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**DIRECTORATE:
AIR POLLUTION CONTROL**

The Chief Executive Officer
C/o Environmental Management
IG SHER 09
Sasol Synthetic Fuels
Private Bag X1000
SECUNDA
2302

29/03/99

Dear Sir,

**REGISTRATION IN TERMS OF THE ATMOSPHERIC
POLLUTION PREVENTION ACT, 1965 (ACT 45 OF 1965)**

With reference to your application dated April 1998, I enclose registration certificate No. 1972/ 20 dated 29 March 1999 in respect of your SSF multi hearth sludge, high organic waste and domestic sewage solids incinerators.

This certificate replaces registration certificate 1854 (multi hearth incinerators) issued in the name of Sasdiens.

Your attention is drawn to -

a. part 4 of the document accompanying this certificate;

and

b. section 12 of the Act which reads - "(1) A registration certificate shall be subject to the condition that all plant and apparatus used for the purpose of carrying on the scheduled process in question and all appliances for preventing or reducing to a minimum the escape into the atmosphere of noxious or offensive gases, shall at all times be properly maintained and operated and that the holder of the certificate shall ensure that all other necessary measures are taken to prevent the escape into the atmosphere of noxious or offensive gases"

Yours faithfully

CHIEF AIR POLLUTION CONTROL OFFICER

1.

1. SITUATION AND EXTENT OF PLANT

Situation

Portions 11, 12 & 14 of the farm Twistdraai 285 IS, district of Highveld Ridge, Mpumalanga.

Extent

8 071 m²



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2. NATURE OF PROCESS

WASTE INCINERATION PROCESSES [No. 39]

MULTI HEARTH SLUDGE INCINERATOR

Sludge is burned in 4 twelve bed multi hearth type incinerators (2/unit). Each incinerator has two incinerator chambers designed such that each chamber can be supplied with waste oil and/or fuel gas.

Combustion and cooling air is also introduced to the incinerator.

HIGH ORGANIC WASTE (HOW) INCINERATOR

Combustible liquid residues from production units are thermally combusted in two incinerators. Fuel gas serves as the primary fuel while HOW serves as supplementary fuel.

DOMESTIC SEWAGE SOLIDS INCINERATOR

The incineration of mainly domestic sewage screenings.



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3. RAW MATERIALS AND PRODUCTSRaw Materials**MULTI HEARTH INCINERATOR**

Excess activated sludge : 4 units at 14 m³/hour/unit (peak)

HIGH ORGANIC WASTE INCINERATOR

High organic waste and flare water: : 2 units at 2 m³/hour/unit
 Components (calculated)
 Nitrogen : 205 m³/year
 Sulphur : 8.5 tons/year
 Chlorides : <20 kg/year

DOMESTIC SEWAGE SLUDGE INCINERATOR

Domestic sewage screenings : 147 kg/hour

Products**MULTI HEARTH INCINERATOR**

Off-gas, slurry & ash

HIGH ORGANIC WASTE INCINERATOR

Off-gases.

DOMESTIC SEWAGE SOLIDS INCINERATOR

Ash : 30 kg/day



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4. APPLIANCES AND MEASURES TO PREVENT AIR POLLUTION

MULTI HEARTH INCINERATOR

Off-gases from the incinerators are vented to venturi scrubbers.

Off-gases from the venturi scrubbers, particulate concentration less than 120 mg/m^3 , as measured at 0° C and $101,3 \text{ kPa}$, are emitted to atmosphere at a height of 30 metres above ground level.

HIGH ORGANIC WASTE INCINERATOR

The incineration is effected at a maximum temperature of $1600 - 1700^\circ \text{ C}$ in the presence of excess air. At the end of the incineration chamber cooling air is introduced to cool the off-gases down to 500° C before being emitted to atmosphere at a height of 20 metres above ground level.

Calculated emissions are $\text{NO}_2 - 7002 \text{ m}^3/\text{year}$ & $\text{SO}_2 - 17 \text{ tons/year}$.

DOMESTIC SEWAGE SOLIDS INCINERATOR

No visible smoke is emitted from the plant.

GENERAL

The availability of all air pollution control equipment shall not be less than 96% of the operating time per any continuous period of thirty days at the emission limits set in this document.

When requested by this Directorate, the permit holder shall within a reasonable time, furnish any information required by law which is needed to determine compliance with the registration certificate.


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5. DISPOSAL OF EFFLUENTS FROM PURIFICATION EQUIPMENT

MULTI HEARTH INCINERATOR

Coarse ash is collected in containers and disposed on ash facilities. Fine ash is mixed with underflow thickener slurry in a catch basin and pumped to the ash area .

Thickener overflow water is utilised in the scrubber as scrubbing media. Water collected from the venturi scrubbers is send to the thickener clarifier for purification. Clear water from the factory is used as make-up for the thickener.

Effluents are treated in accordance with the requirements of the Water Act.

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DIRECTORATE: AIR POLLUTION CONTROL DIVISION
PRIVATE BAG X447
PRETORIA 0001

29 March 1999