

**Regional/Subregional Capacity Building Workshop
on Implementation of Article 5
and
Practical Use of the Guidelines on Best Available
Techniques
and Best Environmental Practices (BAT and BEP)**

**Medical Waste Legislation and Technologies
Sao Paulo, Brazil, 02-04 February 2009**

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**Regulations and Guidelines
for Medical Waste**



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FEDERAL REGULATIONS

- **National Environmental Council (NEC) Resolution no. 5 as of August 3, 1993**

... Regarding regulations for solid waste from health care establishments, ports and airports...

- **NEC Resolution no. 281 as of July 12, 2001**

Provides for treatment and disposal of medical waste



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- **NEC Resolution n. 358 as of April 29, 2005**

Section 1. This resolution applies to regulated medical waste generators such as hospitals, clinics (dental, medical or veterinary), laboratories and other health care establishments
Section 10. Medical waste treatment and final disposal must be licensed by the Environmental Department and meet regulatory requirements



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STATE REGULATIONS

- São Paulo state resolutions and act
- CETESB Guidelines



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Joint Resolution no. 1 as of June, 29, 1998

Regulates the Guidelines and Technical Requirements for Medical Waste Management Section 3.

- Environment Secretariat analyses the local and technological feasibility for medical waste treatment and final disposal
- Sanitation Technology Agency (CETESB) licenses and controls medical waste treatment and final disposal and establishes guidelines regarding environmental pollution control



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Joint Resolution no. 1 as of July, 15, 2005

Regulates classification, guidelines and technical requirements for animal infectious wastes

- Environment Secretariat analyses the local and technological feasibility for medical waste treatment and final disposal
- Sanitation Technology Agency (CETESB) licenses and controls medical waste treatment and final disposal and establishes guidelines regarding environmental pollution control



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Act no. 12.300 as of March 16, 2006

Enacts the state policy on Solid Waste and defines principles and guidelines

Title II

Chapter I

Section 14. It is forbidden the following destination and uses of solid waste:

IX – disposal of medical waste in landfills without previous treatment, rendering the waste non-infectious.



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CETESB GUIDELINES

- E15.011 – Medical waste incineration system
- E15.010 – Non-combustible thermal treatment for infectious wastes
- P2.111 – Evaluation of the effectiveness of non-combustible thermal treatment for infectious waste by means of bioindicators test
- P4.262 – Chemical waste management from health care establishments



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Medical waste technologies and licensing



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Treatment Technologies

- Incineration – E15011
- Microwave – E15010
- Autoclave - E15010



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Incineration System

Incinerator + Pollution Control Equipment (PCE)



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Microwave system

Dry heat – *Bacillus atrophaeus (subtilis)*



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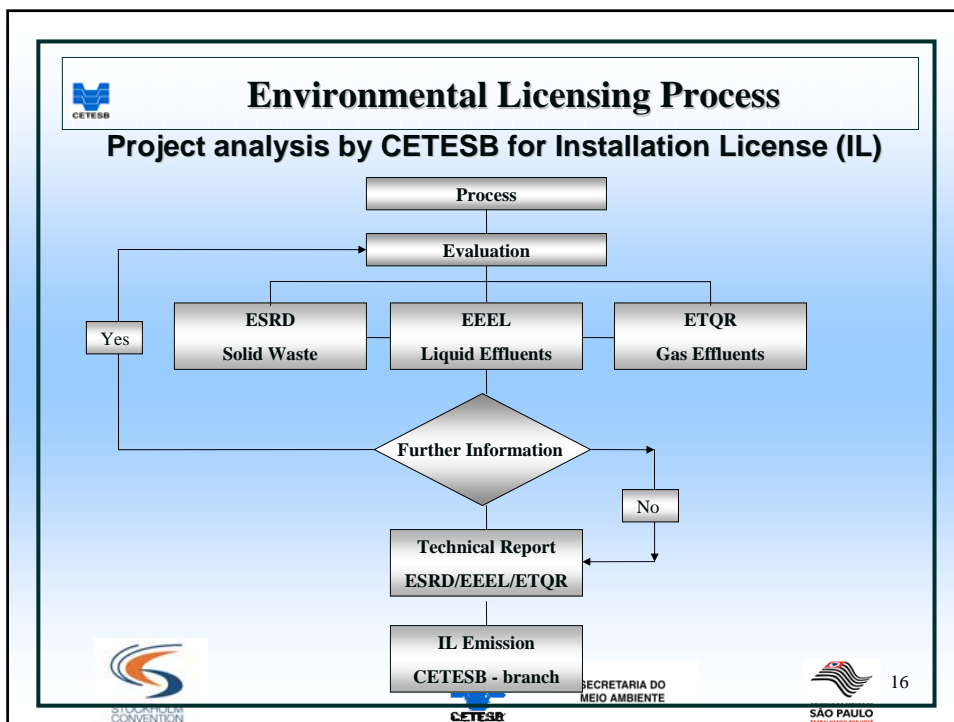
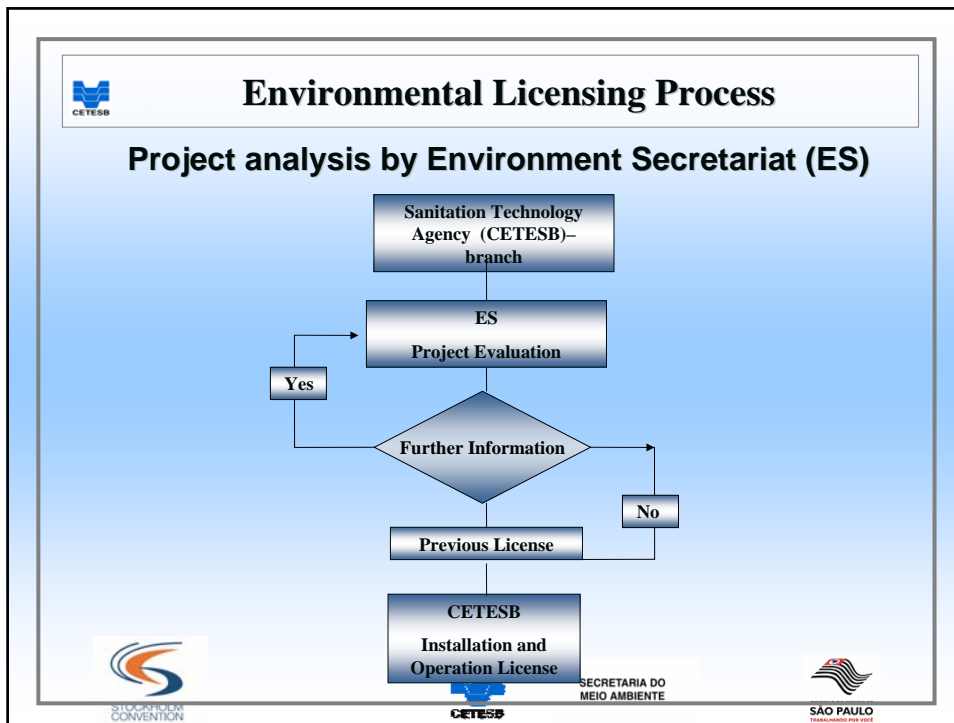
Autoclave treatment

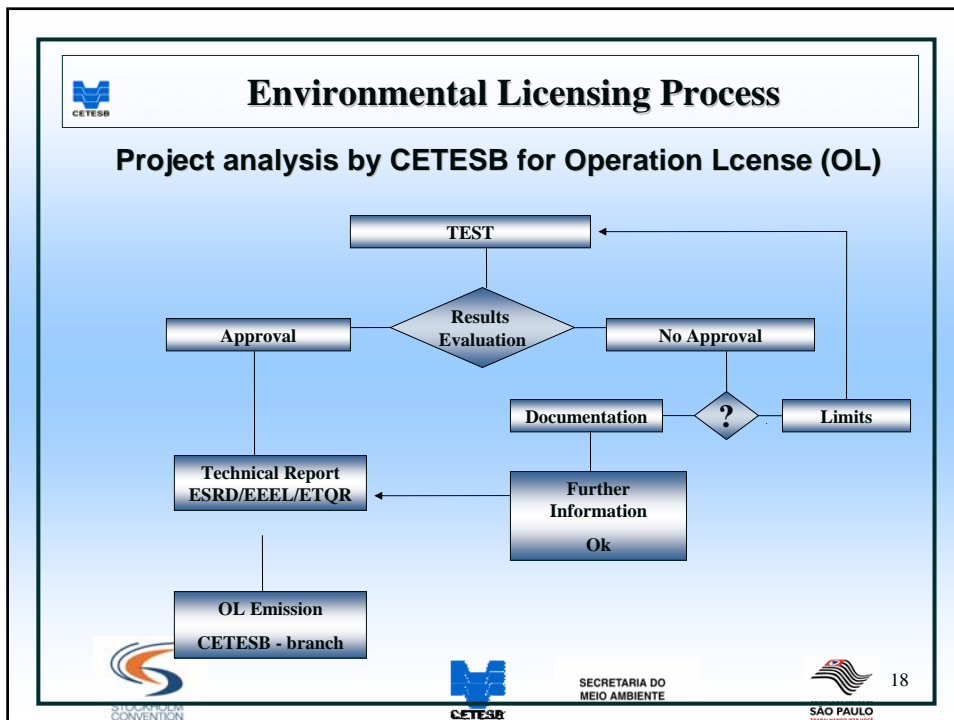
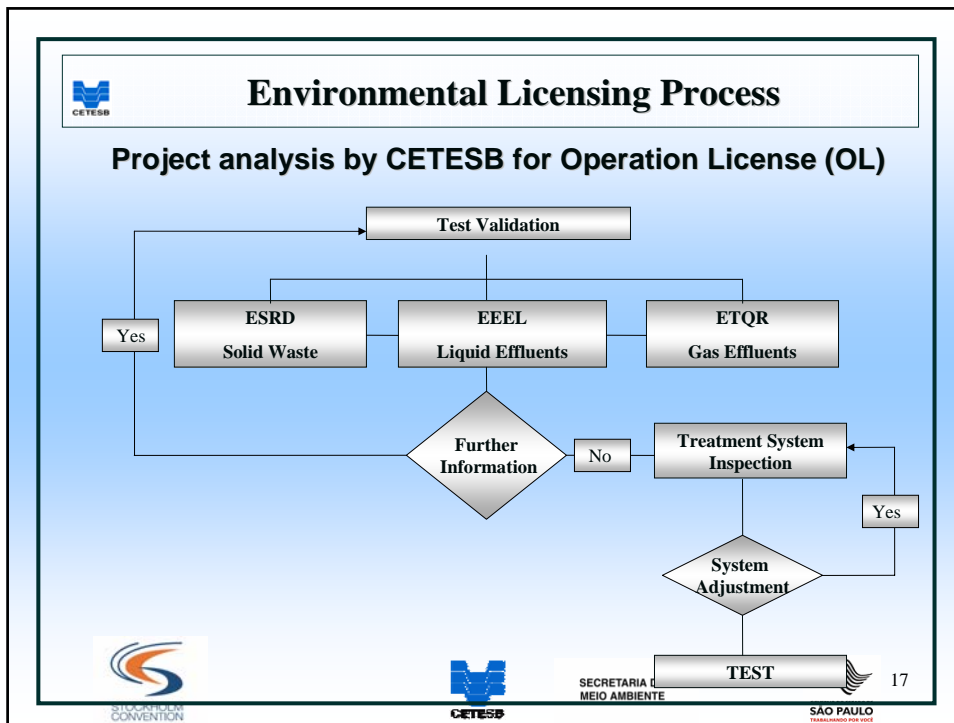
Moist heat – *Geobacillus stearothermophilus*



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CETESB
AGENCIA AMBIENTAL DEL ESTADO DE SÃO PAULO
NOMINATED REGIONAL STOCKHOLM
CONVENTION CENTRE



THANK YOU ! GRACIAS!

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