FRAMEWORK FOR DOMESTIC AND INDUSTRIAL SEWERAGE SYSTEMS IN VALENCIAN COMMUNITY (SPAIN).



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Abstract

- In Spain, industrial discharges to the sewerage systems are regulated by state, regional and local, legislation.
- Thus, as detailed below, each hierarchical rules regulates the wastewater, within its scope.
- First of all, we will be dealt with the state regulation, then the rules involving two examples of autonomous regions will be explained, and finally the subject from the standpoint of municipal regulations will be approached.
- Since 1993, the Valencian Regional Government enjoys a financing tool, which at that time was the first in Spain and inspired many other similar ways to finance sanitation water services in Spain. It was approved by the Valencian Parliament by Law 2 / 1992 of March 26. Nowadays covers the financing needs to address both investment, operation & maintenance of wastewaters in the region, even allowing to improve reuse economical contidions for treated efluents.
- This Canon is really an environmental tax because it pursuits the improvement and the conservation status of the Environment of the Valencian Community.

- Royal Legislative Decree 1/2001 approves the revised text of the **Water Act**. It indicates that it is prohibited to direct or indirect discharge of wastewater to hydraulic public domain except in accordance with the prior administrative authorization.
- This discharge authorization is granted by the State Water Administration. Most of the State Water Administrations are the Basin Authorities, integrated in the Ministry of Environment, and Rural and Marine affairs.
- In the same article is stated an exception, which is when the discharge is into drains or collectors managed by regional or local governments, or even subsidiaries entities. In this case the authorization goes to regional or local authorities. In this cases the municipalities are full responsible for the dumping of industrial parks.
- The final destination of the water collected in the sewerage network is the Hydraulic Public Domain. So the managers of these networks must have the appropriate Discharge Permit.

- Local authorities applications for Discharge Permits must also contain a plan of reorganization and control of discharges to municipal sewers. They should also provide information on the existence of discharges of hazardous substances to network.
- The Law provides that companies may be formed to conduct, treat and discharge wastewater from third parties.
- Discharges to public water domain are taxed at a rate for the study, control, protection and improvement of the receiving environment of each basin, called Efluent Control Tax.

The price of Efluent Control Tax is set in Regulation of the public water domain. This price is calculated multiplying the basic price per cubic meter, 0,01202 € for urban wastewater and 0,03005 € for industrial wastewater, by a rate which depends of the following parameters:

1. Characteristics of the discharge.

- Urban (number of equivalent-inhabitants)
- Industrial (depending on activity and content in hazardous substances).

2. Pollution discharge degree.

- Urban or industrial.
- With or without appropriate wastewater treatment

3. Environmental quality of the receiving environment.

- Waters used for drinking water production, areas suitable for swimming, areas suitable for salmonid life, and so on.
- Areas suitable for the life of the cyprinids and shellfish.

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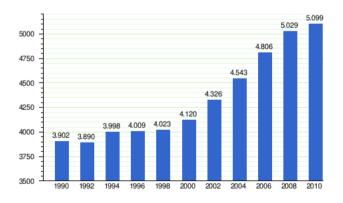
Below is an example of a mentally handicapped residence located in an isolated spot (forest) with a capacity of 50 residents plus staff.

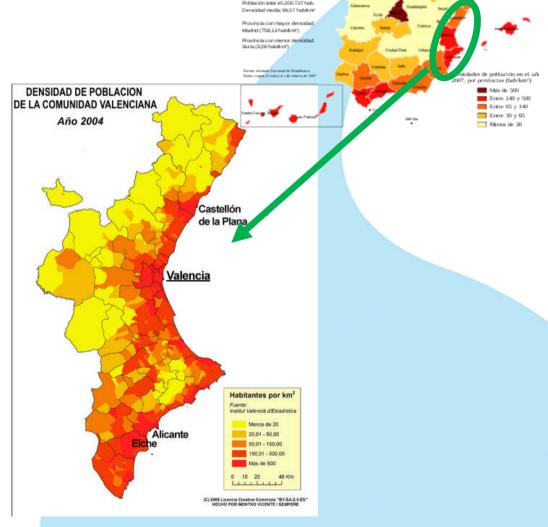
No.spilling points	Туре	Basic (€/m³)	K ₂	K ₃	K ₄	Authorized volume (m³/año)	Tax (€/año)
1	Industri al	0,03005	1,00	0,5	1,25	4.745	89,12

DISTRIBUCIÓN DE LA POBLACIÓN EN ESPAÑA (2007)









5.111.706 habitantes (2009)

VALENCIA REGIONAL GOVERNMENT.

First, the **competences** of the Valencia Regional Government are defined, whi**ch are b**etween others:

- The planning of the sanitation infrastructures, the criteria over depuration levels and quality required to the tributary and channel receptors, according to the hydrologic and environmental plans. This means that the spilling authorization can be more restricted than the Spanish Administration.
- The definite approval of the plans and projects of the building works and running of the installations.
- The approval and revision of the economic regime necessary to finance the management, running and construction of the works and installations.
- The design of the projects, execution of the works, and running of the installations and services that self-promotes, or in collaboration with local governments.
- For new residential or industrial planning developments, an agreement can be signed out with the City Council, and the City Council with the private promoter, so that the waste water treatment plant needed for the new town planning development is paid by the private promoter through a "infrastructure surcharge" (90 € / eq-inhabitant" in 2009).
- The control over the spilling to the general sewage systems, establishing limitations to the flow and the contamination as a function of the system characteristics and the treatment installations.



Local entities' role

The Law indicates that the Regional Government can delegate its competences to the Local Entities or other Organisms, or use any other agreed, organized or functional mechanism, if it contributed to improve efficiency to public management.

Competences of the local entities:

- Constitute any Organism for management, established in the local legislation.
- Design plans and projects, in the Regional Government established framework.
- Contract and carry out building works.
- Manage the running of the installations and corresponding services.

As established in the local legislation, it is municipal competence the drainage and sewer system; so it corresponds to the City Council:

- Planning of its drainage and sewer system.
- Construction, running and maintenance of the system.
- Approval of **taxes** and prices for the drainage and sewer system service.
- Spilling **control** to the municipal sewer systems.



Industrial uses

Diameter (q-meter)	Tax for the service		
	(€/year)		
Until 13 mm	84.54		
Until 15 mm	126.73		
Until 20 mm	211.10		
Until 25 mm	295.64		
Until 30 mm	422.47		
Until 40 mm	844.95		
Until 50 mm	1,267.42		
Until 65 mm	1,689.74		
Until 80 mm	2,112.36		
More than 80 mm	2,957.17		



Domestic uses

Town (No.Inhabitants)	Tax on consumption	Tax for the service	
	(€/m3)	(€/year)	
500-3,000	0,202	20,40	
3,001-10,000	0,253	36,77	
10,001-100,000	0,298	31,67	
More than 100,000	0,342	34,32	



Current situation.

- The present situation is that small factories make their water discharges to the municipal sewage system, and they pay a tax which depends on their water consumption.
- The newly-built industrial estates, the large factories and also those factories with highly contaminating discharges, have their own waste water treatment plants. These plants are built in agreement with the Municipality. The Municipality, in its turns, has an agreement with the Regional Government on this issue.
- However, the older industrial estates, often related to specific economic sectors, make their discharges directly to the municipal sewage system. In this case, the waste water treatment plant has a specifically designed line for industrial waste water treatment.
- There are other situations, such those of industrial estates that are not connected to the municipal sewage system, in which the factories have obtained their own authorization to poor their waste water flow to the Public Water Domain.

Current situation.

- River Basin Authorities are in charge of the monitoring of all the water discharges to the Public Water Domain. These organisms perform a thorough supervision of all the discharges, by taking samples of the outlet flow from the treatment facilities, which are then analyzed. These controls are the same for either public or private water treatment plants.
- Also some Municipalities, those with large industrial estates, supervise the quality of the water discharges to their sewage systems, but on a more sporadic basis.
- Each water treatment plant is designed taken into account the total incoming flow that will receive. If the treatment plant receives a very contaminating incoming flow during a long period, the Regional Sewage Entity (which is the organism in charge of the operation of the water treatment plant) undertakes an investigation to find the source of the polluting discharge. Once the polluting enterprise is identified, sanctions are applied to it and measures aimed at avoiding future contaminating discharges are put in practice. It is usual that the factory is then required to construct its own water treatment plant.

Conclusions

- 1) The industrial waste water discharges to the sewage systems of the municipalities are regulated by means of national, regional and municipal legislation.
- 2) It is absolutely forbidden to poor any discharges, either directly or indirectly, to the Public Water Domain, except for those enterprises with a specific authorization. This authorization is granted to the enterprise by the River Basin Authority. Once the authorization is granted, a yearly discharge tax must be paid by the discharge producer. The amount of the tax varies depending on both the features of the discharging flow (composition, volume of flow) and the features of the environment which is receiving the discharge (how contaminated it is and its environmental quality).
- **6** 3) The discharges to sewage systems are an exclusive jurisdiction of the Regional and the Local Administrations.

Conclusions (2..)

- 4) The Regional Administration is competent to, among other issues, the water treatment planning, establishing the permitted ranges for the treatments and the quality of the outlet flows. Moreover, the Regional Administration fixes the sewage tax and is responsible for the monitoring of the discharges to the general sewage system. The sewage tax is included as a part of the drinkable water bill.
- 5) The Municipalities are competent to plan, construct, operate and maintain their sewage systems, as well as to set the sewage rates/duties and to supervise the discharges to the municipal sewage system.
- 6) The performance of periodic inspections has proved to be the best practice or method to avoid undesirable discharges. The inspections previously referred include those carried out by The River Basin Authorities on the outlet flow of water treatment plants as well as those made by the municipalities. As far as these last inspections are concerned, it is very useful to have a standard manhole at the exit of each factory where samples can be taken, being also very important the development of the supervision plans.

Conclusions (..3)

• 7) In the same way, the creation of Regional Sewage Entities (EPSAR) has proved to be a right model of operation, since they are exclusively devoted to waste water management. This Regional Sewage Entities undertake the planning and design of Regional infrastructures, constructing and operating waste water treatment plants as well as other elements of the general sewage systems. They are also competent to monitor the discharges to the general sewage system. The funding of all this activities comes from the Sewage Tax, allowing the achievement of a balanced budget on the principle of "polluter pays"



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