Newsletter

Volume 7

For the Study for the Development of an Integrated Solution Related to Industrial Waste Management in the Industrial Pole of Manaus

JICA Study Team (SUFRAMA), Av. Mário Andreazza 1424, Distrito Industrial, CEP 69075-380, http://www.suframa.gov.br, Tel: (092) 3321-7281 / Fax: (092) 3321-7280

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1) Seminar: Study Results & Master

SUFRAMA hosted a Seminar on May 27, 2010 to culminate the study. A total of 112 participants attended to hear the results of the study and provide feedback on proposals to formulate a preliminary version of the Master Plan for Industrial Waste Management (IWM) in the Industrial Pole of Manaus (PIM), to be implemented from 2011 to 2015. There were 4 presentations in the morning, and 2 in the afternoon, each followed by a Q&A session. The seminar covered the following topics:

1. Seminar Objectives and Procedures
2. Current Issues of Industrial Waste Management in PIM
3. Industrial Waste Management Master Plan in PIM
4. Good Practices of IWM in Brazil and Japan
5. Waste Inventory Database
6. Waste Service Company Database

The seminar began with Mr. Susumu Shimura (JICA Study Team Leader), who introduced the background and objectives of the study, and encouraged participants in the seminar to submit questions to the speakers.

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2) Why Use Databases?

There are two databases that have been developed in the Study to assist in improving on-site and off-site waste management, and ultimately, to establish an appropriate industrial waste management system in the Industrial Pole of Manaus (PIM). In order to explain these databases to a wide audience, there were two presentations in the afternoon portion of the seminar. The first presentation introduced a database that will assist factories to effectively manage waste inventories. This session was led by JICA Study Team member Mr. Kunito Ishibashi, along with Mr. David Silva and Mr. Ivo Brasil Filho, both of SUFRAMA.

CONAMA Resolution 313 (2002) requires that each factory submit waste generation data to IBAMA compiled by the State environmental organization. Factories do this by submitting an inventory of their wastes which contains information about the generation, characteristics, storage, transport, treatment, reuse, recycling, recovery and final disposal of the wastes generated. The presentation introduced the general scheme of the Waste Inventory Database and how it would be implemented. They also clarified 4 steps to

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3) Seminar Q & A

The Seminar was all the better thanks to the many participants who actively submitted questions during the morning and afternoon speech sessions. A summary of the answers given to questions and proposals are given below:

Morning Session

After the morning presentations, questions were collected from the audience. To begin, Ms. Ana Maria Souza of SUFRAMA responded to a suggestion from a representative of IBAMA that tax incentives granted by MFZ be on the condition that industries' fulfill the requirements of the Master Plan. She stated that it is a detail being looked at, and that tax incentives are already issued on condition of a validity date.

Following that, Mr. Jose Haddad of the JICA Study Team responded to a question about the procedure to identify what wastes are being illegally disposed of. He stated that two basic

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In the second presentation, on current issues of IWM in PIM, Mr. Alexandre Kadota (FIEAM/CIEAM/CCINB-AM) reviewed the wastes currently generated in PIM as revealed by the baseline surveys of the study, showing the respective waste stream diagrams. He then presented various issues with IWM which had been noted by the study, for on-site (i.e. at factories), off-site (i.e. by handled by waste service companies), and administrative issues.

On-site Issues:

- Extremely low rate of on-site treatment and disposal,
- Lack of incentive to construct a system for appropriate on-site waste management,
- Insufficient understanding of off-site IW disposal conditions,
- Use of pollution control facilities.

Off-site Issues:

- Insufficient understanding of actual conditions concerning waste service companies,
- Securing final destination,
- Poor business environment for industrial waste disposal.

Administrative Issues:

- Organizational structure
- Improvement and upgrading of management tools
- Strengthening regulation
- Insufficient cooperation among administration, waste dischargers and waste service companies

The third presentation, by Mr. José Felício Haddad (JICA Study Team), covered issues related to the Industrial Waste Management Master Plan in PIM. He reminded everyone that the objective of the Master Plan is "to establish an appropriate IWM system in PIM by 2015." He then outlined the methodology used to estimate future generation of industrial wastes in PIM, and reviewed the estimation that total industrial waste generation would increase by 3.7% per year during 2009 to 2015 and reach 737.7 tons of industrial waste per day in 2015; furthermore, 93% of that amount would come from the same 6 types of industries. Also, although no significant change is expected in the composition of IW during that time, in 2015 approximately 21% of the IW would be hazardous. Next, an outline of the proposal to achieve the objective of the IWM M/P was given with four approaches: (A) To understand actual treatment and disposal of industrial wastes, (B) to secure a final destination for waste, (C) to strengthen the administration of IWM, and (D) to improve the business environment for waste service companies. For details, including the measures proposed in each approach, please visit the Study website (see below).

The fourth presentation, given jointly by Ms. Rita Mariê and Mr. Armando Bandeira Jr. (both of SUFRAMA), showed the audience good examples of on-site and off-site management of industrial wastes. Two specific examples of *on-site* management were given from Japan: Kokubo Industrial Park and Honda's Suzuka Plant. These present the concept of "zero-emission" which aims for zero waste discharged outside the factory for final disposal (for the full story, see Newsletter Vol. 6, page 4).

The two examples given for *off-site* management stressed the importance of establishing close coordination between waste generators, receptors of waste (i.e. waste service companies) and administration.

In an example from Iwate Prefecture in Japan, a case of illegal dumping initially left the government responsible for clean-up costs after the companies which dumped the waste went bankrupt. This eventually led to reform, nearly 10 years after the fact, and 28 generators which had entrusted their waste to those companies agreed to pay the clean-up costs, leading to the creation of a waste service company rating system and an environmental fund that can be used under urgent conditions.

São José dos Campos Landfill in São Paulo State was presented as the second good example of off-site management. It is Brazil's first hazardous (class I) waste landfill and is ISO 14000 certified. When the municipal landfill refused to accept non-hazardous industrial waste, São José dos Campos Landfill began to accept non-HIW in 2007, which helps avoid mixing non-HIW with low-risk municipal waste. In addition, this allowed waste service companies to extend their services further into the market.

An overview of the afternoon presentations is given in 'Databases' on page 1. Also, all presentation materials can be accessed on the Study website. ❖

Please visit the Study website:
http://www.suframa.gov.br/suframa_publicacoes_jica.cfm

4) Seminar in Brasilia

A small seminar was held in Brasilia on Friday, May 28, 2010 with representatives from the Ministry of Environment (MMA), Brazilian Cooperation Agency (ABC) and the JICA Brasilia Office. Two representatives from Amazonas State, Mr. Antônio Stroski of IPAAM and Mr. David Silva of SUFRAMA gave presentations to explain how the waste inventory database and waste service company database plan to be used in Amazonas. Participants agreed that once the system is firmly in place in Amazonas and results can be confirmed, it will be valuable to consider utilizing this system in other localities around Brazil ❖

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instruments are used for this: the waste manifest and the destination certificate. Otherwise, street surveillance and monitoring with statistics by IPAAM will have to uncover these facts. Also, it is important to have an education program for factories on the benefit of practicing 3R (reduce, reuse and recycle) if executed properly.

Mr. Haddad also clarified that the purpose of cooperation among administrative entities, waste generators and waste service companies is to improve legal rules and ordinances so that they may be issued to be performed, instead of something new to be rejected by the industry.

In response to a comment that SUFRAMA should take waste management plans into account when a new industry makes a proposal, Mr. Haddad agreed, saying that SUFRAMA will probably look favorably on more complete and reasonable waste management plans which might generate less impact on everyone else. SUFRAMA will be able to better evaluate those plans based on the information contained in the database

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complete the section in the inventory on generated wastes. These are to (1) list all wastes generated, (2) apply the appropriate code to the wastes using the CONAMA waste table and corresponding JICA waste table, (3) register the quantity of all types of wastes generated that year (ton/year), and finally (4) verify if the wastes are treated on-site or off-site, making it possible to create a "waste stream" diagram.

In the second database presentation, Mr. Antônio Stroski and Mr. Emerson Silva, both of IPAAM, talked about the development of a Waste Service Company Database that would assist in organizing and promoting companies in the IWM marketplace. First, they identified two problems; one was that, in the current system, registration codes for waste management is scattered across various categories making it difficult for IPAAM to decipher waste service companies (WSCs) in their license list, and the second problem is that waste generators are unable to identify appropriate WSCs to entrust their waste without a correct and simple registration list. As a result, IPAAM is now exploring the possibility to establish a new category for waste management, divided under municipal (code 33) and industrial (code 34) waste management. Under the proposed system, when companies dealing in collection/transportation, intermediate treatment, reuse/recycling, and final disposal activities apply for an operation license, they would be registered into the WSC Database at IPAAM. Then, a webpage that promotes these preferred companies would be accessible by factory IWM officers who select companies to entrust their wastes for off-site treatment and disposal. At present, they plan to regulate this new system through the end of the year, and if approved in the state legislature, introduce it fully in 2011.

The use of these databases will not only contribute to meeting requirements by CONAMA Resolution 313, but also serve to eliminate non-licensed companies, promote services offered in the market, improve collaboration between administrative bodies, waste generators and WSCs, and lead to the establishment of appropriate IWM in the Industrial Pole of Manaus. ❖

A television cameraman focuses on presenters at the Seminar on May 27, 2010 in the SUFRAMA Auditorium.

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proposed by the JICA Study Team.

The next question was whether the Waste Manifest System is intended only for hazardous wastes, to which Mr. Haddad responded that national regulation applies it to all waste. However, the State authority IPAAM is able to formulate different requirements based on local conditions, and Mr. Haddad provided his personal recommendations in that regard.

The next question was whether IPAAM would improve environmental policies since it was pointed out that there are companies which are polluting the igarapés, and monitor and fine violators. Ms. Aldenira Queiroz of IPAAM responded, saying that Pro-Água is the applicable municipal law in Manaus, and it requires companies with over 40 employees to have an effluent treatment station. For smaller companies, they are allowed to have a cesspit, although whether that is the best solution is still debatable. She confirmed that the role of IPAAM is to monitor and fine violators, and it has, but, for example, it will not fine a company of 30 employees if they do not have the station.

The last question of the morning session was from UEA Professor Antônio Sanches, who inquired if there was any redundancy in IPAAM being in charge of the registration of collection companies when the municipal government is responsible for the destination of municipal wastes. Ms. Queiroz confirmed that the municipality is responsible for "destination of wastes", although it may outsource the activity. She then replied that IPAAM's involvement is licensing all waste service companies. However, she reminded the audience that, while the question stressed municipal wastes, the study is focused on the issue of industrial wastes.

Afternoon Session

The question and answer session continued in the afternoon, after presentations concerning the databases. The first question asked if companies would send in their waste generation reports at a minimum of three times a year. Mr. David Silva of SUFRAMA replied that the reports would be required once a year, as per CONAMA Resolution 313, by which the State environmental organization consolidates the information and sends it to IBAMA. Ms. Queiroz of IPAAM added, however, that companies would use the database *offline* almost every day, so that data would not only provide accountability and transparency about the amount of waste generated, but serve as a management tool at the factory.

Mr. Antônio Stroski of IPAAM answered a question about the possibility to submit the manifest licensing system and other documents online, and if so, when that could be expected. Mr. Stroski explained that a unified hard copy format would be made available first, although work is being done to implement an online system. However, he added that it would remain necessary to obtain hard copies of documents critical to the licensing process. As for information pertaining to waste generation, a unified system, as presented in the Seminar, would be made available to everyone.

The final question was related to the schedule to begin to input the inventory data into the system. Mr. Silva of SUFRAMA announced that some companies would receive a local version of the database in the coming week and begin preparing the data offline so the companies could proceed with waste management tasks. The online system, on the other hand, is forecast to be ready in January 2011, giving the remaining months of this year to construct and test the system. ❖

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JICA Study Team (Suframa)
Av. Mario Andreazza 1424, Distrito Industrial, CEP 69075-380

Telephone: (092) 3321-7281

FAX: (092) 3321-7280

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5) JICA Study Team Departure

As of the end of May, soon after the Seminar was completed, the members of the JICA Study Team departed Brazil to return home. After over a year visiting Manaus, the JICA Study Team would like to express its gratitude to all those who cooperated in the baseline survey and who were involved in the study, especially those at SUFRAMA who made them feel very welcome during their stay. ❖