



## **THE INTEGRATED RESPONSE TO EMERGENCY IN THE CHEMICAL HUB OF RAVENNA**

Ravenna, 17th of October 2024

*Ravenna Servizi Industriali S.C.p.A.*

# The LARGE INDUSTRIAL DISTRICT of Ravenna



The Large Industrial District of Ravenna groups together chemical, metallurgical and energy plants in an integrated production facilities system.

The District is located on the left bank of the Canal Port of Ravenna, 4 km from the city and 3 km from the Adriatic coast.

The total surface area occupied by the companies in the District is equal to approx. **350 hectares**.

Within the district, the Chemical Hub of Ravenna is located.

## The numbers of the Chemical hub, in the District

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<b>Total companies</b>	<b>10 (+ 3)</b>
<b>Total employees</b>	<b>1500</b>
<b>Total Seveso plants (Dir. 2012/18/EU)</b>	<b>9</b>
<b>Certified companies according to ISO standard 14001:2015 and to ISO std 45001:2018</b>	<b>10</b>
<b>Registered companies according to EMAS regulation</b>	<b>1</b>

## The Companies located within the Chemical HUB

Company	Seveso plants	Certifications	Surface ha
<b>ACOMON</b>	Yes	ISO 14001 & ISO 45001	2,3
<b>CFS Europe</b>	Yes	ISO 14001 & ISO 45001	6,3
<b>RESIN SOLUTIONS</b>	Yes	ISO 14001 & ISO 45001	5
<b>ENDURA</b>	Yes	ISO 14001 & ISO 45001	1,9
<b>ENIPOWER</b>	No	ISO 14001 & ISO 45001 & EMAS	9,3
<b>NIPPON GASES</b>	Yes	ISO 14001 & ISO 45001	2,9
<b>RAVENNA SERVIZI INDUSTRIALI</b>	Yes	ISO 14001 & ISO 45001	67,4
<b>YARA</b>	Yes	ISO 14001 & ISO 45001	25
<b>VERSALIS</b>	Yes	ISO 14001 & ISO 45001	164
<b>VINAVIL</b>	Yes	ISO 14001 & ISO 45001	5,9

# Ravenna site: co-located companies



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<b>Acomon</b>	<b>Allyl carbonates, basis for optical lenses</b>
<b>CFS Europe</b>	<b>Diphenols used in the food industry</b>
<b>Endura</b>	<b>Active ingredients for insecticides</b>
<b>EniPower</b>	<b>Electric power and steam</b>
<b>Nippon Gases</b>	<b>Industrial gases (Oxygen, Nitrogen, Hydrogen) for plants and medical use</b>
<b>Ravenna Servizi Industriali</b>	<b>Security service, fire brigade, site infirmery</b> <ul style="list-style-type: none"><li>• <b>Inlet water treatment and fluid distribution</b></li><li>• <b>Wastewater collection system and Interconnecting</b></li><li>• <b>Emergency flares and gases collection system</b></li><li>• <b>Common areas (roads, canteen, training)</b></li></ul>
<b>Resin Solutions</b>	<b>Propellant for space crafts (Liquid polybutadiene)</b>
<b>Versalis</b>	<ul style="list-style-type: none"><li>• <b>Elastomers</b></li><li>• <b>Butadiene</b></li><li>• <b>ETBE</b></li></ul>
<b>Vinavil</b>	<b>Additives for building, adhesives, paintings</b>
<b>Yara Italia</b>	<b>Fertilizers (ammonium nitrate)</b>

# The infrastructures of the Chemical Hub of Ravenna

The Hub of Ravenna is a true "integrated hub" as regards infrastructures and services, in fact these activities are managed at a consortium level or are provided by specialized companies based in the district

All companies can take advantage of one or more of the services provided by Ravenna Servizi Industriali (RSI), Nippon Gases and Herambiente (*company located near the hub and connected to it*) such as:

- Steam distribution
- Technical gas distribution network (utilities)
- Raw water sourcing
- Common sewage system for the collection of wastewaters
- Pipe rack management



# The infrastructures of the Chemical Hub of Ravenna

- Wastewater treatment plant
- Common flare system
- Common process vent collection and treatment system
- Common environmental monitoring system (air monitoring, groundwaters control etc.)
- Integrated management of industrial facilities (i.e. roads, service areas, parking areas, security service, etc.)



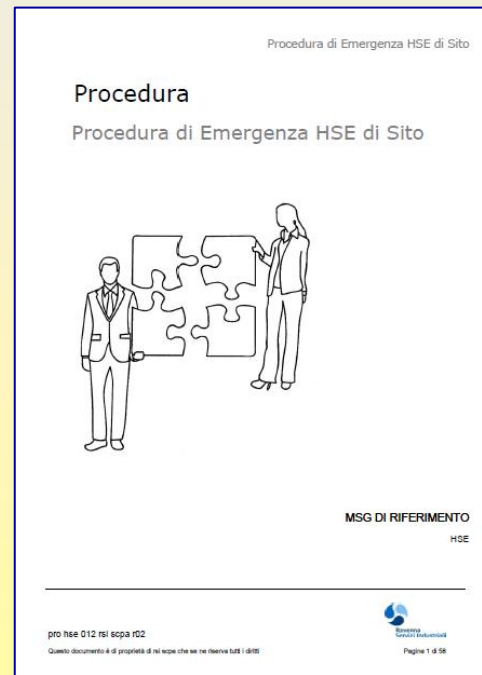
- **Emergency rescue intervention carried out by the same company for the entire site**
- **Common emergency response plan**



# Emergency Response Plan

A realistic example of the enforcement of the integrated management approach within the Ravenna Chemical HUB, is the common **EMERGENCY RESPONSE PLAN** of the Site

**All of the variously owned production plants and operating units refer to a common and standardized ERP**



## Site Emergency definition

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**“Emergency” is a situation caused by an accident, that has already occurred or that could trigger other events that are liable to cause injury to people, or damage to the environment, property or the company’s reputation.**

**Those can be, by way of example, damaging events (events with damage to persons, excluding in-transit accidents); fires; explosions or bursts; primary and secondary containment leaks (spills, gas releases); road, naval, rail and air accidents; events with damage to property; events with possible repercussions on the corporate image.**

**Among those events, include the consequences of natural events that can happen in the area, such as:**

- **a meteo-hydro event**
- **a seismic event**
- **a flooding event**



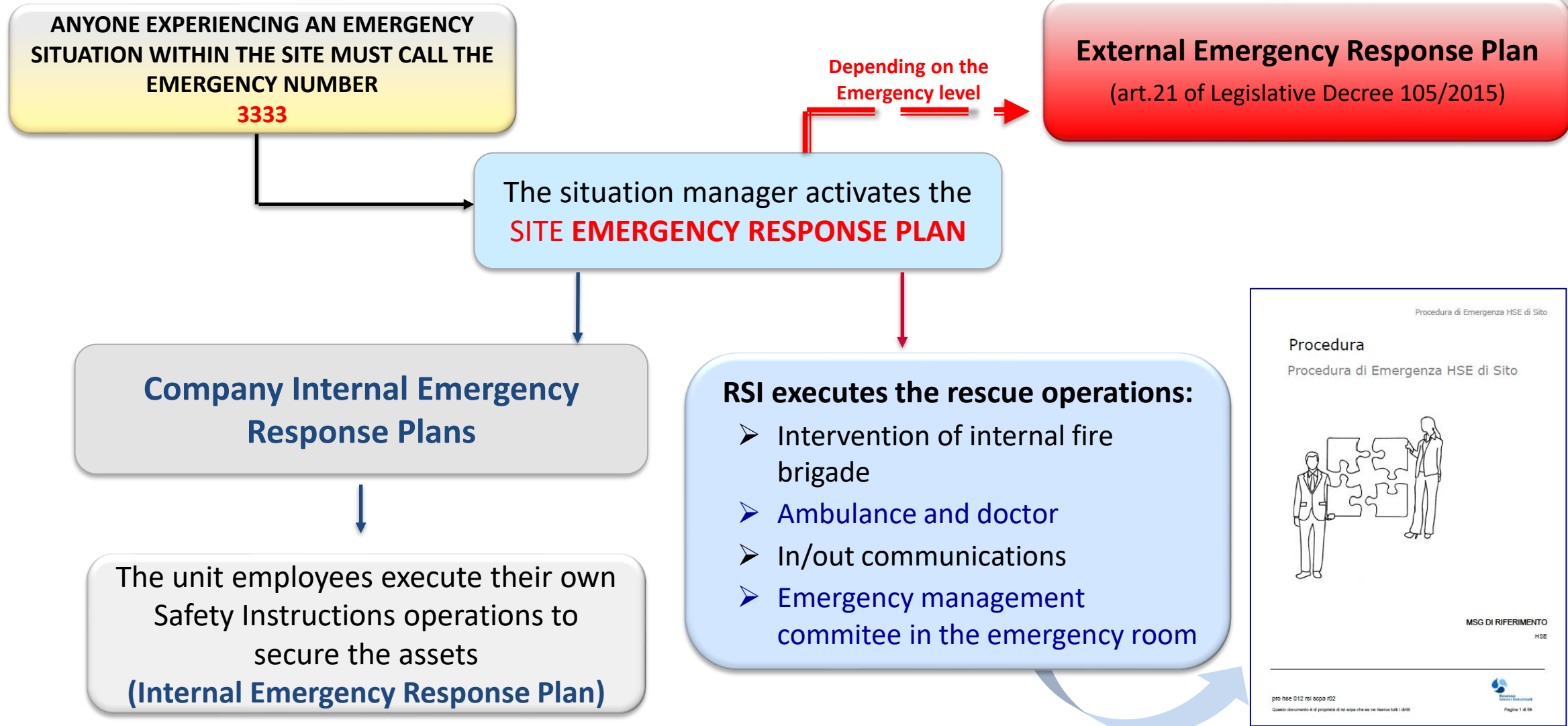
The **EMERGENCY RESPONSE PLAN (ERP of Site)** is a specific document prepared to ensure an effective management of the emergency.

The Emergency Response Plan of the Site always adopts a **PEAR** Approach in the Emergency situations, with the following scale of priorities:

- People
- Environment
- Asset
- Reputation

**Protecting people is always the top priority**

# The Flow of the EMERGENCY RESPONSE



# EMERGENCY LEVEL



WHEN AN EMERGENCY SITUATION OCCURS, THE RESPONSE MANAGER ASSESSES THE EMERGENCY SEVERITY

## LOCAL

An event whose effects remain confined within the space of origin and are assessed for its localness throughout its evolution.

A local emergency can be managed at site level with the personnel and means available, under the responsibility of the Employer.

## EXTENDED

An event whose effects affect or may affect areas outside the plant/unit of origin.

An extended emergency can lead to two different alert levels, according to the External Emergency Plan:

### ➤ **ATTENTION**

The Situation Manager gives information to the Local Authorities (i.e. Municipality, Port Authority). If necessary, he requires the intervention of the National Fire Brigade and/or Medical Professionals

### ➤ **PRE-ALARM**

The Situation Manager calls the National Fire Brigade (115) and Medical Professionals (118), as well as the Municipality. He informs external authorities via a specific form. The Fire Brigade intervention is required.

**EEP is activated**

## EXTERNAL

An event that determines a seriously dangerous situation for the site and/or for the surrounding territory, managed under the responsibility of the Authorities.

The occurrence of this situation requires implementation of the External Emergency Plan in coordination with the local or national public authorities.

According to the External Emergency Plan, the alert level corresponds to:

### ➤ **ALARM**

The Situation Manager calls the National Fire Brigade (115) and Medical Professionals (118), as well as the Municipality and other relevant authorities. The National Fire Brigade intervention is required.

**EEP is activated**



The Emergency Response Manager acts as listed below:

- a) **he acquires information on the type and extent of the event** from the responsible of the unit where the emergency has occurred
- b) via radio, he **communicates the nature and level of the emergency** to the Situation Manager of RSI;
- c) he works in close contact with the responsible of the unit to **manage the situation in the field**, implementing all the actions required by the circumstances;
- d) he **requires, if necessary, the intervention of the National Fire Brigade**; upon their arrival at the Site, the latter takes over the management of operations directly connected with the Emergency and the Emergency Response Team remains at their disposal;
- e) via radio, he updates the Situation Manager (and the local Emergency Response Committee, when established) about the **evolution of the situation and the effectiveness of the interventions implemented and/or underway**;
- f) after the initial intervention phase, in order to monitor the evolution of the Emergency, he carries out **measurements of pollutant concentrations in the air** and updates the Situation Manager and the Emergency Committee about the values found;
- i) via radio, when the Emergency has been resolved, he **communicates the "Alarm Clear/Emergency End"** to the Situation Manager.

# EXTENDED/EXTERNAL EMERGENCY COMMUNICATIONS



On the basis of the emergency level communicated by the Emergency Response Manager from the place of accident, **the Situation Manager of RSI informs:**

**All the people present within the site**  
**via intercom and the alarm siren**  
about unit involved, risk area, behaviours to follow, wind speed and direction, request to leave the workplace

**The Public Authorities**  
**via telephone and e-mail**  
(sending a specific form)  
about emergency level, description of the accident, request of intervention of the National Fire Brigade and/or medical professionals (if necessary)



**Emergency Exercises provide the opportunity to test and practice emergency response procedures and plans** and consequently the preparedness in case of a real emergency situation

## 3 levels of Emergency Exercises



- LOCAL emergency full-scale simulations → carried out **weekly**
- EXTENDED emergency full-scale simulations → carried out twice a year (**once every semester**)
- EXTERNAL emergency full-scale or table-top simulations → according to plans of Authorities

In addition, other types of emergency exercises can be carried out in accordance with the needs of the different companies present in the site, such as **medical emergency simulations**