

## GLOSSARY OF TECHNICAL TERMS

Technical Terms	Description
Appraisal Programme	A programme carried out following a Discovery in the Contract Area for the purpose of appraising Discovery and delineating the Petroleum Reservoirs to which the Discovery relates in terms of thickness and lateral extent and determining the characteristics thereof and the quantity of recoverable hydrocarbon therein.
Appraisal Well	A well drilled to determine the extent or the volume of Hydrocarbon reserves and the likely production rate of the new oil or gas field.
Approved Programme and Approved Budget	A work programme or Budget that has been approved by the Management Committee pursuant to the provisions of Production Sharing Contract (PSC) entered into between the Government and the joint venture parties to the contract.
Asset	It refers to an entity that is involved in production activities from the existing wells and transportation of oil and gas on onshore plants.
Barrel	A quantity equivalent to forty two (42) United States gallons, corrected to a temperature of sixty (60) degrees Fahrenheit under one (1) atmosphere of pressure.
basin	A Depression in the earth's crust where sedimentary materials are accumulated over the years.
Basin	Entity/Unit involved in exploration related activities.
Block	Area identified in a field which is offered by the Government under nomination (PEL) or to prospective bidders under New Exploration Licensing Policy, for the purpose of exploration of oil and gas.
Cantilever Rig	A jackup drilling unit in which the drilling rig is mounted on two cantilevers that extend outward from the barge hull of the unit.
Commercial Discovery	A Discovery of hydrocarbon reserves which is of potential commercial interest and has been declared as a Commercial Discovery in accordance with the provision of PSC.
Commercial Speed	Commercial speed is meterage drilled upto the bottom of drilling well/rig months from spud date to well completion.
Cycle speed	Cycle speed meterage drilled per drilling rig month during the complete period from release from earlier well and mobilization to release for next well.
Deepwater Area	Area falling beyond four hundred (400) metre isobath.
Delineation Well	Delineation well refers to the well drilled to determine the boundaries or the extent of reservoir of the new oil or gas field.
Development	Following discovery, drilling and related activities necessary to begin production of oil or natural gas.
Development Area	It is a part of the Contract Area corresponding to the area of an Oil Field or Gas Field delineated in simple geometric shape, together

	with a reasonable margin of additional area surrounding the Field consistent with petroleum industry practice and approved by the Management Committee or the Government, as the case may be.
Development Plan	A plan submitted by the Contractor for the development of a Commercial Discovery, which has been approved by the Management Committee or the Government in terms of PSC.
Development well	A well drilled for the purpose of increasing the production of oil/ natural gas from an established field.
Discovery	The finding of a deposit of hydrocarbon not previously known to have existed, which can be recovered at the surface in a flow measurable by conventional petroleum industry testing methods.
Exploration	Searching for oil and/or natural gas, including topographical surveys, geological surveys, seismic surveys and drilling wells.
Exploration Period	Any and all periods of exploration set out in the PSC.
Exploratory Well	A well drilled for the purpose of searching for undiscovered hydrocarbon accumulations on any geological entity (be it of structural, stratigraphic, faces or pressure nature) to at least a depth or stratigraphic level specified in the Work Programme.
Field	Oil Field or Gas Field or a combination of both as the case may be. In respect NELP blocks, the Contract Area in respect of which a Development Plan has been duly approved in accordance with provisions of the Production Sharing Contract.
Finding Cost	Finding cost would include expenditure incurred on Acquisition Processing and Interpretation of seismic data and exploratory drilling to access the quantum of reserve that could be produced after creating the infrastructure required for its production. Exploration cost/reserve found.
G & G Data	Geological, geophysical and geochemical data.
Geo Technical Order	An order which indicates the well drilling plan in terms of days, depth indicating lithology vis-à-vis depth, pressure vis-à-vis depth, casing/cementing policy, mud requirement, bits required etc.
Hydrocarbon	In organic chemistry, a hydrocarbon is an organic compound consisting entirely of hydrogen and carbon.
Initial in-place Hydrocarbon (IIP/H)	IIP/H are the volumes of crude oil, condensate, natural gas, natural gas liquids and associated substances anticipated to be present in known accumulations at a given time.
Liquidated Damages	Liquidated Damages/Penalty accrued and provided for payment would include all expenditure incurred for taking time extension or failure to complete the Minimum Work Programme committed for obtaining/continuing with the exploration activities in search of Hydrocarbons beyond the period allowed at the time of taking/continuing such exploratory rights.
Management Committee	The Committee constituted in terms of Production Sharing Contracts.
Marginal Field	Marginal fields are those discovered fields which are considered uneconomical for development at one point of time under

		prevailing fiscal, technology or regulatory regime.
Minimum Obligations	Work	Phase-wise/year-wise minimum work obligations as determined by the Operator Board and the Management Committee of NELP blocks in pursuance of PSCs.
Minimum Programme	Work	With respect to each Exploration Phase, the work programme specified for the purpose of carrying out Petroleum Operations as provided in the PSCs
Monetization		The process involved in bringing the hydrocarbon discoveries of a field/block to commercial stage.
New Discovery		A Discovery made after the Effective Date of the PSCs.
New Exploration Licensing Policy (NELP)		NELP was formulated by the Government of India in 1997-98 to provide a level playing field in which all the parties may compete on equal terms for the award of exploration acreage. This was for accelerating the pace of hydrocarbon exploration in the country through which various blocks including deep-water acreages were offered for competitive bidding.
Participating Interest		In respect of each Party constituting the Contractor, the undivided share expressed as a percentage of such Party's participation in the rights and obligations under the PSC.
Petroleum		Crude Oil and/or Natural Gas existing in their natural condition but excluding helium occurring in association with Petroleum or shale.
Petroleum Cost		Costs and expenses incurred by the parties and allowed to be recovered pursuant to the contract.
Pool		In general, the term "pool" is synonymous with the term "reservoir" i.e. a naturally occurring discrete accumulation of Petroleum; however, in certain situations, a pool may consist of more than one reservoir.
Prognostication		The process of forecasting or estimating the hydrocarbon potential of an area.
Prospects		Prospects indicate the areas of hydrocarbon accumulation.
Proved reserve		Those measured mineral resources of which detailed technical and economic studies have demonstrated that extraction can be justified at the time of determination and under specific conditions.
Reserve Replacement Ratio		An oil company's reserve replacement ratio is the quantity of hydrocarbon added to its ultimate reserves divided by the quantity of hydrocarbon extracted during a year.
Reservoir		A naturally occurring discrete accumulation of hydrocarbon.
Regional Exploration Board (REXB)		REXB consists of experts from various basins as well as from institutes (GEOPIC & KDMIPE) of the Company
Rig		An equipment that is used for drilling a well bore. There are various types of rigs like jack-up rigs, floaters, Modular rigs, etc. The jack up rigs can be further classified into Cantilever type jack up rigs, Slot type jack up rigs and Mat type jack up rigs.
Rig Days		No. of days for which rigs were in operation/available during a particular period.

Rig Month	Total No. of days for which rigs were in operation/available during a particular period.
Rig Moratorium/ Holiday Policy	Due to global shortage of offshore drilling rigs, the Government of India decided (July 2010) to give a 3-year i.e. 2008-2010 drilling holiday or moratorium to E&P companies.
Sedimentary basins	Sedimentary Basins are depressions in the earth's crust where organic matters are deposited.
Shallow Water Well	Wells of water depth less than 400 metres.
Streamer	Series of chains with hydrophones which receives reflective signals from the sub-surface strata.
Ultimate Reserve	A production approximation method commonly used in the oil and gas industry. Estimated ultimate reserve (EUR) is an approximation of the quantity of oil or gas that is potentially recoverable from a reserve or well.
Well	A borehole, made by drilling in the course of Petroleum Operations, but does not include a seismic shot hole.
Well head	A wellhead is that part of an oil well which terminates at the surface, whether on land or offshore, and is the point from where petroleum or gas hydrocarbons can be withdrawn
Work Programme	A work programme formulated for the purpose of carrying out Petroleum Operations
4C	4-Component; Bore hole or marine seismic data are typically acquired using three orthogonally oriented geo-phones and a hydro-phone within an ocean bottom sensor (deployed in node type systems as wells as cables) provided the system is in contact with the sea bed or bore hole wall, the addition of geo phone allows measurement of shear waves, whereas the hydro phone measures compressional waves.
4D	Time-lapse 3D or 4D seismic technology is the use of 3D seismic surveys acquired at different times in the productive life of a reservoir. It encompasses a broad workflow from feasibility and design, to acquisition and processing, to inversion and interpretation, and finally to integration with reservoir management.