

RESEARCH ON LIQUEFIED CARBON RECOVERY IN LOW PRESSURE OIL AND GAS FIELDS

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Abstract

The majority of hydrocarbon gases in the world are low-pressure and flare satellite gases from oil and gas fields. Fossil gases are formed by the formation of gasses, gasses in petroleum and gases released during the process.

A large volume of gas saved by mining is not used efficiently. Expensive raw materials, which are the main part of gas, are used as production capacity in industry and production.

Introduction

Today, economical use of satellite oil gases remains one of the problematic issues in the world practice. Every year, 170 billion m³ of satellite oil gas is burned into the atmosphere. Such a situation does not cause significant damage to the ecology and economy of countries without mining. Negiriya-Russia is the world leader in the burning of satellite oil gases. Human health is threatened by the release of waste gases into the atmosphere due to the burning of flare gases, the amount of harmful substances is increasing, and the harmful metals contained in it are causing various types of serious diseases.

Main Body:

Due to satellite oil gases, global warming, acid residues, climate change and the strengthening of the greenhouse effect are taking place.

If we take into account that 60 billion m³ of gas is produced in Uzbekistan for a year, 58.4% of it is sent for domestic use, 6.5% to underground storages, 12.5% to the cycling process and 22.5% to export. . If 3% of the total recoverable gas is released into the atmosphere through a flare, it makes a big indicator.

If we take into account that burning 1000 m³ of satellite oil gas releases 3 tons of carbon dioxide into the atmosphere, then burning 1.5 billion m³ of gas releases 4.5 million tons of carbonic acid into the atmosphere. Of the 60 billion cubic meters of satellite oil gas produced in Russia, 20 billion cubic meters of gas is burned by flares, and the remaining 40 billion cubic meters of gas is used for the company's needs, a large volume of gas is used for electricity generation, 3 billion cubic meters for processing and gas chemistry. .m³ of raw material, a small amount of raw material is pumped into the layer.

The disposal of associated oil gases is the main problem of all oil companies. Currently, there are several methods of economical use of associated petroleum gases. Yo'ldosh neft gazlaridan foydalanishning asosiy texnologiyalari bo'yicha quyidagilarni o'rganib chiqamiz hamda dissertatsiya ishimda navbatdagi ilmiy fikrlarni oldinga suramiz.

1. Satellite petroleum gas can be used as a fuel directly in gas piston generators or in gas turbine units, after partial cleaning and drying in units of gas preparation and separation devices. In gas piston generators or gas turbines, full power cannot be achieved when satellite petroleum gas is used, and the presence of heavy hydrocarbons and sulfur causes equipment to wear out quickly.

2. On the basis of chemical technology, fuel constituents are separated using chemical reagents. Taking into account the high cost of such chemical reagents and the fact that they are imported, the cost of using them in practice increases.

3. Associated petroleum gases are passed through special blocks and fuel components are separated. It uses membrane technology and molecular mesh, but the sorbents quickly saturate and the films become full and have to be replaced quickly. 4. It is possible to apply low-temperature separation technology based on the propane cycle. When this technology is used in hot climates, performance decreases and operating costs are high.

5. Associated petroleum gases are transported to gas processing plants and processed. Expensive pipelines are expensive to lay and the coverage period is long.

6. With the help of coolers, all components of satellite gas are separated into fuel components based on combustion.

The use of heavy fractions of hydrocarbons (S3 and higher) satellite petroleum gas as a fuel for gas power generators presents certain problems and is an expensive raw material in the petrochemical industry. Oil is the main direction of finding a solution to the problem.

Comprehensive measures are taken to collect associated oil from oil fields for gas processing, it is transported to gas processing plants and processed to obtain dry degassed gas (QBG-dry degassed gas), broad fraction light hydrocarbons (KFEU) and stable gas gasoline (BGB) is obtained. In addition to the broad fraction of light gas (S4 and above), the gas is collected in a fractionation unit to separate liquefied petroleum gases.

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