

Regulation governing classified facilities, requirements applying to storage facilities at feed production plants in France

1. Regulatory framework

French environmental law is broadly structured around the regulation governing classified facilities. The two benchmark texts are the law of 19 July 1976 and its implementing decree of 21 September 1977.

These texts concern facilities classified for environmental protection, and address the concepts of hazards, classified facility and the protection of interests.

Under the umbrella term "classified facilities", the law of 1976 refers to any facility likely to present a hazard or inconvenience that could impact on:

- neighbouring populations,
- public health, safety or hygiene,
- agriculture, protection of nature and the environment,
- or, lastly, the conservation of sites and monuments.

Globally, the risks, contaminations or inconveniences that may be generated by a facility, and covered by this legislation, concern toxic discharges, water or air pollution, noise, waste disposal, and risks of fire and explosion.

Taking an activity-oriented approach means that

these activities (combustion, grinding, etc.) are classified according to the risks that they generate and that are inherent to a given facility (stationary sources of disturbance). For this purpose, the regulations provide a listing that identifies and classifies these activities under various headings. Depending on their size and scope, pursuit of such activities may result in:

- the facility is not classified - in which case it would be referred to as Non- Classified,
- the facility is classified under the declaration or authorisation system.

The approach focuses on individual sites, based on a classification of all the facilities established on a site.

When a facility is classified, then, based on its classification, the regulations specify the procedures to follow to enable the operator to lawfully pursue their business activities.

The listing of classified sites, published in the Official Journal, sets out the list of activities governed by the law of 19 July 1976. This classification contains some 200 headings that are regularly revised to bring them into line with current developments in industrial activities. Table 1 sets out the two main activities and headings of the classification concerning the animal feed industry.

Heading No.	Activity name	System (a)
2160	Storage silos for cereals, grains, feedstuffs or any organic product that generates flammable dust:	
	- if the storage volume exceeds 15000 m ³ - if the total storage volume is greater than 5000 m ³ , but less than 15000 m ³	A D
2260	Grinding, cracking, sieving, shredding, ... of all natural organic products.	
	The rated power of all stationary machines involved in operation of the facility being: - greater than 200 kW - greater than 40 kW, but less than or equal to 200 kW	A D

A: facility subject to authorisation D: facility subject to declaration

Table 1

The effective implementation by industrial plants of the regulatory requirements relating to classified

facilities is verified by inspectors at the DRIRE (Regional Department for Industry, Research and the Environment).

Article 10-2 of the law of 19 July 1976 states that, in accordance with their inherent risks, classified facilities may be subject to regular inspections, to be carried out by approved bodies at the operator's cost.

In addition to the law of 1976, there are several other texts that apply to classified facilities. These mainly concern the following sectors: air, noise, waste, water and safety, with the latter sector covering the issue of storage facilities (Table 2)

Regulatory text	Scope
➤ Order of 31 March 1980	➤ Regulations governing electrical installations in facilities that are regulated by legislation on classified facilities and likely to pose a risk of explosion.
➤ Order of 28 January 1993	➤ Lightning protection systems at certain classified facilities
➤ Order of 2 February 1998	➤ Water catchment and consumption, and emissions of any nature generated by classified facilities subject to authorisation
➤ Orders of 29 July 1998 (authorisation) and 29 December 1998 (declaration)	➤ Set out the technical rules that have to be met by silos and storage facilities for cereals, grains, feedstuffs and any other organic product that generates flammable dust, classified under heading 2160

Table 2

2. Which texts should be applied to storage facilities?

The following table shows which texts should be applied to storage facilities in accordance with the storage facilities (heading 2160) and grinding facilities (heading 2260) classification in the nomenclature.

Site storage capacity (2160)	Storage classification (2160)	Electrical power of grinding and cracking facilities (2260)	Grinding, cracking classification (2260)	Regulatory sources for the requirements applying to storage facilities	Administrative document held by the plant
> 15 000 m ³	A Authorisation	P > 200 kW	A Authorisation	Orders of 02/02/98 and 29/07/98 (and 11/08/83 for existing facilities)	Prefectural authorisation
		P from 40 to 200 kW	D Declaration		
		P < 40 kW	N/A Non-classified		
5 to 15000 m ³	D Declaration	P > 200 kW	A Authorisation	Order of 02/02/98 and Order of 29/12/98 (and "silo" type order for existing facilities) or other Requirements (a and b)	Prefectural authorisation
		P from 40 to 200 kW	D Declaration	Order of 29/12/98 (and "silo" type order for existing facilities) or other requirements (a)	Declaration receipt and copy of the requirements relating to heading 2160 or headings 2160 and 2260
		P < 40 Kw	N/A Non-classified	Order of 02/02/98 and or other requirements (b)	
< 5000 m ³	N/A Non-classified	P > 200 kW	A Authorisation	None	Prefectural authorisation
		P from 40 to 200 kW:	D Declaration	None	Declaration receipt and copy of the requirements relating to heading 2260
		P < 40 kW	N/A Non-classified	None	None

(a) According to the Prefect's decision, see Article 3 of the Order of 29/12/98

(b) Article 1 of the Order of 02/02/98, granting the Prefect the opportunity to set technical provisions that would be stricter than those prescribed in this order.

Table 3

3. Regulation applying to storage facilities subject to authorisation

3.1. Introduction

The order of 29 July 1998, relating to silos and storage facilities for cereals, grains, feedstuffs or any other organic product that generates flammable dust was published in the Official Journal of 30 August 1998.

This supersedes the publication of 11 August 1983, and applies to facilities subject to authorisation under heading 2160 of the classified facility nomenclature.

In a circular dated 10 September 1998 (DPPR/SEI), the French Minister of the Environment asked the Prefects to set up a system for monitoring implementation of this order. The DRIREs will have to maintain a Dashboard and each silo will require its own individual follow-up sheet. A further demand involves rigorous monitor-

ing of the various administrative penalties and the drafting of a report listing all recognised infringements.

On publication, this text faced criticism by industrials affected by its implementation, in particular concerning the definition of silo activity (Article 1), the grounding of lightning rods (Article 17) and labour code requirements specified in various Articles.

3.2. Implementing conditions of the order of 29 July 1998

This order shall apply promptly and fully to new facilities, as well as to modifications and extensions of existing facilities that require a new authorisation application to be submitted (Article 33). Some articles in the order also apply to existing facilities that have prior rights or that have already been duly authorised. In these situations, implementation times are modulated according to the scope of the requested demands for making conform (Table 4).

Implementation deadline	Article	Focus
30 September 1998	3	Operator's designation of a qualified plant manager
	4	Safety instructions and operating procedures
	5	Accident and incident declaration
	12 para. 1	Definition and marking out of areas with explosive atmospheres
	14 para. 3	Cleaning of loading and unloading bays
	20	Smoking ban, fire permit, safety of internal combustion engines
	21	Removal of foreign bodies
30 November 1998	22	Cleaning of silos and work premises
	31	Company waste management procedures
30 February 1999	16	Characteristics and control of electrical equipment
30 August 1999	19	Conditions for installing roof antennae and relays
30 August 2000	9	Conditions covering staff isolation
	2	Hazards study and administrative information
	6	Evacuation means in areas where staff may be present
	10	Fencing of sites
	13, 3 rd indent	Choice of materials (conveyor belts, straps, etc.)
	14 para. 2	Ventilation, dust removal, cleaning of loading and unloading bays
	15	Dust filters: design, safety vents
	17	Grounding, maintenance of interconnections, grounding defect alarm
	18	Limitation of electrostatic charging
	23	Limitation of dust emission in rooms and buildings
	24	Control of silage conditions
	25	Mobile equipment and components: protection against dust, control, operating incident detectors, servo-controls, alarms
	26	Fire fighting means
	32	Storage conditions for dust and the products generated by dust treatment processes

Table 4

4. Regulation applying to storage facilities subject to declaration

4.1. Introduction

The regulation is based on the order of 29 December 1998, published in the Official Journal on 27/01/1999. This order supersedes standard order 376a of the previous nomenclature; it reproduces certain parts of this standard order, the circular of 14 June 1994 and the order of 28 July 1998.

4.2. Implementing conditions of the order of 29 December 1998

This order applies promptly and fully to all new facilities. Certain articles also apply to existing facilities, according to the deadlines set out in Annex II (Table 5).

Implementing for existing facilities	Annex points	Focus
Already implemented	2.1	Construction rules
	2.4	Building fire performance
	4.10	Design of explosion prevention systems
	4.11	Design of loading and unloading bays
	6.3	Regular measurements of discharges and emissions
Immediately	1	General provision already described in the decree of 21/09/77
27/02/1999	1.1	Facility's compliance with the declaration
	1.4	Maintenance of a CI record
	2.7	Electrical installations
	2.8	Grounding of plant equipment
	3	Operation – maintenance (monitoring, access control, knowledge of the products, hygiene, record of everything that enters/leaves the plant, checks and inspections on electrical installations
	4. (excl. 4.10 and 4.11)	Risks (personal protective equipment, safety means and resources, identification of risk locations, electrical safety equipment, fire bans, work and/or fire permit, safety instructions, operating instructions, design of fire and explosion prevention systems, design of a dust removal system, electrostatic charging, relays, removal of foreign bodies, dust emission, monitoring of storage conditions, operation of transfer facilities,
	5.6	Waste waters, prohibition on discharges into groundwater
	5.8	Prohibition on spreading waste waters, muds, waste
	7	Waste (recycling, reclamation, disposal, storage, common waste, prohibition on burning waste
	9	Site rehabilitation at the end of the plant's operational lifetime
27/01/2001	2. (Exc. 2.1, 2.4, 2.7 and 2.8)	Construction–development (landscaping, residential prohibition, accessibility, ventilation, containment of work areas and premises, isolation of staff not required to operate the facility, areas and work premises)
	5.1	Water catchment
	5.2	Water consumption
	5.3	Separated sewer system for waste water/rain water, waste water discharge outlets
	5.4	Measurement of discharge volumes
	5.5	Discharge thresholds (pH, COD, BOD5, etc.)
	5.7	Prevention of accidental contaminations (containment, etc.)
	6 (exc. 6.3)	Air-odours (capture and purification of discharges, limit values, discharge conditions, ventilation of cells).
27/01/2002	8.	Noise and vibration (limit values, worksite vehicles and machinery, vibrations, noise measurements)

Table 5

4.3. Amendments made to the previous regulation

With due regard to the former standard order 376a and the circular of 24 June 1994, the following amendments have been introduced (Table 6).

5. Main regulatory differences between facilities that are subject to declaration and those that are subject to authorisation (heading 2160)

Most storage facilities at animal feed production plants are subject to declaration (heading 2160, order of 29/12/98), while grinding facilities are subject to authorisation (heading 2260). The requirements applying to storage facilities at these plants should therefore be those set out in the declaration.

However, in view of Articles "3" of the order of 29/12/98 and "1" of the order of 02/02/98, which state that the Prefect may modify the technical provisions of the Prefectural authorisation for a given facility, it follows that such facilities are bound by the technical constraints of the authorisation.

For animal feed industrials facing this problem, it is useful to compare both situations, in order to assess the economic consequences of applying the stricter constraints to storage facilities subject to declaration (Table 7).

Sector	Amendments
Scope (Annex 1.9) (Article 3)	Broader definition of silos (see order of 29/07/98) No power limitation Possibility for the Prefect to amend the provisions of the order
Construction rules (Annex 2.1)	Does not apply to gates Isolation distance $\geq 10\text{m}$ for flat silos and $\geq 25\text{m}$ for other types of storage facility and tower units
Grounding of plant equipment (Annex 2.8)	Lists of the equipment involved, including vehicles driven in a semi-confined or confined environment
Occupation by site staff not needed for strict operation of the storage facility (Annex 2.11)	Requirements designed to ensure safety or isolation $\geq 10\text{ m}$
Cleanliness and hygiene (Annex 3.4)	Quantity of fines $\leq 50\text{g/m}^2$
Emergency fire-fighting means and resources (Annex 4.2)	More detailed descriptions
Location of the risks (Annex 4.3)	Listing of at-risk facility areas, nature of the risk, notification
Design of fire and explosion prevention systems (Annex 4.9)	Limitation of doors and windows between the facility and premises occupied by staff Equipment designed to prevent dust traps
Design of explosion prevention systems (Annex 4.10)	More detailed description of the features of the safety measures
Loading and unloading bays (Annex 4.11)	Located outside the storage capabilities, excl. gates (with volume $< 150\text{m}^3$) Setting up of means designed to prevent the formation of explosive atmospheres Cleaning
Dust removal systems (Annex 4.12)	Hooded filters with vents to the outside Air speeds $> 15\text{ m/s}$ in the horizontal pipe with a slope of $< 30^\circ$
Electrostatic charging (Annex 4.13)	Materials in contact with products must be conductive
Emitting antennae, relays (Annex 4.14)	Safety distance to be complied with
Emission of dust (Annex 4.16)	More details, e.g. hood, leaktightness
Storage conditions and monitoring (Annex 4.17)	Regular inspections of at-risk products using thermometric probes
Transfer operations (Annex 4.18)	More details
Airborne emissions (Annex 6.2)	$< 100\text{mg/Nm}^3$ if total flow $< 1\text{kg/h}$ over 24 h $< 50\text{mg/Nm}^3$ if total flow $> 1\text{kg/h}$ over 24 h
Cell ventilation (Annex 6.4)	Air speed at the surface of the product $< 3.5\text{ cm/s}$ In cells outside and separated from the silos
Storage of dust (Annex 7.6)	or In cells inside the silos, but that are not connected to cells containing products and fitted with defect alarm systems

Table 6

Sector	Declaration (order of 29/12/98)	Authorisation (order of 29/07/98)
"Silo" hazards study	No	Yes (Art.2)
Isolation of silos and tower units, third parties	Yes at least 1 ht Flat silo $\geq 10\text{ m}$ others $\geq 25\text{ m}$ (Annex 2.1)	Yes at least 1.5 ht Flat silo $\geq 25\text{ m}$ others $\geq 50\text{ m}$ (Art.7)
Isolation of silos and tower units, public buildings, roads, according to vehicle rates (2000/d)	No	Yes flat silo $\geq 25\text{ m}$ and 1.5 ht or $\geq 10\text{ m}$ others $\geq 50\text{ m}$ and 1.5 ht. or $\geq 25\text{ m}$ (Art.7 and Art.8)
Staff isolation if there are no requirements that provide for ensuring absolute safety	Yes $\geq 10\text{ m}$ (Annex 2.11)	Yes $\geq 25\text{ m}$ Including 10 m for the control room (Art.9)
Fencing of sites	No (Annex 3.2)	Yes (Art.10)
Location of at-risk areas	Yes (Annex 4.3)	Areas 20, 21, 22 (Art.10 of the order and the circular)
Electrical equipment appropriate for the risks	Yes (Annex 4.4)	Yes, according to the area type IP6X or IP5X (Art.16 of the order and the circular)

Table 7

6. Regulations applying to non-classified storage facilities (heading 2160) located in an establishment subject to authorisation under another nomenclature heading

Storage facilities in such establishments are, at the very least, subject to the requirements of the order of 2 February 1998 and its implementing circular of 17 December 1998 (Table 8). The Prefect always has the option of setting stricter technical provisions (see Art. 1 of the order).

Focus	Article	Observations
Scope	1	The Prefect may set technical provisions that would be stricter than those prescribed in this order.
General provisions	4	Prevention of airborne dust Cleaning of roads and parking areas Source-capture of dust Leaktightness of storage capabilities Covering of handling facilities Installation of a dust removal system Setting up of fire and explosion prevention means (e.g. vents, etc.)
	5	Ensuring a stock of filter bags
Air pollution	27	Limit values for dust emissions according to the hourly flow
Discharge conditions	49, 50 and 51	General provisions (limitation on the number of discharge points, design of discharge structures to promote diffusion, sampling point, etc.
	52, 53 and 54	Special provisions on airborne emissions (e.g. stack height)
Monitoring of emissions	58	General provisions (e.g. monitoring programme)
	59	Continuous measurement of dust emissions if the hourly flow >5 kg/h

Table 8