

Contract Waste Disposal

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We are a privately held corporation that is engaged in the business of contract reclamation of chemicals for reuse and disposal of chemicals where reclamation is not economically feasible. The idea of this business was conceived several years ago with the serious planning and financing stages developing about four years ago. Then subsequent plant site development resulted in the beginning of operations on a plant scale basis, around June 1, 1970.

Our operating philosophy simply stated is to draw from a new source of raw materials, that is the waste resource, purify these materials to a useable form, and return them to industry at a cost somewhat less than virgin spec materials, thereby reducing industry's cost for waste disposal and providing them actually with a positive cost saving. Then as a measure of last resort we will dispose of waste chemicals in a manner approved by all regulatory pollution control agencies; in fact, all of our procedures are submitted to the proper agencies for review and approval prior to their being employed by us.

TYPES OF WASTES

We currently handle industrial liquid chemical wastes. We are preparing to handle chemicals solids but are not currently facilitated to do so. Waste materials now handled include contaminated solvents, acid and alkali wastes, paint residues and oils, cyanides, chlorinated hydrocarbons, dairy wastes,

petroleum waste products; in general, these wastes are transported to a regional facility, operated by us, and processed. The means of transit is usually drums or tankwagons, and occasionally tank cars. We have developed portable tanks similar to a Dempster-Dumpster system where we pick up a full tank of contaminated liquid chemicals and drop off a clean one for their use.

This innovation has appreciably improved methods to classify and safely handle waste chemicals.

METHODS OF TREATMENT, RECOVERY OR DISPOSAL

Our current facilities are designed to handle, either in a reclamation or disposal vein, several million gallons of liquid chemical wastes per month. Methods of processing include the thermal incineration process where liquid wastes are pretreated and then atomized into a combustion chamber and completely decomposed at temperatures up to 3,000°. Since the thermal oxidation unit is equipped with a specially designed scrubber, particulates and gases are removed or absorbed and only clean air is released into the environment. Unique neutralization facilities are utilized to combine acid and alkaline wastes to yield harmless salts and liquid effluents. These effluents are further treated biologically or thermally to assure complete decomposition of all contaminants. Chemtrol is currently in the process of installing

biological treatment facilities to handle high aqueous wastes, that is, wastes that contain approx. 90 to 99% water and 1-10% organics. We also have the ability to chemically treat noxious materials to render them innocuous and safe. Generally speaking our plants are designed to be water deficient so there is no effluent leaving the plant to the sewers or outfalls into navigable waterways, or streams. Currently our only outlet of treated water is via moisture vapor and steam through our thermal incineration unit. We are also developing a scientific landfill procedure in which we can handle noxious wastes that are very difficult or impossible to treat. We will soon operate a controlled landfill in which insoluble salts are buried. The general rule of thumb is that in regard to organic chemicals for disposal, reduce them to carbon dioxide and water either by thermal or biological degradation methods.

In regard to inorganic materials, we treat them and reduce them to a state that is insoluble and innocuous. These salts are then disposed of in a landfill. Where reclamation of useful chemicals is economically feasible, liquid wastes are pretreated and fed into the distillation system. Pure products are recovered through simple steam, vacuum or fractional distillation. Finally, chemicals are synthesized from wastes through processed batching procedures.

SERVICES OFFERED

In general, liquid chemical waste disposal, reclamation, systemized scheduling and pick-up service, analysis of wastes and consultation on how to improve efficiencies and, finally, consultation on the best method to handle the waste disposal problem at hand.

COSTS

Costs of handling chemicals vary according to the nature of the chemical. Costs range from perhaps \$.03/gal. all the way to \$1.00/gal. Factors considered when pricing includes procedures required, pollution control regulations and codes, Btu per pound, viscosity, drums or bulk, will the material have to be pretreated, and then post-treated, such as the case of chlorinated hydrocarbons. If you thermally oxidize chlorinated hydrocarbons you release hydrochloric acid which has to be neutralized in the scrubber tower and then you are left with calcium chloride which you have to in some way treat, collect, or dry. In general, there is no established price list and since wastes generally do vary, contracts are drawn up which include a tolerable

variance beyond which price considerations must be made.

CONTRACTUAL ARRANGEMENTS

Generally contractual arrangements are not made until after a reasonable trial period. A trial cost is agreed to and then carried out for perhaps 30 to 90 days, after which we assign a method and a price for handling the waste products. Only then is a contract drawn up.

RESPONSIBILITIES

The producer of the wastes should attempt to segregate in accordance with the instructions of the contractor, in order to reduce the costs. Also, they must supply general information such as chemical analysis to protect the safety of everyone. Finally, they must notify the service corporation if there is an appreciable change in their waste streams. The disposal contractor's responsibility is to alleviate the possibility of any liability being sustained by the originator, that is, he must treat materials in a manner that will not subject his client to any liability. In regard to legality, I must in all honesty say that a measure of secondary liability will always exist for the originator of the waste. Supreme Court judgments have ruled to date that the originator always shares some degree in the liability caused by a secondary contractor. The only protection that the originator of the waste can have is to evaluate very thoroughly facilities of the contractor disposing of his waste so that in his own mind he can be absolutely sure that waste disposal is being performed in accordance with all codes. He must be absolutely sure of the technical ability of the waste contractor. The business of chemical waste disposal is indeed very scientific, requires competent people, competent laboratory facilities for analyses, and every incoming load must be sampled. Therefore, he must be sure of the competency of the contractor.

ADVANTAGES OF A CENTRAL DISPOSAL FACILITY

- a) It provides an alternative to industry and generally a competent CDF will reflect the true costs of disposing of waste.
- b) There is no capital investment required by industry, they only pay for the amount of services required.
- c) A CDF can oftentimes reclaim products and offset cost of waste disposal.

d) A CDF by specializing in this area, develops new and lower cost techniques for handling wastes. Its research is dedicated toward this end.

e) The burden of satisfying regulatory agencies is transferred to the CDF. Therefore, much of the nuisance involved is eliminated.

f) CDF personnel are experienced chemical operators in waste disposal, often resulting in improved safety for everyone concerned.

g) Generally a CDF, because it is a communal, services various industries and can oftentimes utilize its equipment to higher degrees, thus resulting in lower costs.

Finally, in the case of Chem-Trol, continued research often results in a reduction of waste disposal costs through the reclamation of a certain portion of wastes or, as in certain cases, to the extent of offsetting waste disposal costs or perhaps even netting some revenue; a revenue for the originator of the waste.

Last, but not least, it allows a company to do what they know best. Produce their product and to do it as efficiently as possible and not be concerned with the nuisance of waste disposal.

CONCLUSIONS

Sound technically oriented central disposal and reclamation facilities will add positively to the econo-

mical, ecological balance of each community. Initial costs will be higher than former methods which are no longer tolerable. We must consider that nature has lost the ability to cleanse itself because of the increasing high volume of contaminants. After conducting a nationwide and international marketing survey, we believe there is a widespread need for CDF plants in several communities throughout the U.S. and throughout the world. Only the technically competent, well financed, efficient companies will exist three to five years from now.

There will be an influx of companies that think the business is easy. . . it is not. It is complicated and demanding. Again, I would strongly urge all those that wish to consider a CDF facility for handling their industrial wastes to visit those facilities, request operational certificates from health departments or environmental conservation departments that have been issued by regulatory state agencies to the CDF facility. Remember, the only way to feel safe and alleviate the possibility of contingent liability is to be sure your materials are being handled in a thorough and professional manner. It is our belief that the CDF will alleviate the large capital investment that would be required by industry to meet all codes and will relieve the problem of waste disposal and help establish a good economical, ecological balance.