

IMPORTANCE OF AN OFFICIAL ENVIRONMENTAL CERTIFICATION FOR THE IMPROVEMENT IN MANAGEMENT OF DANGEROUS WASTE AND WASTE WATER DISCHARGES IN INDUSTRIA SALINERA DE YUCATÁN S.A. DE C.V. (ISYSA)

S.M. ORTIZ-MILÁN

Ecology Manager
Industria Salinera de Yucatán S.A. de C.V.
sortiz@isysa.com.mx

ABSTRACT.

The government of Mexico has an environmental regulation program called “National Program of Environmental Audit” that incorporates the industrial segment of the country to comprise of a scheme of environmental responsibility being considered as bases the laws and applicable regulations on each one of the different industries in our country. The government granted a “certification” or “award” for that they have fulfilled satisfactorily all the requirements in term established. This certification is denominated “Clean Industry Award”.

In the year of 2002 Industria Salinera de Yucatán S.A. of C.V. (ISYSA) enters voluntarily to this National Program considering two fundamental aspects:

1) To give certainty in the fulfillment of the environmental legislation since the production system of salt is located inside of one of the ecological reserves of great importance in the country and coastal wetlands as the first site RAMSAR in Mexico.

2) To maintain the ecological balance of the natural area that surrounds us since it provides to us with the essential raw material for the production of sea salt.

The evaluation realized to our facilities by environmental auditors gave as a result some activities that had to be fulfilled in a specific time lapse. The activities contemplated from the qualification to the personnel, to the modification of some facilities, generation of work procedures, etc.

The most relevant activities for us by the danger and environmental risk were the management of the dangerous waste and waste water treatment. Both activities (like the rest of the other ones) were modified to fulfill the laws and environmental norms.

ISYSA (like other important companies) is considered by the Mexican Laws like a great dangerous waste generator, with a production over the 10.000 kilos per year. At this time, the generation, storage and transfer of the dangerous waste to an authorized final destination has a strict control and our facilities in the salt plant fulfill the legal requirements.

Similarly, for the waste water unloading, we make several modifications to improve the quality of the water that unloading to the subsoil, as well as the elaboration of the procedures for its appropriate control and continuous analysis. For the control of all the environmental programs ISYSA elaborates a “Environmental Management System”.

The “Clean Industry Award” has been granted to ISYSA by the fulfillment of the effective environmental laws in Mexico; this gives us the certainty that we are fulfilling the environment assuring. In this form the salt production is in agreement with the nature, reducing power costs and assuming a high ecological responsibility.

INTRODUCTION.

At the moment in all the Mexican industries the enter the NATIONAL PROGRAM OF ENVIRONMENTAL AUDIT has been gotten up of way obligatory to fulfill the laws and applicable environmental norms in all subjects of specific interest of the same industries.

This program has as main objective the identification, evaluation and control of the industrial processes that could be operating under conditions of risk or bringing about contamination to the atmosphere, and consists on the systematic and exhaustive revision of a company of goods or services in its procedures and practices in order to verify the degree of fulfillment of the aspects as much regulated as not regulated in environmental matter and to be able consequently, to detect possible situations of risk in order of emitting the preventive and corrective recommendations to that there is place.

On the other hand, the benefits consist on:

- To fulfill the effective environmental legislation.
- Integral evaluation of the processes in the organization and her impact with the environment.
- Savings by means of the efficient use of raw materials and finished products.
- Reduction in the costs by concept of payment of insurance premiums.
- To improve the image of the company in the face of the society.
- Use of the logo of the certificate to that creditor becomes.
- Recognition on the part of the authorities.

The most important aspects to evaluate in the audit are:

- Potable water
- **Waste waters**
- Atmospheric emissions.
- Nondangerous residues (municipal solid residues and of special handling)
- **Dangerous Residues**
- Ground and Subsoil
- Environmental risk
- Environmental impact
- Noise
- Environmental Management System.

Between these points, those of greater interest for the industry are related to the dangerous residues and the waste water discharges.

RESULTS.

ISYSA beginning its Environmental Audit in 2002, by means of the hiring of specialists with knowledge and with an ample and recognized curriculum. That works took place in two important activities: 1 - The document revision related to the proceedings and permissions obtained and elaborated with the offices of the government in charge of the environment. 2 - The revision of all the operations of the industry directly in the facilities.

As a result, 50 activities were obtained or called "Improve Areas" to fulfill in a lapse of two years. The *Activities Program* for this period was elaborated in common agreement with the offices of Mexican government and ISYSA.

Some activities were related to changes in the infrastructure of the existing facilities, other activities (the majority of them) were related in the elaboration of work programs for the environmental fulfillment.

(To see Table 1)

The most significant problems during the working cycle were basically the presence of two hurricanes: ISIDORO in 2002 and WILMA in 2005. The result was the delay in all activities, concluding the works finally in the lapse of 6 years (2002 - 2008).

PROGRAM OF ACTIVITIES, 2007

Table 1. Program of Activities for the Environmental Audit (the intention of this table only to show the arrangements of 50 activities in two years)

The risk activities in ISYSA, especially by the location within the Reserve of the Biosphere were the related with the handling of the dangerous waste and waste waters discharges. Both required a series of sub activities. In the case of the dangerous residues the activities were related with the change and adjustment of warehouse of residues fulfilling the environmental norms (see Figure 1), their signboards, safety measures, elaboration of reports and daily filling of a binnacle of reception and dispatch of dangerous residues and the continuous qualification of all the workers.



Figure 1. Change and Adjustment in the warehouse of dangerous residues



Figure 2. Arrangement and suitable labeling of the residues

The waste water discharges are very important, mainly because the ISYSA facilities are located very near to the coast, where the subsoil water level are very low and is totally prohibited the waste dumping.

To improve the water quality, this activity also required of a series of sub activities related to changes in the infrastructure of the systems of water treatment, the control in cleaning systems of sanitary water storage, the elaboration and handing over in time and form all the proceedings with the offices of the Mexican government related with the water handling (NATIONAL COMMISSION OF WATERS), and the continuous qualification to all the personnel of ISYSA.



Figure 3. Waste water treatment system

In the lapse of these 6 years, the fulfillment of each one of the activities in the program and its respective verification to the environmental authorities gave like a result the Certification named “INDUSTRIA LIMPIA” (Clean Industry) that has a use of two years for its renovation, hoping to pass to the following denominated level “ENVIRONMENTAL EXCELLENCE”.



Figure 4. Industria Limpia Logo (Clean Industry)

CONCLUSIONS.

In the specific case of our Saltworks one of the mechanisms to fulfill the laws and environmental norms it is the search and obtaining of an environmental certification, granted by the country of origin or granted by some international institution.

Is important to fulfill all the environmental requirements that the laws solicit to work in the production of salt with a harmonious performance with the nature. Is impossible to separate the production of salt from an unique ecosystem in the world that sustains a great biological activity.

In Saltworks the most important objective in the management of dangerous residues (greasy used, burned oils, painting residues, etc.) must be identified and be handled to the activities of risk for the ecosystem suitably, being the control and handling of the waste water unloading (sanitary and of processes).

A certification or recognition that the government makes an industry is very important for the nature, the society and for the commerce of the salt.

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