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WASTE-TO-ENERGY INCINERATOR TECHNOLOGY EXCHANGE

**Korea
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Prepared for:

US - ASIA ENVIRONMENTAL PARTNERSHIP



WORLD ENVIRONMENT CENTER

DISCLAIMER

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I. EXECUTIVE SUMMARY

Peter Hage, International Marketing Director; John Basic Jr., President and Chief Executive Officer of BASIC Envirotech, of Glen Ellyn, Illinois participated in an Environmental Business Exchange (EBE) from September 24 to 30, 1994.

BASIC Envirotech designs and engineers state-of-the-art waste-to-energy incinerators. BASIC is currently competing against other foreign incinerator manufacturers for a multi-million dollar contract to provide an incinerator plant to Han Kook Tire Manufacturing Company (HKTMC) in Korea. BASIC is a finalist in the HKTMC bidding process. During the trip a number of meetings were held to explain the more salient features of their patented technology .

Funding for this project was provided through a Cooperative Agreement between the World Environment Center and the United States-Asia Environmental Partnership (US-AEP).

II. INTRODUCTION

A number of meetings were conducted by Peter Hage and John Basic, Jr. of Envirotech in Korea to introduce Envirotech's technology to the Han Kook Tire Manufacturer. Meetings were held with Han Kook Tire Manufacturers as well as representatives of the U.S.-Asian Environmental Partnership (US-AEP) and the U.S. Foreign Commercial Service (USFCS), the Korea Organic Waste Recycling Council, and Kumho Engineering. The participants also held a technical seminar for individuals identified by their sales representative (Ban Seok Construction & Engineering) as influential in the market.

The main purpose of Envirotech's visit was to review the system of waste management at the Han Kook Tire facility in order to best understand the company's environmental requirements and needs. Although Envirotech is cautiously optimistic regarding their chances for future cooperation and business ventures, they welcomed the opportunity to introduce their technology to the Han Kook Manufacturers.

Since the visit in September, 1994, representatives from Han Kook have visited the Envirotech facility in Illinois.

III. SUMMARY OF MEETINGS

A. MEETING WITH HAN KOOK TIRE MANUFACTURING COMPANY

Present at Meeting: Mr. Song Chun, General Manager HKTMC, Mr. H.Y. Pae, Section Manager HKTMC, Mr. S.B. Cho, Assistant Manager HKTMC; Mr. John Basic, Jr., President, Mr. Peter Hage, Director of International Marketing, Basic Envirotech, Inc.; Mr. H.T. Kee, President and Mr. In Sun Kim, Ban Soek.

Mr. Chun suggested that a technical team visit BASIC Envirotech plant facilities before making a decision on this project. Han Kook representatives have already visited the Elm plant in the U.S. It was noted that the premier concern of HKTMC is to guarantee performance quality with price as a secondary concern. HKTMC stated that a final decision on whether or not to purchase the BASIC system will be made in late 1994.

John Basic, Jr. reiterated his belief that the BASIC system offers certain superior features which greatly affect the economic analysis. Steam output of the BASIC system is higher than most other systems. Air emissions control equipment specified in the quotation to HKTMC consists of the best available technology, sufficient to meet or exceed new government standards in the U.S. BASIC has included one extra hearth to increase residence time in the combustion chamber and insure high volume reduction. Mr. Basic added that to properly appreciate the Envirotech facilities' capabilities, Han Kook Tire must see the equipment supplied to customers in the U.S. such as Firestone, 3M and Herman Miller. At Firestone, BASIC systems have been burning waste very similar to that generated by Han Kook Tire for over 10 years, generating valuable steam for operations.

B. TECHNICAL SEMINAR HOSTED BY BAN SOEK CONSTRUCTION & ENGINEERING

Present at Meeting: Representatives from the following companies: Korea Institute of Construction Technology; Environmental Industry Weekly; SangYong Engineering Co., Ltd.; The Kwankyung Kongup SinMun; Korea Power Engineering Company; Korea Advanced Institute of Science and Technology; and Jung Chul School, Inc.

Ban Soek Construction and Engineering, BASIC's sales representative in Korea hosted a three-hour presentation in which the participants presented the waste-to-energy technology in detail.

C. MEETING WITH REPRESENTATIVES OF U.S.-ASIA ENVIRONMENTAL PARTNERSHIP (US-AEP) AND U.S. FOREIGN COMMERCIAL SERVICE (USFCS)

Present at Meeting: Mr. Chi Sun Lee, US-AEP; Mr. Andrew Wylagala, USFCS; Mr. John Basic, Jr. and Mr. Peter Hage, BASIC Envirotech

The participants met with US-AEP and USFCS representatives to discuss their possible role in assisting firms such as BASIC Envirotech in successfully gaining a foothold in the Korean market.

D. MEETING WITH KOREA ORGANIC WASTE RECYCLING COUNCIL

Present at Meeting: Jae-Chun Chung, Ph.D., Associate Professor, Environmental Science, Yonsei University, Kangwon Do; Mr. John Basic, Jr., Mr. Peter Hage, BASIC Envirotech; Mr. In Sun Kim, Ban Soek

Dr. Chung, an expert on environmental technology in Korea, is leading a governmental effort to develop incineration technology. He showed the participants a demonstration unit currently being tested and described a system which is to be designed by his research team.

E. MEETING WITH HAN KOOK TIRE MANUFACTURING COMPANY, LTD. (PROCESS ENGINEERING DEPARTMENT)

Present at Meeting: Mr. Seung-Man Ahn, Manager, HKTMC; Mr. John Basic, Jr., Mr. Peter Hage, BASIC Envirotech; Mr. Kee Hyung Tak, Mr. In Sum Kim, Ban Soek

Mr. Ahn began with a video presentation of the Han Kook Tire Company. The video highlighted the major targets of the company: focus on the customer, technical excellence, focus on the global market, research and development, quality, service, automated production, importance of employees, mission to develop alternative energy and transportation, responsibility to promote a clean environment, and the importance of family, children and the future.

After the video, the participants toured the factory to see the waste materials. The first waste material viewed was oil, essentially crankcase oil with rubber material mixed in. The oil is deposited in metal drums. In a storage yard, the participants viewed textile cord, air hole, scorch, reject tires, and bags filled with tire scrap. Other waste materials included bladder material, powder, buffing, and miscellaneous plastic wrapping. At the end of the tour the exchange participants examined the pyrolitic system for destroying whole tires. In this area there was a considerable quantity of scrap tires and rubber waste stored along one factory wall, most of which was on pallets.

It was evident to the participants that the BASIC system would be able to destroy the identified wastes. The quantity of oil is relatively low and is believed to present no problem to the incineration process.

Following the tour, the participants began in-depth discussion with the HKTMC representatives with specific regard to their BASIC systems' technology. Mr. Basic pointed out that BASIC technology has added an extra hearth, where this size system would normally have only three hearths. The fourth hearth is for the attainment of optimal ash reduction. Also the BASIC system is notable for its ability to operate 24 hours/day and its system which burns more cleanly than natural gas. The baghouse can be cleaned without interrupting operations and bags typically last far as long as four years before being replaced.

F. KUMHO ENGINEERING ENVIRONMENTAL PLANT DIVISION, MECHANICAL DEPARTMENT

Present at Meeting: Mr. Yong Bong Lee, Mr. Kin-Hee Man, Kumho Engineering; Mr. John Basic, Jr., Mr. Peter Hage, BASIC Envirotech; Mr. In Sun Kim, Ban Soek

Mr. Basic presented a sales proposal for a waste-to-energy facility responding to a request from Kumho in early September, 1994.

IV. CONCLUSION AND RECOMMENDATIONS

Basic Envirotech will continue to work with Han Kook Tire Manufacturing Company with the anticipation of providing HKTMC an incinerator plant.

APPENDIX A
BUSINESS CARDS OF PERSONS CONTACTED



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