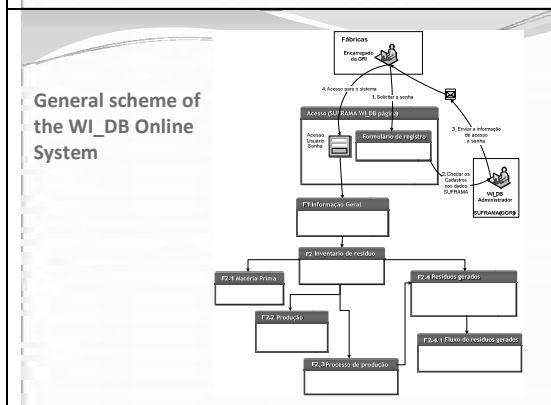
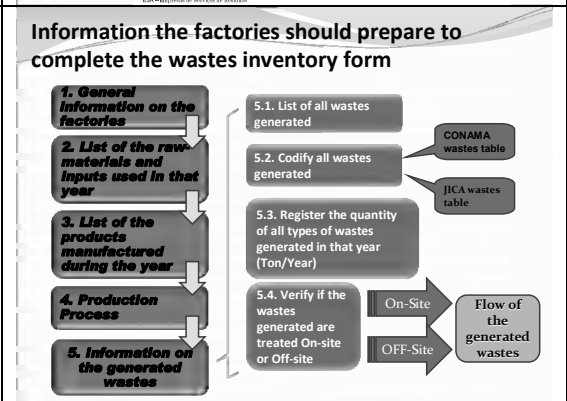
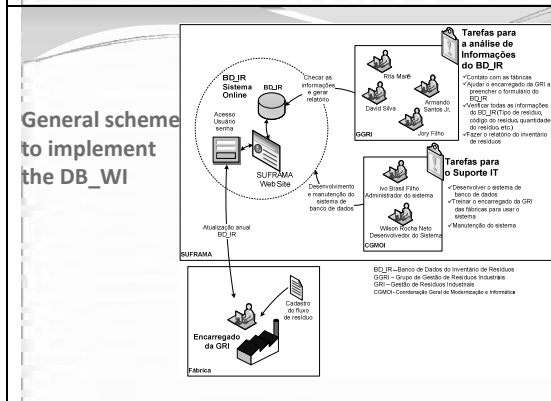
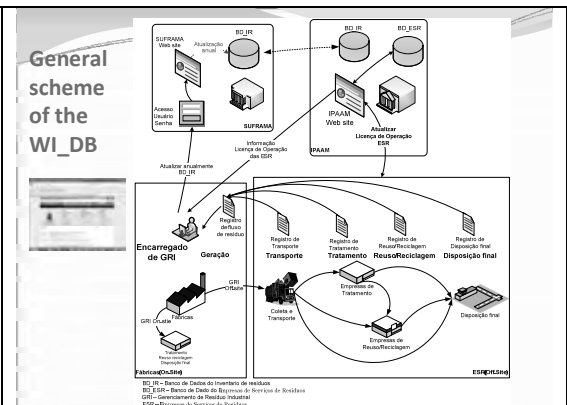
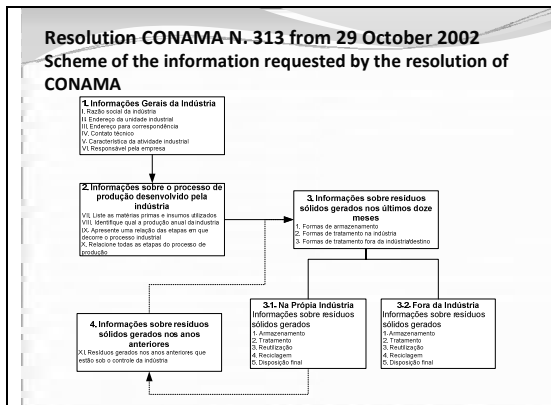


<p>2.2 Sao Jose Dos Campos Landfill (3)</p>  <p>Current HW Landfill</p> <p>Overview of the landfill</p>	<p>Off-site Example 2: in Brazil</p>  <p>Previous HW Landfill</p>  <p>New HW Landfill</p>	<p>2.2 Sao Jose Dos Campos Landfill (4)</p>  <p>Current Non-HW Landfill</p> <p>Overview of the landfill</p>	<p>Off-site Example 2: in Brazil</p>  <p>Leachate Collection</p>  <p>Previous Non-HW Landfill</p>
<p>2.2 Sao Jose Dos Campos Landfill (5)</p>  <p>Inside Monitoring Well</p> <p>Overview of the landfill</p>	<p>Off-site Example 2: in Brazil</p>  <p>Monitoring Well</p>  <p>Construction Waste Recycling</p>	<p>2.2 Sao Jose Dos Campos Landfill (6)</p>  <p>Laboratory</p> <p>Overview of the landfill</p>	<p>Off-site Example 2: in Brazil</p>  <p>Laboratory Samples</p>  <p>Construction Waste Recycling</p>
<p>Thank you very much for your attention</p> <p>Rita Marie rita.marie@suframa.gov.br Armando Bandeira asjunior@suframa.gov.br</p> <p>29</p>			

Presentation 5 for Seminar (May 27, 2010): Waste Inventory Database

<p>Session 5</p> <p>Wastes Inventory Development of the Wastes Inventory Data Base WI_DB</p> <p>May 27, 2010 Counterpart to JICA Study Team For the Study for the Development of an Integrated Solution Related to Industrial Waste Management in the Industrial Pole of Manaus</p>	<p>Resolution CONAMA N. 313 from 29 October 2002 (Industrial Wastes National Inventory)</p> <p>Wastes Inventory: Is the set of information about the generation, characteristics, storage, transport, treatment, reuse, recycling, recovery and final disposal of the wastes generated by the industries.</p> <ul style="list-style-type: none"> - In 2002, the National Council of the Environment (CONAMA) issued Resolution 313. - According to this Resolution (Art. 8), each Industry should register monthly (and keep) the wastes generation data in order to get information for the National Industrial Wastes Inventory. - The environment state organizations should submit to IBAMA the data of the Wastes Inventories (Art. 4).
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1. General Information on the Factories

Campo	Dado	Observação
CNPJ	00.000.000/0000-49	
Inscrição Suframa	00.000-000	
Razão Social	Empresa 1	
Endereço para correspondência:		
Logradouro/Rua	Rv. Semilhas, 000 - Distrito Industrial	
Bairro/Distrito	Distrito Industrial	
Município	Manaus	
CEP	00.000.000	
Telefone	(92)0000-0000	
Contato técnico:		
Nome	Tecnico 1	
Cargo	Coordenadora de Resíduos Industrial	
E-mail	tecnico1@empresa1.com.br	
Telefone de	(92)0000-0000	
Fax	(92)0000-0000	
Características da atividade industrial:		
Atividade principal da indústria	Fabricação de produtos de papel, cartolina, papel-cartão e papelão ondulado para uso comercial e de escritório, exceto formulário contínuo	
Código CNAE	1741-9/02	Consulte a tabela da CNAE
Latitude	30° 07' 38.24" S	Medição GPS Grando/Min/Sec
Longitude	60° 02' 30.43" W	Medição GPS Grando/Min/Sec

2. List of Raw Materials

ID	Matéria Prima e insumos	Quantidade atual (por ano)	Capacidade Máxima (por ano)	Unidade de Medida
1	Insumos 1	20	100	Ton/ano
2	Insumos 2	30	100	Ton/ano
3	Insumos 3	40	100	Ton/ano
4				
5				
6				

3. Factory Annual Production

ID	Produtos	Quantidade anual (por ano)	Capacidade Máxima (por ano)	Unidade de Medida
1	Produto 1	100	150	Qnt
2	Produto 2			
3	Produto 3			

4. Production Process (Generation)

ID	Processo Produção	Descrição	Observação
1	1	Não	LIXO EM GERAL
1	2	Sim	Produto 1, linha 1 etapa 2
1	3	Sim	Produto 1, linha 1 etapa 3

4. 5.1. List and Codify All Wastes Generated

No.	Descrição	Codigo CONAMA	Codigo JICA
1	LIXOORGANICO	A001	NH01
2	PAPEL/PAPELÃO	A006	NH03
3	MADERAPALLETS	A009	NH02
4	METAISFERROSOS	A004	NH09

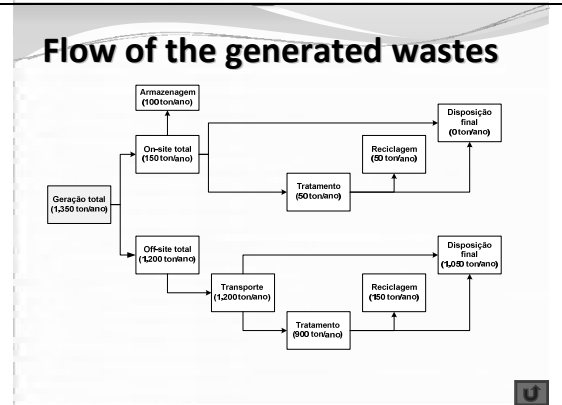
5.3. Register the Quantity of All Types of Wastes Generated in that Year Single unit (Ton/Year)

No.	Descrição	Codigo CONAMA	Codigo JICA	Quantidade (Ton/ano)
1	LIXOORGANICO	A001	NH01	100
2	PAPEL/PAPELÃO	A006	NH03	200
3	MADERAPALLETS	A009	NH02	50
4	METAISFERROSOS	A004	NH09	1,000
Total				1,350

5.4. Verify if the wastes generated are generated On-site or Off-site

No.	Descrição	Codigo CONAMA	Codigo JICA	Quantidade (Ton/ano)
1	LIXOORGANICO	A001	NH01	100
2	PAPEL/PAPELÃO	A006	NH03	200
3	MADERAPALLETS	A009	NH02	50
4	METAISFERROSOS	A004	NH09	1,000
Total				1,350

Transporte	Tratamento	Reciclagem	Disposição final	Armazenamento
On	Off	Off	Off	Off
100	100	100	100	100
200	50	150	50	200
50	50	50	50	50
1,000	100	100	100	1,000
Off	Off	Off	Off	Off
1,350	1,350	1,350	1,350	1,350



JICA Wastes Table

Classificação	Descrição	Quantidade
2 - 01	Resíduo de cozinha (restos de animais tais como ossos, pele e pelos)	100
2 - 02	Papel	200
2 - 03	Madeira	50
2 - 04	Metais e ligas de metais como alumínio, cobre e bronze	1,000
Total		1,350

CONAMA Wastes Table

Classificação	Descrição	Quantidade
A001	Resíduo de cozinha (restos de animais tais como ossos, pele e pelos)	100
A006	Papel	200
A009	Madeira	50
A004	Metais e ligas de metais como alumínio, cobre e bronze	1,000
Total		1,350

Presentation 6 for Seminar (May 27, 2010): Waste Service Company Database

Session 6

Waste Service Company Database (WSC_DB)

May 27, 2010

Counterpart to JICA Study Team

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

For proper IWM

It is essential to eliminate non-licensed activities and foster sound waste service companies (WSC)

Problems

- Difficult for IPAAM to decipher WSCs in the license list because the registration codes for waste management are dispersed into various different categories
- The waste generators, who are obliged to consign their IW to registered WSCs, have no way of knowing which WSCs are licensed unless a correct and simple registration list is provided.

Approach

IPAAM has collaborated with the JICA study team to explore the possibility of establishing a registration system that would introduce a new category for waste management

Current Waste Management Codes of IPAAM for Environmental Licensing

Code	Class	Code	Sub-Class	Impact
22**	Commerce and Services	2217	Incineration	High
		2218	Co-processing of wastes	High
		2219	Agrochemical Collection Center	Moderate
24**	Other Services (including provision of electricity and water)	2407	Solid Industrial Waste Collection and/or Treatment	High
		2408	Municipal Waste Final Destination	High
		2410	Collection and Transport of Inert Solid Waste	Minimal
		2411	Collection and/or Storage and/or Commercialization of Solid Waste (e.g. recycling)	Moderate
		2412	Collection and/or Treatment of Hazardous Liquid Industrial Waste	High
		2417	Industrial Waste Disposal in Landfill	High
28**	Transportation	2815	Transport and Storage of Hazardous Solid Industrial Waste	High
30**	Waste Treatment and Recycling	3001	Treatment and Recycling of Solid Industrial Waste without chemicals	Moderate
		3002	Treatment and Recycling of Industrial Liquid Waste	Moderate
		3003	Treatment and Recycling of Solid Industrial Waste without Chemicals	High
		3004	Treatment and Recycling of Pallets	Moderate
		3005	Paper and Cardboard Recycling	Moderate
		3006	Treatment and Recycling of Mineral Waste (Waste Re-processing)	Moderate

Proposed Table of Categories (Draft)

Code	Major Classification	Code	Sub-Classification	Class [Types of Waste Handled]
33	Municipal Waste Management	3301	Collection and Transportation	Class I (HW), Class II-A(NON-HW, NON-INERT), Class II-B (NON-HW, INERT)
			Intermediary Treatment	Class I (HW), Class II-A(NON-HW, NON-INERT), Class II-B (NON-HW, INERT)
		3303	Recycling	Class II-A (NON-HW, NON-INERT), Class II-B (NON-HW, INERT)
		3304	Final Disposal	Class II-A (NON-HW, NON-INERT), Class II-B (NON-HW, INERT)
		34	Industrial Waste Management	3401
3402	Intermediary Treatment	Class I (HW), Class II-A(NON-HW, NON-INERT), Class II-B (NON-HW, INERT)		
3403	Recycling	Class II-A (NON-HW, NON-INERT), Class II-B (NON-HW, INERT)		
3404	Final Disposal	Class II-A (NON-HW, NON-INERT), Class II-B (NON-HW, INERT)		

Elimination of Non-Licensed Activities

- ◆ Non-Licensed Companies are:
 1. Those carrying out waste related services without having obtained an environmental license
 2. Those which have obtained an environmental license, but are carrying out activities other than those for which they are licensed.

Scheme of WSC_DB

WSC_DB = Waste Service Company Database
WSC = Industrial Waste Management
OL = Operation License

Rationale for Introducing the WSC_DB and New Categorization

Benefit for WSCs

- Official publication of services offered to the market
- Elimination of non-licensed companies
- Public definition of the limits of responsibilities they share with their Customers.
- Attendance "1 click" for the SUFRAMA team.

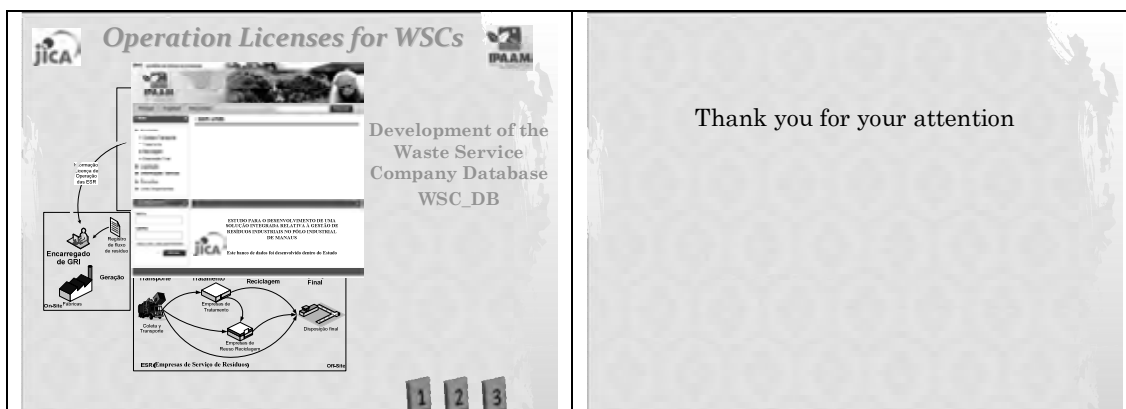
Benefit for SUFRAMA and IPAAM

- Elimination of non-licensed companies
- Clear and objective definition of the licensed activity.
- Ease and objectivity in the administration of the activities.
- Compliance with environmental requirement for the Industrial Districts.

Benefit for Generators (Clients)

- Easy guides and objective of the WSC that can assist to your needs.
- Official information of WSC that will share with your responsibility.

Implementation diagram of WSC_DB



2.6.3 Outcomes

Questions and Answers Session – Morning

Ana Maria: So following with our presentation here, let's go the part of questions and answers, I will start with one that can be answered and Dr. Haddad will answer the others. It is from the representative of IBAMA which he says he suggests it in case it is pertinent, to include in the master plan a proposal to make that as a condition for the tax incentives granted by MFZ for the effective fulfillment of the master plan by the industries. So, Geandro, that is something that is being thought of, studied. Because we have a small, let's put it that way, detail there, that with the tax incentives, whether they want it or not, are conditioned to a validity date, and the issue of the tax incentive itself, is still under study, it is being thought of, but that will be taken into account. Ok? Dr. Haddad.

Haddad: Ok, that is a question about how would be the procedure to identify the wastes being illegally disposed of. I presented as basic instruments for that, first the wastes manifest. The manifest indicates the wastes flow, from the generation source up to the final destination and it is a documents which is signed by each agent who is intervenient on that, that is, the generator, the transporter and the receptor, who gives that document back to the generator, signed by the three intervenient, confirming, taking their own responsibility, although I may remind, the responsibility is always together with the generator. The second basic instrument for that is the destination certificate, as I said, who gives the waste a destination, who receives it to give the destination, either a landfill, an incinerator, a co-processing, a chemical treatment, whatever, he must declare and sign, taking the responsibility for his declaration, stating how many kilos were received, and how many kilos had this or that destination, etc. So, that way, one will know exactly where the waste went to. Well, those wastes which were not included in the manifest, must have left the generation source illegally, and must have been sent to some illegal place, but how can that be found out? Only through the street surveillance or monitoring by statistics, done by IPAAM. So that is the position. Well, as for the other question, once the survey is done, some industries hold no interest, they declared not to be interested in using the 3R. Well, that is a particular situation. We are proposing an educational program for the companies, which will have as basis a legal instrument, the resolution 313 of CONAMA. Not for the purposes of CONAMA alone, but because the content of such request by CONAMA 313 is the basis for the proper management of wastes in the industry; In such a way that it is automatically solved if the industry is aware of what it generates, how much that costs and the destination, etc.

Well, the other question here is what would be the purpose of the cooperation among the several entities and the generator and the wastes service companies. I said that here quickly during my presentation, it is true we have proposed the establishment of a committee, a working group, which would count on the participation of IPAAM, SUFRAMA, FIEAM, CIEAM, industrial entities and even more, entities or the own representative of the waste service companies so they may discuss the proposals, regulations and rules they may be interested in, whether the existing ones or others which may be established. So receptive legal

rules and ordinances may be issued in order to be performed and not as something new to be rejected by the industry.

The third is: proposal for new industries to be set up in PIM, taking into account the treatment, reuse and etc. Well, currently SUFRAMA, the companies which subscribe for the benefits of SUFRAMA undergo a registration in which they also inform their environmental management plan in all its aspects. That would be fit, SUFRAMA will probably see with more sympathetic eyes those which have a more complete and reasonable wastes management plan which could generate less impact to everyone else, because of course, the industrial district as a whole is a unit which also requires its own environmental license, and it is let's say, under the responsibility of SUFRAMA to manage such waste. The industrial district will in the future have its collective plan also for wastes, which will be very useful for it, formed by the unit or the synthesis of each of those plans, and that SUFRAMA will be able to evaluate and formulate based on the information contained in the data base we are proposing.

There is another one here. If the WMS is for hazardous wastes only. Well, the national regulation about the wastes manifest is that it is applicable for all and every waste, only the environmental authority of the State should define whether it will be applicable to all or to some, or selectively for what industry or type of industry, taking the local peculiarities into account, as well as the quantity generated, the environmental risk represented and other parameters the environmental authority may consider, once it is not the attribution of our group to formulate that, only it is the legislation applicable to the wastes manifest. So IPAAM will be able to set that for all wastes or not. In my opinion, if I were IPAAM, I speak for myself, not in the name of the group, but particularly in my name, I would say all the wastes coming to the municipal landfill which are not collected by the habitual municipal wastes collectors, should have to submit the manifest. Because that is the most critical source of risk here in Manaus. And secondly, I would say all non-hazardous non-inert wastes would have to be transported with the manifest. And obviously all hazardous ones, as well. So that is my personal opinion I repeat, not JICA's. It's mine alone, personal.

Ana Maria: Thank you! There are here I think two questions for IPAAM, although IPAAM will only talk in the afternoon. But please, the word is yours.

Aldenira: Good morning. The first question is from Waldir Eugênio. He states here, if the State points for the existence of companies which are polluting the igarapés, and which lack the licensing, I hope IPAAM may improve the environmental policies, as well as monitor and fine those violators. Ok, the diagnosis, you could see, points out to the companies which have no wastewater treatment, the law used by IPAAM now is the Municipal one known as "Pro-Água", which states the companies with over 40 employees should build a treatment station. For those companies under that number of 40 employees, IPAAM still accepts the cesspit. Is that ok? So some companies really do not have the station, but they have a system which receives those effluents, if the cesspit is the best or not, that is still discussable, isn't it? So, today our law is Pro-Água, which is the municipal law of Manaus. Ok? So monitor and fine is surely the role of IPAAM, and that has been used, but if we have a situation defined by law, we will not fine a company which has 30 employees if they do not have the station.

The other question is about... it is from professor Sanches, from UEA. He asks, if the destination of the municipal wastes is under the competence of the municipal government, why would IPAAM be in charge of the registration of the collectors? He also asks if there is overlaying of responsibilities. Professor Sanches, I see that is this situation you state very well here "destination of wastes", destination in fact is the responsibility of the municipal government, and it may do it itself or outsource it. We saw here even the example from São José dos Campos the team presented at SUFRAMA, there is also an outsourced landfill. But that does not stop the responsibility of the municipality. Ok? And IPAAM is the organization in charge of the licensing, so, as the licensing organization it cannot refrain itself from getting to know who the collectors are, which are the waste service companies, because all those require a licensing. And we also have here a situation to be highlighted, which is put as the

municipal wastes, isn't it? The work itself is focused much more on the issue of the industrial wastes.

Ana Maria: Gentlemen, it's 11h45min. Congratulations to the lecturers for the time, we will have lunch now and will be back here at 14h. Thank you! All of you!

Questions and Answers Session – Afternoon

Ana Maria: Our friend is passing by our side and will collect from you the questions you may have. Then we will have the questions and answers session now and after that we leave for the *coffee break*. I will pass it over to Stroski.

David: We have here the question from Márcio Lelis, he asks: once there is a huge concern about the wastes generation, is there a possibility for the companies to send their reports in the minimum quantity of three times a year? Well, when we talk about the wastes inventory we mean the resolution 313 of Conama 313, so the thing is to follow the resolution as it is set, and the resolution states the report is annual. I believe that would facilitate for the company as well, if I had to send three times a year I don't know if that would facilitate the life of the personnel who collect those data. But the resolution is clear, once a year, after the consolidation. Those data would be sent once a year to the state environmental organization, and once consolidated by the state environmental organization, they would be sent to IBAMA. So, that is only once a year, once it is consolidated as per the resolution.

Ana Maria: Dr. Alderina wants... you may add it.

Aldenira: Completing the question, that data base is to be used almost every day by the company, the legal obligation is to send it once a year to the environmental organization, and to Suframa as well. Because those data are not simply to report to IPAAM, isn't it? This result is for the management purposes. So from the moment you know how much you are generating, you ought to know what that amount of waste is, to what it may be added and what treatment to be used. So its main purpose, besides providing accountability and transparency about how much waste you are generating, is for you to be able to manage the waste you generate.

Stroski: I have another question here. Paloma: Can the manifest licensing system and other documents to be submitted to the organizations be delivered through the system? And when will that be implemented? IPAAM is defining a unified model for the manifest, in the first moment it will be in hard copy, but we are working to implement the *on line* system for the licensing of the activity, in hard copy, because there are documents which are very important for the licensing process and still cannot replace them. But such procedures, the information, for example, for the wastes generation, the wastes inventory of each generation unit, we already have, as it was presented by our friend David, a unified system, and which will be made available to everyone else. Later on the system may also be input *online*. We need to build all those phases in order to reach all possible procedures in the *online* format.

David: The question is: when will we start to *input* the data into the system? Well, the schedule of the study group is preparing the *off-line* part to start next week with some companies, that for the *off-line* part, the software installed in the company so the company may start its wastes management. Now as for the *on-line*, all the *online* system, we forecast that for January, to start in 2011, it would be those six months, seven months, until the end of the year for the implantation of the system and the tests. So, *online* in January 2011 is the forecast, and *off-line* is forecasted to start next week with some companies.

2.7 Seminar in Brasilia

2.7.1 Program

Program for Seminar in Brasilia: May 28, 2010

Program for Seminar: Industrial Waste related Database Management			
<i>For the Draft Master Plan for Industrial Waste Management in the Industrial Pole of Manaus</i>			
Date	Time	Venue	
May 28, 2010	14:00 – 16:30	Itamaraty Palace / Ministry of Foreign Affairs	
Objective:	To explain to concerned stakeholders the waste inventory database and waste service company database constructed in the study with the aim to disseminate the system to other places in Brazil.		
Session	Time	Title	Speaker
	14:00 - 14:10	Opening Address	JICA Brazil Office
1	14:10 - 14:40	Introduction of the Study for the Development of an Integrated Solution related to Industrial Waste Management in the Industrial Pole of Manaus	Mr. Susumu SHIMURA - JICA Study Team
2	14:40 - 15:00 (20 min)	Explanation of the WI_DB system, and use of the WI in 2010 to make a "waste stream"	Mr. Kunito Ishibashi - JICA Study Team
3	15:00 - 15:20 (20 min)	Obstacles to making a WI report using the current system + SUFRAMA's management system for the industrial district WI_DB	Mr. David Silva - SUFRAMA
4	15:20 - 15:40	Explanation of the Waste Service Company Database (WSC_DB) for IW Off-site Management.	Mr. Antonio Stroski - IPAAM
5	15:40 - 16:10	Question & Answer Session	Speakers
	16:10 - 16:30	Closing remarks	JICA Brazil Office