point of view, Ringhals is responsible for the electrical equipment that is connected to our high-voltage facilities.

Contractors who need to connect equipment to Ringhals' high-voltage facilities are required to show that the electrical equipment complies with applicable regulations and provisions.

Upon request from Ringhals, the contractor must be able to present proof of inspection, such as a certificate or protocol.

Certain electrical equipment such as splice cables, mobile switchboards, outlet boxes, lighting, building and heating fans, safety transformers for low voltage, transportable generator sets, electric hand tools, mobile submersible pumps, welding machines, electric cleaning equipment and electric vehicles must be inspected annually and be marked. The inspection date must not be more than one year old.

If there is no certificate, the electrical equipment must be tested before use according to the methods prescribed by Ringhals.

The person using the electrical equipment must continuously check that it is not electrically damaged. Any discovered damage must be rectified immediately.

Confined electrically conductive spaces
When work is to be carried out in confined spaces with electrically conductive surroundings (metal tanks, condensers, etc.), special requirements for voltage supply apply when using movable and hand-held electrical equipment, max 50 volt AC voltage portable light.

Hoses and connectors
Approved compressed air hoses, connectors and hose clamps must be used.

Ladders
All mobile ladders must be type-approved, checked, marked with the latest inspection date, and be fitted with anti-slip protection.

Scaffolding, railings and joists
Scaffolding may only be assembled, changed or dismantled by scaffolders approved by Ringhals. Scaffolding may not be used before doing an assembly inspection and specifying the work order number, construction date and signature of the responsible fitter on the label. All scaffolding has a tag indicating what it is intended for and who ordered it. Each scaffold has a unique number that makes it possible to track it. Scaffolding that will remain erected more than 1 year must be inspected annually.

There are three different types of scaffolding: work scaffolding that can be walked on, lifting scaffolding and construction scaffolding.

Joists, scaffolding and the like must not be loaded more than what is indicated at the workplace.

Before removing permanent railings, grates, hatches, etc., protection screens must be erected. Restore the workplace as soon as possible.

External environment

Ringhals works systematically to reduce the environmental impact of operations.

Chemical products and waste must be stored and handled in such a way that the risk of spills and emissions is prevented.

Liquid chemical products and hazardous waste must be stored with secondary protection (e.g. embankment/collection container) and be protected from collision. Collection containers must be protected from precipitation.

Handling - spills and leaks
In case of spills and leaks, cleanup material should be laid out. Material is available in the placed cleanup boxes. If you cannot handle the spill yourself, contact the security center at 67369 (externally 0340-667369) or your supervisor. The cleanup material should be collected and disposed of. Contact the sanitation team for further handling.

Environmentally hazardous substances must not be poured into sinks, floor drains, or storm drains. If there is a risk that environmentally hazardous substances could reach a drain, it should be covered as a preventative measure. Drain seals are placed in the Ringhals area.

Instructions for handling spills and leaks can be found in the safety data sheet of the relevant chemical product.

All incidents must be reported in the Ringhals deviation system.

Sanitation boxes
Sanitation boxes are placed in areas with a risk of spills or leaks to enable quick handling of urgent and unplanned incidents. The boxes are gray with a yellow lid and are sealed. The seal can be easily broken when sanitation material needs to be used.

Chemical products

At Ringhals, a chemical product is defined as "any type of product that can emit substances that affect the properties of other materials", e.g. oil, tape, gaskets, paint brushes or cleaning agents.

All chemical products at Ringhals must be reviewed and approved from an environmental and health perspective. They must also be marked with a technical label. The technical label indicates where and how the product may be used in the facility.

Approved products are registered in the chemical register (iChemistry).

Need for new chemical product
If a new chemical product is needed, an application must be made via the chemical register. Before the application is made, check whether there is an equivalent product registered that can be used instead.

The application shall be submitted as early as possible, and no later than five weeks before the product is planned to be used.

Safety sheets
Safety data sheets are available in the chemical register (iChemistry) and need to be available were work is done.

Environmental protection permit
An environmental technical permit is required, for example, for work with lethal/toxic chemical products and for certain work with chemical dosing systems. See the section on protective permits.

Technical labelling for chemical products

The product may come into contact with all types of process systems and process media. It may therefore be used on the inside of the systems. Residues need not be disposed of.

The product may come into contact with all types of process systems and process media. It may therefore be used on the inside of the systems. Residues on the inside of the systems must be disposed of. There is no need to remove residues from the outside.

The product may come into contact with the outside of process systems. Residues must, however, be disposed of.

The product may not be used in or on process systems.

The product may not be used in or on process systems. The product may not be used in controlled areas, semi-controlled areas or in process-related buildings.

Includes operational chemicals, lab chemicals, approved paint systems and surface protection according to TBY, fire-fighting products and gases.

Chemical products may only be brought in after approval and registration.

Waste and source sorting

Ringhals is a nuclear power plant with great environmental responsibility. This means that we continuously strive to prevent the generation of waste and to reuse and recycle materials according to the waste staircase. Ringhals has developed a well-functioning source sorting system. It is the responsibility of all staff and contractors to use the source sorting system and sort their waste according to signage.

All waste from a controlled area is considered to be radioactive. To minimise the amount of radioactive waste, the amount of packaging brought into the controlled side must be kept at a minimum.

Hazardous waste
In order to prevent hazardous liquid waste from contaminating the surroundings, it must be stored in a bund, protected from collision. If outdoors, the bund must also be protected from precipitation. All hazardous waste must be deposited at the recycling station. The waste must be marked with a special label, "Hazardous waste", and contain information about the contents and who submitted it.

Dangerous goods including radioactive waste

Dangerous goods is a collective term for substances and objects that have such dangerous properties that they can cause damage to people, the environment or property if not handled correctly during transport.

Arrivals
Transports of dangerous goods arriving at Ringhals, including radioactive material, must comply with current legislation. When vehicles loaded with dangerous goods arrive, the driver must provide the following information to the traffic warden:

- UN number
- Dangerous goods class
- Name of recipient

Class 1 goods (explosive substances and objects) may not be brought into the Ringhals area without special permission.

Vehicles and packaging that exhibit defects that may affect safety during loading or unloading are not allowed into the Ringhals area.

Transport within the Ringhals area
Transports arriving from outside Ringhals must follow the route specified by the traffic warden. Labels and markings on the vehicle and the package must not be removed before the vehicle has been unloaded.

Drivers who are escorted into the area must follow the security guard's instructions.

Dispatch
The Health Physics Office administers the dispatch of dangerous goods. Radiation sources owned and used only by the contractor company are an exception. These are administered by the contractor company. However, permission to transport the radiation source from Ringhals must be obtained from the "Operational Protection RG" group.

Fire safety

Fire doors

- Must be kept closed except when someone is passing through them
- Must be checked that it is closed when someone goes through

Combustible material

- Plan to minimise the amount that is taken into our plants
- Keep your workplace tidy
- When the work is complete, ensure that nothing is left behind in the plant
- Large amounts of combustible material require a fire protection permit and should preferably be located within designated safe laydown areas.

Fire hydrants and fire extinguishers

- Normally found close to stairwells and in marked places
- Must not be blocked

Evacuation route markings

- Must not be blocked without arranging temporary markings
- In case of larger scale, contact the fire department

Gas cylinders

- Must be secured when in transit
- Must be marked with the owner's name
- The gas coordinator must be notified of the location
- Must be kept in the designated location when not in use

Fire protection permit

- Is always required for Hot Work
- Required when fire cell boundaries need to be broken, e.g. propping a fire door open or cat flap
- Required when importing large amounts of combustible material
- Issued by Fire Maintenance Engineer & IRB (internal rescue officer)

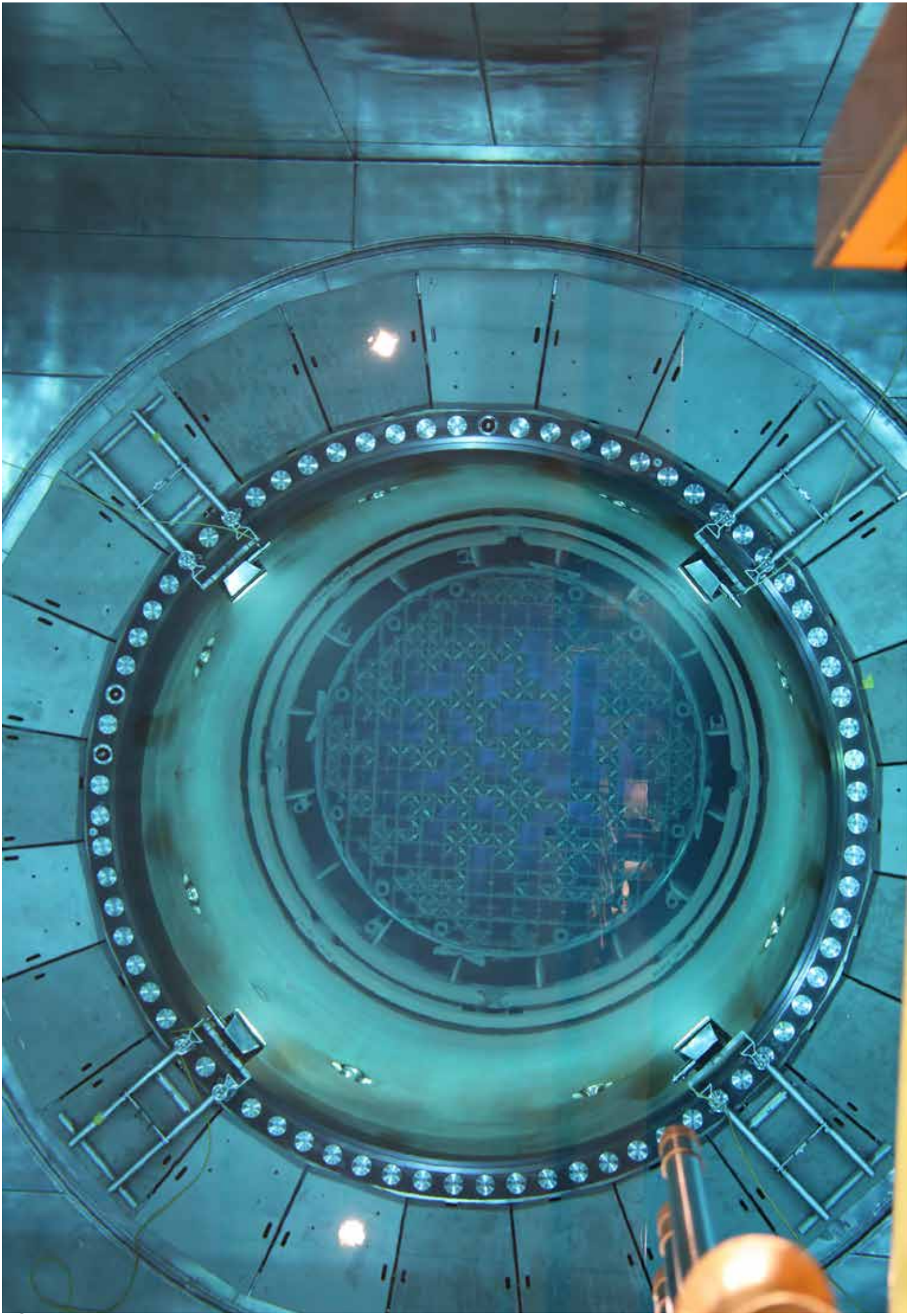
Flammable goods

- Flammable liquids must be stored in designated cabinet
- Dosage takes place from explosion-proof containers
- Be aware of areas in the plant where there is a danger of explosion

Ex-classified spaces

Before working in these areas, the fire department must be contacted for approval of the work and the staff must have training in the area. For temporary visitors, a short security briefing may be sufficient if they are accompanied by an attendant.

Only non-sparking tools and Ex-approved electrical equipment may be used in Ex-classified spaces. Any material that can cause sparks or static electricity is prohibited.



Radiation protection

When working in a controlled area, there are special rules regarding radiation protection. These and the instructions of the radiation protection staff must be followed. There are training requirements before you can work within a controlled area.

Dose restrictions

Ringhals uses relevant dose constraints as a tool for planning and optimising radiation protection for the individual when working in a controlled area. Dose restrictions aim to optimise protective measures at the individual level.

When planning radiological work, the main rule is that all unnecessary dose loading must be avoided and that radiation doses must be kept as low as reasonably achievable (ALARA).

Dose limits for workers (men and women) over 18 years of age	
Full body	20 mSv per calendar year
The lens of the eye	20 mSv per calendar year
Skin	500 mSv per calendar year
Hands and feet	500 mSv per calendar year

Contracted personnel/contractors who, due to legislation in another country or for other reasons, apply more restrictive dose limits or lower dose restrictions than stated above can apply these when working at Ringhals.

Pregnant and lactating women

There are special rules that apply to this group.

Radiological protection permit

A radiological protection permit is required in the following cases:

- If the work is to be carried out in yellow- or red-classified areas.
- If the work involves opening systems that may contain a radioactive substance
- If the Health Physics Office deems it necessary

Medical treatment and examination with radioactivity

Workers who have been examined or treated with radioactive substances may have radioactive substances left in their bodies that can trigger alarms in scanning equipment. A person who has undergone such an examination/treatment must contact Radiophysics before entering Ringhals.

Cordoning and signage

Areas may need to be cordoned off due to high contamination or high radiation. These cordons are marked with radiation levels, contamination levels, prescribed protective equipment and other measures. In some cases, health physics personnel must be contacted before access.

Controlled area

A nuclear power plant is divided into controlled and uncontrolled areas in consideration of the level of radioactivity in the respective areas.

Changing rooms and administrative buildings are examples of uncontrolled areas.

Controlled areas are demarcated by fences and shoe removal areas and require a change of clothes for access.

When leaving the premises, you will undergo a two-step contamination check in order to detect any possible contamination and to stop it from spreading outside the controlled area.

Controlled area is divided into three different zones: blue, yellow and red:

- Areas marked in blue have low levels of radiation. There are no access limitations
- Areas marked in yellow have higher radiation levels and are locked. The Health Physics Office must provide directions on how to enter
- Areas marked in red have the highest level of radiation and contamination. Red areas are locked. The Health Physics Office must provide directions on how to enter

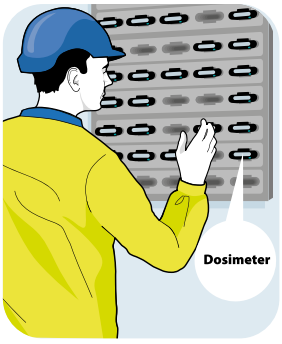
Blue
Low radiation level.
There are no access limitations to these areas for radiation reasons.

Yellow
Higher radiation and contamination level. These areas must be kept locked. The Health Physics Office must provide directions on how to enter.

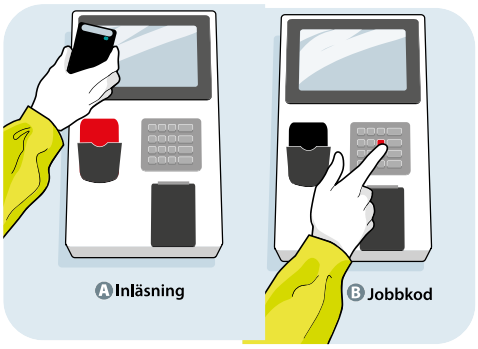
Red
Highest radiation and contamination level. These areas must be kept locked. A safety permit from the Health Physics Office is required to enter.

Entering

Pick up your safety instructions containing the dose code at the radiation protection office.

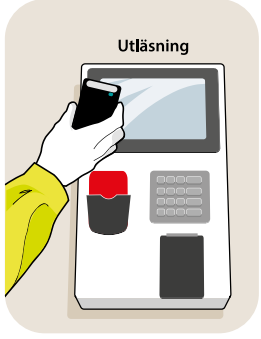


Get a dosimeter.



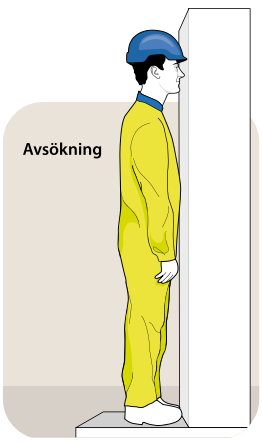
Read your dosimeter and follow the instructions on the screen.

Exiting



Read the dosimeter and follow the instructions on the screen.

Verify your identity with your access card at the scanning frame.



Exit after the usual screening.

Personal protective equipment and clothing in a controlled area
On the controlled side, protective overalls, safety shoes, a safety helmet and eye protection must be worn. At Ringhals 1 and 2, the helmet chinstrap must also be used.

Change clothes in the changing room, where there are overalls, shoes and helmets. Bring your own eye protection.

Wear underwear and socks under the overalls. Your personal clothes must not be visible outside the overalls.

A personal TL dosimeter and an electronic dosimeter must be carried in the designated pockets that are marked on the overalls.

The TL dosimeter is obtained in connection with the access documents and is stored in a numbered compartment when not in use. The TL dosimeter must be returned when you submit your access documents and finish your work at Ringhals.

You collect the electronic dosimeter when entering the controlled side. Your safety permit indicates the dose code you need to use when reading the dosimeter.

Bringing in food, drink and the like is prohibited
To minimise the risk of radioactive substances entering the body, drinking, eating, smoking, using snuff and applying make-up are prohibited on the controlled side. It is also not permitted to bring these substances into the controlled side. Exceptions apply to permanent drinking water fountains and cafeterias where coffee and other beverages may be consumed.

Open wounds
People with open wounds are not allowed to work on the controlled side. In the event of a minor injury, the injury must be checked for radiation contamination before applying a dressing. Any heavy bleeding must be stopped.

Bringing material into and out of controlled side
The introduction of materials, tools, etc. to the controlled side must be minimised. In special cases, packaging may remain on equipment and be brought into the controlled side.

All material must be searched before it can be removed from the controlled side.

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