

Annexure

Annexure-I
(Referred to in paragraph 4.2.)

Statement showing over-reported production of Western Onshore Assets during the period from 2010-11 to 2014-15

(Figures in MT)

Year	Crude Oil Production reported at Corporate Level	Crude Oil Production as per Log Books of Processing Installations	Over-reported Crude Oil Production
Ankleshwar Asset			
2010-11	16,41,827	15,07,365	1,34,462
2011-12	14,99,747	13,21,831	1,77,916
2012-13	12,73,328	11,27,530	1,45,798
2013-14	10,49,607	8,78,969	1,70,638
2014-15	7,56,486	7,21,894	34,592
Total	62,20,995	55,57,589	6,63,406
Ahmedabad Asset			
2010-11	16,71,932	15,82,164	89,768
2011-12	16,27,900	14,83,560	1,44,340
2012-13	14,62,921	14,08,457	54,464
2013-14	13,95,535	13,28,385	67,150
2014-15	13,17,626	12,97,583	20,043
Total	74,75,914	71,00,149	3,75,765
Mehsana Asset			
2010-11	22,62,862	22,30,716	32,146
2011-12	23,21,590	22,33,842	87,748
2012-13	22,79,541	22,42,370	37,171
2013-14	23,10,380	22,71,007	39,373
2014-15	22,88,771	22,22,399	66,372
Total	1,14,63,144	1,12,00,334	2,62,810

Note: Base Office of Mehsana Asset maintains two sets of production data in its DPR (1) Production based on the liquid received at processing installations and Mehsana CTF and its water cut which is further refined by using trend analysis of actual water drained during previous periods. This calculated production is reported as Asset Crude Oil Production. (2) Production based on overall Asset dispatch and stock variation w.r.t. previous day, which however, is not reported. Production figures used in above table is as per these calculations.

Annexure-II

**Details of crude oil used for HOC/squeezing jobs accounted as “internal consumption”
(Referred to in paragraph 4.3.)**

(Figures in MT)

Year	Total recoverable internal consumption in SAP (ZPRAMPVL)			
	Ahmedabad	Ankleshwar	Assam	Total
2010-11	6,167	19,133	3,773	29,073
2011-12	9,411	13,567	3,323	26,301
2012-13	17,547	17,427	4,533	39,507
2013-14	12,837	14,520	4,765	32,122
2014-15	11,491	13,892	4,289	29,672
Total	57,453	78,539	20,683	156,675

Annexure-III

(Referred to in paragraph 5.1.)

Statement indicating awarded score/rating and revised score/rating for crude oil parameter as well as overall score/rating in MoU during 2011-12 to 2014-15

Year	Weightage for crude oil production	Target	Actual	Crude oil parameter Score	Overall Score	Rating	BS&W	Off-gas	Actual Production.	% of BS&W in reported qty.	% of Off-gas in reported	% of BS&W and Off-gas	Revised MoU Score	Added to Overall score	Revised Overall score	Revised Rating
2011-12	3	27.00	26.925	0.062	1.222	Excellent	1.373	0.263	25.289	5.10	0.98	6.08	0.128	0.066	1.288	Excellent
2012-13	4	27.54	26.127	0.121	1.32	Excellent	0.655	0.259	25.213	2.51	0.99	3.50	0.148	0.027	1.347	Excellent
2013-14	4	27.24	25.994	0.117	1.476	Excellent	0.843	0.263	24.888	3.24	1.01	4.25	0.149	0.032	1.508	Very Good
2014-15	7	24.88	23.94	0.19		Very Good										
	2	2.26	2.003	0.09												
	9	27.14	25.943	0.28	2.22		0.841	0.271	24.831	3.24	1.04	4.29	0.331	0.051	2.271	Very Good

Crude Oil MoU target (very good) and raw score and MoU score achieved considering actual production excluding BS&W and off-gas quantity from reported production

Year	Excellent	Very Good	Good	Fair	Poor	Actual excl. BS&W and Off gas	Raw Score	MoU Score
2011-12	27.54	27.00	25.65	24.3	22.95	25.289	4.2674	0.128
2012-13	28.03	27.54	26.16	24.79	23.41	25.213	3.6912	0.148
2013-14	28.60	27.24	25.878	24.516	23.154	24.888	3.7269	0.149
2014-15	26.12	24.88	23.63	22.339	21.14	24.831		
	2.34	2.26	2.15	2.03	1.92			
	28.46	27.14	25.78	24.369	23.06		3.6726	0.331

Annexure-IV
(Referred to in paragraph 5.2.A)

Additional subsidy burden due to overstatement of reported crude oil production (offshore)

Subsidy burden due to inclusion of condensate in crude oil production						
Year	Condensate Qty. in bbl (Offshore)	Condensate Qty. in bbl (Ankleshwar)	Subsidy per bbl (in USD)	Exchange rate (₹)	Subsidy burden shared by ONGC (₹ in crore)	Excess sharing subsidy burden (₹ in crore)
2011-12	14893467	426280.47	56	47.95	44465	4113.66
2012-13	15830546	257443.83	56	54.44	49502	4904.65
2013-14	13787191	172666.90	56	60.48	56384	4728.04
2014-15 (Apr-Sept.)	5702312	37005.50	56	60.79	26842	1953.80
2014-15 (Oct- Dec.)	2753046	18502.50	37.5	60.79	9459	631.81
2014-15 (Jan-March)	2530705	18502.50	-	-	-	0
Total						16331.96

Note: Figures of 2014-15 have been shown separately in three phases, since subsidy discount for the 1st & 2nd quarter is USD 56; for the 3rd quarter it was reduced to USD 37.5. Further, for the 4th quarter subsidy details are not available.

Source: Offshore data for condensate has been taken from crude tally statements. In respect of Ankleshwar condensate data has been taken from Asset tally statement.

Subsidy burden due to inclusion of off-gas in crude oil production					
Year	Off-gas Qty. in MT	Off-gas Qty. in bbl (1MT=7.63bbl)	Subsidy per bbl (in USD)	Exchange rate (in ₹)	Excess sharing subsidy burden (₹ in crore)
2011-12	263813.00	2012893.19	56.00	47.95	540.50
2012-13	259128.00	1977146.64	56.00	54.44	602.76
2013-14	263717.00	2012160.71	56.00	60.48	681.49
2014-15 (Apr-Sept.)	135567.33	1034378.73	56.00	60.79	352.13
2014-15 (Oct- Dec.)	67783.67	517189.402	37.50	60.79	117.90
2014-15 (Jan- Mar)	67783.67	517189.402	-	-	-
Total					2294.78

Annexure-V
(Referred to in paragraph 5.2.B)

**Additional subsidy burden due to overstatement of reported crude oil production
(Onshore)**

Year	Quantity of over reported closing stock of crude oil		Discount per bbl (in USD)	Exchange rate (in ₹)	Total amount (₹ in crore)
	(in MT)	(in BBL)			
Ankleshwar					
2011-12	23,033	181,431	56	47.95	48,71,77,758
2012-13	20,852	164,251	56	54.44	50,07,42,169
2013-14	19,574	154,184	56	60.48	52,22,02,706
2014-15	920	7,247	56	60.79	2,46,70,527
Total	64,379	507,113			153,47,93,160
Assam					
2013-14 & 2014-15	2,699.54	21,245.38	56	60.63	7,21,34,013

List of Abbreviations

Sl. No.	Term used	Description of Abbreviated Term
1	API	American Petroleum Institute
2	AS	Auto Sampler
3	BI	Business Intelligence
4	BS&W	Basic Sediment and Water
5	CPSEs	Central Public Sector Enterprises
6	CSU	Crude Stabilization Unit
7	CTF	Central Tank Farm
8	D&M	M/s DeGolyer and McNaughton
9	DPE	Department of Public Enterprise
10	DPR	Daily Production Report
11	EPS	Early Production System
12	FIR	First Information Report
13	FPSO	Floating Production Storage and Offloading vessel
14	GGS	Group Gathering Station
15	HMI	Human Machine Interface
16	HOC	Hot Oil Circulation
17	HUT	Heera Uran Trunk line
18	JNPT	Jawaharlal Nehru Port Trust
19	JV	Joint Venture
20	KPI	Key Performance Indicator
21	M ³	Cubic Meters
22	MFM	Mass Flow Meters
23	MoF	Ministry of Finance
24	MoPNG	Ministry of Petroleum & Natural Gas
25	MoU	Memorandum of Understanding
26	MT	Metric Tonne
27	MUT	Mumbai Uran Trunk line
28	NELP	New Exploration Licensing Policy
29	NOC	National Oil Company
30	OEM	Original Equipment Manufacturer
31	OID Act	Oil Industry (Development) Act, 1974
32	OMC	Oil Marketing Companies
33	ONGC	Oil & Natural Gas Corporation Ltd.
34	ORD Act	Oil fields (Development & Regulation) Act, 1948
35	P&DD	Production and Development Directorate
36	PNG Rules	Petroleum & Natural Gas Rules, 1959
37	PRA	Production Revenue Accounting
38	PRP	Performance Related Pay

39	SBU	Strategic Business Unit
40	SCADA	Supervisory Control and Data Acquisition (SCADA)
41	SOP	Standard Operating Procedure
42	TM	Turbine Meter
43	WC	Water Cut

Glossary of Technical Terms

Sl. No	Technical Term	Meaning
1	Auto Sampler	Auto Samplers are samplers installed inline in the downstream of Turbine Meters to collect samples of liquid at regular intervals. Samples so collected are tested at laboratory to determine the water content in crude oil.
2	BS&W	Abbreviation for basic sediment and water. BS&W is measured from a liquid sample of the production stream. It includes free water, sediment and emulsion and is measured as a volume percentage of the production stream.
3	Condensate	Liquid hydrocarbons produced with natural gas, separated by cooling and other means
4	Demulsifier	Demulsifier is a chemical used in the heater treater to separate water from oil
5	Effluent Treatment Plant	To process the effluent received from GGS/CTF installation before disposal of effluents as per pollution control norms. The critical equipment are Pumps and Tanks.
6	Emulsion	Emulsion is crude oil inclusive of water
7	Free Water	Water produced with oil which is usually settles once the well fluids become stationary.
8	Heater Treater	Heater Treater remove emulsified liquids and solids from crude and also use heat and pressure drop to flash volatile vapours
9	Human Machine Interface (HMI)	HMI is the tertiary device forming part of Electronic Liquid measurement system. It is a flow computer receiving information from Primary device (Turbine Meter) and secondary devices measuring Temperature, Pressure and Density; Using the programme instructions it calculates the quantity of liquid flowing through the Turbine Meters
10	Hydrocarbon	Organic chemical compounds of hydrogen and carbon atoms. There are a vast number of these compounds and they form the basis of all petroleum products. They may exist as gases, liquids or solids. An example of each is methane, hexane and asphalt.
11	ICE SAP-ERP	Information Consolidation for Efficiency through implementation of Enterprise Resource Planning, i.e., SAP Systems and other IT efforts
12	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.
13	Off-gas	Off-gas is a dissolved gas in crude oil which is separated during stabilisation process of crude oil

14	Performance Contract	Performance Contract is annual contract signed by the Chief of Strategic Business Units (SBU) with the concerned director. The performance evaluation of SBU is done based on actual achievement vis-à-vis target set for Key Performance Indicators. The methodology followed for evaluation of MoU signed by the ONGC with MoPNG is adopted for this purpose.
15	Petroleum	Crude Oil and/or Natural Gas existing in their natural condition but excluding helium occurring in association with Petroleum or shale.
16	Pit Oil	In an effort to realise production from exploratory wells expeditiously such wells are often flogged to make shift pits at well sites during initial testing. Oil recovered from effluents was also often stored in wash tanks prior to being recovered. Also during period of high stock, due to less evacuation of refineries excess oil is stored in available storage like wash tanks /effluent tanks. The oil which is not stored in crude oil tanks and does not appear in tank stock statement of the Asset is referred to as pit oil
17	Reserve Accretion	Addition of hydrocarbon reserves to the existing reserves
18	Reservoir	A naturally occurring discrete accumulation of Petroleum
19	Rigs	It was an equipment used for drilling a well bore. There are various types of offshore rigs like jack-up rigs, floaters, Modular rigs, etc. In onland, there are two types of rigs, viz., mobile rigs and High Floor Mast / Sub structure types of rigs
20	Turbine Meter	Turbine Meter is a primary device of Electronic Liquid Measurement System. In operation rotating blades generate frequency signal proportion to liquid flow rate which is sensed by the magnetic pick up and transferred to real time indicator
21	Well	A borehole, made by drilling in the course of Petroleum Operations, but does not include a seismic shot hole.
22	Wet Crude	Wet crude is the partially stabilized crude containing crude, water and dissolved gas.

