

Occupational Health and Safety@ ESS

Big Science 2019

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European Spallation Source ERIC

26 November 2019

Overview

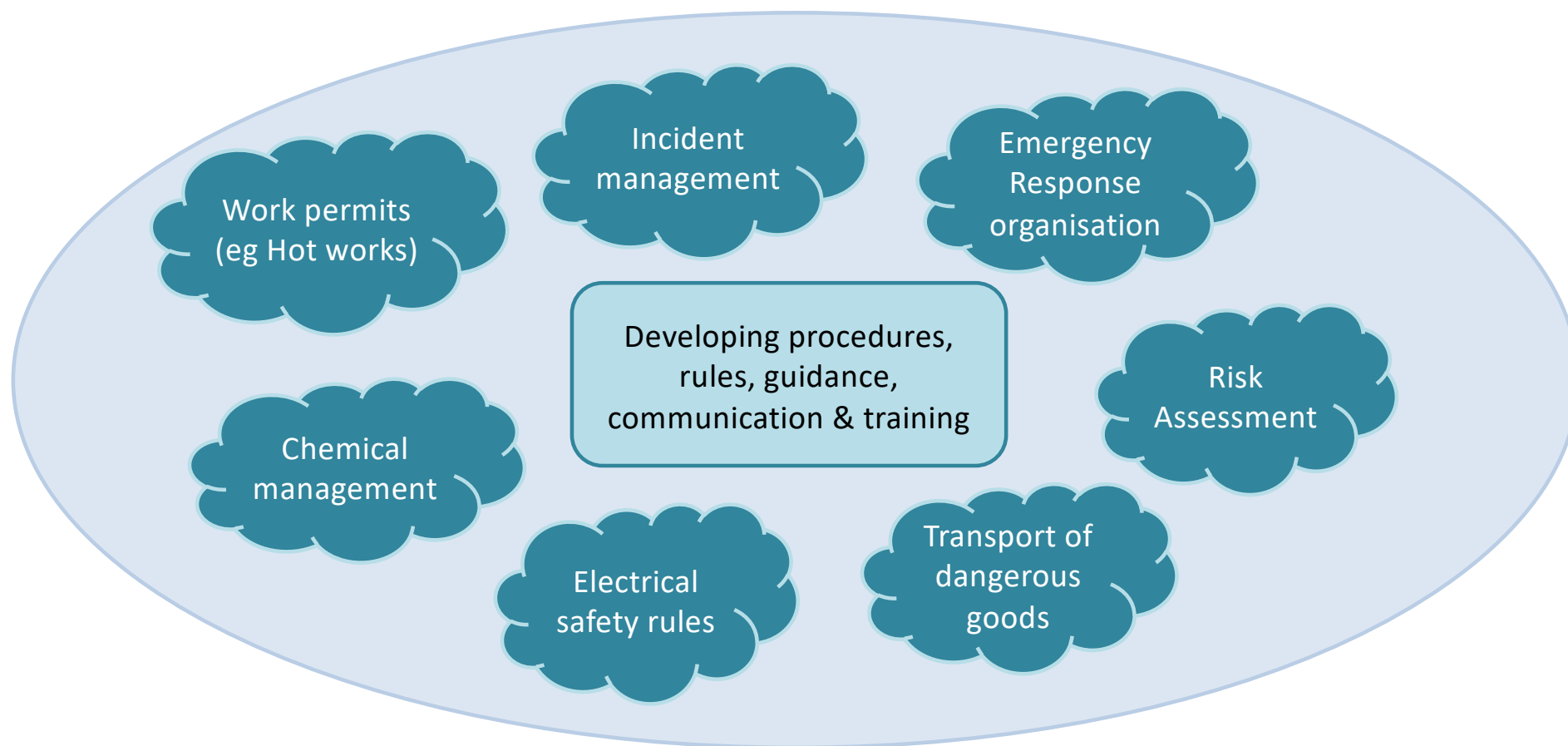


- Health and Safety organisation at ESS
- Development of an OHS handbook for ESS
- Emergency Preparedness
- Chemical management

ESH&Q Scope



Developing a management system - OHS



Fire and Explosion Safety Programme

Ca 300 documents



BUILDING- & OPERATIONS PERMIT

Planning & Building Act (2010:900)

Fire Safety Strategy Report
ESS-0002381
<https://chess.ess.lu.se/mobile>
(drawings)

Campus Fire Safety Strategy
Report
ESS-0058045

Fire Safety Strategy
During Construction
ESS-0003967

Building
Committee

Radiation Protection Act (2018:396)

SSM Conditions
ESS-0432402 (swe)
ESS-0458231 (eng)
General Safety Objective
ESS-0000004

Protection Against
Fire and Explosion
ESS-0001051
Definition of Fire
ESS-0001126

Fire Protection - Semi
Detailed Requirements
ESS-0002642

Emergency
Preparedness Plan
ESS-0001133 (swe)
ESS-0092951 (eng)

System Reliability
ESS-0004390

Swedish
Radiation
Safety
Authority

Civil Protection Act (2003:778)

Environmental Court Verdict
M 1007-12
ESS-0012603

Emergency Preparedness Plan
ESS-0001133 (swe)
ESS-0092951 (eng)

Emergency
Contingency Plan
(Intermediate)
ESS-0150450

Systematic Fire and
Explosion Prevention
ESS-0147093

Fire Rescue
Service &
County
Administrative
Board

Work Environment Act (1977:1160) & Directive 2006/42/EC on Machinery

Protection Against Fire and
Explosion
ESS-0001051

Emergency Preparedness Plan
ESS-0001133 (swe)
ESS-0092951 (eng)

Emergency
Contingency Plan
(Intermediate)
ESS-0150450

Systematic Fire and
Explosion Prevention
ESS-0147093

The Swedish
Work
Environment
Authority

Flammable and Explosive Act (2010:1011)

Inventory of chemical
products
ESS-0005429

Rules for Hot Work Permit
ESS-0484637

Swedish Civil
Contingencies
Agency & Fire
Rescue Service

Protection of Property and Liability

Definition of Fire
ESS-0001126

Fire Protection - Semi
Detailed Requirements
ESS-0002642

Risk
Management
& Insurance

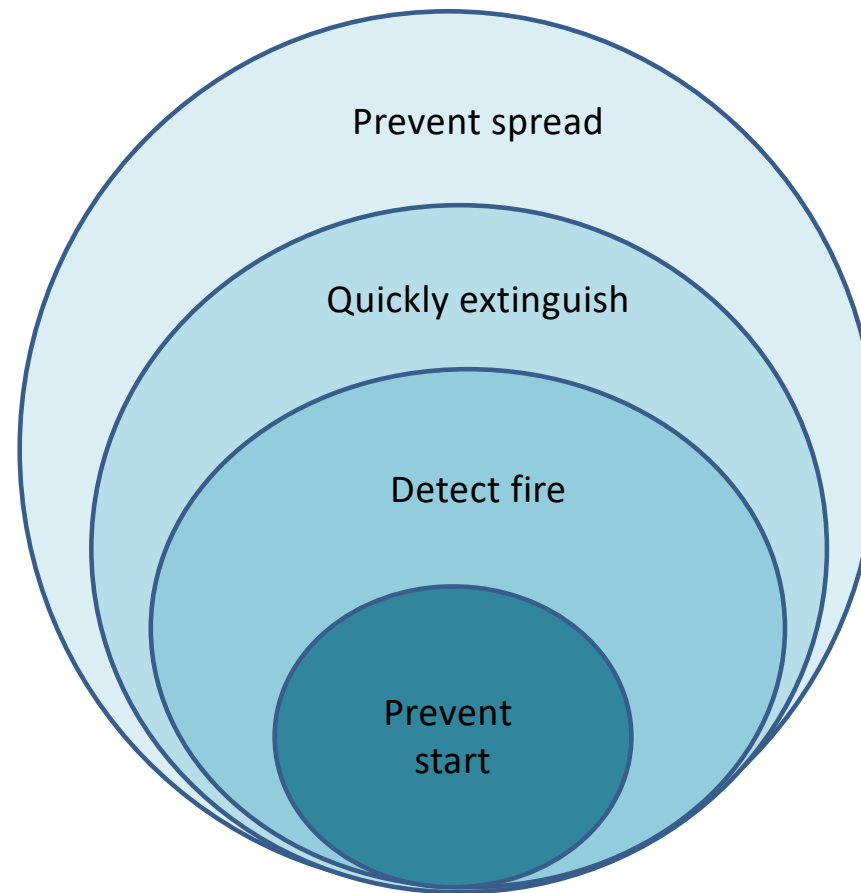
SSM conditions status - CHESS folder "Safety Review - Self Assessment"

Swedish Radiation
Safety Authority

System Engineering - Derived Deterministic Requirements ESS-0043151

All stakeholders

Defence in depth



ESS-0082385 "ESS Site Evacuation Plan"

- Three pillars!



Training

Evacuation alarm types



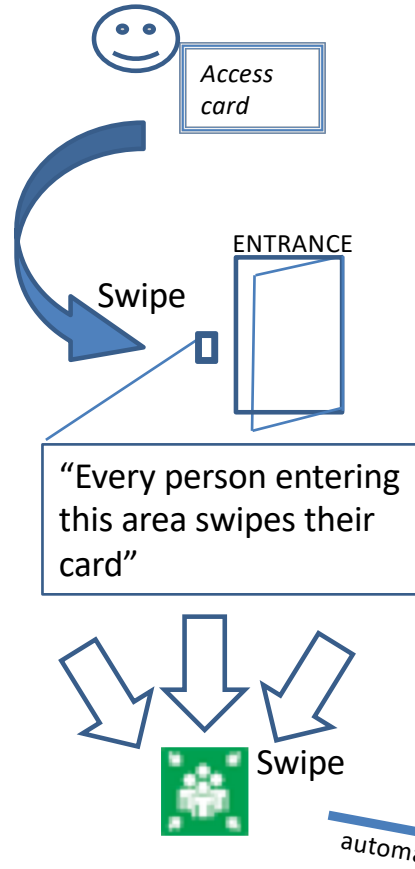
Assembly points



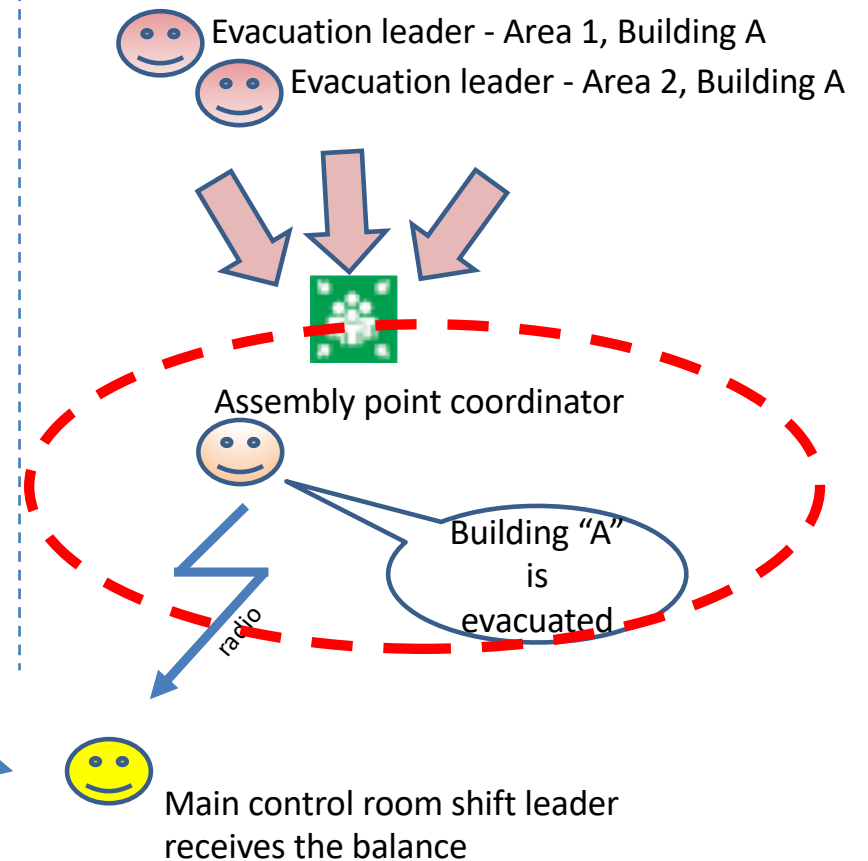
- "In case of an evacuation alarm, I will evacuate immediately"



Card reader system



Organisation



First Responders

First Responders objective is to mitigate several types of on-site accidents, e.g. **workplace accident, fire, low oxygen**, flammable gas, fire, ionising radiation and flooding (initially priority to those in red)

Plan for Emergency Responders training:

- Security clearance (this is a future SSM requirement where access to all areas of site is required)
- Electrical Safety Training (to provide access to high voltage areas)
- Physical / medical checks
- Rescue Service education
- On site alarm panel education
- On site emergency communication and orientation training



Chemical management



LAB SAFETY

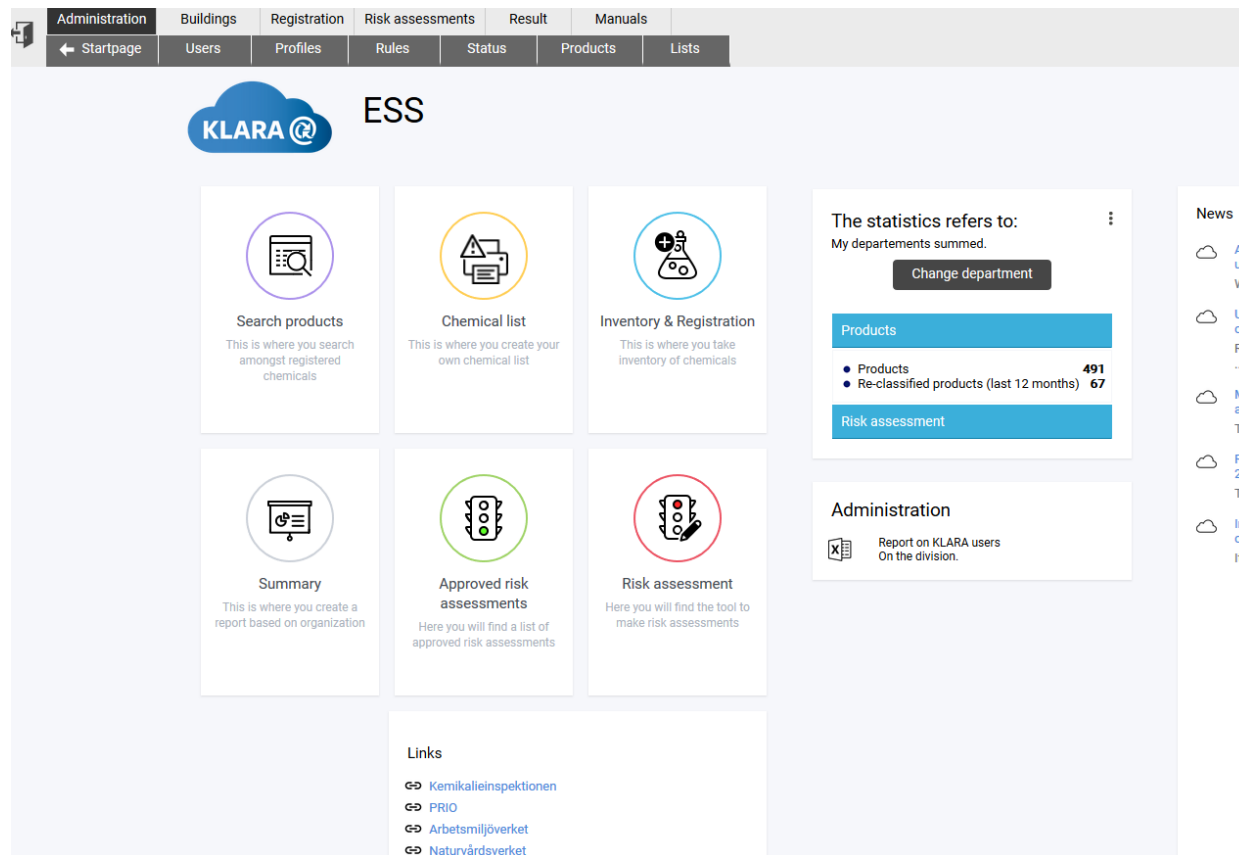


GHS SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION		
MANUFACTURER/SUPPLIER	CHEMICAL/TRADE NAME (as used on label)	002FCLA Lead Acid Cell (Antimony), GNB Flooded Classic, Pacific Chloride, GNB, GNB Tubular, Pacific Chloride, Tubular, Tubular-HP, Liberator, KDZ, Titan, GNB Fusion, Exide Fusion, GNB Flooded Classic Platinum, Tubular-LM
GNB Industrial Power A division of Exide Technologies 3950 Sussex Avenue Aurora, IL 60504-7932		
PRODUCT ID: UN2794		
FOR FURTHER INFORMATION	CHEMICAL FAMILY/ CLASSIFICATION	Electric Storage Battery
Primary Contact: Exide MSDS Support (770) 421-3485		
Secondary Contact: Joe Bolea (423) 989-6377 Fred Ganster (610) 921-4052	FOR EMERGENCY	CHEATREC (800) 424-9300 (703) 527-3887 – Collect 24-hour Emergency Response Contact Ask for Environmental Coordinator
II. HAZARD IDENTIFICATION		
Signal Word: Danger		
Category:	GHS Codes	Description
Health: STOT RE 2 Acute Tox. 4 Repr. 1A Skin Corr. 1A Flam. Gas 1 Aquatic Chronic 1 Aquatic Acute 1	H302	Harmful if swallowed.
	H314	Causes severe skin burns and eye damage.
	H332	Harmful if inhaled.
	H332	May damage fertility or the unborn child.
	H360	May cause damage to organs through prolonged or repeated exposure.
	H220	Extremely flammable gas (hydrogen)
	H410	Very toxic to aquatic life with long lasting effects.
	P260	Do not breathe dust/fume/gas/mist/vapors/spray.
	P301/330/331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
	P303/361/353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
Handling:	P304/340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	P305/351/338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P310	Immediately call a POISON CENTER or doctor/physician.
	P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
	P260	Do not breathe dust/fume/gas/mist/vapors/spray
	P264	Wash thoroughly after handling.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P403	Store in well-ventilated area
	P405	Store locked up.
	P391	Collect spillage.
	P273	Avoid release to the environment
	P501	Dispose of contents/container in accordance with local/regional/national/international regulation.
WARNING: Batteries subjected to abusive charging at excessively high currents for prolonged periods of time without vent caps in place may create a surrounding atmosphere of the offensive strong inorganic acid mist containing sulfuric acid.		
Reactivity: Organic materials, chlorates, carbides, fulminates, water, powdered metals. Reacts violently with water with evolution of		

Handling chemicals at ESS

Chemical database Klara



The screenshot displays the ESS KLARA web application interface. At the top, a navigation bar includes tabs for Administration, Buildings, Registration, Risk assessments, Result, and Manuals. Below this, a secondary bar contains links for Startpage, Users, Profiles, Rules, Status, Products, and Lists. The main content area features the KLARA logo and the ESS name. It is organized into several sections:

- Search products:** This is where you search amongst registered chemicals.
- Chemical list:** This is where you create your own chemical list.
- Inventory & Registration:** This is where you take inventory of chemicals.
- Summary:** This is where you create a report based on organization.
- Approved risk assessments:** Here you will find a list of approved risk assessments.
- Risk assessment:** Here you will find the tool to make risk assessments.

On the right side, there is a statistics section titled "The statistics refers to: My departements summed." with a "Change department" button. Below this, a table shows the following data:

Category	Count
Products	491
Re-classified products (last 12 months)	67

Below the statistics is an "Administration" section with a link to "Report on KLARA users On the division." On the far right, a "News" section lists several items with cloud icons, including "Apr up", "We", "Up on", "Reg", "Mar", "ava", "The", "Rel", "201", "Tod", "Inf", "on", "It", and "si". At the bottom, a "Links" section provides external resources: "Kemikalieinspektionen", "PRIO", "Arbetsmiljöverket", and "Naturvårdsverket".

Chemicals

Transport

Need to prepare for transport of samples which will include radioactive, chemical and biological material. Need to comply with the International and Swedish regulations for transport of dangerous goods.



Waste

- Need to ensure appropriate disposal for our chemicals



Any questions

