NEWSLETTER

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THE JAPAN SOCIETY OF WASTE MANAGEMENT EXPERTS

Dear Waste Management Experts

The fiscal years of many corporations and other organizations in Japan start in April, and waste management in Japan will enter a new age this April. The Packaging Waste Recycling Law will be put into force. Although a report on details of the enforcement of that law will be included in the next issue, a plastics liquefaction demonstration project will be described in the present issue as a move toward the recycling of plastics. As reported in the top news in this issue, reinforcement of measures against dioxins and other substances originating in a waste disposal process was established in January; thus waste disposal in Japan is on the eve of a major change affecting both recycling and environmental protection activities.

On Dec. 9 last year, the Korea Solid Wastes Engineering Society held the Korea-Japan Joint International Symposium on Incineration Technology. In compliance with KSWES's request, JSWME asked Prof. Yoshito Masuda of the Daiichi College of Pharmaceutical Science and Mr. Eiichi Shibuya of NKK Corp. to participate in that symposium as lecturers. We are very glad of the success of the symposium as one of the first achievements under the Cooperation Agreement between the two societies and grateful for the cooperation of Prof. Masuda and Mr. Shibuya.

As announced in the No.18 issue of this newsletter, the International Seminar on PCB Management was held in Tokyo from Dec. 2 to Dec. 4, 1996, by the Japan Industrial Waste Management Foundation and others under the sponsorship of the Ministry of Health and Welfare, Environment Agency, Ministry of International Trade and Industry, Federation of Economic Organizations, JSWME, etc. The participants in this seminar totaled approx. 350 including Dr. John H. Skinner, Prof. Christffer Rappe, Prof. Masakatsu Hiraoka and other lecturers (15 from abroad and 15 from Japan). If you hope to have a copy of the proceedings of the seminar (which contains reports or abstracts in English for all of the 27 presentations), please send a FAX request to JIWMF (FAX No. +81-3-3639-9038). (Price not including postage: ¥5,000 or about $50.00)

(by Hiroki Hasizume)

New Guidelines for Reduction of Dioxins from Waste Incineration Furnaces

There are approx. 1,900 waste incineration plants in all in Japan. Eighty to ninety percent of the total quantity of dioxins generated is presumably emitted from those incineration plants. The Ministry of Health and Welfare announced new guidelines for reduction of the dioxins generated on January 28, '97. Main points of the guidelines are as follows:

① The reference level for a safety rating essential before an urgent action is 80ng-TEQ/Nm^3. This reference figure presupposes that unless the emission figure exceeds 80ng-TEQ/Nm^3, TDI 10pg-TEQ/kg/day is not surpassed.

② Even at those facilities where the limit level 80ng-TEQ/Nm^3 is not surpassed, more efforts should be made to control the generation of dioxins, and the following measures should be taken on a regular basis:

(1) Reduction and recycling of waste should be pushed forward as a fundamental measure.

(2) The best reduction measure technically available should be taken. Efforts should be made to limit the dioxins quantity to the specified maximum allowable level in the table, and the Environment Agency's "Environmental Risk Assessment Reference Figure", that is, 5pg-TEQ/kg/day, should also be heeded.

Table Limit Levels of Dioxins

Kind of furnace	Existing or new	Specified limit (ng-TEQ/Nm^3)
Continuous furnace	Newly constructed furnace	0.1
	Existing furnace	1
Semi-continuous furnace	Existing furnace	5

③ All incineration furnaces to be constructed in the future should be of full continuous type. Many existing incineration furnaces are of batch-feed type. Intermittent-operation furnaces should be integrated into a full continuous type furnace to serve a wider area.

④ Fly ash from incineration furnaces should be melted and solidified or otherwise processed to make it harmless.

⑤ Prevention of the emission of fly ash and proper treatment of a leachate will be essential at the final disposal sites.

It is expected that through the foregoing measures, 86% of the present quantity of dioxins will be eliminated in 5 years, 98% of that quantity in 10 years, and 100% in 20 years.

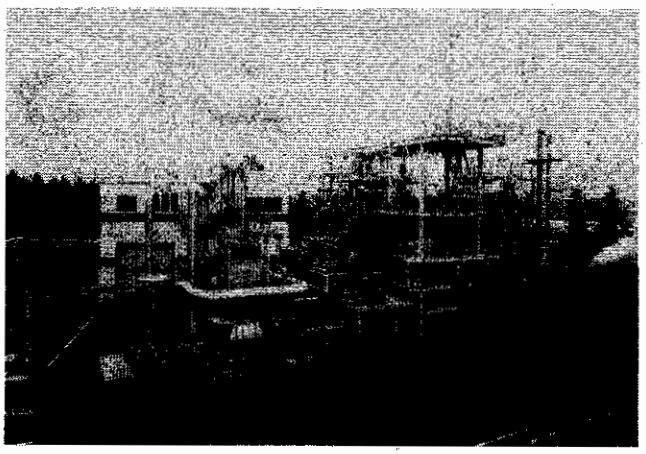
(by Masaru Tanaka)

Japanese Municipalities on the Move (11)
— Plastics Waste Liquefaction in Tachikawa —

The Packaging Waste Recycling Law will be put into force this April. Packaging waste sorted out by residents before discharge, and separately collected by municipalities will be recycled on the responsibility of business enterprises manufacturing products or containers/packaging-materials. Glass and PET bottles will initially come under regulation by the law this April, and in April, 2000, the law will be applied to plastic and paper packaging waste also. Plastic packaging waste contains polyethylene, polystyrene, polyvinyl chloride and many other resins. The Packaging Waste Recycling Law prescribes liquefaction into fuel oil as a collective recycling method for all those resins.

However, because there was no practical-scale facility, whether adequate waste management would be possible in the social system was not ascertained. Accordingly, the Ministry of Health and Welfare and the Ministry of International Trade and Industry decided to construct practical-scale plastics liquefaction facilities. Recently, such a facility has been completed in Tachikawa City, and another in Niigata City.

Tachikawa is a suburban town with a 160,000 population (total quantity of waste discharged: 170 tons/day) located to the west of Tokyo. Because the city had much difficulty in the final disposal of the voluminous waste, it made a plastics liquefaction plan as well as plans for recycling waste paper, glass, etc., before the Packaging Waste Recycling Law. The new facility (with a capacity for handling 10 tons/day) in Tachikawa was intended as a plant for the Japan Waste Research Foundation's experimental study of all the stages from collection of plastic waste to liquefaction and finally to use of generated oil, with financial support from the Ministry of Health and Welfare. The Nippon Steel Corp. and the Kubota Corp. started the designing, construction, etc. of the facility in the fall of 1995. Recently, its operation for experimental purposes was started on a full scale by the above four parties.



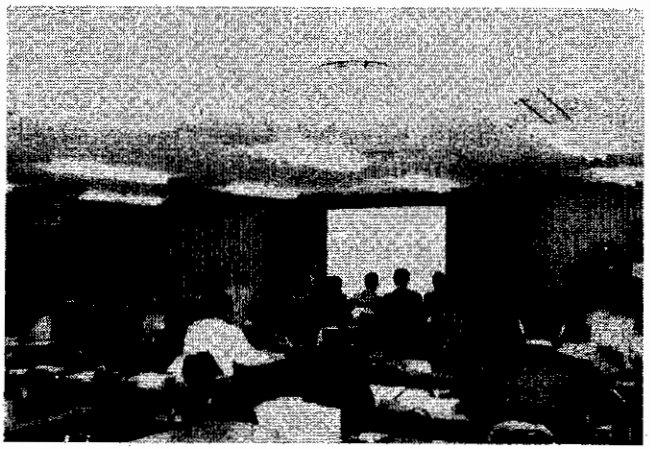
JWRF Plastics Waste Liquefaction Plant in Tachikawa

This study in Tachikawa will be continued till the end of March, 1998. The subjects of study will include various methods of preliminary treatment, the material balance, residue treatment, effect on the environment and the way of operating the facility. It is ardently hoped that the way to the recycling of plastics in Japan will be opened up by the success in the projects in Tachikawa City and Niigata City.

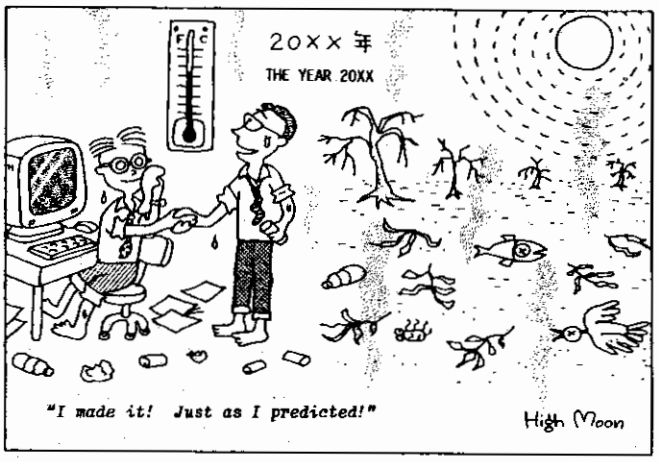
(by Hiroki Hashizume and Kazuyoshi Kondo)

Seminar on Waste Management and LCA

A seminar by overseas experts was held by JSWME on February 19. In the first part, Dr. Masaru Tanaka, National Institute of Public Health, gave a lecture entitled "Merits and Demerits of Waste Life Cycle Assessment", and in the latter part, Mr. Horst Fehrenbach of the Heidelberg Institute for Energy and Environment Research gave a lecture under the title "Application of LCA to Waste Management in Germany". Recently LCA has been attracting much attention from people in various fields, and many JSWME members are interested in it. This seminar was attended by more than 70 people.



(by Ryoko Sugiyama)



Cartoonist's note:
The most important thing to do about the warming of the earth is to planning and execution of a counter measure rather than predictions.

by Courtesy of Prof. Hiroshi Takatsuki
(translated by JSWME, taken from Monthly "The Waste", Jan. '97)

Introduction of the Study on the National Guidelines for Solid Waste Management (SWM) for Kingdom of Morocco

The JICA Study kicked off its unique SWM study in Morocco last May. This unique study, almost the first experience for Japan, is based on the Scope of Work (SW) signed between Morocco's Ministry of Environment and JICA's preparatory study mission headed by Dr. Tanaka of the National Institute for Public Health. Dubbed "The Study on the National Guidelines for Solid Waste Management for the Kingdom of Morocco". the study was contracted by a joint venture of EX Corporation and Yachiyo Engineering Co., Ltd. Consisting of two stage, it is planned to be carried out from January 1996 to 1997. The first stage of study has been already completed, producing SWM guidelines for Morocco. Now team is formulating a model SWM improvement plan for the city of Safi and is launching a series of educational on waste as well.

Being unique in its characteristics and procedures, the study distinguishes itself from JICA's other development studies. There are three remarkable characteristics.

First, the study was started in sequence with the World Bank's project comprehensively assisting the Morocco's environmental policy. The study was been conducted with due consideration and coordination with the Moroccan environmental policy.

Secondary, the study mainly aims at the assistance of advancing national level administration for SWM by a variety of software methods. Guidelines, SWM national strategy, and national level action program were prepared for establishing software such as laws; national institutions; administration system; human resource development and the technical standards relating to solid waste. This type of policy assisting study is Japan's first attempt in the field of SWM.

Third, characteristic of the study is that a feasibility study is not carried out on specific SWM facility construction unlike JICA's many other development studies.

Thus JICA has started the new type of studies which focuses mainly on software establishment and has tried to develop them further.

The procedures of the study is also outstanding in two aspects. First, the team places a great importance in the "collaboration" with the Moroccan counterpart. It can be proved by the fact that all the tasks were completed in Morocco and the team did not come back to Japan with any leftover. Second, the study team's policy of "total collaboration" with the counterpart ministry and the city was strictly upheld. In the second stage in Safi, the number of field surveys and educational demonstration on waste have been done primarily under municipality's responsibility. This shows the potential abilities of Moroccan administration and gives us one important lesson. With the willing attitude of the study team, collaboration with the counterparts anything is surely possible.

SWM Seminar for Moroccan Local Governments organized by JICA and Ministry of Environment in Rabat, Morocco, Dec. 10, '96

(by Study Team Leader Masato Ohno)

A Session to be Conducted in English at JSWME Annual Conference

JSWME will hold its 8th Annual Conference, which will provide an opportunity for various investigation and research presentations concerning waste, in Kawaguchi City (which can be reached in 30 minutes from Tokyo by train) from Oct. 28 to Oct. 30, 1997. Although presentations will be conducted in Japanese at this conference in general, in an approx. two hours' session presentations will be given in English and questions will be asked and answered also in English. Both members and non-members of JSWME may participate in the conference. If you hope to give a presentation at this conference or participate in it, please ask the JSWME Secretariat by letter or FAX. If you hope to give a presentation, you have to send to the Secretariat a summary of your presentation fit for inclusion into proceedings by June 23.

(by Hiroki Hashizume)

Journal of the Japan Society of Waste Management Experts
Vol.7 No.6 (November '96) & Vol.8 No.1 (January '97)

The volumes contain the following technical papers. (written in Japanese with English abstract)

Vol.7, No. 6 (November '96)

A Study of Disassembly Estimation and Improvement of Home Appliances
by Jung-ho Moon and Jong-soo Hwang

Modeling of RDF Production for Various MSW Waste Component Scenarios
by Toshihiko Matsuto, Nobutoshi Tanaka and Youngjae Kim

Reaction Kinetics of PCB Decomposition by Chemical Dechlorination
by Makoto Takada, Shin Taniguchi, Akihiko Murakami and Masaaki Hosomi

Influence of Ash and Inoculum Characteristics on Sulfate Reduction in Incinerator Ash Leachate Neutralized by CO_2 injection
by Kentaro Miyawaki, Nobutoshi Tanaka and Toshihiko Matsuto

Evaluation of the Imposed Charge on Disposable Polyethylene Bags at Supermarkets
by Kentoku Funaki and Yasoi Yasuda

Measurement of Chlorobenzenes and Chlorophenols from a Small-Scale Fluidized Bed Type Incinerator for Municipal Solid Waste
by Weon Joon Lee, Hiroshi Takatsuki, Nobuo Takeda and Shigenobu Okajima

Vol.8, No. 1 (January '97)

Air Flow Rate in Leachate Collection Pipe of Semi-Aerobic Landfills; Theoretical Study on Pipe Network
by Nobutoshi Tanaka, Toshihiko Matsuto and Youngkyu Kim

Techniques for Processing Industrial Waste Using Arc Plasma Generated by the Six-Phase Current
by Tsugio Matsuura, Keiji Taniguchi and Kohichi Makida

Development of Edible Mushroom Culture Medium Using Food Industrial Wastes —— Case of Excess Sludge ——
by Fumio Eguchi, Mami Okamoto, Akikuni Ushikubo and Miyato Higaki

Study of Flow and Mixing in Combustion Chamber of MSW Incinerator —— Flow Visualization Experiment with Soap Bubbles in a Cold Model ——
by Yoshitada Kakuta, Hiroyuki Adachi, Nobutoshi Tanaka and Toshihiko Matsuto

Theoretical Study on Design of Sanitary Landfill Gas Vents — Proposal of a Method for Numerical Calculation and Discussion about Influential Parameters for Gas Vent Design ——
by Hae-Seung Lee and Nobutoshi Tanaka

Method for Producing High-quality Activated Carbon from Organic Waste Sludges and for the Removal of Heavy Metals in Waste Water after Chemical Treatment
by Keijirou Morita, Kazuyosi Matsunaga, Motoichi Kondoh, Tsutomu Itadani, Tadasige Mori, Takumi Saitoh and Hirohisa Hinata

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