REF: IOC/BGR/ENV/MSQ/MoEF&CC/2019-20/01 **Date: 20.11.2019**

The Chief Conservator of Forests
Regional Office, North East Region
Ministry of Environment & Forests & Climate Change
Law-U-SIB, Lumbatngen, Near M.T.C. Workshop,
Shillong – 793021

Subject: Half yearly Report for the period of 1st April, 2019 to 30thSeptember, 2019 for MS Quality Improvement Project

Dear Sir,

With reference to above, we are enclosing the Six Monthly Report for the period of **1st April, 2019 to 30thSeptember, 2019** for your kind perusal. The reports are being sent as per EIA Rules, 2006 on the "Environmental Clearances" issued by MoEF&CC to Bongaigaon Refinery, (BGR) for **"MS Quality Improvement Project".**

Thanking you,

Yours faithfully,

(A.Basumatary)
DGM (HSE)

Copy to:

1. Member Secretary, Pollution Control Board, Assam
   Bamunimaidam, Guwahati - 781 021
2. Zonal Officer, Central Pollution Control Board
   Eastern Zonal Office, 'TUM-SIR', Lower Motinagar,
   Near Fire Brigade H.Q., Shillong – 793014

Half yearly Report for MS Quality Improvement Project

(1st April, 2019 to 30thSeptember, 2019)

Submitted by:

Indian Oil Corporation Limited

Bongaigaon Refinery

P.O: Dhaligaon District: Chirang. Assam

Compliance Status w.r.t. Env. Clearance of MS Quality Improvement Project

Six Monthly Status Report for the period (1st April, 2019 to 30thSeptember, 2019)

Environmental Clearance for "MS Quality Improvement Project (Light Naphtha Isomerisation using existing Xylene Isomerisation unit)" at Dhaligaon, Chirang, Assam by M/s Bongaigaon Refinery & Petrochemicals Ltd. vide MoEF letter No. J.11011/1171/2007-IA-II (I) dated 5/02/2008.

Project was commissioned in September, 2011

INDEX:

Annexure- A

Sl No	Specific Conditions	Compliance Status
i	The company shall comply with new standards/norms that are being proposed by the CPCB for petrochemical plants and refineries.	Complied. Basic Design Engineering Package / Process Package have been prepared in line with the revised standards / norms for Oil Refinery and implemented in the project.
ii	The company shall comply with all the stipulations of environmental clearance issued vide File No. – 11011/375/2006-IA.II (I) dated 22nd March, 2007.	BGR had advertised "Public Notice" in three local news papers that are widely circulated in the region namely "The Assam Tribune" English daily, "Asomiya Pratidin" an Assamese daily & "Sanseyari Bodosa" a Bodo daily on 26th February, 2008.
iii	The process emissions (SO2, NOx, HC, VOCs and Benzene) from various units shall conform to the standards prescribed by the Assam State Pollution Control Board from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	Complied. Detailed Engineering for the project was carried out considering the revised standards / norms for Oil Refinery and conditions /guidelines issued by SPCB. Environment Monitoring and control facilities are installed to achieve the stipulated standards. Emission and ambient air (VOC) data attached as **Appendix-A1**. HC Fugitive data in **Appendix-A5**.
iv	The improvement project shall be through the retrofitting of existing Xylene fractionation, Isomerisation and Parex units and within the existing land.	Complied. The improvement project is only through the retrofitting of existing Xylene Fractionation, Isomerisation and Parex units and within the existing land.
v	Quarterly monitoring of fugitive emissions shall be carried out as per the guidelines of CPCB by fugitive emission detectors (GMI Leak Surveyor) and reports shall be submitted to the Ministry's regional office at Shillong.	Complied. Quarterly monitoring of fugitive emissions is carried out. Quarterly reports for the period of 1st April, 2019 to 30th September 2019 are attached as **Appendix-A5**.
vi	For control of fugitive emission all unsaturated hydro carbon will be routed to the flare system and the flare system shall be designed for smoke less burning.	Complied. Taken care during implementation of the project.
vii	The company shall strictly follow all the recommendation mentioned in the charter on corporate responsibility for environmental protection (CREP)	Complied. The company followed all the recommendation mentioned in the charter on Corporate Responsibility for Environmental Protection (CREP) prior to coming of the Revised Standards applicable to refinery for Environment Protection.
viii	Occupational health surveillance of worker shall be done on a regular basis and records maintained as per the Factory Act.	Complied. The reports for the period of **1st April, 2019 to 30thSeptember, 2019** are attached as **Appendix-A13**.

Sl. No.	Specific Conditions	Compliance Status
ix	Greenbelt shall be developed to mitigate the effect of fugitive emission all around the plant in a minimum 30% plant area in consultation with DFO as per CPCB guidelines.	Greenbelt is already existed. More than 33% of plant area is having green cover. Tree Census has been carried out through DFO Chirang District in 2013 where 84545 Nos. of grown up trees were enumerated. **In the financial year 2018-19, BGR has planted 30062 nos. of trees in and around the complex.** **In current financial year, till Sept'19 BGR has planted 14340 nos. of tree sapling.**
x	The Company shall make the suitable arrangement for disposal of catalyst waste and alumina balls. The report of waste disposal shall be submitted to Ministry's Regional Office at Shillong.	Complied. Please refer **Appendix-A6(a).**
xi	The Company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during flaring.	Complied. Necessary measures are in place to prevent fire hazards, containment of oil spill.
xii	To prevent fire and explosion at Oil and Gas facility, potential ignition sources should be kept to a minimum and adequate separation distance between potential ignition sources and flammable material shall be in place.	Complied. All necessary precautions are in place as per OISD Guidelines.

B. General Conditions:

S. No.	General Conditions	Compliance status
i	The project authorities must strictly adhere to the stipulations made by the concerned State Pollution Control Board (SPCB) and the State Government and any other statuary body.	Complied. Taken care during implementation of the project.
ii	No further expansion or modification in the project shall be carried without prior approval of the Ministry of Environment and Forests. In case of deviations or alternations in the project proposal from those submitted to the Ministry for clearance, a fresh reference shall be made to the Ministry.	Complied. EC was granted by MoEF&CC to BGR for IndMax & BS-VI projects vide letter **F. no.J11011/48/2016-IA-II (I), Dated 19th Apr'2017.** **The project aims to enhance expansion of Crude processing from 2.35 to 2.7 MMTP, other associated projects, e.g. DHDT capacity from 1.2 to 1.8 MMTP, HGU from 25 KTPA to 30 KTPA, CRU-MSQ revamp and SDS(SRU) unit.**

SL. No.	General Conditions	Compliance status
iii	At no time, the emissions should go beyond the prescribed standards. In the event of failure of any pollution control system, the respective well site should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved. Provision of adequate height of stack attached to DG sets & flare is to be done.	Complied. Taken care during implementation of the project. Emission data for the period of **1st April, 2019 to 30thSeptember, 2019** are attached as **Appendix - A1.** No DG set was installed for the project.
iv	Wastewater shall be properly collected and treated so as to conform to the standards prescribed under EP Act & Rules and mentioned in the Consents provided by the relevant SPCB.	Complied. Waste water treatment and disposal system is designed to conform to this norm. Detail of Waste water treatment and disposal system is attached as **Appendix-A7**. Treated Effluent and discharge water quality from refinery is attached as **Appendix-A2**.
v	The overall noise levels in and around the premises shall be limited within the prescribed standards (75 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Complied. Taken care during implementation of the project. Quarterly Noise Survey is being carried out regularly. Quarterly Reports for the period of **1st April, 2019 to 30thSeptember, 2019** are attached as **Appendix-A9**.
vi	The project authorities must strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 as amended in 2008 for handling of hazardous chemicals etc. Necessary approvals from Chief Controller of Explosives must be obtained before commission of the expansion project, if required. Requisite On-site and Off-site Disaster Management Plans will be prepared and implemented.	Complied.
vii	Disposal of hazardous wastes shall be as per the Hazardous Wastes (Management and Handling) Rules, 2008. Authorization from the State Pollution Control Board must be obtained for collections / treatment/storage/ disposal of hazardous wastes.	Complied. Authorization under Hazardous and Other Waste (Management, and Transboundary Movement) Rules 2016 obtained from PCBA and valid up to 5th August, 2022. Copy attached as **Appendix-A6(b)**.
viii	The project authorities will provide adequate funds as non-recurring and recurring expenditure to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.	Complied. Sufficient fund is being made available at the time of implementation and operational phase of the project. Expenditure for the financial year 2018-19 was Rs.1066.6 Lacks and in the 1st half of current financial year was Rs. 323.43 Lacks

Sr. No.	General Conditions	Compliance status
ix	The company shall develop rain water harvesting structures to harvest the runoff water for recharge of ground water.	Complied. 19 nos. of Rainwater Harvesting Projects has been implemented covering roof area of 17207 SQM and surface area of 32900 SQM, having potential rainwater harvesting volume of 142780 M^3. The harvested rainwater for ground water recharge is through recharge pits and recharge trench on the basis of technical details and guidelines from Central Ground Water Board, North Eastern Region, and Guwahati. Details attached as **Appendix-A9**.
x	The stipulated conditions will be monitored by the concerned Regional Office of this Ministry /Central Pollution Control Board/State Pollution Control Board. A six monthly compliance report and the monitored data should be submitted to them regularly. It will also be displayed on the Website of the Company.	Complied.
xi	The Project Proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment & Forests at http://www.envfor.nic.in. This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the concerned Regional office of this Ministry.	Complied. BGR had advertised “Public Notice” in three local news papers that are widely circulated in the region namely “The Assam Tribune” English daily, “Asomiya Pratidin” an Assamese daily & “Sanseyari Bodosa” a Bodo daily on 26th February, 2008. The information is already submitted to statutory agencies.
xii	A separate environment management cell with full fledged laboratory facilities to carry out various management and monitoring functions shall be set up under the control of a Senior Executive.	Complied. BGR is having a separate environmental management cell of HSE department and fully fledged laboratory to carry-out environment management and monitoring functions. Organogram of HSE Department is attached as **Appendix-A11**. BGR Environment Laboratory is accredited by NABL and recognized by **CPCB** as under Section 12&13 of Environment (Protection) Act 1986 and notified in the Govt. of India Gazette no. 439 dated November 4, 2018 vide notification number Legal 42(3)/ 87 dated 3rd October 2018. **(Copy attached as Appendix-A12)** .
xiii	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project	Complied. Last capitalization date was 08/01/2015.

1.0

APPENDIX –A1

STACK MONITORING DATA: (1st April, 2019 to 30th September, 2019)

A. SO_2 Emission (mg/Nm^3):

Stacks	Emission Std.	Observed value		
		Min	Avg.	Max
CDU-I	For F.O. = 1700 For F.G. = 50	47	153	467
CDU-II		14	22	65
DCU-I		13	97	220
DCU-II		3	50	446
CPP		17	114	292
Reformer		7	12	37
HO-1		13	28	73
HO-2		15	30	43
Isomerisation		5	20	39
DHDT		1	11	54
HGU		4	19	46
SRU		23	89	253
GTG		2	7	17

B. NO_X Emission (mg/Nm^3)

Stacks	Emission Std.	Observed value		
		Min	Avg.	Max
CDU-I	For F.O. = 450 For F.G. = 350	83	84	86
CDU-II		5	13	78
DCU-I		21	44	67
DCU-II		26	61	341
CPP		74	82	90
Reformer		8	19	22
HO-1		106	150	192
HO-2		12	16	18
Isomerisation		35	76	106
DHDT		14	22	50
HGU		0.1	12	82
SRU		No Analyser		
GTG		4	34	310

C. PM Emission (mg/Nm^3)

Stacks	Emission Std.	Observed value		
		Min	Avg.	Max
CDU-I	For F.O. = 100 For F.G. = 10	2.2	5.3	62.4
CDU-II		1.5	1.8	2.9
DCU-I		0.5	5.3	30.3
DCU-II		0.2	2.0	12.4
CPP		0.4	3.0	29.6
Reformer		0.1	1.1	10.4
HO-1		0.3	2.2	14.3
HO-2		0.9	4.0	13.5
Isomerisation		1.0	3.6	6.7
DHDT		1.0	1.7	3.9
HGU		0.8	5.3	47.1
SRU		4.5	8.2	12.4
GTG		2.6	15.4	21.9

STACK MONITORING DATA: (1st April, 2019 to 30th September, 2019)

D. CO Emission (mg/Nm^3)

Stacks	Emission Std.	Observed value		
		Min	Avg.	Max
CDU-I	For F.O. = 200 For F.G. = 150	11.2	36.7	50.7
CDU-II		4.0	26.5	62.8
DCU-I		2.7	28.4	170.4
DCU-II		1.4	7.7	109.6
CPP		1.2	16.2	85.6
Reformer		15.1	19.3	43.4
HO-1		0.1	9.5	63.8
HO-2		0.6	16.1	144.9
ISOMERISATION		25.1	25.3	25.8
DHDT		1.0	8.0	10.5
HGU		2.2	13.5	67.4
SRU		1.4	1.6	2.0
GTG		0.03	20.0	28.9

E. Ni + V Emission (mg/Nm^3):

Stacks	Emission Std.	Observed value		
		Min	Avg.	Max
CDU-I	For F.O. = 5	BDL	BDL	BDL
CDU-II		BDL	BDL	BDL
DCU-I		BDL	BDL	BDL
DCU-II		BDL	BDL	BDL
CPP		BDL	BDL	BDL
Reformer		BDL	BDL	BDL
HO-1/2		BDL	BDL	BDL
ISOMERISATION		BDL	BDL	BDL
DHDT		BDL	BDL	BDL
HGU		BDL	BDL	BDL
SRU		BDL	BDL	BDL
GTG		BDL	BDL	BDL

AMBIENT AIR QUALITY AROUND BGR COMPLEX

(Average of monthly sample Schedule – VII)

(1st April, 2019 to 30th September, 2019)

	Station	Continuous Monitoring Station	Near Tube Well No.14	Near LPG Bottling plant	Rural Health Centre	Bartala Rail Gate	Near TW No.7 in Township
1	SO_2 (Std. 50/80 µg/m^3)						
	Min	0.60	5.20	5.20	4.80	4.80	5.20
	Average	5.61	7.48	7.48	9.00	7.40	6.25
	Max	65.53	9.80	9.80	11.80	8.80	7.20
	No. of observation	Continuous	56	56	56	56	56
2	NO_2 (Std. 40/80 µg/m^3)						
	Min	5.94	9.20	9.20	9.20	9.20	9.20
	Average	6.12	12.00	11.44	13.61	12.47	10.48
	Max	9.63	15.20	13.80	18.20	15.80	11.80
	No. of observation	Continuous	56	56	56	56	56
3	PM-10 (Std. 60/100 µg/m^3)						
	Min	3.59	38.00	35.00	38.00	35.00	20.00
	Average	16.83	66.79	66.09	71.82	67.07	55.00
	Max	49.41	86.00	84.00	94.00	86.00	72.00
	No. of observation	Continuous	56	56	56	56	56
4	PM-2.5 (Std. 40/60 µg/m^3)						
	Min	2.04	15.00	16.00	15.00	15.00	14.00
	Average	4.63	32.21	31.96	35.00	32.11	25.18
	Max	10.17	43.00	44.00	48.00	44.00	35.00
	No. of observation	Continuous	56	56	56	56	56
5	Ammonia (Std. 100/400 µg/m^3)						
	Min	7.21	6.20	6.80	6.20	6.20	5.20
	Average	7.46	10.41	9.69	11.11	9.57	7.00
	Max	14.79	14.20	12.50	15.20	14.20	8.20
	No. of observation	Continuous	56	56	56	56	56
6	Pb (Std. 0.5/1.0 µg/m^3)						
	Min		BDL	BDL	BDL	BDL	BDL
	Average		BDL	BDL	BDL	BDL	BDL
	Max		BDL	BDL	BDL	BDL	BDL
	No. of observation		56	56	56	56	56

	Station	Continuous Monitoring Station	Near Tube Well No.14	Near LPG Bottling plant	Rural Health Centre	Bartala Rail Gate	Near TW No.7 in Township
7	Arsenic (As) (Std. 6 ng/m3)						
	Min		BDL	BDL	BDL	BDL	BDL
	Average		BDL	BDL	BDL	BDL	BDL
	Max		BDL	BDL	BDL	BDL	BDL
	No. of observation		56	56	56	56	56
8	Ni (Std. 20 ng/m3)						
	Min		1.20	1.50	1.60	1.50	BDL
	Average		2.65	2.49	3.08	2.73	BDL
	Max		3.80	3.50	4.50	4.20	BDL
	No. of observation		56	56	56	56	56
9	CO (Std. 2/4 mg/m3						
	Min	0.01	BDL	BDL	0.15	0.12	BDL
	Average	0.34	BDL	BDL	0.26	0.20	BDL
	Max	1.72	BDL	BDL	0.38	0.28	BDL
	No. of observation	Continuous	56	56	56	56	56
10	Ozone (Std.100/180 µg/m^3 for 8 hrs/1 hr)						
	Min	32.28	10.00	10.00	10.00	10.00	10.00
	Average	40.90	19.06	18.47	19.21	18.23	17.26
	Max	63.25	28.00	26.00	26.00	24.00	22.00
	No. of observation	Continuous	56	56	56	56	56
11	Benzene (Std. 5 µg/m^3)						
	Min	0.24	BDL	BDL	BDL	BDL	BDL
	Average	0.38	BDL	BDL	BDL	BDL	BDL
	Max	2.31	BDL	BDL	BDL	BDL	BDL
	No. of observation	Continuous	56	56	56	56	56
12	Benzo (a) Pyrene (Std. 1 ng/m^3)						
	Min		BDL	BDL	BDL	BDL	BDL
	Average		BDL	BDL	BDL	BDL	BDL
	Max		BDL	BDL	BDL	BDL	BDL
	No. of observation		56	56	56	56	56

Average of Six Stations												
Parameter	**SO_2**	**NO_2**	**PM-10**	**PM-2.5**	**NH_3**	**Pb**	**As**	**Ni**	**Benzo (a) Pyrene**	**CO**	**C_6H_6**	**O_3**
Unit	**µg/m^3**						**ng/m^3**			**mg/m^3**	**µg/m^3**	
NAAQ Std. 2009	**50/ 80**	**40/ 80**	**60/ 100**	**40/ 60**	**100/ 400**	**0.5/ 1.0**	**Max 6**	**Max 20**	**Max 1**	**2/4**	**Max 5**	**100/ 180**
Min	**0.60**	**5.9**	**3.6**	**2.0**	**5.2**	**BDL**	**BDL**	**1.2**	**BDL**	**0.01**	**0.24**	**10.0**
Average	**7.21**	**11.0**	**57.3**	**26.8**	**9.2**	**BDL**	**BDL**	**2.7**	**BDL**	**0.26**	**0.4**	**22.2**
Max	**65.53**	**18.2**	**94.0**	**48.0**	**15.2**	**BDL**	**BDL**	**4.5**	**BDL**	**1.72**	**2.3**	**63.3**

4.0

APPENDIX-A2

Effluent Discharged (Figure in M^3/Hr): (1st April, 2019 to 30th September, 2019)

A	Industrial Effluent M^3/Hr	188.7
B	Domestic Effluent from BGR Township M^3/Hr	37.86
C	Total Effluent Treated (A + B) M^3/Hr	226.56
D	Treated Effluent Reused M^3/Hr	223.83
E	Effluent Discharged M^3/Hr	2.75
F	M^3 of Effluent discharged for 1000 tons of Crude processed	9.99

1. Treated Effluent Quality

(1st April, 2019 to 30th September, 2019)

Sl. No	Parameter	Std,2008	Min	Avg.	Max
1	p^H value	6.0 - 8.5	6.0	7.3	8.5
2	Oil and Grease, mg/l	5.0	1.4	2.7	5.0
3	Bio-Chemical Oxygen Demand (3 Day at 27°C), mg/l	15.0	0.8	5.2	15.0
4	Chemical Oxygen Demand (COD), mg/l	125.0	10.0	37.8	99.2
5	Suspended solids, mg/l	20.0	4.0	11.6	20.0
6	Phenolic compounds (as C6H5OH), mg/l	0.35	0.01	0.10	0.35
7	Sulphide (as S), mg/l	0.50	0.03	0.10	0.32
8	CN mg/l	0.20	BDL	BDL	BDL
9	Ammonia as N, mg/l	15.0	0.78	0.83	0.92
10	TKN, mg/l	40.0	2.50	2.87	3.80
11	P, mg/l	3.0	0.18	0.22	0.25
12	Cr (Hexavalent), mg/l	0.10	-	BDL	-
13	Cr (Total), mg/l	2.0	-	BDL	-
14	Pb, mg/l	0.10	-	BDL	-
15	Hg, mg/l	0.01	-	BDL	-
16	Zn, mg/l	5.0	0.22	0.26	0.32
17	Ni, mg/l	1.0	-	BDL	-
18	Cu, mg/l	1.0	0.02	0.04	0.05
19	V, mg/l	0.20	-	BDL	-
20	Benzene, mg/l	0.10	-	BDL	-
21	Benzo (a) pyrene, mg/l	0.20	-	BDL	-

EFFLUENT QUALITY

2. Final Outlet (From the Complex) Effluent Quality

(1st April, 2019 to 30th September, 2019)

Sl. No.	Parameter	Std 2008	Min	Avg.	Max
1	p^H value	6.0 - 8.5	6.50	7.35	8.50
2	Oil and Grease, mg/l	5.0	1.00	2.54	4.80
3	Bio-Chemical Oxygen Demand (3 Days at 27° C), mg/l	15.0	1.00	5.5	14.90
4	Chemical Oxygen Demand (COD), mg/l	125.0	19.84	33.8	90.00
5	Suspended Solids, mg/l	20.0	4.00	10.4	20.00
6	Phenolic compounds (as C_6H_5OH), mg/l	0.35	0.01	0.124	0.35
7	Sulphide (as S), mg/l	0.50	0.03	0.144	0.49
8	CN, mg/l	0.20	BDL	BDL	BDL
9	Ammonia as N , mg/l	15.0	0.78	1.00	1.20
10	TKN, mg/l	40.0	2.60	3.02	3.50
11	P, mg/l	3.0	0.18	0.22	0.26
12	Cr (Hexavalent), mg/l	0.10	-	BDL	-
13	Cr (Total), mg/l	2.0	-	BDL	-
14	Pb, mg/l	0.10	-	BDL	-
15	Hg, mg/l	0.01	-	BDL	-
16	Zn, mg/l	5.0	0.0018	0.0027	0.0035
17	Ni, mg/l	1.0	-	BDL	-
18	Cu, mg/l	1.0	0.0004	0.0006	0.0008
19	V, mg/l	0.20	-	BDL	-
20	Benzene, mg/l	0.10	-	BDL	-
21	Benzo (a) pyrene, mg/l	0.20	-	BDL	-

5.0 APPENDIX - A3

Tree Plantation
(1st April, 2019 to 30th September, 2019)

The entire area inside BGR covered with greenery through massive plantation activities. Through massive plantation work and by giving protection to natural forest growth in side BGR premises, the entire area has become green. The entire plant area where processing plant facilities do not exist has a green cover. This helps in reduction of noise and air pollution level in one hand while on the other hand provides protection to ecological features of the area. The refinery has an excellent quality environment around its complex. Natural greenery can be seen all around the complex and in all seasons of the year.

Tree Census was done by Divisional Forest Office, Chirang. As per census, 84545 numbers of plants which include trees including shrubs, ocular estimated 33000 numbers bamboos in 1150 no. bamboo culms and also trees planted by BGR during 2003 to 2012.

During, 1st April, 2019 to 30th September, 2019 BGR has planted 14340 nos. of tree saplings

Tree Plantation 2017-18

COMPLEX OLD DEBRIS YARD DEVELOPED INTO GREEN BELT. Planted in July'17, GROWTH as on 04.10.19

IOCL, BGR TOWNSHIP PLANTATION. Planted on April'17 Growth as on 04.10.2019

Tree Plantation 2018-19

BGR TOWNSHIP PLANTATION, Planted Van mahotsav 2018, Growth as on 04.10.19

Tree Plantation 2019-20

North Bongaigaon High School, 5250 Sapling Planted by Miyawaki Method in the month of September,2019

APPENDIX – A 4

Additional Information

(1st April, 2019 to 30th September, 2019)

Effluent reused during the period was around **98.8 %** of the total effluent treated which includes plant effluent as well as BGR Township sewer.

Under the Leak Detection and Repair programme (LDAR), BGR is conducting quarterly Fugitive Emission Survey. During the period from **1st April, 2019 to 30th September, 2019**, **23291** potential leaky points checked and **184** Leaky points detected and rectified. By following LDAR programme in true spirit, the company could not only avoid potential loss of 62**.22** MTA (approx.) of light Hydrocarbon to the atmosphere through fugitive sources but also able to keep healthy work environment in the plants.

To ensure work area quality and health of equipments, quarterly noise survey was conducted covering all the operating plants, control rooms and ambient surrounding the BGR. During **1st April, 2019 to 30th September, 2019,** Noise Survey for the two quarters of 2018 -19 has been completed and no abnormality was reported.

As a measure of Hazardous Waste Management, A third party has been engaged for processing tank bottom sludge through mechanized treatment. Another third party is engaged for processing of the oily sludge & recovery of oil from the oily sludge stored in the concrete lagoon. Melting pit facility is available for recovering oil from oily sludge.

One old slurry thickener from Petrochemical section was converted to confined space bio-remediation reactor to treat oily sludge with help from IOCL-R&D. The process of bio-remediation started from July 2017 and at present per batch approximately 35 m3 of oily sludge is being processed. From **1st April, 2019 to 30th September, 2019, 216 MT** of oily sludge has been processed in the Bio-reactor.

Bio-remediation facility of BGR

Further two more Rain Water Harvesting (Ground Water Recharging) schemes in BGR Township have been implemented during 2016-17.

6.0

APPENDIX –A5

Quarterly Fugitive emission Data

(1st April, 2019 to 30th September, 2019)

FUG EMISSION DATA
1ST QTR 19-20.pdf

FUG EMISSION DATA
2ND QTR 19-20.pdf

8.0

APPENDIX-A6 (a)

HW Return
2018-19.pdf

9.0

Annexure –A6 (b)

Authorization from PCBA for Hazardous Waste
(Management and Transboundary Movement) Rules 2016

HW Authorisation 2019.pdf

10.0

APPENDIX-A7

Detail of Waste water treatment and disposal system.

ETP Description.pdf

11.0

ANNEXURE-A8

Quarterly Noise Survey Data

(1st April, 2019 to 30th September, 2019)

HSE (ENVIRONMENT) DEPARTMENT

NOISE SURVEY DATA
1ST QTR 19-20.pdf

NOISE SURVEY DATA
2ND QTR 19-20.pdf

12.0

ANNEXURE-A9

Rain Water Harvesting Data

BGR: Rain Water Harvesting till Mar 2019

Sl.No.	RWH systems	Area In m^2	Recharging, m^3/Yr	Total Recharging, m^3/Yr	Status
1	Rainwater Harvesting at Mandir Complex Pond	7125	20748	99239.14	In operation
2	Manjeera Guest House	677	1848		
3	Deoshri Guest House	581	1586		
4	Rainwater Harvesting at Parivesh Udyan Pond	5775	16817		
5	Rainwater Harvesting at Eco-Park Pond	20000	58240		
6	Mandir Complex	833	2274	14597	In operation
7	Manas Guest House	639	1744		
8	BGR HS School, BGR Township	1361	3716		
9	DPS Block-I	704	1922		
10	DPS Block-II	1810	4941		
11	BGR Canteen, CISF Office & Scooter Shed	3134	8556	8556	In operation
12	Champa Club (Officers Club)	1100	3003	10046	In operation
13	Refinery Club cum Community Centre	2580	7043		
14	Employee Union Conference Hall Building	275	751	3003	In operation
15	CISF Quarter Guards Building	825	2252		
16	CISF Conference Hall & Barack	1050	2867	4641	In operation
17	BGR Community Centre	650	1775		
18	Foot Ball Stadium gallery	988	2697	2697	In operation
19	Vollyball Stadium Gallery				
	TOTAL	50,107	142780	1,42,780	

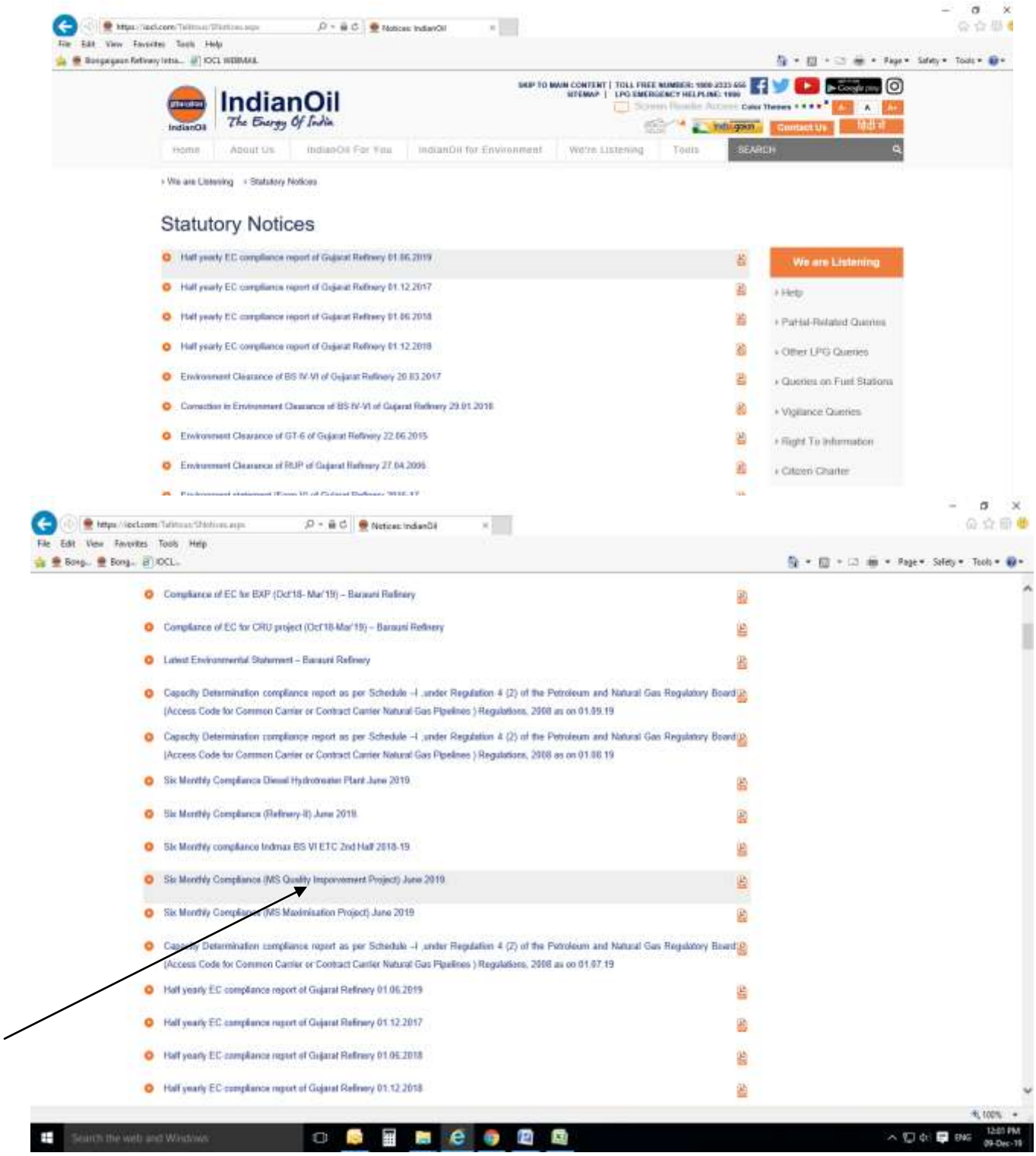
अभिजित बरुआतारी / Abhijeet Basumatary
उप महाप्रबंधक (एचएसई) / Dy. General Manager (HSE)
बोंगाईगाँव रिफाइनरी, इंडियन ऑयल कॉर्पोरेशन लिमिटेड
Bongaigaon Refinery, Indian Oil Corporation Limited
डाकघर : धालीगाँव P.O. : Dhaligaon - 783385
जिला : चिरांग (असम) Dist. : Chirang (Assam)

13.0

ANNEXURE-A10

Screen Shot of IOCL Website upload of report

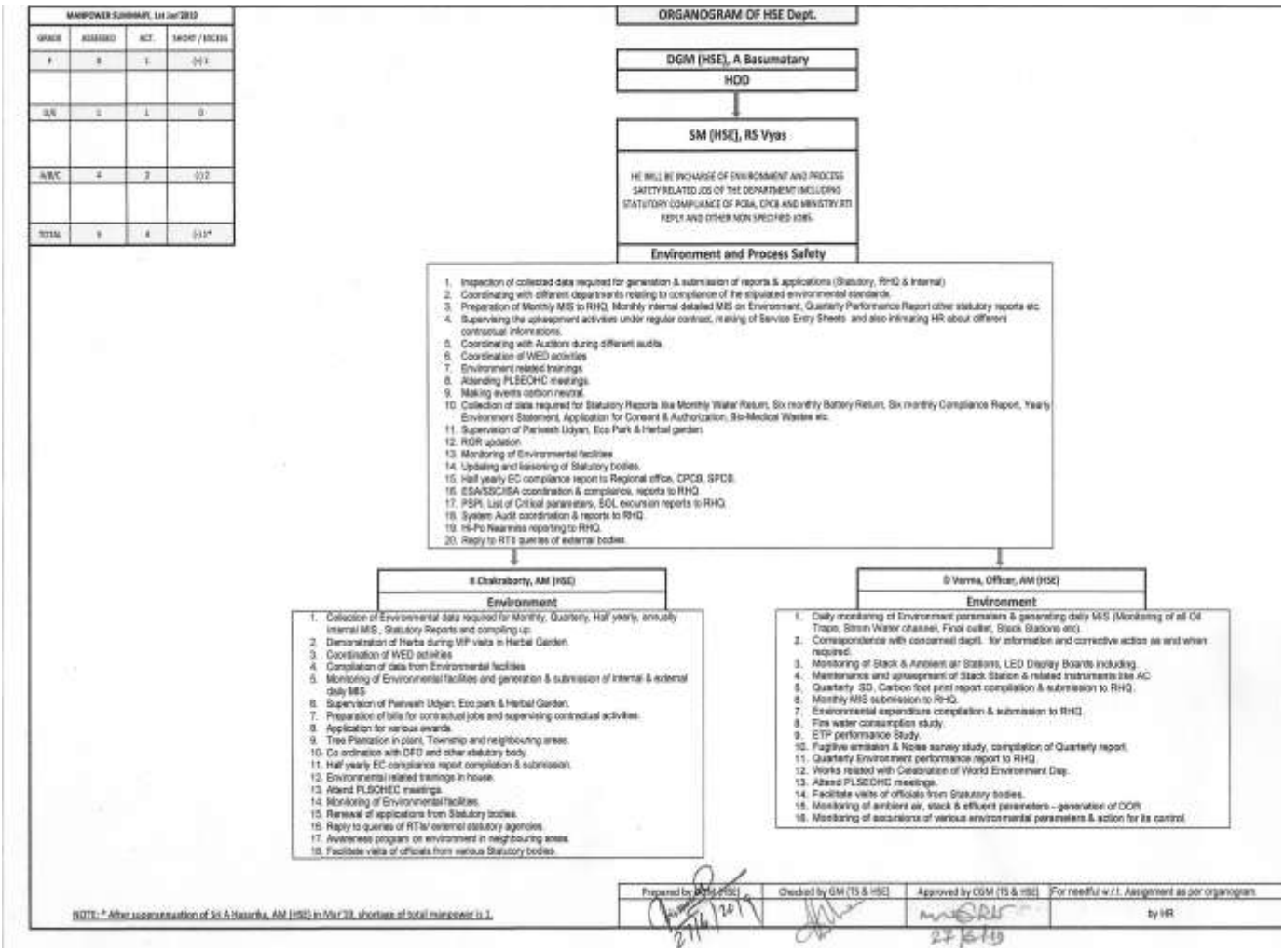
Link: https://iocl.com/Talktous/SNotices.aspx



14.0

APPENDIX-A11

HSE Organogram of IOCL-BGR



15.0

ANNEXURE-A12

Gazette Notification of BGR Quality Control laboratory (QC Lab) Approval under Environment (Protection) Act 1986

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA

C-11012/90/1998-Tech / 13209

November 29,2018

Speed Post

To

Sh H.K.Sarma
Quality Control Manager
Quality Control Laboratory
Indian Oil Corporation Limited
Bangaigaon
P.O. Dhaligaon-783385
Dist. Chirang Assam

Sub: Notification of Government Analysts of Quality Control Laboratory of Indian Oil Corporation Limited Bangaigaon P.O. Dhaligaon-783385Dist. Chirang Assam, in Govt. of India Gazette-reg.

Ref: Your letter no.. Dated 23.04.2018
Our letter no.: C-11012/90/1998 Tech/3258 Dated 20.07.2016

Sir,

Apropos above, it is to inform that the proposal of substitution of superannuated/transferred Government Analysts of Quality Control Laboratory of Indian Oil Corporation Limited Bangaigaon P.O. Dhaligaon-783385 Dist. Chirang Assam was approved in the 181st Board Meeting held on June 19, 2018 and afterward notified in the Govt. of India Gazette No. 439 Dated November 20, 2018 vide notification number Lega. 42(3)/87 dated October 3, 2018. The copy of Gazette Notification is enclosed herewith for your reference and record please.

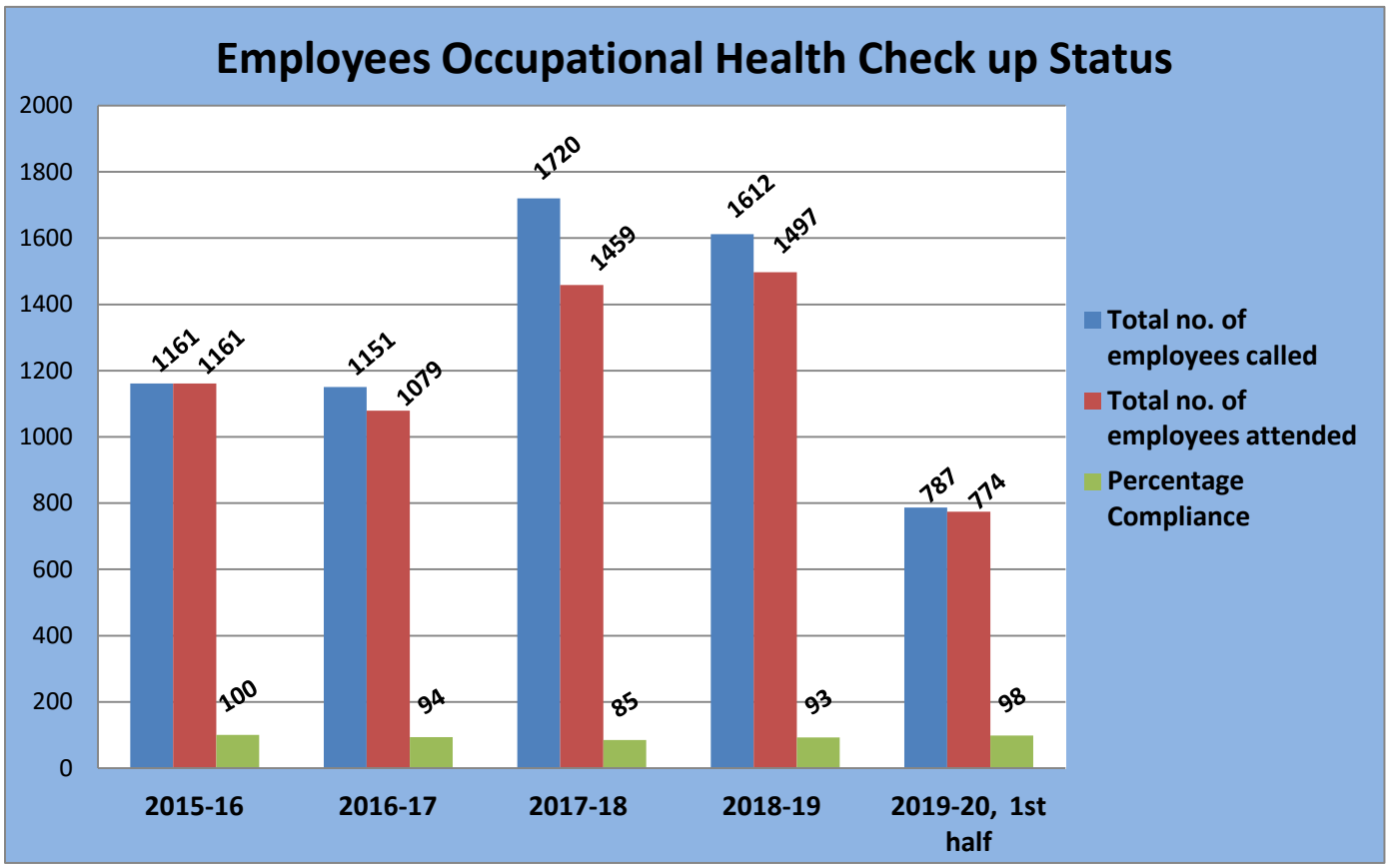
Yours Faithfully

(B.K. Jakhmola)
Scientist-E & Divisional Head
Instrumentation Laboratory

16.0

Appendix-A13

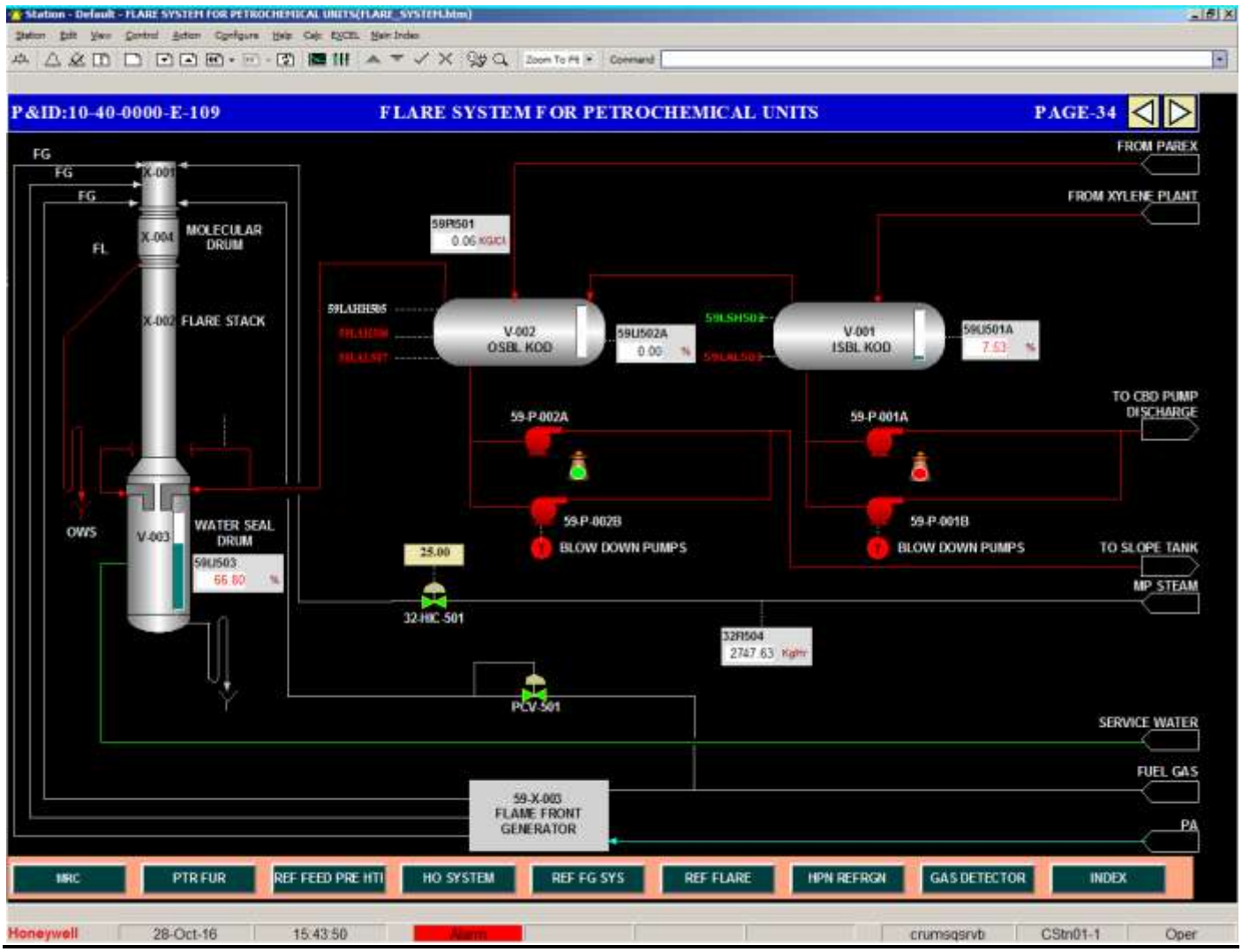
Employees Occupational Heath Check up Status



17.0

Appendix-A14

Flare system.



THANKS