

**Executive Summary  
Of  
Environmental Impact Assessment Report  
For**

“Development Drilling of 3 (Nos.) Wells and Establishment of Early Production System (one) at Nagayalanka in the Onland NELP-V Block KG-ONN-2003/1, Andhra Pradesh.”



**Oil and Natural Gas Corporation Ltd.  
(A Govt. of India Enterprise),  
Rajahmundry Asset  
Rajahmundry-533106**

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**Corporate Health Safety and Environment  
Oil and Natural Gas Corporation Ltd. (ONGC)  
3rd Floor, Tower A, PDDU Urja Bhawan  
5, Nelson Mandela Marg  
Vasant Kunj, Delhi - 110070**

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## OIL AND NATURAL GAS CORPORATION LTD

### Project Details in Brief

#### Regd. Office

ONGC Ltd  
Pandit Deendayal Upadhyaya Urja Bhawan  
5, Nelson Mandela Marg,, Vasant Kunj,  
New Delhi, Delhi-110070  
Tel: 91-11-26752021/26122148  
Fax: 91-11-26122148

#### Project Office

ONGC Ltd  
Godavari Bhavan, Rajahmundry Asset  
Rajahmundry-533106.  
Tel: 0883-2494100  
Fax: 0883-2440670

**Project Title:** " Development Drilling of 3 (Nos.) Wells and Establishment of Early Production System (one) at Nagayalanka in the Onland NELP-V Block KG-ONN-2003/1, Andhra Pradesh."

#### Location Details:

Wells	CO ORDINATES		Village	Mandal
	Latitude	Longitude		
<b>Nag-Z1-V-1</b>	15°58'10.3716"N	80°56'17.9986"E	Vakkapatlavari palem	Nagayalanka
<b>Nag-1Z-V2</b>	15°57'43.1873"N	80°56'00.804"E		
<b>Nag-SE-V1</b>	15°57'46.6227"N	80°56'39.2286"E		
<b>EPS</b>	15° 57'42.22"N	80° 56'17.63"E		

Project Cost: Approx. Rs 6804.00 Crores  
Water requirement: About 10 m<sup>3</sup>/day for domestic and 15 m<sup>3</sup>/day for operations.  
Water Availability: Supply through water tanks.  
Site details: Agricultural land, no habitation & no other activity  
Land requirement: Approx. 5-6 acres for each location.  
Time Period: Development drilling is a temporary activity. Each location takes around 3 to 4 months in normal conditions.

## Executive Summary

### 1.0 Introduction

Oil and Natural Gas Corporation Limited (ONGC) is India's largest oil and gas exploration and production company. It produces around 77% of India's crude oil (equivalent to around 30% of the country's total demand) and around 62% of its natural gas is headquartered in Dehradun, Uttarakhand, India. It is a Public Sector Undertaking (PSU) of the Government of India and is involved in exploring for and exploiting hydrocarbons in 26 sedimentary basins of India, and owns and operates over 11,000 kilometers of pipelines in the country.

The on-land Block KG-ONN-2003/1 was awarded under NELP Round-V in 2005. Currently, the consortium partners in the Block are ONGC and Cairn India Limited (CIL) with Participating interest of 51% and 49% respectively. ONGC is the Operator during Development and Production Phase w.e.f. 09.07.2014. KG-ONN-2003/1 on-shore block is spread over an area of 55.446 sq. km. The block is located in KG basin falls in Krishna District of Andhra Pradesh.

The Index map showing the block boundary with the well location is provided in Figure 1 of EIA Report.

ONGC is proposing to carry out drilling of 3 nos. of development drilling wells and also to establish 1 no. of Early Production System (EPS) at NAG-1Z-ST in KG-ONN-2003/1 block (Nagayalanka Block). The development drilling is a one-time activity and the operations last a very short period of 3-4 months under normal conditions. The proposed EPS will be having a handling capacity of 379 cum/day of crude oil and 0.145 MMSCMD of gas.

The present report is being submitted for obtaining prior Environmental Clearance to proposed project. This report comprises of baseline data on air quality status including VOCs, ambient noise levels, surface and ground water quality status, soil quality studies, biodiversity, demography etc. In addition, methodology followed for preparation of this report and process descriptions of development drilling have also been discussed.

## 2.0 Project Profile

MoEF&CC has issued Terms of Reference (TOR) vide letter dated Lr. No. J-11011/410/2014-IA II(I) dated 30th March 2015 for “Development drilling of 31 nos. wells and establishing 1 no. of Early Production System (EPS)”. Against this project, ONGC is proposing to drill 3 nos. of development wells and establish 1 no. of EPS

The present EIA/EMP report is being submitted for drilling of 3 nos. of Development wells and establishing 1 no. of EPS near Nagayalanka falling within Krishna District in KG of Andhra Pradesh. The capital cost of the project estimated to be is Rs 6804.00 Crores which also includes cost environmental protection measures of Rs. 340 crores.

## 3.0 Baseline Environmental Quality Status

The baseline data provide the foundation for assessment studies since they help to identify site-specific impacts on various components of environment. The baseline status also helps relate the effects of the project activities on the environmental components and allows the identification of the parameters that need to be monitored. The information concerning these parameters for the present study has been collected directly through field measurements and from secondary data sources. The meteorological data is obtained from the IMD Centre Machilipatnam, who continuously monitors weather parameters from different established weather data collecting stations along the east coast. Primary baseline environmental monitoring studies were conducted during post-monsoon of 2017 during 15th Sep 2017 to 15th Nov 2017. The details are as follows:

### 3.1 Ambient Air Quality (AAQ)

The study area represents mostly rural/residential environment. Four ambient air quality monitoring stations were selected in and around the proposed well & EPS sites and studies were carried for parameters as per NAAQMS including VOCs. The 24hr average value of ambient air quality in respect of all the parameters is observed to be well within the prescribed CPCB limits in KG Basin. Range of values of parameters is as mentioned against each parameter SO<sub>2</sub> (7.9-17.5 µg/m<sup>3</sup>), NO<sub>x</sub> (10.3 – 25.6 µg/m<sup>3</sup>), CO (243-316 µg/m<sup>3</sup>), PM<sub>2.5</sub> (17-40.6 µg/m<sup>3</sup>), PM<sub>10</sub> (35- 51 µg/m<sup>3</sup>), Ammonia (4.7 – 11.4 µg/m<sup>3</sup>), Ozone (3.3 – 9.3 µg/m<sup>3</sup>), Benzene (<0.01 µg/m<sup>3</sup>).

### 3.2 Noise Levels



Baseline noise levels were also monitored at proposed locations and are in the range of 43.4 – 51.7 dB(A) in the day time and 39.1 – 42.2 dB(A) in the night time.

### 3.3 Water Quality

Eight ground and one surface water samples were collected and analyzed for various parameters to compare with the standards. The ground water and surface water quality was found to be within the limits as per IS:10500 except at few locations where tidal influence was existing.

### 3.4 Other Environments

ONGC carried out a project in collaboration with Central Road Research Institute, Delhi on testing of drill cuttings for their toxicity if any due to the potential presence of any toxic metals. The studies revealed the non-hazardous nature of the drill cuttings and based on the results of these studies it is recommended that the drill cuttings may be used in road making. The results are very encouraging as the cuttings show very good bonding characteristics. In addition, this report also presents information collected from secondary data resources on biological environment, socio-economic status etc.

### 3.5 Socio-economic

This report examines environmental and socio-economic impacts of the proposed activity from site clearance, preparation of the site, testing, completion/ abandonment, rig dismantling, establishing EPS and its operations. On evaluation of environmental impact it is observed that the real benefits of proposed activity can be accomplished through implementation of adequate preventive and control measures

The impact on community health due to the proposed drilling activities will be negligible but at the same time social status will improve due to increase in employment opportunities etc. There will be positive impact on transportation, communication in the region.

ONGC is operating in the KG Basin for more than 25 years and the baseline studies carried/monitoring data collected reflected practically no impact on the environmental quality wherever E&P Operations of ONGC were carried over these years. It was found that the quality of air and water is within the regulatory norms, implying that drilling activities have no significant impact on the prevailing environmental conditions.