Environmental Performance within ADNOC, its Group of Companies

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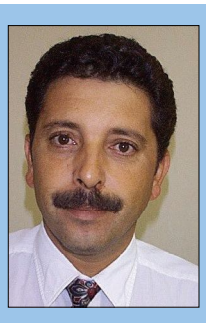

1. Introduction

Abu Dhabi National Oil Company (ADNOC) was incorporated as a state owned company on 27th November 1971, operating in all areas of oil, gas, and petrochemical industry. This was in agreement with the vision and wise policies of the late Sheikh Zayed Bin Sultan Al-Nahyan, may Almighty Allah rest his soul in peace.

Oversight and formulation of Abu Dhabi oil and gas policies is provided by the Supreme Petroleum Council (SPC) which was established by Law No. 1 on June 5, 1988.

ADNOC is one of the biggest oil companies in the world and is the major oil and gas company in the U.A.E., and has steadily broadened its activities through varies subsidiaries (Group Companies) and affiliates from exploration and production, support services, to oil and gas companies, oil refining, gas processing, chemicals and petrochemicals, maritime transportation and refined products and distribution, and technical education institutions.

The environment and its protection became the most important issue and one of the main priorities of nations especially during economic development. This leads to the need of integrating of three dimensions into one mechanism; social improvement, economic growth, and environment protection. This is referred to as sustainable development in today's world, which requires the diffusion of these values (or dimensions) and encourages and promotes economic growth to support clean technologies development and social improvement and maintaining a balanced process.

2. Key Features

In line with this, ADNOC and its Group of Companies ensure and protect the balance in the environmental baseline conditions and contribute to sustainable development by implementing Health Safety & Environmental Management Systems (HSEMS) and Codes of Practice (CoPs) on its operations. This guarantees that environmental policies, objectives and targets are achieved and that procedures for continual environmental improvement are implemented. As a result we were able to meet strategic objectives in reducing emissions and discharges, for example:

- Hydrocarbons flaring reduction up to 80% from 1995 baseline year. This contributes positively at enhancing the air quality regionally and globally, by reducing volatile organic compounds, nitrogen oxides, and carbon dioxide emissions.
- Ceasing of leaded gasoline production in 2002 and produced unleaded instead which reduced adverse impact on people and the environment
- Sour gas underground injection projects, which drastically reduced sulfur dioxide (SO_2) emissions from processing facilities
- Implementing advanced technologies on sulfur recovery units (SRU) at our gas processing facilities, which enabled recovery of the sulfur contained in the feed streams at an efficiency greater than 99%
- Reduction in CO_2 emissions at FERTIL (an ADNOC fertilizer company), by recovering post combustion CO_2 emissions from boilers and heaters and reusing the recovered amounts as feed into the fertilizer manufacturing process to produce Urea

Currently ADNOC has conducted a feasibility and engineering design study to capture carbon dioxide gas emissions (CO_2) from combustion & power generation sources, and re-inject the gas into deep formation which is considered an innovative practice in CO_2 sequestration and should have positive results, like:

- Reduction in emissions
- Contribute to the reduction in global warming

Additionally, ADNOC group has initiated a number of projects that significantly reduced environmental impact and health risks, and has implemented a number of natural resources conservation projects, i.e.:

- Implementation of an Inter-Refineries pipelines project between Abu Dhabi & Ruwais cities refineries (300 km a part) which will eliminate marine shipping between the two refineries and potential marine accidents and oil spills
- A new state of the art hazardous waste management facility (BeAAT) is being built in Ruwais area, which will cater to ADNOC Group of Companies
- A project was commenced to utilize CNG as an alternate fuel for road transportation in Abu Dhabi
- Evaluate the possibility of hosting and implementing of Clean Development Mechanism initiatives and projects as per Kyoto Protocol

ADNOC has developed a system and a mechanism for continuous improvement in environmental performance, based on the effective elimination, mitigation, and control of significant environmental impacts at all stages of the activity lifecycle, referred to as Health, Safety and Environmental Impact Assessment (HSEIA).

3. Conclusions

The implementation of HSEIA on ADNOC Group Companies expansion and upgrade projects, ensures they are designed to the highest HSE standards, in which potential environmental impacts are mitigated through minimum emissions equipment selection and implementation of best available control technology (BAT), and that major hazards risks are eliminated, reduced, or mitigated and managed. This process is being applied to exiting facilities which will evaluate current operations and their environmental impacts, and properly manage major accident hazards potential.

In conclusion, ADNOC is continuously improving its performance in environmental protection and has developed initiatives to promote awareness and encourage personnel and group companies to contribute positively to environment protection. Also, through the 1997 implementation of an HSEMS within ADNOC and its Group of Companies, an exemplary demonstration of HSE performance that met current national and international expectations and future promulgated requirements was realized.

4. References and Bibliography

1. ADNOC Code of Practice on HSEMS.
2. ADNOC Code of Practice on HSEIA.
3. ADNOC Annual HSE Reports.

Speaker's Biography

Mr. Hazem Abuahmad is currently the Head of the Environmental Protection Department in the EH&S Division at ADNOC, UAE. He has been with ADNOC EH&S Division for the last six years. He holds a B.Sc. in Mechanical Engineering from Tulsa University, Oklahoma. He has worked as an Environmental Engineer for over 12 years in various sectors of industry including oil and gas, in several US States in North America. He is a board certified Professional Engineer in the State of Texas, US. Mr. Abuahmad has represented ADNOC on a number of local, national, and regional environmental committees, and has also delivered a number of paper presentations on ADNOC environmental achievements.