

No.

**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
OF THE GOVERNMENT OF THE PHILIPPINES**

**THE STUDY  
ON  
HAZARDOUS WASTE MANAGEMENT  
IN  
THE REPUBLIC OF THE PHILIPPINES  
(PHASE 1)**

**FINAL REPORT**

**JUNE 2001**

**EX CORPORATION  
KOKUSAI KOGYO Co.,Ltd.**

**MPI**

**JR**

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## PREFACE

In response to a request from the Government of Republic of the Philippines, the Government of Japan decided to conduct the Study on Industrial Hazardous Waste Management in Republic of the Philippines (Phase1) and the study was implemented by the Japan International Cooperation Agency (JICA).

JICA sent a study team, led by Mr. Masato Ohno of EX CORPORATION and organized by EX CORPORATION and KOKUSAI KOGYO Co., Ltd. to Republic of the Philippines 4 times from August 2000 to March 2001.

The team held discussion with the officials concerned of the Government of the Philippines, and conducted related field surveys. After returning to Japan, the team conducted further studies and compiled the final results in this report.

I hope this report will contribute to the promotion of the plan and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Philippines for their close cooperation throughout the study.

June 2001



Kunihiko Saito

President

Japan International Cooperation  
Agency

CURRENT STATUS OF HAZARDOUS WASTE TREATMENT IN PHILIPPINES

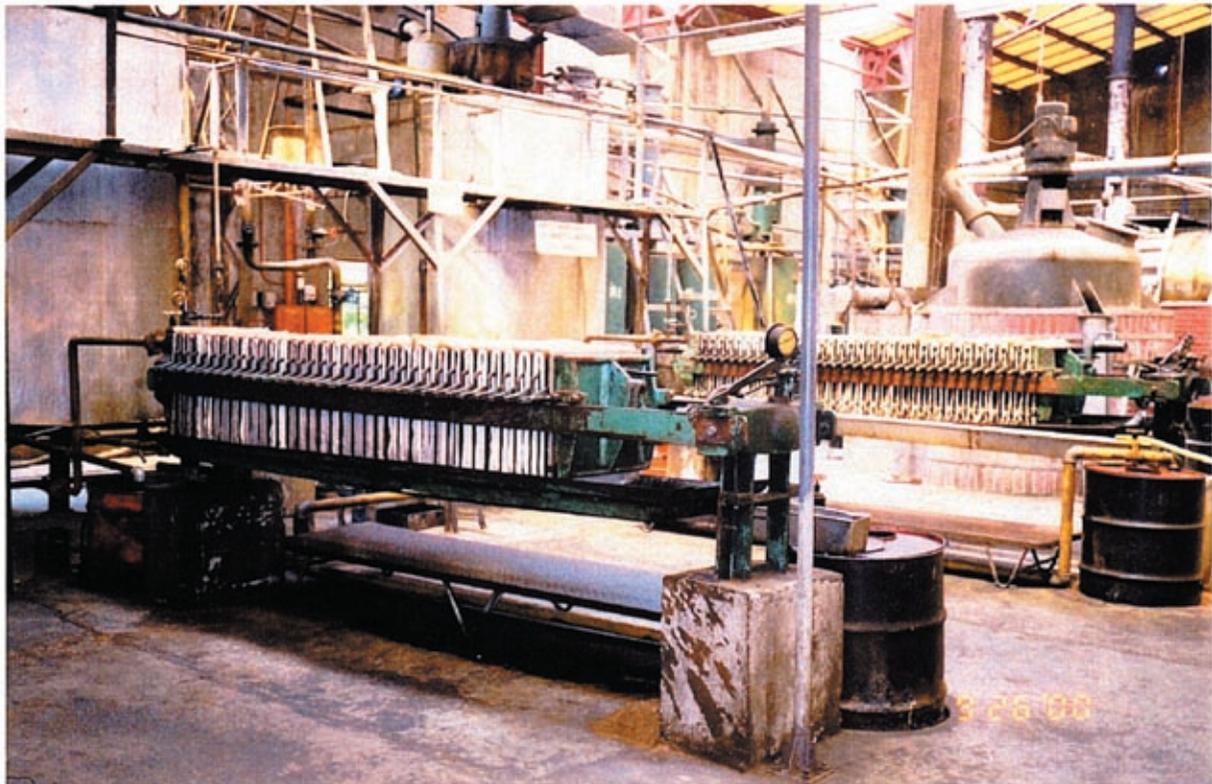
Collected Waste Solder Dross



Recycled Solder from the Collected Waste Solder Dross



Waste Oil Treatment Process (Filter Press)



Neutralization Process of CCTF



**CURRENT STATUS OF  
HAZARDOUS WASTE TREATMENT IN NEIBORING COUNTRIES**

Collected Wastes being stored at ECO Corp. in Singapore



Thermal Treatment Plant at KA Corp. in Malaysia



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**11. DEVELOPMENT PLAN OF**

**THE MODEL HW TREATMENT FACILITY**

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## **ABBREVIATIONS**

|          |   |   |   |
|----------|---|---|---|
| <b>A</b> | A/C                                       | Authority to Construct  |   |
|          | ADB                                       | Asian Development Bank  |   |
|          | APCD                                      | Air Pollution Control Device  |   |
| <b>B</b> | BOI                                       | Board of Investments  |   |
|          | BOO                                       | Build-operate-own Scheme  |   |
|          | BOT                                       | Build-operate-transfer Scheme   |   |
|          | BPS                                       | Bureau of Product Standards   |   |
| <b>C</b> | CALABARZON                                | CAvite, LAguna, BAtangas, Rizal, QueZON   |   |
|          | CAA                                       | Clean Air Act   |   |
|          | CCI                                       | Chamber of Commerce & Industry  |   |
|          | CCPSP                                     | Coordinating Council for Private Sector Participation,<br>Office of the President |   |
|          | CP  | Cleaner Production  |   |
|          | CY  | Calendar Year   |   |
|          | <b>D</b>                                  | DANIDA  | Danish International Development Agency |
| DAO      |   | Department Administration Order   |   |
| DBP      |   | Development Bank of the Philippines   |   |
| DBM      |   | Department of Budget and Management   |   |
| DENR     |   | Department of Environment and Natural Resources                                   |   |
| DILG     |   | Department of Interior and Local Government                                       |   |
| DOE      |   | Department of Energy  |   |
| DOH      |   | Department of Health  |   |
| DOST     |   | Department of Science and Technology  |   |
| DOTC     |   | Department of Transport and Communications  |   |
| DPWH     |   | Department of Public Works and Highways   |   |
| DTI      |   | Department of Trade and Industry  |   |
| <b>E</b> |   | EAP   | Environmental Action Plan               |
|          |   | EC  | European Commission                     |
|          | ECC                                       | Environment Compliance Certificate  |   |
|          | EIA                                       | Environmental Impact Assessment   |   |
|          | EIS                                       | Environmental Impact Statement (System)   |   |
|          | EMB                                       | Environmental Management Bureau   |   |
|          | EMB-EQD                                   | EMB Environmental Quality Division  |   |
|          | EMB-HWMS                                  | EMB Hazardous Waste Management Section  |   |
|          | EMPAS                                     | Environment Management & Protected Areas Services                                 |   |
|          | EMS                                       | Environment Management System   |   |
| ENROs    | Environment and Natural Resources Offices |   |   |
| EO       | Executive Order                           |   |   |

## ABBREVIATIONS

|          |          |  |
|----------|----------|--|
|          | EPMD     | Environmental Protection and Monitoring Division                                     |
|          | EPO      | Environmental Protection Officers  |
|          | EPZ      | Export Processing Zones  |
|          | EPZA     | Export Processing Zones Authority (now PEZA)   |
|          | ERF      | Environmental Revolving Fund   |
| <b>F</b> | FC       | Presidential Committee on Flagship Programs and Projects                             |
|          | FIS      | Filipino Inventors Society   |
| <b>G</b> | GCMCC    | Government Corporations Monitoring and Coordinating Council, Office of the President |
|          | GEF      | Global Environment Fund  |
|          | GTZ      | German Agency for Technical Assistance   |
| <b>H</b> | HWM      | Hazardous Waste Management   |
|          | HWMS-EQD | Hazardous Waste Management Section - Environmental Quality Division                  |
|          | HWTS     | Hazardous Waste Tracking System  |
| <b>I</b> | IATAC    | Inter-Agency Technical Advisory Council  |
|          | IDRC     | International Development Research Center  |
|          | IEC      | Information, Education & Communication   |
|          | IEMP     | Industrial Environmental Management Project  |
|          | IFC      | International Finance Corporation  |
|          | IISE     | International Initiatives for a Sustainable Environment                              |
|          | IPP      | Investment Priorities Plan   |
|          | IRR      | Implementing Rules and Regulations   |
|          | ITDI     | Industrial Technology Development Institute  |
| <b>J</b> | JBIC     | Japan Bank for International Cooperation   |
| <b>K</b> | KfW      | German Development Bank  |
|          | KRA      | Key Result Area  |
| <b>L</b> | LGU      | Local Government Unit  |
|          | LLDA     | Laguna Lake Development Authority  |
| <b>M</b> | MBIs     | Market Based Instruments   |
|          | MEIP     | Metropolitan Environmental Improvement Program                                       |
|          | MIF      | Model Integrated Hazardous Waste Treatment Facility                                  |
|          | MMDA     | Metropolitan Manila Development Authority  |
|          | MOOE     | Maintenance and Other Operating Expenses   |
|          | MWSS     | The Metropolitan Waterworks and Sewerage System                                      |
| <b>N</b> | NCR      | National Capital Region  |
|          | NEDA     | National Economic and Development Authority  |
|          | NEDA-PIS | NEDA Public Investment Staff   |
|          | NEDO     | New Energy Development Organization  |

## ABBREVIATIONS

|          |            |  |
|----------|------------|--|
|          | NIMBY      | Not-in-my-backyard (syndrome)  |
|          | NIMTOO     | Not-in-my-term-of-office (syndrome)                                      |
|          | NPC        | National Power Corporation   |
|          | NRDC       | National Resources Development Corporation                               |
|          | NSO        | National Statistics Office   |
| <b>O</b> | OJT        | On-the-Job-Training  |
| <b>P</b> | PAB        | Pollution Adjudication Board   |
|          | PBE        | Philippine Business for the Environment                                  |
|          | PCAPI      | The Pollution Control Association for the Philippines Industry           |
|          | PCO        | Pollution Control Officer  |
|          | PD         | Presidential Decree  |
|          | PEPP       | Philippine Environmental Partnership Programs                            |
|          | PEZA       | Philippines Economic Zone Authority                                      |
|          | PHP        | Philippine Pesos   |
|          | PIC        | Prior-Informed-Consent   |
|          | PMO- PTFWM | Project Management Office-Presidential Task Force<br>on Waste management |
|          | PNB        | Philippine National Bank   |
|          | PNP        | Philippine National Police   |
|          | PO         | People's Organization  |
|          | P/O        | Permit to Operate  |
|          | POPs       | Persistent Organic Pollutants  |
|          | PPP        | Polluters Pays Principle   |
|          | PRIME      | Private Sector Partnership in Managing Environment                       |
| <b>R</b> | RA         | Republic Act   |
|          | REDs       | Regional Executive Directors   |
| <b>S</b> | SMEs       | Small and Medium Enterprises   |
|          | SS         | Suspended Substances   |
|          | SWM        | Solid Waste Management   |
| <b>T</b> | THW        | Toxic and Hazardous Waste  |
|          | THWMS      | Toxic and Hazardous Waste Management System                              |
|          | TOC        | Total of Organically bound Carbon  |
|          | TSD        | Treatment, Storage, and Disposal   |
|          | TWG-HWM    | Technical Working Group on Hazardous Waste Management                    |
| <b>U</b> | UNCTAD     | United Nations Conference on Trade and Development                       |
|          | UNDP       | United Nations Development Programme                                     |
|          | UNEP       | United Nations Environment Programme                                     |
|          | UNIDO      | United Nations Industrial Development Organization                       |

## **ABBREVIATIONS**

|          |       |  |
|----------|-------|--|
|          | USAEP | US Asia Environmental Partnership                  |
|          | USAID | United States Agency for International Development |
| <b>W</b> | WTF   | Wastewater Treatment Facility                      |
|          | WTS   | Waste Tracking System                              |

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