The impact of the power stations of Timisoara town on the environement

Timisoara is a town of 500 000 inhabitants and has a centralised combined heat and power supply.
This is supplied by two power station, the first functioning on hidrocarbons (gas, black oil will of sulphure content higher than 2%), and the second functioning with coal (lignite and fire support methane).

The resulting poluters of the burning of fossil fuel determine in principal the damage of atmospheric quality and also of the other environement factors : soil, water and vegetation, affecting their natural parameters, and so having many effects on the human and animal beyings.

The direct impact of in the environement evacuated poluants by a source is placed in relative approached areas of this source (a cuple of meters to some kilometers, depending of this power) .

When the source is placed in an urban ,dense populated area, the most exposed important factor to the direct action of the poluant factors is the human factor, who is taking ower by inhalation the noxes of the environement. The second important exposed factor is represented by the materials, buildings and installations.

Effects on the human beings

The principal emanated noxes of the power stations who affects the human being health are :

1. The **sulphur dioxide**, the penetrating way beying the respiration way. The respiration function is alterated at an short time exposure (10 – 30 minutes), medium time exposure (24 hours) and long time exposure (season, yeras). At concentrations higher than 1 000 mycrogrames / cmc can appear effects such : chemical bronchoconstrictions, bronhitis and tracheitis and ,at higher concentrations than 2 600 mycrogrames/ cmc, exist the risk of bronchic spasm at asthmatic persons.It was also studied the synergic effects resulting by the combination with other poluant factors.
2. The **nitrogen dioxide** – the short time exposure is determining changes in the respiratoric function. The synergic effect can appear in association with ozone or in the presence of suspended powders. The long time exposure has a damaging effect on lung , milt, liver and blood.

3. **The suspended powders are** non toxic solid particles, with diameters under 20 mycrons. When the inhalated quantity is ower the quantity who can be natural eliminated , dammages of lung appear and it is favorized the instalation or cronicization of cardiorespiratoric diseases.
4. **The flying ashes** are solid, nontoxic particles wohle results in coal burning

The effects on the vegetation

1. The **sulphur dioxide-** the toxic effects are influented by the plant ability to convert the sulphur dioxide in nontoxic forms. Depending of the poluant ammount can appear biochemical or phisiologic effects who determine necrosis, the diminishing of plant growing, the increase of patogen agent sensibility.
2. The **nitrogen dioxide** until done concentrations has benefic effect, but at higher concentration a increasing sensibility of plants to insect attach appears.

Effects on water and soil

The soil is the environement factor who integrates all the polution consequences, he representing the lowerst time variability.
The water pollution is realisated by the converting of acid gases (SO2 and NO2) in strong acids wohle determine the sulphate and nitrate loading of water.

Effects on the buildings

The negative effects of pollution as a result of fosil fuel burning are the following: the errosion of surfaces, crust forming on build stone, the corrosion, the perforating of metal, the decoloration ,peeling off, the spliting of protecting enamels.

The writing identifies and evaluates the impact determined by functioning of power stations in Timisoara on the environement factors and also on the human community.

The writing discusse also the evaluation of all environement risc factors generated by the two district heating power station functionning in Timisoara town, resulting from the actually applied technologic processes and also about the adopted technology in order to diminuate this riscs.

TERITORIAL ENVIRONEMENT PROTECTION AGENCY
TIMISOARA
ELECTROCENTRALE TIMISOARA
INSTITUTE OF POWER STUDIES AND DESIGN TIMISOARA
Subject: Conference Invitation
Date: 21 feb.2002
From: Dumitru Gardan <tth@ispetm.ro>
To: pillmann@isep.at

Dear Ecoinforma Colleagues,

We are honorated by the invitation to participate to the International Society for Environmental Protection conference at Vienna, Austria and announce confirmation of the participation to the Conference " Environmental Communication in the Information Society".
Please excuse our behindhard in submiting the abstract of the write we wish to present.
We hope in the carrying forward the productive on environmental issues and solutions, who made the object of our continuous interest and to accumulate new experiences of other participants, interessed by the same problem of Environmental Protection.
Our contact mail adresses are:

- Cristian Mitu ,Production Technic-Development manager Electrocentrale Timisoara: Cristianmitu@electrocentrale.ro
- Dumitru Gardan, Head of Technological Departament,vice manager, ISPE Timisoara: tth@ispetm.ro

Will of been best regards,

Dipl.eng. Cadariu

Cristian Mitu

Dumitru Gardan

Adriana Fulga