



BANGLADESH PETROLEUM
EXPLORATION & PRODUCTION CO.LTD



29 Tuas Avenue 3 Singapore 639420
E-mail: zepl@zicomgroup.com

CONSORTIUM OF
ZICOM EQUIPMENT PTE LTD
AND
SINOPEC PETROLEUM ENGINEERING CORPORATION



Tel: +65 68651765
Fax: +65 68651764

HVAC SPECIFICATION FOR GENERATOR ROOM

Doc.No.: 240-0214-EMHV-SP00-0001

Job No. : 240

Client : BANGLADESH PETROLEUM EXPLORATION & PRODUCTION CO. LTD




Location : SRIKAIL GAS FIELD, BANGLADESH

Item No. :

Project Title : 60 MMSCFD SILICAGEL DEHYDRATION TYPE GAS PROCESS PLANT

Year Built : 2015

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Rev.	Date	Page	Description of Revision	Prepared	Checked	Approved

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1.Design basis

1.1 Standard for the installation of air conditioning and ventilating systems (NFPA 90A)

1.2 HAVC System Design (SMACNA) 1990

1.3 Classification of Fans (AMCA 99-0066)1983

1.4 Design specification for heating, ventilation and air conditioning in petrochemical engineering (SH/T 3004-2011)

2.Design range

The project is built at Srikail Gas Field and the scope of HVAC design is mainly for the ventilation design of generator room.

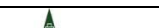


3.Environmental design conditions

Ambient conditions: 40℃ (104°F)

4.Ventilating system design

4.1 The ventilation system of generator room include the usual and accident ventilation and the two ventilation style share the same fans. The amount of exhaust air is calculated by heat radiation to room (50kW), because it's larger than the amount of accident ventilation (air change rate is 14 per hour).

4.2 To satisfy the ventilation requirements of the generator room, we choose to set the sidewall exhaust fans for ventilation. The sidewall exhaust fans are interlocked with concentration detection and alarm device of indoor combustible gas. When the concentration of indoor combustible gas reaches one fifth of the lower explosive limit, the sidewall exhaust fans will be interlocked to open and exhaust air. The fans can be manually open and stop at ordinary times and electrical control switch should be set at the site where the indoor and outdoor is easy to reach. The cooling air vents of generators' radiators connect the rainproof shutters (8'-4" x 5'-0") by three proofings canvas and duct. When the generators running, the afterheat will be exhausted through the rainproof shutters. All exhaust air (including the combustion air) is make-up through two rainproof shutters (9'-7" x 6'-6").

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4.3 The sidewall exhaust fans in the generator room should be interlocked with indoor fire automatic alarm system. When the fire alarm signal activated, the fans will be automatically closed.

4.4 Sidewall exhaust fans are with 45° weatherhood, outlet is with stainless steel birdscreen. The fans are with safety protective screening which to protect motor and prevent accident personal injure while motor is operating. The fans are with gravity back-draft damper, 45° weatherhood and stainless steel birdscreen are provided by vendor.

4.5 The duct of the ventilation system are made of galvanized steel duct and the thickness shall be 1.2mm at least.

5. Environmental protection design

The fans should be choose the low noise type。