MAIN REPORT

1.0 Introduction

An agreement was signed on February 01, 2022 by and between Power Cell, Power Division, Ministry of Power, Energy and Mineral Resource, Govt. of Peoples republic of Bangladesh. The client having its principles place of business at Bidyut Bhabon (13th Floor), 1 Abdul Gani Road, Dhaka-1000, Bangladesh and Mr. Md. Shahinul Islam khan, Rupayan View, House No-13/A, Flat-A/2, Road- 2/A, Sector No- 05, Uttara, Dhaka-1230 for providing Individual Consultancy Services for Market Survey on Different Types of Filters Used in Power Plants in Bangladesh. (Package No: S-25.3).

1.1 Background

The vision of the Bangladesh Government is to provide reliable and quality electricity to all. Commendable achievement has been made in power sector during the last decades in meeting up the target. At present, the number of power plants is 148 and installed capacity is 20,871 MW. The usages of filter in power plant is all year around and filters are integral part of the power plants. Most of the filters are imported from overseas due to unavailability of local manufactures. Sometimes, filters are repaired and maintained by the local suppliers. There has been considerable interest in the production and applications of filters because of the increasing concern over power quality. As a result, to ensure quality power supply, Government of Bangladesh is considering to carry out a market survey of using different types of filters in power plants in Bangladesh. A consultant will be appointed to carry out the task.

1.2. Objective of the Study

The main objective of the work is to conduct market survey on Different types of Filters used in Power Plants in Bangladesh. In this regard, consultant will prepare a detailed recommendation with specification on market scenario of filters.

2.0 Selection of Consultant

2.1 Terms of Reference (TOR)

For Individual Consultant for Market Survey on Different types of Filters used in Power Plants in Bangladesh (Contract Package No.: S-25.3)

2.1.1 Background

The vision of the Bangladesh Government is to provide reliable and quality electricity to all. Commendable achievement has been made in power sector during the last decades in meeting up the target. At present, the number of power plants is 148 and installed capacity is 20,871 MW. The usages of filter in power plant is all year around and filters are integral part of the power plants. Most of the filters are imported from overseas due to unavailability of local manufactures. Sometimes, filters are repaired and maintained by the local suppliers. There has been considerable interest in the production and applications of filters because of the increasing concern over power quality. As a result to ensure quality power supply, Government of Bangladesh is

considering to carry out a market survey of using different types of filters in power plants in Bangladesh. A consultant will be appointed to carry out the task.

2.1.2 Objective

The main objective of the work is to conduct market survey on Different types of Filters used in Power Plants in Bangladesh. In this regard, consultant will prepare a detailed recommendation with specification on market scenario of filters.

2.1.3 Scope of Service

The scope of services for the market survey includes but not limited to the following:

- Inspection of power plant, review the available records of using filters;
- Collection of filter detail information of plant and carrying out a brief technical review;
- Identify the total numbers of filters used per year in power plants;
- Identify the how many categories of filters used in power plants;
- Collect the information of the Filter Imported with their origin in Bangladesh;
- Identity the total number of Bangladeshi Filter Manufacture companies and the ratio of using the local made filter in power plants;
- Analysis the market comparisons including cost & quality of filters between Filter Imported and Locally Manufactured;
- Detect the required steps for encourage using local made filters in power plants;
- Preparation of Market Survey Report.

2.1.4 Skill requirement

The Consultant must have a Bachelor's degree in Electrical/Mechanical Engineering. The expert must have a minimum of 20 years of experience in the field of Power Sector. S/he must have knowledge of best practice in plant design, O&M, execution & monitoring of power plants.

2.1.5 Deliverables

The assignment will have the following deliverables:

- Inception Report
- Market Survey Report

2.1.6 Timeline for Delivery

- Inception Report : within 7 days from the start of assignment;
- Market Survey Report: within 30 days of assignment.

2.1.7 Duration

The consultant will have to prepare and submit the Market Survey Report for the power plant within 1 (one) months from the start of assignment.

2.2 Appointment of Consultants

With this end in view Power Cell invited bids from individual consultants on 19th Jan, 2022. Three individual consultants including Engr. Md. Shahinul Islam Khan submitted bids on 24th Jan, 2022. After evaluation of the bids Engr. Md. Shahinul Islam Khan was considered suitable for the purpose and he was called for contract negotiation on 31.01.2022. After threadbare discussion, the parties came to consensus and a contract was signed on 1st Feb, 2022 with Engr. Md. Shahinul Islam Khan as individual Consultant for the Market Survey on Different Types of Filters Used in Power Plants in Bangladesh. (Package No: S-25.3)

During negotiation meeting the Power Cell authority and the Consultant agreed that the consultancy services would be provided on following steps and time schedule. as shown in Fig-1.

Work Schedule and Planning for Deliverables

Sl. No	Activity	Deliverable	Weeks				Total
			1	2	3	4	
1.1	Contract Signing (01-February, 2022)						
1.2	Contract effected date: 01-February, 2022						
1.3	Preparation of formats	D1					1 Week
1.4	Submission of inception report	D2					1 Week
1.5	Field Survey	D3					3 Week
1.6	Collection of Technical information by Power Cell	D4					2 Week
1.7	submission draft final report	D5					1 Week
1.8	Incorporation of comments provided by Power Cell and submission of final report.						1 Week
						CPM Total	4 (Four) Weeks

Fig-1

2.3 Duration

The consultant has to prepare and submit the Market Survey report for the Power Plants within 1 (one) month from the start of assignment.

2.4 Deliverables

An Inception report will have to submitted by the consultant within 7 (seven) days from the start of assignment.

Final report will be submitted within 1 month (30 days).

2.5 Kick off Meeting

As per agreement a kick off meeting was held on 02-02-2022. In this kick off meeting Power Cell was informed about the progress of consultancy services till date.

3. 0 Approach and Methodology

Prior to start the approach and methodology we have thoroughly and carefully gone through different sections of Terms of Reference (ToR). The requirements such as consultants supporting team with their qualification and experience and their capability, are stiputed in following chapters.

The Terms and Reference for the consultancy services (ToR) are quoted here under for ready reference.

3.1 Task Identification and Deliverables

A thorough and careful study of the Terms of Reference (ToR), the following task are identified:

i. Standard format is to be developed by the consultant for collection of filters related information from different power plants.
ii. The consultant will be sending the standard format to different power plants for data input.
iii. The Consultant will visit the vital power plants himself along or with his associates as required.
iv. Consultant will thoroughly study the available information of filters of power plant, analysis the market survey of required filters including cost and quality comparison.
v. Prepare the draft report as per scope of TOR.
vi. Pursuant to comment or approval of Power Cell, Consultant will submit the final report in adequate copies.

3.2 List of Power Plants in Bangladesh

In connection with the study, the list of power plants in Bangladesh was collected as shown in Table-1.

Table-1 List of Power Plants in Bangladesh

Bangladesh Power Development Board
DAILY ELECTRICITY GENERATION REPORT

Office of the Member, Generation
Tel : 9564667, 9551095

Month February, 2022 | Day : **Thursday** | Date : **10.02.22**

Probable Maximum Demand : 9800 MW | **Probable Maximum Generation :** 12445 MW

Water Level of Kaptai Lake at 06:00 AM | Yesterday = 92.89 ft | Today = 92.84 ft. | Rule Curve = 95.74 ft.

Sl. No.	Name of Power Station			Nos. of Unit X Capacity (MW)	Installed Capacity (MW)	Derated/ Present Capacity (MW)	09.02.22 (Yesterday) Actual Peak Generation (MW)		10.02.22 (Today) Probable Peak Generation (MW)		09.02.22 (Yesterday) Gen. shortfall for :		Status of Machines under shut-down/ Maintenance	
							Day	Evening	Day	Evening	Gas/water/Coal limitation MW	Machines shut down (MW)	Description/ Remarks	Probable start-up date
(A)	**Plants in operation:**													
1	Ghorasal Repowered CCPP Unit-3 (GT)	Gas	(PDB)	1 x 260	260	260	**0**	**0**	**0**	**0**		**260**	Under project work	
2	a) Ghorasal Repowered CCPP Unit-4	Gas	(PDB)	1 x 210	210	180	**220**	**220**	**220**	**220**				
	b) Ghorasal TPP Unit-5	Gas	(PDB)	1 x 210	210	190	**0**	**0**	**0**	**0**	**190**		Gas Shortage	
3	Ghorasal 365 MW CCPP Unit-7	Gas	(PDB)	1x 254+1x 126	365	365	**0**	**0**	**0**	**0**	**365**		Gas Shortage	
4	Ghorashal 108MW PP (Regent)	Gas	(IPP)	34x3.35	108	108	**0**	**0**	**0**	**0**	**108**		Gas Shortage	
5	Tongi 80 MW GTPP	Gas	(PDB)	1 x 105	105	105	**0**	**0**	**0**	**0**		**105**	Under maint.	
6	Haripur GTPP	Gas	(PDB)	1 x 32	32	20	**0**	**0**	**0**	**0**	**20**		Gas Shortage	
7	Haripur 360MW CCPP(HPL)	Gas	(IPP)	1x235+1x125	360	360	**0**	**0**	**0**	**0**		**360**	Under maintenance	
8	Meghnaghat 450 MW CCPP(MPL)	Gas	(IPP)	2x140+1x170	450	450	**225**	**225**	**225**	**225**	**225**		Gas Shortage	
9	210 MW Siddhirgonj TPP	Gas	(PDB)	1 x 210	210	115	**0**	**0**	**0**	**0**		**115**	Under Overhauling	
10	Haripur 412 MW CCPP	Gas	(EGCB)	1x273+1x139	412	412	**250**	**282**	**280**	**280**				
11	Siddhirgonj 2*120 MW GTPP	Gas	(EGCB)	2 x 105	210	210	**0**	**0**	**0**	**0**	**210**		Gas Shortage	
12	Siddhirganj 335 MW CCPP	Gas	(EGCB)	1 x 217+1x118	335	335	**0**	**0**	**0**	**0**	**217**	**118**	Gas Shortage	
13	Meghnaghat CCPP(Summit)	GAS	(IPP)	2x110+1x110	335	335	**0**	**0**	**0**	**0**	**335**		Gas Shortage	
14	Madanganj-55 MW PP(Summit)	HFO	(IPP)	5x17.08+1x11.3	55	55	**40**	**40**	**40**	**40**				
15	Keraniganj 100 MW PP (Powerpac)	HFO	(QRPP)	8x13.45	100	100	**10**	**58**	**60**	**60**				
16	Gagnagar 102 MW PP (Digital Power)	HFO	(IPP)	12x8.924	102	102	**93**	**93**	**93**	**93**				
17	Narshingdi 22 MW PP (Doreen)	Gas	(SIPP, REB)	8x2.90	22	22	**22**	**22**	**22**	**22**				
18	Summit Power (Madhabdi+Ashulia)	Gas	(SIPP, REB)	6x3.87+7x8.73	80	80	**43**	**44**	**50**	**50**				
19	Maona 33 MW PP(Summit)	Gas	(SIPP, REB)	4x8.73	33	33	**25**	**25**	**25**	**25**				
20	Rupganj 33 MW PP(Summit)	Gas	(SIPP, REB)	4x8.73	33	33	**33**	**33**	**33**	**33**				
21	Gazipur 52 MW PP	HFO	(RPCL)	6x8.90	52	52	**16**	**45**	**51**	**51**				
22	Gazipur 100 MW PP	HFO	(RPCL)	6x18.415	105	105	**105**	**105**	**100**	**105**				
23	Kodda 150MW PP	HFO	(BPDB-RPCL)	9x17.06	149	149	**16**	**82**	**150**	**150**				
24	Kamalghat 54 MW PP (Banco Energy)	HFO	(IPP)	3x18.69	54	54	**17**	**54**	**54**	**54**				
25	Kodda 300 MW PP Unit-2 (Summit)	HFO	(IPP)	18x17.076	300	300	**282**	**301**	**300**	**300**				
26	Kodda 149 MW PP Unit-1 (Summit)	HFO	(IPP)	8x18.415+1x8.97	149	149	**86**	**149**	**149**	**149**				
27	Keranigonj 300 MW PP (APR)	HSD	(IPP)	256x1.4	300	300	**0**	**106**	**200**	**300**				
28	Bramhangoan 100 MW PP (Aggreko)	HSD	(IPP)	23x0.85+91x.959	100	100	**0**	**100**	**100**	**100**				
29	Aurahati 100MW PP (Aggreko)	HSD	(IPP)	23x0.85+91x.959	100	100	**0**	**100**	**100**	**100**				
30	Nababgganj 55 MW PP (Southern powe	HFO	(IPP)	3x19.3	55	55	**55**	**55**	**55**	**55**				
31	Manikganj 55 MW PP (Northern)	HFO	(IPP)	3x19.3	55	55	**0**	**0**	**55**	**55**				
32	Meghnaghat 104 MW PP (OPSL)	HFO	(IPP)	6x18.5	104	104	**104**	**104**	**104**	**104**				
33	Manikgonj 162MW PP(MPGL)	HFO	(IPP)	9x18	162	162	**162**	**156**	**162**	**162**				
34	Manikgonj 35MW Solar PP (Inspectra	Solar	(IPP)	1x35	35	35	**29**	**0**	**30**	**0**				
35	Kanchan Purbachal Power Generation	HFO	(IPP)		55	55	**55**	**0**	**55**	**55**				
36	Katpotti 52 MW PP (Sinha)	HFO	(IPP)	7x7.90	51	51	**0**	**0**	**51**	**51**				
	Dhaka Zone Total				**5853**	**5696**	**1888**	**2399**	**2764**	**2839**	**1670**	**958**		
37	Karnaphuli Hydro PP Unit-1,2,3,4, 5	Hydro	(PDB)	2x40, 3x50	230	230	**35**	**46**	**46**	**46**	**184**		Low water level & maint.	
38	a) Chattogram TPP-1	Gas	(PDB)	1 x 210	210	180	**0**	**0**	**0**	**0**	**180**		Gas Shortage	
	b) Chattogram TPP-2	Gas	(PDB)	1 x 210	210	180	**0**	**0**	**0**	**0**	**180**		Gas Shortage	
39	Kaptai 7 MW Solar PP	Solar	(PDB)		7	7	**5**	**0**	**5**	**0**				
40	Raozan 25 MW PP	HFO	(RPCL)	3x8.9	25	25	**17**	**17**	**17**	**17**				
41	Teknaf 20MW PP (Solartech)	Solar	(IPP)	1x20	20	20	**20**	**0**	**20**	**0**				
42	Patenga 50MW PP (Baraka)	HFO	(IPP)	8x6.89	50	50	**40**	**40**	**40**	**40**				
43	Sikalbaha 105 MW PP (Baraka Sikalb	HFO	(IPP)	6x18.415	105	105	**68**	**105**	**105**	**105**				
44	Shikalbaha Peaking GT	Gas	(PDB)	1 x 150	150	150	**0**	**0**	**0**	**0**		**150**	Under maint.	
45	Sikalbaha 225 MW CCPP	Gas	(PDB)	1 x 150+1 x 75	225	225	**0**	**0**	**0**	**0**		**225**	HGPI awaiting	
46	Anwara 300 MW PP (United)	HFO	(IPP)	17x17.076+ 3x8.04	300	300	**235**	**283**	**283**	**283**				
47	Juldah 100 MW Unit-1 (Acorn)	HFO	(QRPP)	8x13.45	100	100	**0**	**0**	**100**	**100**				
48	Juldah 100 MW PP Unit-3 (Acorn)	HFO	(IPP)	8x13.45	100	100	**50**	**90**	**90**	**90**				
49	Dohazari -Kalaish 100 MW Peaking	HFO	(PDB)	6x17.0	102	102	**0**	**51**	**51**	**51**				
50	Hathazari 100 MW peaking PP	HFO	(PDB)	11x8.9	98	98	**0**	**0**	**0**	**0**		**98**	Environment Issue	
51	Barabkunda 22 MW PP (Regent)	Gas	(SIPP, PDB)	8x2.90	22	22	**15**	**15**	**19**	**20**				
*	Malancha, Ctg.EPZ (United)	Gas		5x8.73+3x9.34			**6**	**16**	**10**	**30**				
52	Chattogram 108 MW PP (ECPV)	HFO	(IPP)	16x7.00	108	108	**86**	**90**	**90**	**90**				
53	Sikalbaha 54 MW PP(Jodiac Power)	HFO	(IPP)	3x18.55+1x3.6	54	54	**17**	**17**	**54**	**54**				
54	Karnaphuli Power Ltd.	HFO	(IPP)	6x18.41+1x6.4	110	110	**17**	**68**	**110**	**110**				
55	Juldah unit-2 (Acorn)	HFO	(IPP)	8x13.6	100	100	**20**	**40**	**100**	**100**				
56	Chattogram 116 MW PP (Anlima Ener	HFO	(IPP)	6x21.06	116	116	**110**	**116**	**116**	**116**				
	Chattogram Zone Total				**2442**	**2382**	**741**	**994**	**1256**	**1252**	**544**	**473**		
57	a) Ashuganj TPP Unit- 4	Gas	(APSCL)	1 x 150	150	129	**0**	**0**	**0**	**0**	**129**		Gas Shortage	
	b) Ashuganj TPP Unit- 5	Gas	(APSCL)	1 x 150	150	134	**0**	**0**	**0**	**0**	**134**		Gas Shortage	
58	Ashuganj 50 MW PP	Gas	(APSCL)	14x3.968	53	45	**5**	**5**	**5**	**5**	**40**		Gas Shortage	
59	Ashuganj 225 MW CCPP	Gas	(APSCL)	1x142+1*75	221	221	**193**	**186**	**200**	**200**				
60	Ashuganj 450 MW CCPP(South)	Gas	(APSCL)	1x360	360	360	**285**	**300**	**300**	**300**				
61	Ashuganj 450 MW CCPP(North)	Gas	(APSCL)	1x361	360	360	**370**	**315**	**360**	**360**				
62	Ashuganj 55 MW PP (Precision)	Gas	(RPP)	15*4	55	55	**5**	**5**	**5**	**5**	**50**		Gas Shortage	
63	Ashuganj 195MW PP (APSCL-United)	Gas	(IPP)	20*9.73+1*16	195	195	**8**	**8**	**8**	**8**	**187**		Gas Shortage	
64	Ashuganj 51 MW PP (Midland)	Gas	(IPP)	6x9.34	51	51	**51**	**51**	**51**	**51**				
65	Ashuganj 150MW PP (Midland)	HFO	(IPP)	23x7.015	150	150	**142**	**150**	**150**	**150**				
66	Titas 50 MW Peaking PP	HFO	(PDB)	6x8.92	52	52	**0**	**0**	**50**	**50**				
67	Chandpur 150 MW CCPP	Gas	(PDB)	1X106+1x57	163	163	**125**	**124**	**125**	**130**				
68	Chandpur 200MW (Desh energy)	HFO	(IPP)	12x18.415	200	200	**0**	**16**	**200**	**200**				
69	Feni 22MW PP (Doreen)	Gas	(SIPP, PDB)	8x2.90	22	22	**21**	**21**	**21**	**21**				
70	Feni 11 MW PP (Doreen)	Gas	(SIPP, REB)	4x2.90	11	11	**5**	**5**	**5**	**5**				
71	Jangalia 33MW PP (Summit)	Gas	(SIPP, PDB)	4x8.73	33	33	**22**	**33**	**33**	**33**				
72	Jangalia 52 MW PP (Lakdanavi)	HFO	(IPP)	6x8.92	52	52	**43**	**52**	**52**	**52**				
73	Cumilla 25 MW PP (Summit)	Gas	(SIPP, REB)	3x3.67+2x6.97	25	25	**18**	**20**	**16**	**20**				
74	Daudkandi 200 MW PP (B.Trac)	HSD	(IPP)	9x14+40x1.515+15x1.056	200	200	**0**	**0**	**100**	**200**				
75	**Feni 114 MW Power Plant(Lakdanavi)**	HFO	(IPP)	7*18.415+1*9.78	114	114	**0**	**17**	**114**	**114**				
76	**Chowmuhani 113 MW**	HFO	(IPP)	12*9.78+2*3.1	113	113	**34**	**113**	**113**	**113**				
77	Bhairob 54 MW PP	HFO	(IPP)	3x18.2	54	54	**17**	**17**	**17**	**17**				
	Chandpur 115(Doreen)	HFO	(IPP)				**119**	**119**	**115**	**0**			On Test	
**	Impoprt (Tripura)		India		160	160	**94**	**110**	**138**	**164**				
	Cumilla Zone Total				**2944**	**2899**	**1557**	**1667**	**2178**	**2198**	**540**	**0**		
78	RPCL 210MW CCPP	Gas	(IPP)	4x35+1x70	210	202	**90**	**92**	**100**	**100**	**110**		Gas Shortage	
79	Tangail 22 MW PP (Doreen)	Gas	(SIPP, PDB)	8x2.90	22	22	**0**	**20**	**22**	**22**				
80	Jamalpur 95 MW PP(Powerpac)	HFO	(IPP)	12x8.924	95	8	**0**	**0**	**0**	**0**			Dependable cap. : 8MW	
81	Jamalpur 115 MW PP (United)	HFO	(IPP)	12x9.87	115	115	**103**	**109**	**110**	**110**				
82	Mymensingh 200 MW PP (United)	HFO	(IPP)	21x9.780	200	200	**191**	**200**	**200**	**200**				
83	Sarishabari 3 MW Solar Plant	Solar	(IPP)	1x3	3	3	**2**	**0**	**1.6**	**0**				
84	Sutiakhali 50 MW Solar PP	Solar	(IPP)	1x50	50	50	**45**	**0**	**50**	**0**				
85	Tangail 22 MW PP(PPGL)	HFO	(IPP)	4x6.7	22	22	**22**	**22**	**22**	**22**				
	Mymensing Zone Total				**717**	**622**	**453**	**443**	**506**	**454**	**110**	**0**		

Table-1

Sl. No.	Name of Power Station			Nos. of Unit X Capacity (MW)	Installed Capacity (MW)	Derated/ Present Capacity (MW)	09.02.22 (Yesterday) Actual Peak Generation (MW)		10.02.22 (Today) Probable Peak Generation (MW)		09.02.22 (Yesterday) Gen. shortfall for :		Status of Machines under shut-down/ Maintenance	
							Day	Evening	Day	Evening	Gas/water/Coal limitation MW	Machines shut down (MW)	Description/ Remarks	Probable start-up date
86	Fenchugonj CCPP Phase-1	Gas	(PDB)	2x32+1x33	97	70	30	30	30	30		40	GT 1 Under maint.	
87	Fenchugonj CCPP Phase-2	Gas	(PDB)	2x35+1x35	104	90	43	43	42	43		47	GT-4 Under maint.	
88	Fenchugonj 51 MW PP (Barakatullah)	Gas	(RPP)	19x2.90	51	51	45	48	51	51				
89	Kushiara 163 MW CCPP (KP)	Gas	(IPP)	1x109+1x54	163	163	110	110	110	110	53		Gas Shortage	
90	Hobiganj 11MW PP Cofidence-E	Gas	(SIPP, REB)	4x2.90	11	11	0	11	11	11				
91	Shahjibazar GTPP Unit- 8 & 9	Gas	(PDB)	2x35	70	66	40	40	65	66				
92	Shajibazar 330 MW CCPP	Gas	(PDB)	2x110+1x110	330	330	144	144	140	150	186		Gas Shortage	
93	Shahjibazar 86MW PP (Shahjibazar)	Gas	(RPP)	32x2.90	86	86	59	61	75	80				
94	Sylhet 225 MW CCPP	Gas	(PDB)	1x142+1x89	231	231	152	151	150	160	80		Gas Shortage	
95	Sylhet 20 MW GTPP	Gas	(PDB)	1 x 20	20	20	0	0	0	0	20		Gas Shortage	
96	Sylhet 10MW PP (Desh)	Gas	(RPP)	6x1.95	10	10	10	10	10	10				
97	Shahjahanulla 25 MW PP	Gas	(CIPP, REB)	3x9.34	25	25	16	8	16	16	17		Gas Shortage	
98	Bibiana-II 341 MW CCPP (Summit)	Gas	(IPP)	1x222+1x119	341	341	290	290	330	330				
99	Bibiyana-III 400 MW CCPP	Gas	(PDB)	1x285+1x115	400	400	0	0	0	0				
100	Bibiyana South 383 MW CCPP	Gas	(PDB)	1x252+1x131	383	383	400	400	400	400				
101	Shahjibazar 100 MW GTPP	Gas	(PDB)	1x100	100	100	0	0	0	0			Under project work	
	Sylhet Zone Total				**2422**	**2377**	**1339**	**1346**	**1430**	**1457**	**356**	**87**		
102	Bheramara GTPP Unit- 3	HSD	(PDB)	1 x 20	20	16	0	0	0	0				
103	Bheramara 410 MW CCPP	Gas	(NWPGCL)	1 x 278+1 x 132	410	410	0	0	0	0	410		Gas Shortage	
104	Faridpur 50 MW Peaking PP	HFO	(PDB)	8x6.98	54	54	0	17	0	35				
105	Gopalganj 100 MW Peaking PP	HFO	(PDB)	16x6.98	109	109	0	0	0	40				
106	Khulna 225 MW CCPP	HSD	(NWPGCL)	1 x 150+1x75	230	230	0	0	0	220				
107	Noapara 100 MW PP (Bangla Trac)	HSD	(IPP)	70x1.4+7x1.515	100	100	0	49	80	100				
108	Rupsha 105 MW PP (Orion rupsha)	HFO	(IPP)	6x18.445	105	105	105	105	105	105				
109	Madhumati 100 MW PP	HFO	(NWPGCL)	6x18.415	105	105	0	0	50	100				
110	Mongla Orion 100 MW Solar PP	Solar	(IPP)		100	100	81	0	50	0				
**	Bheramara (HVDC)		India		1000	1000	737	737	752	752				
	Khulna Zone Total				**2233**	**2229**	**923**	**908**	**1037**	**1352**	**410**	**0**		
111	Barisal 110 MW PP (Summit)	HFO	(IPP)	7 x 17.076	110	110	0	0	110	110				
112	Bhola 33 MW PP (Venture)	Gas	(RPP)	1x34.50	33	33	14	19	20	24				
113	Bhola 225 MW CCPP	Gas	(PDB)	2x63+1x68	194	194	91	91	90	92	103		Gas Shortage	
114	Bhola 95 MW PP (Aggreko)	Gas	(QRPP)	1.1x96	95	95	11	11	76	76				
115	Payra 1320 MW TPP	Coal	(BCPCL)	2x622	1244	1244	280	410	620	620		834	Line Overload	
116	Potuakhali 150MW PP (UPPL)	HFO	(IPP)	8x18.415+1x9.78	150	150	0	0	0	150				
117	Bhola 220MW CCPP (Nutan Bidyut Bl	Gas/HSD	(IPP)	2x75+1x70	220	220	163	214	220	220				
	Barishal Zone Total				**2046**	**2046**	**559**	**745**	**1136**	**1292**	**103**	**834**		
118	a) Baghabari 71 MW GTPP	Gas	(PDB)	1 x 71	71	71	0	0	0	0	71		Gas Shortage	
	b) Baghabari 100 MW GTPP	Gas	(PDB)	1 x 100	100	100	0	0	0	0	100		Gas Shortage	
119	Baghabari 50 MW Peaking PP	HFO	(PDB)	6x8.9	52	52	0	34	34	34				
120	Baghabari 200 MW PP (Paramount)	HSD	(IPP)	135x1.6	200	200	0	50	200	200				
121	Bera 70 MW Peaking PP	HFO	(PDB)	9x8.29	71	71	12	49	50	50				
122	Chapainawabganj 100 MW Peaking Pl	HFO	(PDB)	12x8.924	104	104	50	100	90	100				
123	Katakhali 50 MW Peaking PP	HFO	(PDB)	6x8.7	50	50	24	40	0	40				
124	Katakhali 50 MW PP (Northern)	HFO	(QRPP)	6x8.9	50	50	24	34	50	50				
125	Santahar 50 MW Peaking PP	HFO	(PDB)	6x8.7	50	50	0	32	30	32				
126	Sirajgonj 225MW CCPP Unit-1	Gas	(NWPGCL)	1x150+1x75	210	210	0	0	0	0	210		Gas Shortage	
127	Sirajgonj 225MW CCPP Unit-2	Gas	(NWPGCL)	1x150 + 1x75	220	220	0	20	100	120	200		Gas Shortage	
128	Sirajgonj 225MW CCPP Unit-3	Gas	(NWPGCL)	1x141+1x79	220	220	126	0	0	0	220		Gas Shortage	
129	Sirajgonj 400 MW CCPP Unit-4	Gas	(IPP)	1x282+1x132	414	414	312	280	350	360	134		Gas Shortage	
130	Bogra 22 MW PP (GBB)	Gas	(RPP)	6x4.0	22	22	22	22	22	22				
131	Ullapara 11 MW PP (Summit)	Gas	(SIPP, REB)	4x2.90	11	11	8	8	11	11				
132	Natore 52 MW PP (Rajlanka)	HFO	(IPP)	6x8.92	52	52	34	43	43	43				
133	Bagura 113 MW PP (Confidence) Unit-1	HFO	(IPP)	6*18.55	113	113	70	113	113	113				
134	Bagura 113 MW PP (Confidence) Unit-2	HFO	(IPP)	6x18.55	113	113	113	113	113	113				
135	Sirajgonj 6.55 MW Solar	Solar	(NWPGCL)	1x6	6	6	5	0	6	0				
	Rajshahi Zone Total				**2129**	**2129**	**800**	**938**	**1212**	**1288**	**935**	**0**		
136	a) Barapukuria TPP Unit-1	Coal	(PDB)	1 x 125	125	85	0	0	0	0	85		Coal shortage	
	b) Barapukuria TPP Unit-2	Coal	(PDB)	1 x 125	125	85	0	0	0	0		85	Under Overhauling	
137	Barapukuria 275 MW TPP Unit-3	Coal	(PDB)	1 x 274	274	274	200	200	200	200	74		Coal shortage	
138	Rangpur 20 MW GTPP	HSD	(PDB)	1 x 20	20	20	0	0	0	0			Condenser mode	
139	Rangpur 113 MW PP (Confidence)	HFO	(IPP)	7*16x 2*3	113	113	107	108	113	113				
140	Saidpur 20 MW GTPP	HSD	(PDB)	1 x 20	20	20	0	0	0	0			Condenser mode	
141	Majipara, Tatulia 8 MW Solar PP (Sympa Powe	Solar	(IPP)	1 x 8	8	8	5	0	8	0				
	Energypac Power Venture Thakurgaon Ltd.	HFO	(IPP)				38	0	0	0				
	Rangpur Zone Total				**685**	**605**	**350**	**308**	**321**	**313**	**159**	**85**		
	Sub-total: Plants in operation				**21471**	**20985**	**8610.0**	**9748**	**11840**	**12445**	**4827**	**2437**		
Available Power at Sub-station end excluding P/S auxiliary use and Transmission loss							**8238**	**9327**	**11328**	**11908**				
(B) Plants under long term maintenance/ contract expired														
142	Bosila 108MW PP(CLC)	HFO	(IPP)	12x8.775+1x3.5	108	0	0	0	0	0			Forced Outage	
143	Siddhirganj 100 PP(Dutch Bangla)	HFO	(QRPP)	12x8.9	100	0	0	0	0	0			Contract Expired	
144	Madanganj 102 PP(Summit)	HFO	(QRPP)	6x17	102	0	0	0	0	0				
145	Bogura 20 MW PP (Energyprima)	Gas	(RPP)	5x3.3+5x2.0	20	0	0	0	0	0			Contract Expired on 12/11/2020	
146	Meghnaghat 100 MW(IEL)	HFO	(QRPP)	12x8.9	100	0	0	0	0	0			Contract Expired on 07/05/2021	
147	Khulna 115 MW PP (KPCL-2)	HFO	(QRPP)	7x17	115	0	0	0	0	0			Contract Expired on 31/05/2021	
148	Amnura 50 MW PP(Sinha)	HFO	(QRPP)	7x7.79	50	50	0	0	0	0			Contract Expired on 11/01/2022	
	Sub-Total: Plants under long term maintenance/ contract expired				595	50	0	0	0	0				
	Gross Total				**22066**	**21035**	**8610**	**9748**	**11840**	**12445**	**4827**	**2437**		

(C)	Actual data of 09.02.22 (Yesterday) Wednesday :												
01.	Max. Demand at eve. peak (Generation end)	:	9748.00	MW, at =	19:00 hrs	12.	Zone wise Demand and Load-shed at Evening Peak (Sub-station end) :						
02.	Max. Demand at eve. peak (Sub-station end)	:	9327.00	MW, at =	19:00 hrs	Zone	Demand MW	Supply MW	Load Shed MW	Zone	Demand MW	Supply MW	Load Shed MW
03.	Highest Generation (Generation end)	:	9748.00	MW, at =	19:00 hrs								
04.	Minimum Generation (Generation end)	:	5915.00	MW, at =	5:00 hrs	Dhaka	3368	3368	0	Mymensingh	862	862	0
05.	Day-peak Generation (Generation end)	:	8610.00	MW, at =	12:00 hrs	Chattogram	1040	1040	0	Sylhet	333	333	0
06.	Evening-peak Generation (Generation end)	:	9748.00	MW, at =	19:00 hrs	Khulna	1094	1094	0	Barishal	225	225	0
07.	Evening Peak Load-shed (Sub-station end)	:	0.00	MW, at =	19:00 hrs	Rajshahi	931	931	0	Rangpur	692	692	0
08.	Minimum Generation Forecast up to 8:00 hrs.	:	5950.00	MW, at =	5:00 hrs	Cumilla	782	782	0				
09.	Generation shortfall at evening peak due to :	:								Total	9327	9327	0
	a) Gas limitation	:	4484	MW		13.	Fuel cost :	(a) Gas =	97710090	Taka	(c) Coal =	64417100	Taka
	d) Coal supply Limitation	:	159	MW				(b) Oil =	378362612	Taka	Total =	540489803	Taka
	b) Low water level in Kaptai lake	:	184	MW									
	c) Plants under shut down/ maintenance	:	2437	MW		14.	Maximum Temperature in Dhaka was :			26.5° C			
10.	Total Energy (Generation + India Import)	:	190.89	MKWh		15.	Export through East-West interconnections :						
	By Gas = 98.735 MKWH		By Oil =	56.531 MKWh			At evening peak-hour	:	-212	MW, at	19:00 hrs		
	By Coal = 13.534 MKWH		By Hydro =	1.042 MKWh			Maximum	:	-230	MW, at	18:30 hrs		
	By Solar= 1.250 MKWH						Energy	:	0.444	MKWh			
11.	Total Gas Supplied	:	763.85	MMCFD									

(D)	Forecast of 10.02.22 (Today) Thursday :							
01.	Maximum Demand	:	9800	MW	(Generation end)	04.	Maximum Load-shed : 0 MW	At evening peak (Sub-station end)
02.	Maximum Generation	:	12445	MW	(Generation end)	05.	Total Generation : 191.91 MKWh	
03.	Maximum Shortage	:	-2645	MW	(Generation end)	06.	Probable Max. Temperature in Dhaka : 26.8° C	

* Captive Power ** Imported Power

#Remarks: Highest Generation 13792 MW on 27-04-2021 at 20:00

(Md. Helalur Rahman)
Deputy Secretary, Generation

Table-1 (Continued)

3.3 Geographical Location of power Plants in Bangladesh.

The geographical location of different power plants in Bangladesh are shown in Fig-2.

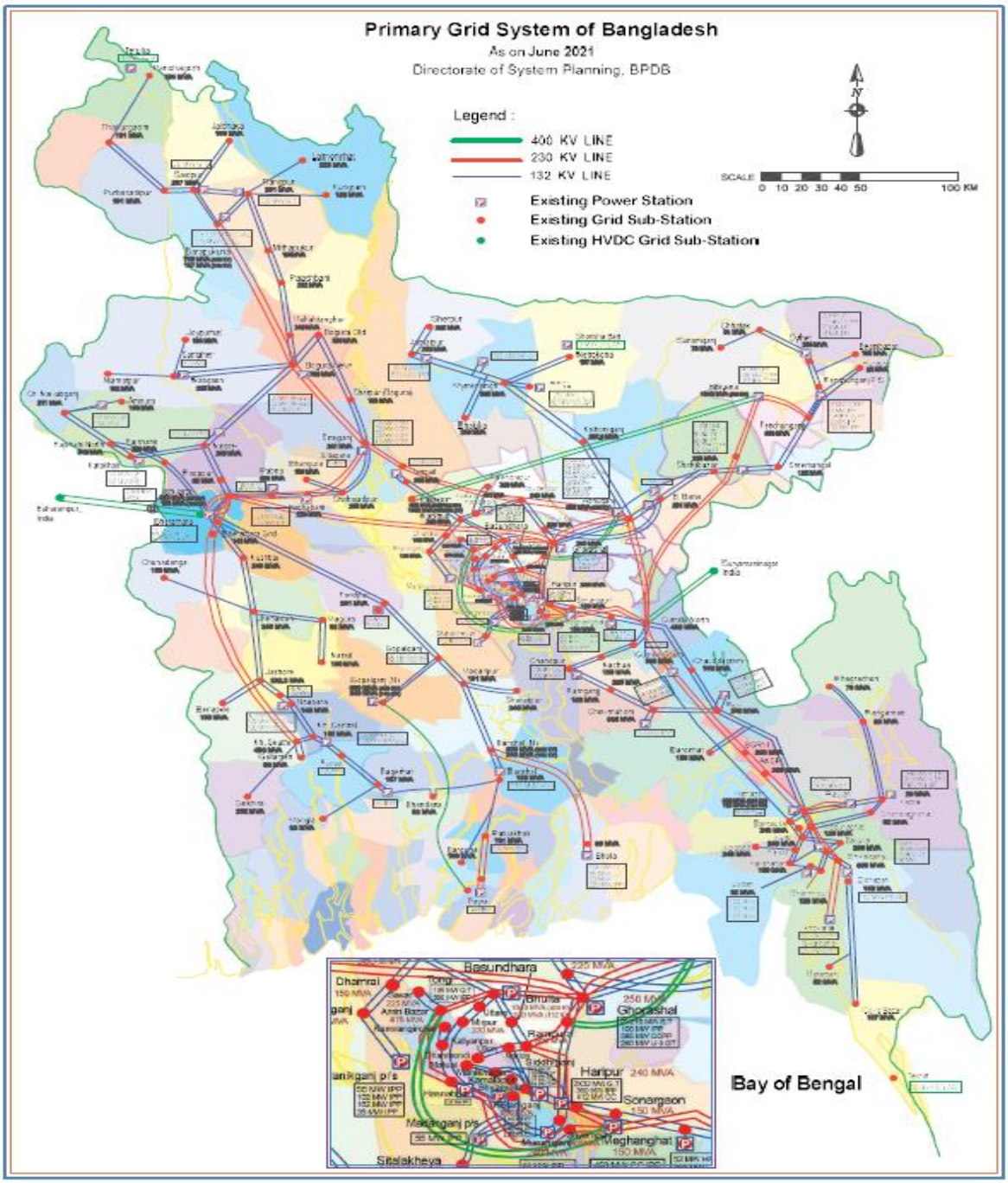

Fig-2

3.4 Formation of consulting team:

With respect to the volume of job and time limitation consultant developed a group of consultants to support him with following expert as follow:

1. Engr. Md. Siddiqur Rahman Advisor
2. Engr. Md. Abu Taher Associate
3. Engr. Satya Ranjan Debnath Associate
4. Engr. Hitlar Ali Assistant

3.5 Developing data collection formats

After a thorough study of the ToR, our experience of different power plants (Steam Power Plant, CCPP (Gas) diesel Power plants, HFO etc.) we developed the data collection formats, Formats-1 and Formats-2 as follow:

Information on Filters used in GT/CC/ST power plants **Format-1**

Name of Power Plant	Type of Plant	No. of Unit	Fuel Used	Capacity	Type of Filter	Specification of Filter	No. Of Filters Used / Set/Unit	Life Time of Filters	No. of Filters Used Per Year	Cost of Filters	Filters Used Imported/ Locally Made	Name of Manufacturer / Suppliers
1	2	3	4	5	6	7	8	9	10	11	12	13
					Air inlet Filter							
					Coaleascer filter	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Pre-filter pad	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Fine Filter	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Primary filter	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						

					Secondary or high efficiency filter	i i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Box type filter	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Conical filter	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Cylindrical filter,	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Mat/blanket type filter	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate						

						v) Details specification Provided by the OEM of the Plant						
					Others	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Lube Oil Filter	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Hydraulic Oil Filter	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Control Oil Filter	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Gas Fuel Filter	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						

					Liquid Fuel Filter	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Others	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v Details specification Provided by the OEM of the Plant						

Information on Filters for Reciprocating Engine (HFO/Diesel/Others Fuel)

Format-2

Name of Power plant	Type of Plant	No. of Unit	Fuel Used	Capacity	Type of Filters	Specification of Filter	No. of Filters Used / Set/Unit	Life Time of Filters	No. of Filters Used Per Year	Cost of Filters	Filters Used Imported/ Locally Made	Name of Manufacturer / Suppliers
1	2	3	4	5	6	7	8	9	10	11	12	13
					HFO/ Diesel/Others Liquid Fuel Filter	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					GAS Fuel Filter	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Inlet Air Filter for the Engine	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Lube Oil Filter	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						
					Others	i) Dimension of Filter ii) Filter Porosity micron iii) Filtration area of each filter iv) Flow rate v) Details specification Provided by the OEM of the Plant						

Signature and Date
Authorized Officer of the Power Plant

3.6 Selection of Power Plants to be visited

In order to expedite the survey, we choose the following power plants (Table-2), mode of transportation to individual power plants and time required to pursue their executives to collect the data of different filter in prescribed format and send to power cell.

SL. No		Power Plant Name	CCPP	Only GT	Total GT	Working Days	Mode of Transportation
Group-1	1	Ghorasal	3	1	4	4	Rental Car
	2	Ashuganj	3	0	3		
Group-2	4	Shajibazar	1	2	3	7	Air Freight & Rental Car
	5	Sylhet	1	1	2		
	6	Bibiyana	3	0	3		
	7	Fenchuganj	3	0	5		
Group-3	8	Siddirganj	1	1	3	6	Rental Car
	9	Meghnaghat	1	0	1		
	9	Haripur	1	1	2		
Group-4	10	Saidpur	0	1	1	5	Air Freight & Rental Car
	11	Rangpur	0	1	1		
Group-5	12	Sirajganj	4	0	4	7	Rental Car
	13	Baghabari	0	2	2		
	14	Bheramara	1	1	2		
Group-6	15	Sikalbaha	1	1	2	3	Air Freight & Rental Car
Group-7	16	Chandpur	1	0	1	2	Rental Car
Group-8	17	Bhola	1	0	1	3	Air Freight & Rental Car
Group-9	18	Tongi	0	1	1	1	Rental Car
Group-10	19	Mymensingh	1	0	4	2	Rental Car
Group-11	20	Khulna	1	0	1	4	Air Freight & Rental Car
			27	13	46	44	

Note: One Man-Month consist of 22 working day or 176 Hours.(Ref: GoV gazette 19 Sept, 2005)

Table-2

3.7 Data Collection & List of Power Plants Visited

The consultant developed a format and through concern authorities like Power Cell, PDB, IPP, the formats were sent to different power plants with a request to fill up and send back the same. Information about following types of filters were requested for.

i. Air filter for GT/CCPP: Pre Filter
ii. Air filter for GT/CCPP: Fine Filter
iii. Fuel & Lube Oil filter for GT/CCPP
iv. Control & Hydraulic Oil filter for GT/CCPP
v. Steam, Coal & Hydro Power Stations (Fuel, Lube & Hydraulic oil Filters)
vi. Reciprocating Engine (HSD/HFO/GAS)

In response major number of power plants provided requested information in prescribed formats.

The consultant Md. Shahinul Islam Khan or /and his associates, Engr. Md. Abu Taher and Engr. Satya Ranjan Debnath personally visited the following power plants (Table-3) by air / by road and discussed with the concern power plant authorities to make them understand about objectives and urgency of the requested information's.

List of power plants Visited:

Sl. No	Power Plants Name
1	BR- Power Gen Head Office, Uttara, Dhaka
2	RPCL Head Office, Uttara, Dhaka
3	Haripur 100 MW (33x3) GT Power Plant PDB , Narayanganj
4	Haripur 412 MW CCPP EGCB, Narayanganj
5	Siddirganj 210 MW Thermal Power Plant PDB , Narayanganj
6	Siddirganj 2*120 MW GT Power Plant EGCB , Narayanganj
7	Siddirganj 335 MW CCPP EGCB, Narayanganj
8	Shahjibazar 100 MW GTPP PDB, Sylhet
9	Shahjibazar 330 MW CCPP PDB, Sylhet
10	Shahjibazar 60 MW GTPP PDB, Sylhet
11	Bibiyana-III 400 MW CCPP PDB, Sylhet
12	Bibiyana-South 400 MW CCPP PDB, Sylhet
13	Bibiana-II 341 MW CCPP (Summit) , Sylhet
14	Kumargaon 225 MW CCPP PDB, Sylhet
15	Kumargaon 20 MW GTPP PDB, Sylhet
16	Kumargaon 10 MW GE Desh Energy, Sylhet
17	Fenchuganj 90*2 MW CCPP PDB, Sylhet
18	Sirajgonj 225 MW CCPP Unit-1 NWPGCL, Sirajgonj
19	Sirajgonj 225 MW CCPP Unit-2 NWPGCL, Sirajgonj
20	Sirajgonj 225 MW CCPP Unit-3 NWPGCL, Sirajgonj
21	Sirajgonj 414 MW CCPP Unit-3 ,Sembcorp Sirajgonj
22	Baghabari 100 MW GTPP PDB, Sirajgonj
23	Baghabari 71 MW GTPP PDB, Sirajgonj
24	Baghabari 50 MW Peaking PP PDB, Sirajgonj
25	Baghabari 200 MW HSD PP, Paramount , Sirajgonj
26	Bheramara 3*20 MW GTPP PDB, Kustia

Table-3

Sl. No	Power Plants Name
27	Bheramara 410 MW CCPP NWPGCL Kustia
28	Meghnaghat 450 MW CCPP (MPL) Powertek, Narayanganj
29	Titas 50 MW Peaking HFO PP,PDB Cumilla
30	Ghorasal Unit-3, 210 MW ST ,Repowering 416 MW CCPP PDB, Narsingdi
31	Ghorasal Unit-4, 210 MW Steam Repowering 409 MW CCPP PDB, Narsingdi
32	Ghorasal Unit-5, 210 MW PDB, Narsingdi
33	Ghorasal Unit-6, 210 MW PDB, Narsingdi
34	Ghorasal Unit-7, 365 MW CCPP PDB, Narsingdi
35	Ghorasal 108 MW Gas Genrator, Regent Energy & Power LTD. Narsingdi
36	Goalpara 225 MW CCPP, NWPGCL, Khulna
37	Rangpur 20 MW GTPP PDB, Rangpur
38	Saidpur 20 MW GTPP PDB, Saidpur
39	Barishal 20*2 GTPPP, PDB, Barishal
40	Shikalbaha 225 MW CCPP PDB, Chittagong
41	Shikalbaha 150 MW GTPP PDB, Chittagong
42	Shikalbaha 105 MW HFO Baraka, Chittagong
43	Karnofully 110 MW HFO Baraka, Chittagong
44	Potenga 50 MW HFO Baraka, Chittagong
45	Shikalbaha 120 MW HFO Energypac, Chittagong
46	Shikalbaha 54.36 MW HFO Zodaic Power ltd, Chittagong
47	Shikalbaha 116 MW HFO Anlima Energy ltd, Chittagong
48	Raozan 210 MW Steam PP PDB, Chittagong
49	Hathazari 100 MW HFO PDB, Chittagong
50	Ashuganj 450 MW CCPP(North) APSCL, B-baria
51	Ashuganj 450 MW CCPP(South) APSCL, B-baria
52	Ashuganj 225 MW CCPP APSCL, B-baria
53	Ashuganj 50 MW GE APSCL, B-baria
54	Ashuganj 150 MW Unit-1 ST APSCL, B-baria
55	Ashuganj 150 MW Unit-5 ST APSCL, B-baria
56	Ashuganj 55 MW GE, Precession energy LTD , B-baria
57	Ashuganj 150 MW HFO, Midland East power Ltd, B-baria
58	Ashuganj 50 MW GE , Midland power company Ltd, B-baria
59	Ashuganj 50 MW GE , CCPP ,United Ashuganj Energy Ltd, B-baria
60	Ashuganj 53 MW GE , United Energy Ltd, B-baria

Table-3(Continued)

3.8 Name of the Power Plants Provided Information on filters.

The following power plants duly provided the information requested for are shown in Table-4

Sl.No	Name of Plant	Capacity
1	ShajiBazar	330
2	Summit Bibiyana	341
3	Bibiyana-III	400
4	Bheramara	410
5	Megnaghat	450
6	Ashuganj-North	450
7	Ashuganj-South	450
8	Ghorasal Unit-3	260
9	Ghorasal Unit-4	410
10	Ghorasal Unit-7	365
11	Siddirganj	335
12	Siddirganj	2x120
13	Haripur	100
14	Haripur	360
15	Sylhet	225
16	Bhola	225
17	Chandpur	150
18	Ashuganj	225
19	Sirajgonj-1	225
20	Sirajgonj-2	225
21	Sirajgonj-3	225
22	KPCL (Khulna)	109
23	Khulna	225
24	Shikalbaha	225
25	Sikalbaha	150
26	ShajiBazar	100
27	ShajiBazar	2x35
28	Tongi-80 MW	80
29	Bagabari	100
30	Bagabari	71
31	Mymensing Power Plant, RPCL	210
32	Haripur	412
33	Bibiyana South	400
34	NBBL,Bhola	220
35	Saidpur GT	20
36	Rangpur GT	20
37	Fenchuganj	2x90
38	Summit,Megnaghat	335
39	Sembcrop North –West Power company Ltd	414
40	Karnafuli Hydro	230
41	Siddhirganj	210
42	Ashuganj	150
43	Chittagong Power Station	2x210
44	BoraPukuria Coal Power Station	2x125

Table-4

Sl.No	Name of Plant	Capacity
45	Summit Chandina 11 MW	11
46	Summit Chandina 13.5 MW	13.5
47	Doreen 11 MW Feni	11
48	Doreen 22 MW Feni	22
49	Doreen 22 MW Tangail	22
50	Summit-Ullapara11 MW	11
51	Katakhali50 MW	50
52	Chapai100 MW	100
53	Desh Cambridge Kumargaon 10 MW	10
54	United Energy Ltd 25 MW	25
55	Energy Prima Ltd 50 MW	50
56	Baraka Power 51 MW Sylhet	51
57	Modhumuti 100 MW	100
58	Midland	150
59	Midland	51
60	Faridpur 50MW	50
61	Ashuganj Precission Energy Ltd. 55 MW	55
62	Baraka Shikalbaha 105 MW	105
63	Karnafuli Power Ltd 110 MW	110
64	Baraka Potenga Power Ltd 50/54MW	54
65	Titas 50MW	50
66	Katakhali 50MW	50
67	United Ashuganj Energy Ltd	1952
68	United Mymensing Power Ltd	200
69	United Jamalpur Power Ltd	115
70	United Anowara Power Plant	300
71	United Powergen & Distribution DEPZ Power Plant	90
72	United Pyra Power Ltd	150
73	Confidence Power,Bogra Unit-2	13
74	Powertek Mutiara Jamalpur	100
75	Bera 70 MW Peaking Power Plant	27
76	Orion Power Sonargaon	104
77	Digital Power & Associates Ltd	102
78	Banglatrac Power Unit-2, Ltd,Jessore	100
79	Banglatrac Power Unit-1,Ltd,Daukandi	200
80	Summit ,Jangali 33 MW	33
81	Paramount B-Trac Energy Ltd	216
82	Shahjibazar Power Co.ltd	86
83	Hathazari Peaking Power Station	98
84	Banco Energy Generating Ltd.	53.972
85	Dhaka Northern Power Generation Ltd	55

Table-4(Continued)

Sl.No	Name of Plant	Capacity
86	Dhaka Southern Power Generation Ltd	55
87	SPEL	52.5
88	DECPCL	18.415
89	HF Power Ltd	113
90	Feni Lanka Power Ltd	114
91	Power Pac Mutiara Keraniganj	100
92	Orion Power Rupsha Ltd	105
93	Orion Power Meghnaghat Ltd	100
94	Manikganj Power Geberations Ltd	162
95	Chandpur Power Generations Limited	115
96	Regent Energy & Power Lrd Ghorasal	114
97	DBPL	100
98	Summit Narayanganj Power Unit II	55
99	CPRL	113
100	Summit Rupganj 33 MW	33
101	Summit Maona 33 MW	33
102	Summit Madhabdi 11 MW	11
103	Summit Madhabdi 24.3MW	24.3
104	Ashulia PP 44.75 MW	44.75
105	Doreen 22 MW Narsingdhi	22
106	RPCL,Gazipur 105 MW	105
107	RPCL,Gazipur 52 MW	52
108	BR-Power zen Kodda 150 MW	150
109	Agrico -100 MW Brahmangaon	100
110	Agrico 100 MW Aourahati	100
111	Anlima Energy LTD 116 MW	116
112	Zodiac Power Chattogram Ltd 54.36 MW	54.36
113	Acron ,Zulda infrastructure services Ltd, unit 1, 100 MW	100
114	Acron ,Zulda infrastructure services Ltd, unit 2, 100 MW	100
115	Acron ,Zulda infrastructure services Ltd, unit 3, 100 MW	100
116	RPCL Raozan 25.5 MW	25.5
117	Dohazari 100 MW	100
118	Energypac Power vencher Ltd 11 MW	11

Table-4(Continued)

4.0 Collected Information in tabular form.

Detailed filled up formats from 118 different types of power plants are added with report as Annexure-A. The data's collected from different power plants are compiled in tabular form and annexed as follow in Table-5 -11.

Air Filter for GT/CCPP: Coalescer

Sl.No	Name of Plant	No. of Unit	Capacity	Type of Filter	No of Filter used /set	No of Filters used/Year	Cost of Filters/Year	Filter imported /Locally made	Manufacturer
1	ShajiBazar	1	330	Coalescer	360	4320	-	Imported	AAF,USA
2	Summit Bibiyana	1	341	Coalescer	483	1449	-	Imported	Clarcor,Industrial Air
3	Bibiyana-III	1	400	Coalescer	528	528	-	Imported	EMW
4	Bheramara	1	410	1st Stage filter	528	528	$ 90288	Imported	AAF International
5	Megnaghat	1	450	Primary Filter	360	1800	$ 125000	Imported	EMW, Germany
6	Ashuganj-North	1	450	Coalescer	540	3240	$ 14256	Imported	AAF,USA
7	Ashuganj-South	1	450	Coalescer	540	1080	€ 70200	Imported	Faist,Germany
8	Ghorasal Unit-3	1	260	Coalescer	480	1920	$ 134400	Imported	Camfil/Faist
9	Ghorasal Unit-4	1	410	Coalescer	-	-	-	-	-
10	Ghorasal Unit-7	1	365	Coalescer	585	1170	-	Imported	-
11	Siddirganj	1	335	Coalescer	483	121	-	Imported	-
12	Siddirganj	2	2x120	Primary Filter	390	1950	$ 32175+ Tk 303448	Imported	Sanghai Zhisun,China
13	Haripur	3	100	Box Type	16	576	$ 33984	Imported	Spectra Cell,India
14	Haripur	1	360	Primary Filter	630	1260	$ 86000	Imported	SPX, India
15	Sylhet	1	225	Coalescer	432	2160	$ 6553	Imported	SPX, India
16	Bhola	1(2+ 1)	225	Coalescer	180	1440	$ 26438	Imported	Eagle Filters
17	Chandpur	1	150	Coalescer	360	1080	€ 15660	Imported	Clairon Filter,Portugal
18	Ashuganj	1	225	Coalescer	420	840	$ 64680	Imported	Fitrair,Netherland.
19	Sirajgonj-1	1	225	Coalescer	420	840	-	Imported	Germany
20	Sirajgonj-2	1	225	Coalescer	420	840	-	Imported	Camfil
21	Sirajgonj-3	1	225	Coalescer	420	840	-	Imported	Camfil
22	KPCL (Khulna)	1	109	Coalescer	360	1440	-	Imported	AAF
23	Khulna	1	225	Coalescer	390	1170	Tk 9113235	Imported	Vokes Air

Table-5

24	Shikalbaha	1	225	Coalescer	420	840	-	Imported	Clairon Filters Ltd ,Portugal
25	Sikalbaha	1	150	Coalescer	420	840	-	Imported	Clairon ,Portugal
26	ShajiBazar	1	100	Coalescer	-	-	-	-	-
27	ShajiBazar	2	2x35	Coalescer	120	720	$ 2088	Imported	SPX ,India
28	Tongi-80 MW	1	80	Coalescer	229	916	-	-	-
29	Bagabari	1	100	Conical	960	960	$ 414720	Imported	Hnadbit,Korea
30	Bagabari	1	71	Coalescer	-	-	-	-	-
31	Mymensing Power Plant, RPCL	5	210	Coalescer	80	192	Tk 1248000	Imported	Germany
32	Haripur	1	412	Washable	52	312	$ 17553	Imported	AAF,Europe
33	Bibiyana South	1	400	Coalescer	1160	2320	-	Imported	Faist
34	NBBL,Bhola	1	220	-	360	-	-	Imported	Parker
35	Saidpur GT	1	20	Turbine Filter	90	270	$ 12501	Imported	SPX,India
36	Rangpur GT	1	20	Turbine Filter	90	270	$ 12501	Imported	SPX,India
37	Fenchuganj	2	2x90	Turbine air intake Filter	240	400	$ 7200	Imported	Celeros
38	Summit, Megnaghat	2+1	335	Coalescer	720	240	-	Imported	AAF
39	Sembcrop North –West Power company Ltd	1	414	1st Stage	720	720	-	Imported	AAF

Table-5(Continued)

Air Filter for GT/CCPP: Pre Filter

Sl.No	Name of Plant	No. of Unit	Capacity(MW)	Type of Filter	No of Filter used/set/ Unit	No of Filters used/Year	Cost of Filter	Filter used imported/Locally made	Manufacturer
1	ShajiBazar	1	330	Pre Filter	288	1728	-	Imported	AAF,USA
2	Summit Bibiyana	1	341	Conical Filter	756	1512	-	Imported	China
3	Bibiyana-III	1	400	Pre-Filter	528	1056	-	Imported	AAF
4	Bheramara	1	410	2nd Stage	528	528	$ 72177	Imported	EMW,Germany
5	Megnaghat	1	450	Pre Filter	12 Roll	96 Roll	$ 25000	Imported	Freudenberg,India
6	Ashuganj-North	1	450	Pre Filter	540	810	€ 51840	Imported	EMW,Germany
7	Ashuganj-South	1	450	Pre Filter	540	1080	€ 48600	Imported	Trade seventeen Ltd.
8	Ghorasal Unit-3	1	260	Pre Filter	480	1920	$ 190080	Imported	Camfil/Faist
9	Ghorasal Unit-4	1	410	Pre Filter	456	-	-	Imported	Clarcor,Parker
10	Ghorasal Unit-7	1	365	Pre Filter	585	1170	-	-	-
11	Siddhirganj	1	335	Conical Filter	756	1512	Tk 10000000	Imported	Parker
12	Siddhirganj	2	2x120	Secondary Filter	390	1950	$ 137475+ Tk-1296551	Imported	Shanghai Zhishun, China
13	Haripur	3	100	Conical Filter	192	384	$ 17280	Imported	SPX India Pvt.Ltd
14	Haripur	1	360	Secondary Filter	630	630	$ 52920	Imported	EMW ,Germany
15	Sylhet	1	225	Pre Filter	432	2160	$ 7417	Imported	SPX,India
16	Bhola	1	225	Pre Filter	144	2304	$ 71539	Imported	Eagle Filter
17	Chandpur	1	150	Pre Filter	348	1044	€ 13572	Imported	Clairon Filter, Portugal
18	Ashuganj	1	225	Pre Filter	420	630	$ 38430	Imported	EMW ,Germany
19	Sirajgonj-1	1	225	Pre Filter	417	1672	-	Imported	Germany
20	Sirajgonj-2	1	225	Pre Filter	420	420	-	Imported	Camfil
21	Sirajgonj-3	1	225	Pre Filter	420	420	-	Imported	Camfil

Table-6

22	KPCL (Khulna)	1	109	Pre Filter	288	576	-	Imported	AAF
23	Khulna	1	225	Pre Filter	390	390	Tk 941850	Imported	Vokes Air
24	Shikalbaha	1	225	Pre Filter	420	1260	-	Imported	Clairon Filters Ltd ,Portugal
25	Sikalbaha	1	150	Pre Filter	420	1260	-	Imported	Clairon Filters Ltd ,Portugal
26	ShajiBazar	1	100	Pre Filter	195	-	-	Imported	Camfil,Sweden
27	ShajiBazar	2	2x35	Pre Filter	120	720	$ 1944	Imported	SPX ,India
28	Tongi-80 MW	1	80	Pre Filter	-	-	-	-	-
29	Bagabari	1	100	Cylindrical	960	960	$ 31968	Imported	Harbit,Korea
30	Bagabari	1	71	Pre Filter	290	3480	$ 6612	Imported	SPX ,India
31	Mymensing RPCL	5	210	Pre Filter	2 Roll	80 Roll	TK 696000	Imported	Shanghai,China
32	Haripur	1	412	Pre Filter	1248	1872	$ 364104	Imported	AAF,Malaysia
33	Bibiyana South	1	400	Pre Filter	-	-	-	-	-
34	NBBL,Bhola	1	220	Pre Filter	288	-	-	Imported	Parker
35	Saidpur GT	1	20	Pre Filter	-	-	-	-	-
36	Rangpur GT	1	20	Pre Filter	-	-	-	-	-
37	Fenchuganj	2	2x90	Primary Filter	416	300	$ 2100	Imported	Celeros
38	Summit, Megnaghat	2+1	335	Primary Filter	696	2784	-	Imported	AAF/SPEX
39	Sembcorp North –West Power company Ltd	1	414	Secondary Filter	720	720	-	Imported	EMW

Table-6(Continued)

Air Filter for GT/CCPP: Fine Filter

Sl.No	Name of Plant	No.of Unit	Capacity(MW)	Type of Filter	No of Filter used/set/ Unit	No of Filters used/Year	Cost of Filter	Filter used imported/Locally made	Manufacturer
1	ShajiBazar	1	330	Fine Filter	288	864	-	Imported	AAF,USA
2	Summit Bibiyana	1	341	Cylindrical Filter	756	1512	-	Imported	China
3	Bibiyana-III	1	400	Fine Filter	528	528	-	Imported	EMW,Germany
4	Bheramara	1	410	3rd Stage	528	264	$ 52008	Imported	EMW
5	Megnaghat	1	450	Fine Filter	360	1080	$ 150000	Imported	EMW
6	Ashuganj-North	1	450	Fine Filter	537	806	€ 72540	Imported	EMW
7	Ashuganj-South	1	450	Fine Filter	540	1080	€ 102600	Imported	EMW,Filter Technik
8	Ghorasal Unit-3	1	260	Fine Filter	480	960	$ 371520	Imported	Camfil/Faist
9	Ghorasal Unit-4	1	410	Fine Filter	456	-	-	Imported	Clarcor,Parker
10	Ghorasal Unit-7	1	365	Fine Filter	582	1164	-	-	-
11	Siddhirganj	1	335	Cylindrical Filter	756	1512	Tk 10000000	Imported	Parker
12	Siddhirganj	2	2x120	Mat/ Blanket type	170 m2	3168 m2	Tk 1710720	Local	Liana International Bangladesh
13	Haripur	3	100	Cylindrical Filter	192	384	$ 13824	Imported	SPX India Pvt.Ltd
14	Haripur	1	360	Fine Filter	630	630	$ 100000	Imported	EMW ,Germany
15	Sylhet	1	225	Fine Filter	432	1296	$ 22969	Imported	SPX, India
16	Bhola	1	225	Fine Filter	144	2304	$ 215078	Imported	Eagle Filter Ltd.
17	Chandpur	1	150	Fine Filter	348	1044	€ 75168	Imported	Clairon Filter,Portugal
18	Ashuganj	1	225	Fine Filter	420	630	$ 56700	Imported	Micropor,Turkey
19	Sirajgonj-1	1	225	Fine Filter	417	1251	-	Imported	Germany
20	Sirajgonj-2	1	225	Fine Filter	420	420	-	Imported	Camfil
21	Sirajgonj-3	1	225	Fine Filter	420	420	-	Imported	Camfil
22	KPCL (Khulna)	1	109	Fine Filter	288	576	-	Imported	AAF
23	Khulna	1	225	Fine-Filter	390	390	Tk 3783780	Imported	Vokes Air

Table-7

24	Shikalbaha	1	225	Fine Filter	420	1260	-	Imported	Clairon Filters Ltd ,Portugal
25	Sikalbaha	1	150	Fine Filter	417	1251	-	Imported	Clairon Filters Ltd ,Portugal
26	ShajiBazar	1	100	Fine Filter	195	-	-	Imported	Camfil,Sweden
27	ShajiBazar	2	2x35	Fine Filter	120	720	$ 30240	Imported	SPX India
28	Tongi-80 MW	1	80	Fine Filter	-	-	-	-	-
29	Bagabari	1	100	Mat /Blanket type	-	-	-	-	-
30	Bagabari	1	71	Box Type	290	1392	$ 48441	Imported	SPX India
31	Mymensing Power Plant RPCL	5	210	Fine Filter	-	-	-	-	-
32	Haripur	1	412	Fine Filter	624	416	$ 120224	Imported	AAF,Malaysia
33	Bibiyana South	1	400	Fine Filter	580	1160	-	Imported	Faist
34	NBBL, Bhola	1	220	Fine Filter	288	-	-	Imported	Parker
35	Saidpur GT	1	20	Fine Filter	-	-	-	-	-
36	Rangpur GT	1	20	Fine Filter	-	-	-	-	-
37	Fenchuganj	2	2x90	Secondary Filter	416	300	$ 15000	Imported	Celeros
38	Summit, Megnaghat	1	335	Secondary Filter	696	2784	-	Imported	AAF
39	Sembcorp North –West Power company Ltd	1	414	3rd stage Filter	720	720	-	Imported	EMW

Table-7(Continued)

Fuel & Lube oil filters for GT/CCPP

Sl.No	Name of Plant	Capacity	No of Fuel filters used/set	No of Fuel filters Per year	cost Per year	No of Lube Oil Filters /set	No of Lube Oil Filters Per Year	Cost Per year	Name of Manufacturer/Suppliers
1	Shajibazar	330	-	-	-	26	46	-	-
2	Summit Bibiyana	341	16	8	-	3	6	-	Hillard Corporation
3	Bibiyana-3	400	13	26	-	8	16	-	Japan
4	Bheramara	410	3	-	-	23	22	-	Misuzu Seiko Co.Ltd
5	Megnaghat	450	2	2	-	4	4	$ 2725	Roll& Kirch ,Germany
6	Ashuganj-North	450	4	2	-	(a) 12 (b) 28	(a) 6 (b) 28	Tk 57416	Eaton, Franken Filters
7	Ashuganj-South	450	-	-	-	6	6	€ 3702	Kelag systems AG
8	Ghorasal-3	260	-	-	-	-	-	-	-
9	Ghorasal-4	410	-	-	-	-	-	-	-
10	Ghorasal-7	365	-	-	-	-	-	-	-
11	Siddirganj	335	3	6	Tk 3,60,000	6	12	Tk 12,00,000	Hillard Corp.
12	Siddirganj	2x120	21	21	Tk 1194312	24	24	Tk 96000	Sharif & Brothers
13	Haripur	100	1	-	Tk 37526	2	-	-	MHI
14	Sylhet	225	2	2	-	2	2	-	-
15	Bhola	225	-	-	-	24	48	Tk 16000	Hillard corporation
16	Chandpur	150	-	-	-	34	68	Tk 102000	Fluitek
17	Ashuganj	225	10	1.67	$ 370	2	2	$ 475	Hydac, Germany
18	Sirajgonj-1	225	6	48	-	2	4	-	Germany
19	Sirajgonj-2	225	-	-	-	2	4	-	Hydac, Germany
20	Sirajgonj-3	225	-	-	-	2	4	-	Hydac, Germany

Table-8

Sl.No	Name of Plant	Capacity	No of Fuel filters used/set	No of Fuel filters Per year	cost Per year	No of Lube Oil Filters /set	No of Lube Oil Filters Per Year	Cost Per year	Name of Manufacturer/Suppliers
21	KPCL (Khulna)	109	4	2	-	2	-	-	M Filters, India
22	Khulna	225	12	19	Tk 285331	12	-	-	Boll & Kirch
23	Sikalbaha-	225	-	-	-	6	6	-	Hydac, Germany
24	Sikalbaha-	150	16	16	-	6	6	-	Hydac, Germany
25	Shajibazar	100	-	-	-	-	-	-	-
26	Shajibazar	2x35	-	-	-	-	-	-	-
27	Tongi	80	-	-	-	-	-	-	-
28	Bagabari	100	-	-	-	2	2	$ 70	Turbine Service Ltd,USA
29	Bagabari	71	-	-	-	2	2	$ 70	Turbine Service Ltd,USA
30	Mymensing Power Plant RPCL	210	20	48	Tk 449315	45	45	Tk 134698	Hillard Corporation ,USA
31	Haripur	412	-	-	-	2	2	Tk 32100	BoLL & Kirch,Germany
32	Bibiyana South	400	-	-	-	-	-	-	-
33	NBBL Bhola	220	54	-	-	6	-	-	Multitek, Hillard
34	Saidpur GT	20	15	30	$ 876	6	12	$ 374	Ansaldo Thomasen
35	Rangpur GT	20	15	30	$ 876	6	12	$ 374	Ansaldo Thomasen
36	Fenchuganj								
37	Summit ,Megnaghat	335	22	16	-	40	80	-	
38	Haripur Power Ltd	360	30	30	$ 700	40	-	$ 15600	Italy,MHI,Japan
39	Sembcorp North-West Power Ltd	414	12	-	-	44	-	-	Dongfang

Table-8(Continued)

Control & Hydraulic oil filters for GT/CCPP

Sl.No	Name of Plant		No of Control oil filters used/set	No of Control oil filters Per year	Cost per Year	No of Hydraulic Oil Filters used/set	No of Hydraulic Oil Filters used Per Year	Cost per Year	Manufacturer/Supplier
1	Shajibazar-1	330				2	4	-	
2	Summit Bibiyana	341	1	1		1	2	-	
3	Bibiyana-3	400	3	8		-	-	-	
4	Bheramara	410	1	-	Tk 70,000	-	-	-	Taiseikogyo Co.Ltd
5	Megnaghat	450	-	-	-	4	4	$ 152	Hydac, Germany
6	Ashuganj-North	450	4	2	-	3	2	-	Hydac, Germany
7	Ashuganj-South	450	-	-	-	8	6	-	Siemens
8	Ghorasal-3	260	-	-	-	-	-	-	
9	Ghorasal-4	410	-	-	-	-	-	-	
10	Ghorasal-7	365	-	-	-	-	-	-	
11	Siddirganj	335	-	-	-	2	4	Tk 2,40,000	Pall Corporation
12	Siddirganj	2x120	-	-	-	2	2	Tk 5965+ $ 4623	BHEL, India
13	Haripur	100	-	-	-			-	-
14	Sylhet	225	1	1	-	2	1	-	-
15	Bhola	225	-	-	-	7	14	Tk 17000	Donalson corporation

Table-9

16	Chandpur	150	-	-	-	2	4	Tk 7300	-
17	Ashuganj	225	-	-	-	3	1	-	Mahle ,Germany
18	Sirajgonj-1	225				6	12	-	Germany
19	Sirajgonj-2	225				2	2	-	Mahle,GMBH
20	Sirajgonj-3	225				2	2	-	Mahle,GMBH
21	KPCL (Khulna)	109	2	1	-	2	1	-	Rexorth,Bosch
22	Khulna	225	-	-	-	-	-	-	-
23	Sikalbaha-	225	-	-	-	-	-	-	
24	Sikalbaha-	150	-	-	-	-	-	-	
25	Shajibazar	100	-	-	-	-	-	-	-
26	Shajibazar	2x35	-	-	-	-	-	-	-
27	Tongi	80	-	-	-	-	-	-	-
28	Bagabari	100	-	-	-	24	24	$ 835	Turbine Service Ltd,USA
29	Bagabari	71	-	-	-	12	12	$ 417	Turbine Service Ltd,USA
30	Mymensing RPCL	210	-	-	-	-	-	-	-
31	Haripur	412	2	2	Tk 70860	-	-	-	Kleentek,Japan
32	Bibiyana South	400	-	-	-	-	-	-	-
32	NBBL Bhola	220	-	-	-	-	-	-	-
34	Saidpur GT	20	-	-	-	2	4	$ 644	Ansaldo Thomasen
35	Rangpur GT	20	-	-	-	2	4	$ 664	Ansaldo Thomasen
36	Fenchuganj	2x90	-	-	-	-	-	-	-
37	Summit, Megnaghat	335	4	4	-	4	8	-	-
38	Haripur Power Ltd	360	(a) 2 (b) 2	(a) 2 (b) 2	(a)$ 1300 (b)$ 800	-	-	-	Italy,MHI,Japan
39	Sembcorp North-West Power Ltd	414	9	-	-	44	-	-	Pall corporation

Table-9(Continued)

Steam, Coal & Hydro Power Stations (Fuel, Lube & Hydraulic oil Filters)

Sl.No	Name of Plant	Type of Plant	Capacity	No of control filters used/ set	No of control filters Per year	cost Per year	No of Lube Oil Filters /set	No of Lube Oil Filters Per Year	Cost Per year	No of Hydraulic Oil Filters /set	No of Hydraulic Oil Filters Per Year	Cost Per year	Name of Manufacturer/ Suppliers
1	Karnafuli Hydro	Hydro	230	-	-	-	5	5	-	-	-	-	Hydac, Germany
2	Siddhirganj	Steam	210	-	-	-	12	6	-	-	-	-	-
3	Ashuganj	Steam	150	-	-	-	-	-	-	2	2	Tk 4500	Shanghai, China
4	Chittagong Power Station	Steam	2x210	8	-	-	16	-	-	-	-	-	Chang Chunb China/ Nanshi City Large Liquid Green Factory
5	BoraPukuria Coal Power Station	Coal	2x125	-	-	-	54	52	Tk 38643	-	-	-	Chongqing top oil Purifire, Gaungdoug Zhongxing, Shanghai Turbine

Table-10

Reciprocating Engine (HSD/HFO/GAS)

Sl. No	Name of Plant	No. of Unit	Capacity (MW)	Fuel Filter			Air Filter			Lube Oil Filter			Hydraulic Oil Filter			Filter imported/ Locally made	Manufacturer/S upplier
				No of Fuel Filters used/set	No of Filters used/ Year	Cost of Filters/ year	No of Air Filters used/ set	No of Filters used/ Year	Cost of Filter/ year	No of Lube oil Filter used/ set	No of Filters used/ Year	Cost of Filters/ year	No of Hydraulic Oil Filters used/set	No of Filters used/ Year	Cost of Filters/y ear		
1	Summit Chandina 11 MW	3	11	-	-	-	12	-	-	18	18	-	3	3	-	Imported	Caterpiller
2	Summit Chandina 13.5 MW	2	13.5	4	8	-	24	-	-	96	64	-	-	-	-	Imported	ERC, India & WFI
3	Doreen 11 MW Feni	4	11	4	4	Tk 105000	12	96	Tk 3300211	4	8	Tk 742047	-	-	-	Imported	INNIO, Jenbacher
4	Doreen 22 MW Feni	8	22	8	8	Tk 211000	24	192	Tk 6600422	8	16	Tk 1484095	-	-	-	Imported	INNIO, Jenbacher
5	Doreen 22 MW Tangail	8	22	1	8	Tk 211000	3	192	Tk 6600422	1	16	Tk-1484095	-	-	-	Imported	INNIO, Jenbacher
6	Summit-Ullapara 11 MW	4	11	1	4	Tk 48763	3	96	Tk 948534	1	8	Tk 209500	-	-	-	Imported	INNIO
7	Katakhali 50 MW	6	50	-	-	-	-	-	-	-	-	-	-	-	-	Imported	Guagzhou,China
8	Chapai 100 MW	12	100	2	24	$ 868	16	192	$ 7430	78	936	$ 173160	-	-	-	Imported	Wartsila, Finland
9	Desh Cambridge Kumargaon 10 MW	6	10	1	1	$ 30	2	4	$ 394	4	8	$ 27	-	-	-	Imported	Caterpiller
10	United Energy Ltd 25 MW	3	25	3	3	-	45	90	-	18	18	-	-	-	-	Imported	Rolls Royce, AAF
11	Energy Prima Ltd 50 MW	29	50	29	-	$ 870	2	6	Tk 108000	4	8	$ 216	-	-	-	Imported	Caterpiller,Famous, Bogra
12	Baraka Power 51 MW Sylhet	19	51	19	19	Tk 161500	57	456	Tk 4788000	19	38	Tk 1406000	-	-	-	Imported	INNIO, Austria
13	Modhumuti 100 MW	6	100	48	96	Tk 11934	18	432	Tk 11240	124	744	Tk-11934	-	-	-	Imported	Bollfilter, Germany
14	Midland	23	150	138	138	Tk 1361784	345	345	Tk 1325145	92	92	Tk 3558744	-	-	-	Imported	Auramarine, AAF, Finland
15	Midland	6	51	6	12	Tk 7044	96	96	Tk 3 053376	36	72	Tk 411048	-	-	-	Imported	Bergen engines Bangladesh Pvt.Ltd.
16	Faridpur 50MW	8	50	24	4	$ 23812	128	22	-	48	96	$ 10560	-	-	-	Imported	Rolls-Royce
17	Ashuganj Precission Energy Ltd. 55 MW	15	55	15	30	-	120	240	-	135	270	-	-	-	-	Imported	MWM
18	Baraka Shikalbaha 105 MW	6	105	12	-	-	216	432	-	12	-	-	-	-	-	Imported	Bollfilter, Germany, Eagle Filter, Finland
19	Karnafuli Power Ltd 110 MW	6	110	12	-	-	216	432	-	12	-	-	-	-	-	Imported	Eagle Filter, Finland

Table-11

20	Baraka Potenga Power Ltd 50/54MW	3	54	32	-	-	128	-	-	48	-	-	-	-	-	Imported	Local, Sinya, Parker ,Wartsila
21	Titas 50MW	6	50	(a) 48 (b) 12	(a) 48 (b) 24	(a) € 6240 (b)€ 24096	96	96	€ 17760	468	468	€ 23868	-	-	-	Imported	Wartsila
22	Katakhali 50MW	6	50	12	12	$ 4880	144	144	$ 15868	72	72	$ 19467	-	-	-	Imported	-
23	United Ashuganj Energy Ltd	20+1	1952	2	40	-	16	320	-	1	20	-	-	-	-	Local/ Imported	Wartsila
24	United Mymensing Power Ltd	22+2	200	-	-	-	16	352	-	1	22	-	-	-	-	Local/ Imported	Wartsila
25	United Jamalpur Power Ltd	11+1	115	-	-	-	16	166	-	1	11	-	-	-	-	Local/ Imported	Wartsila
26	United Anowara Power Plant	16+3	300	-	-	-	32	520	-	1	16					Local/ Imported	Wartsila
27	United Powergen & Distribution DEPZ Power Plant	4	90	2	8	-	16	72	-	1	4	-	-	-	-	Local/ Imported	Wartsila
28	United Pyra Power Ltd	8	150	-	-	-	32	256	-	1	20	-	-	-	-	Local/ Imported	Wartsila
29	Confidence Power, Bogra Unit-2	6	13	307	-	-	240	240	-	12	-	-	-	-	-	Imported	Boll &Kirch, Delbag
30	Powertek Mutiara Jamalpur	12	100	24	36	€ 27720	(a)192 (b) 32	(a)192 (b) 64	(a) Tk 576000 (b)€ 11616	936	468	€ 36550	-	-	-	Imported	Parker, AAF, Boll& Kirch
31	Bera 70 MW Peaking Power Plant	9	27	-	-	-	18	18	-	18			-	-	-	Imported	Hyundai, Korea
32	Orion Power Sonargaon	6	104	12	6	Tk 108600	108	216	Tk 2117200	124	372	Tk 5257600	-	-	-	Imported	Boll& Kirch, AAF
33	Digital Power & Associates Ltd	12	102	2	12	Tk 1014600	16	208	Tk 1164800	78	468	Tk 1902888	-	-	-	Imported	Parker, AAF, Boll& Kirch
34	Banglatrac Power Unit-2, Ltd,Jessore	77	100	385	770	Tk 13689060	(a) 2 (b) 2	(a) 2 (b) 2	(a) Tk 59754 (b)Tk 89536	231	462	Tk 1081080	-	-	-	Imported	Caterpiller
35	Banglatrac Power Unit-1, Ltd,Daukandi	154	200	(a) 770 (b) 462	(a)3080 (b) 1848	(a) Tk 8590120 (b)Tk 3248784	308	618	Tk 2002998	462	1848	Tk 6826512	-	-	-	Imported	Caterpillar
36	Summit ,Jangali 33 MW	4	33	2	4	Tk 370800	16	32	Tk 172800	78	78	€ 444600	-	-	-	Imported	Wartsila
37	Paramount B-Trac Energy Ltd	135	216	675	675	$ 21659.4	540	540	$ 126014.4	405	405	$ 20390.4	-	-	-	Imported	Wartsila
38	Shahjibazar Power Co.ltd	32	86	(a) 1 (b) 1	(a) 32 (b) 32	(a) Tk 608335 (b)Tk 394350	3	768	Tk 20175950	1	64	Tk 4371450	-	-	-	Imported	INNIO, Jenbher

Table-11(Continued)

39	Hathazari Peaking Power Station	11	98	(a) 2 (b) 2 (c) 2	(a) 32 (b) 8 (c) 1	(a) € 150 (b)€ 997 (c)€ 1469	16	36	€ 173	1	156	€ 95	-	-	-	Imported	AAF, Wartsila
40	Banco Energy Generating Ltd.	3	53.972	(a) 48 (b) 40	(a) 96 (b) 120	-	40	120	-	300	900	-	-	-	-	Imported	Boll & Kirch
41	Dhaka Northern Power Generation Ltd	3	55	(a) 48 (b) 40	(a) 96 (b) 120	-	40	120	-	300	900	-	-	-	-	Imported	Boll & Kirch
42	Dhaka Southern Power Generation Ltd	3	55	(a) 48 (b) 40	(a) 96 (b) 120	-	40	120	-	300	900	-	-	-	-	Imported	Boll & Kirch
43	SPEL	7	52.5	(a) 14 (b) 14 (c) 14	-	-	49	-	-	(a) 49 (b) 49	-	-	49	-	-	Imported	Filtrex S.R.L Milano, GM Clean Technology
44	DECPCL	12	18.415	12	-	-	12	-	-	12	-	-	-	-	-	Imported	Boll & Kirch
45	HF Power Ltd	12	113	(a) 48 (b) 2	(a) 94 (b) 24	(a) Tk 960000 (b)Tk 150195	20	480	Tk 5499360	78	936	Tk 5790470	-	-	-	Imported	Wartsila
46	Feni Lanka Power Ltd	1	114	2	6	€ 20538	36	216	€ 5076	124	62	€ 5170	-	-	-	Imported	Boll & Kirch
47	Power Pac Mutiara Keraniganj	1	100	2	5	-	1	-	-	(a) 1 (b) 2	(a) 15 (b) 4	-	-	-	-		
48	Orion Power Rupsha Ltd		105	12	12	Tk 160000	12	12	Tk 2000000	1	1	Tk 200000	-	-	-	Imported	Boll & Kirch
49	Orion Power Meghnaghat Ltd	12	100	12	24	€ 14240	192	192	€ 12864	936	936	€ 40060	-	-	-	Imported	AAF, Wartsila
50	Manikganj Power Geberations Ltd	09	162	(a) 48 (b) 64 (c) 40 (d) 4	(a) 96 (b) 128 (c) 360 (d) 4	-	40	360	-	300	2700	-	-	-	-	Imported	Boll & Kirch
51	Chandpur Power Generations Limited	06	115	(a) 72 (b) 36 (c)160 (d) 24	(a) 144 (b) 72 (c) 640 (d) 24	-	(a) 120 (b) 80	(a) 480 (b) 160	-	(a) 1200 (b) 240	(a) 4800 (b) 480	-	-	-	-	Imported	Boll & Kirch
52	Regent Energy & Power Lrd Ghorasal	34	114	34	148	Tk 17800	204	890	Tk 58700	34	148	Tk 52000	-	-	-	Imported	INNIO, Jenbher
53	DBPL	12	100	(a) 24 (b) 64	(a)24 (b) 64	(a) € 18600 (b)€ 7488	(a)192 (b)360	(a)192 (b)360	(a) € 14112 (b) € 5400	936	936	€ 69264	-	-	-	Imported	Parker, AAF

Table-11 (Continued)

Sl. No	Name of Plant	No. of Unit	Capacity (MW)	Fuel Filter			Air Filter			Lube Oil Filter			Hydraulic oil Filters			Filter Imported/Locally made	Manufacturer/Supplier
				No of Fuel Filters used/set	No of Filters used/ Year	Cost of Filters/ year	No of Air Filters used/ set	No of Filters used/ Year	Cost of Filter/ year	No of Lube oil Filters used/ set	No of Filters used/ Year	Cost of Filter/ year	No of Hydraulic oil Filters used/ set	No of Filters used/ Year	Cost of Filter/ year		
54	Summit Narayanganj Power Unit II	4	55	(a) 28 (b) 2	(a)14 (b) 2	(a) Tk 5500 (b)Tk 238233	36	396	Tk 8900	(a) 124 (b) 2	(a) 62 (b) 2	(a) Tk 5280 (b)Tk 810480	-	-	-	Imported	Wartsila
55	CPRL	16	113	64	138	-	15	30	-	32	128	-	-	-	-	Imported	Wartsila, Aura Marine, AAF, Boll & Kirch
56	Summit Rupganj 33 MW	4	33	2	4	Tk 370800	16	32	Tk 172800	78	78	Tk 444600	-	-	-	Imported	Wartsila, Finland
57	Summit Maona 33 MW	4	33	2	4	Tk 370800	16	32	Tk 172800	78	78	Tk 444600	-	-	-	Imported	Wartsila, Finland
58	Summit Madhabdi 11 MW	3	11	-	-	-	4	12	-	6	18	-	1	3	-	Imported	Catarpiller
59	Summit Madhabdi 24.3MW	3	24.3	2	12	-	48	96	-	234	234	-	-	-	-	Imported	Wartsila
60	Ashulia PP 44.75 MW	7	44.75	3	3	-	20	40	-	7	13	-	-	-	-	Imported	Catarpiller ,Wartsila
61	Doreen 22 MW Narsingdhi	8	22	8	8	Tk 211000	24	192	Tk 6600422	8	16	Tk 1484095	-	-	-	Imported	INNIO, Jhenbacher
62	RPCL,Gazipur 105 MW	6	105	12	12	Tk 3065233	216	864	Tk-14588453	744	744	Tk 6695616	-	-	-	Imported	AAF, Boll& Krich
63	RPCL,Gazipur 52 MW	6	52	12	24	Tk 67338	96	384	-	468	468	Tk 4740	-	-	-	Imported	Parker, AAF, Boll & Kirch
64	BR-Power zen Kodda 150 MW	9	150	(a) 48 (b) 2	(a)144 (b) 6	(a)Tk 15100 (b)Tk 320000	(a) 30 (b) 60	(a) 810 (b) 60	(a)Tk 4500 (b)Tk 8500	150	150	Tk 9400	-	-	-	Imported	Boll & Kirch, UT99, AG
65	Agrico -100 MW Brahmangaon	114	100	(a) 3 (b) 2	(a) 342 (b) 228	(a)$ 1412 (b)$ 2756	(a) 2 (b) 8	(a) 44 (b) 1824	(a)$ 1430 (b)$ 6657	5	570	$ 3021	-	-	-	Imported	Baldwin, USA, AAF
66	Agrico 100 MW Aourahati	114	100	(a) 3 (b) 2	(a) 342 (b) 228	(a)$ 1412 (b)$ 2756	(a) 2 (b) 8	(a) 44 (b) 1824	(a)$ 1430 (b)$ 6657	5	570	$ 3021	-	-	-	Imported	Baldwin, USA , AAF
67	Anlima Energy LTD 116 MW	116	116	499	562	-	240	120	-	1440	540	-	-	-	-	Imported	AAF, EMW, Boll& Kirch
68	Zodiac Power Chattogram Ltd 54.36 MW	3	54.36	6	6	-	3	2	-	3	2	-	-	-	-	Imported	Boll Filters, India
69	Acron ,Zulda infrastructure services Ltd, unit 1, 100 MW	8	100	(a) 36 (b) 44	(a)18 (b) 10	(a) €1512 (b)€ 3500	-	-	-	(a) 150 (b) 80	(a) 15 (b) 10	(a) € 900 (b)€ 1900	-	-	-	Imported	Caterpiller & Grensys, America

Table-11(Continued)

70	Acron ,Zulda infrastructure services Ltd, unit 2, 100 MW	8	100	(a) 36 (b) 44	(a)18 (b) 10	(a) €756 (b)€ 7000	-	-	-	(a) 150 (b) 80	(a) 30 (b) 20	(a) € 1800 (b)€ 3800	-	-	-	Imported	Caterpiller & Grensys, America
71	Acron ,Zulda infrastructure services Ltd, unit 3, 100 MW	8	100	(a) 36 (b) 44	(a)18 (b) 20	(a) €756 (b)€ 7000	-	-	-	(a) 150 (b) 80	(a) 30 (b) 20	(a) € 1800 (b)€ 3800	-	-	-	Imported	Caterpiller & Grensys, America
72	RPCL Raozan 25.5 MW	3	25.5	6	6	€ 4506	48	48	Tk 141120	3	9	€ 14320	-	-	-	Imported	Parker, AAF,Boll & Kirch
73	Dohazari 100 MW	6	100	12	10	€ 1230	216	56	€ 10696	12	12	€ 830	-	-	-	Imported	Boll & Kirch, AAF
74	Energypac Power vencher Ltd 11 MW	4	11	16	4	Tk 35000	48	171	Tk 5500	16	8	Tk 110000	-	-	-	Imported	GE,Local

Table-11(Continued)

4.1 Compilation of complete information tabular form

From the available filled up format it is seen the many power plants provided incomplete information. So the complete information from respective formats were compiled and annexed herewith as Table 12 to Table 23.

Air Filter for GT/CCPP: Coalescer

Sl.No	Name of Plant	No.of Unit	Capacity	Type of Filter	No of Filter used/set	No of Filters used/Year	Cost of Filters/Year	Equivalent BDT
1	Bheramara	1	410	1st Stage filter	528	528	$ 90288	7,764,768.00
2	Megnaghat	1	450	Primary Filter	360	1800	$ 125000	10,750,000.00
3	Ashuganj-North	1	450	Coalescer	540	3240	$ 14256	1,226,016.00
4	Ashuganj-South	1	450	Coalescer	540	1080	€ 70200	6,598,800.00
5	Ghorasal Unit-3	1	260	Coalescer	480	1920	$ 134400	134,400.00
6	Siddirganj	2	2x120	Primary Filter	390	1950	$ 32175+ Tk 303448	3,070,498.00
7	Haripur	3	100	Box Type	16	576	$ 33984	2,922,624.00
8	Haripur	1	360	Primary Filter	630	1260	$ 86000	7,396,000.00
9	Sylhet	1	225	Coalescer	432	2160	$ 6553	563,558.00
10	Bhola	1(2+ 1)	225	Coalescer	180	1440	$ 26438	2,273,668.00
11	Chandpur	1	150	Coalescer	360	1080	€ 15660	1,472,040.00
12	Ashuganj	1	225	Coalescer	420	840	$ 64680	5,562,480.00
13	Khulna	1	225	Coalescer	390	1170	Tk 9113235	9,113,235.00
14	ShajiBazar	2	2x35	Coalescer	120	720	$ 2088	179,568.00
15	Bagabari	1	100	Conical	960	960	$ 414720	35,665,920.00
16	Mymensing Power Plant, RPCL	5	210	Coalescer	80	192	Tk 1248000	1,248,000.00
17	Haripur	1	412	Washable	52	312	$ 17553	1,509,558.00
18	Saidpur GT	1	20	Turbine Filter	90	270	$ 12501	1,075,086.00
19	Rangpur GT	1	20	Turbine Filter	90	270	$ 12501	1,075,086.00
20	Fenchuganj	2	2x90	Turbine air intake Filter	240	400	$ 7200	619,200.00
Total			4,782.00			22,168.00		100,220,505.00
Thus total requirement for			9742			45161.157		204,171,509.76

Table-12

Air Filter for GT/CCPP : Pre Filter

Sl.No	Name of Plant	No.of Unit	Capacity(MW)	Type of Filter	No of Filter used/set/Unit	No of Filters used/Year	Cost of Filter	Equivalent BDT
1	Bheramara	1	410	2nd Stage	528	528	$ 72177	6,207,222.00
2	Megnaghat	1	450	Pre Filter	12 Roll	96 Roll	$ 25000	2,150,000.00
3	Ashuganj-North	1	450	Pre Filter	540	810	€ 51840	4,872,960.00
4	Ashuganj-South	1	450	Pre Filter	540	1080	€ 48600	4,568,400.00
5	Ghorasal Unit-3	1	260	Pre Filter	480	1920	$ 190080	2,150,000.00
6	Siddhirganj	1	335	Conical Filter	756	1512	Tk 10000000	10,000,000.00
7	Siddhirganj	2	2x120	Secondary Filter	390	1950	$ 137475+ Tk-1296551	13,059,401.00
8	Haripur	3	100	Conical Filter	192	384	$ 17280	1,486,080.00
9	Haripur	1	360	Secondary Filter	630	630	$ 52920	4,551,120.00
10	Sylhet	1	225	Pre Filter	432	2160	$ 7417	637,862.00
11	Bhola	1	225	Pre Filter	144	2304	$ 71539	6,152,354.00
12	Chandpur	1	150	Pre Filter	348	1044	€ 13572	1,275,768.00
13	Ashuganj	1	225	Pre Filter	420	630	$ 38430	3,304,980.00
14	Khulna	1	225	Pre Filter	390	390	Tk 941850	941,850.00
15	ShajiBazar	2	2x35	Pre Filter	120	720	$ 1944	167,184.00
16	Bagabari	1	100	Cylindrical	960	960	$ 31968	2,749,248.00
17	Bagabari	1	71	Pre Filter	290	3480	$ 6612	568,632.00
18	Mymensing RPCL	5	210	Pre Filter	2 Roll	80 Roll	TK 696000	696,000.00
19	Haripur	1	412	Pre Filter	1248	1872	$ 364104	31,312,944.00
20	Fenchuganj	2	2x90	Primary Filter	416	300	$ 2100	180,600.00
	Total		**5,148.00**			**22,850.00**		**97,032,605.00**
Thus total requirement for			**9742**			**43241**		**183,623,084.3**

Table-13

Air Filter for GT/CCPP : Fine Filter

Sl.No	Name of Plant	No.of Unit	Capacity(MW)	Type of Filter	No of Filter used/set/Unit	No of Filters used/Year	Cost of Filter	Equivalent BDT
1	Bheramara	1	410	3rd Stage	528	264	$ 52008	4,472,688.00
2	Megnaghat	1	450	Fine Filter	360	1080	$ 150000	12,900,000.00
3	Ashuganj-North	1	450	Fine Filter	537	806	€ 72540	6,818,760.00
4	Ashuganj-South	1	450	Fine Filter	540	1080	€ 102600	9,644,400.00
5	Ghorasal Unit-3	1	260	Fine Filter	480	960	$ 371520	12,900,000.00
6	Siddhirganj	1	335	Cylindrical Filter	756	1512	Tk 10000000	10,000,000.00
7	Siddhirganj	2	2x120	Mat/ Blanket type	170 m2	3168 m2	Tk 1710720	710,720.00
8	Haripur	3	100	Cylindrical Filter	192	384	$ 13824	1,188,864.00
9	Haripur	1	360	Fine Filter	630	630	$ 100000	8,600,000.00
10	Sylhet	1	225	Fine Filter	432	1296	$ 22969	1,975,334.00
11	Bhola	1	225	Fine Filter	144	2304	$ 215078	18,496,708.00
12	Chandpur	1	150	Fine Filter	348	1044	€ 75168	7,065,792.00
13	Ashuganj	1	225	Fine Filter	420	630	$ 56700	4,876,200.00
14	Khulna	1	225	Fine-Filter	390	390	Tk 3783780	3,783,780.00
15	ShajiBazar	2	2x35	Fine Filter	120	720	$ 30240	2,600,640.00
16	Bagabari	1	71	Box Type	290	1392	$ 48441	4,165,926.00
17	Haripur	1	412	Fine Filter	624	416	$ 120224	10,339,264.00
18	Fenchuganj	2	2x90	Secondary Filter	416	300	$ 15000	1,290,000.00
Total			**4,838.00**			**15,227.00**		**121,829,076.00**
Thus total requirement for			**9742**			**30661.726**		**245320144.4**

Table-14

Fuel filters for GT/CCPP

Sl.No	Name of Plant	Capacity	No of Fuel filters used/set	No of Fuel filters Per year	cost Per year	Equivalent BDT
1	Siddirganj	335	3	6	Tk 3,60,000	3,60,000
2	Siddirganj	2x120	21	21	Tk 1194312	1,194,312.00
3	Haripur	100	1	-	Tk 37526	37,526.00
4	Ashuganj	225	10	1.67	$ 370	31,820.00
5	Khulna	225	12	19	Tk 285331	
6	Mymensing Power Plant RPCL	210	20	48	Tk 449315	449,315.00
7	Saidpur GT	20	15	30	$ 876	75,336.00
8	Rangpur GT	20	15	30	$ 876	75,336.00
9	Haripur Power Ltd	360	30	30	$ 700	60,200.00
		1,735.00		185.67		1,923,845.00
Thus total requirement for		9742		1042.534		108,023,61.95

Table-15

Lube Oil Filters

Sl.No	Name of Plant	Capacity	No of Lube Oil Filters /set	No of Lube Oil Filters Per Year	Cost Per year	Equivalent BDT
1	Megnaghat	450	4	4	$ 2725	234,350.00
2	Ashuganj-North	450	(a) 12 (b) 28	(a) 6 (b) 28	Tk 57416	57,416.00
3	Ashuganj-South	450	6	6	€ 3702	347988.00
4	Siddirganj	335	6	12	Tk 12,00,000	12,00,000
5	Siddirganj	2x120	24	24	Tk 96000	96,000.00
6	Bhola	225	24	48	Tk 16000	16000
7	Chandpur	150	34	68	Tk 102000	102,000.00
8	Ashuganj	225	2	2	$ 475	40,850.00
9	Bagabari	100	2	2	$ 70	6020.00
10	Bagabari	71	2	2	$ 70	6020
11	Mymensing Power Plant RPCL	210	45	45	Tk 134698	134698
12	Haripur	412	2	2	Tk 32100	32100.00
13	Saidpur GT	20	6	12	$ 374	32164
14	Rangpur GT	20	6	12	$ 374	32164
15	Haripur Power Ltd	360	40	-	$ 15600	1341600
Total		3718		273		2479370
Thus total requirement for		9742		715.321		649,6509.559

Table-16

Control oil filters for GT/CCPP

Sl.No	Name of Plant	Capacity	No of Control oil filters used/set	No of Control oil filters Per year	Cost per Year	Equivalent BDT
1	Bheramara	410	1	-	Tk 70,000	70000
2	Haripur	412	2	2	Tk 70860	70860
3	Haripur Power Ltd	360	(a) 2 (b) 2	(a) 2 (b) 2	(a)$ 1300 (b)$ 800	180600
Total		1182		6		321460
Thus total requirement for		9742		49.451		26,494,61.354

Table-17

Hydraulic Oil Filters

Sl.No	Name of Plant	Capacity	No of Hydraulic Oil Filters used/set	No of Hydraulic Oil Filters used Per Year	Cost per Year	Equivalent BDT
1	Megnaghat	450	4	4	$ 152	13072
2	Siddirganj	335	2	4	Tk 2,40,000	240000
3	Siddirganj	2x120	2	2	Tk 5965+ $ 4623	403543
4	Bhola	225	7	14	Tk 17000	17000
5	Chandpur	150	2	4	Tk 7300	7300
6	Bagabari	100	24	24	$ 835	71810
7	Bagabari	71	12	12	$ 417	35862
8	Saidpur GT	20	2	4	$ 644	55384
9	Rangpur GT	20	2	4	$ 664	57104
Total		1611		72		661075
Thus total requirement for		9742		435.396		3997636.654

Table-18

Steam, Coal & Hydro Power Stations (Lube oil Filters)

Sl.No	Name of Plant	Type of Plant	Capacity	Lube Oil Filters			Equ.BDT
				No of Lube Oil Filters /set	No of Lube Oil Filters Per Year	Cost Per year	
1	BoraPukuria Coal Power Station	Coal	2x125	54	52	Tk 38643	38643
Total			250		52		38643
Thus total requirement for			1260		262.02		194760.72

Table-19

Steam, Coal & Hydro Power Stations (Hydraulic oil Filters)

Sl.No	Name of Plant	Type of Plant	Capacity	Hydraulic Oil Filters			Equivalent BDT
				No of Hydraulic Oil Filters /set	No of Hydraulic Oil Filters Per Year	Cost Per year	
1	Ashuganj	Steam	150	2	2	Tk 4500	4500
Total			150		2		4500
Thus total requirement for			1260		16.8		37800

Table-20

Reciprocating Engine (Air Filter) (HSD/HFO/GAS)

Sl No	Name of Plant	No. of Unit	Capacity (MW)	Air Filter			
				No of Air Filters used/ set	No of Filters used/ Year	Cost of Filter/ year	Equivalent BDT
1	Doreen 11 MW Feni	4	11	12	96	Tk 3300211	3300211
2	Doreen 22 MW Feni	8	22	24	192	Tk 6600422	6600422
3	Doreen 22 MW Tangail	8	22	3	192	Tk 6600422	6600422
4	Summit-Ullapara 11 MW	4	11	3	96	Tk 948534	948534
5	Chapai 100 MW	12	100	16	192	$ 7430	638980
6	Desh Cambridge Kumargaon 10 MW	6	10	2	4	$ 394	33884
7	Energy Prima Ltd 50 MW	29	50	2	6	Tk 108000	108000
8	Baraka Power 51 MW Sylhet	19	51	57	456	Tk 4788000	4788000
9	Modhumuti 100 MW	6	100	18	432	Tk 11240	11240
10	Midland	23	150	345	345	Tk 1325145	1325145
11	Midland	6	51	96	96	Tk 3 053376	3053376
12	Titas 50MW	6	50	96	96	€ 17760	1669440
13	Katakhali 50MW	6	50	144	144	$ 15868	1364648
14	Powertek Mutiara Jamalpur	12	100	(a)192 (b) 32	(a)192 (b) 64	(a) Tk 576000 (b)€ 11616	1667904
15	Orion Power Sonargaon	6	104	108	216	Tk 2117200	2117200
16	Digital Power & Associates Ltd	12	102	16	208	Tk 1164800	1164800
17	Banglatrac Power Unit-2, Ltd,Jessore	77	100	(a) 2 (b) 2	(a) 2 (b) 2	(a) Tk 59754 (b)Tk 89536	149290
18	Banglatrac Power Unit-1, Ltd,Daukandi	154	200	308	618	Tk 2002998	2002998
19	Summit ,Jangali 33 MW	4	33	16	32	Tk 172800	172800
20	Paramount B-Trac Energy Ltd	135	216	540	540	$ 126014.4	10837238.4
21	Shahjibazar Power Co.ltd	32	86	3	768	Tk 20175950	20175950
22	Hathazari Peaking Power Station	11	98	16	36	€ 173	16262
23	HF Power Ltd	12	113	20	480	Tk 5499360	5499360
24		1	114	36	216	€ 5076	477144

Table-21

	Feni Lanka Power Ltd						
25	Orion Power Rupsha Ltd		105	12	12	Tk 2000000	2000000
26	Orion Power Meghnaghat Ltd	12	100	192	192	€ 12864	1209216
27	Regent Energy & Power Lrd Ghorasal	34	114	204	890	Tk 58700	58700
28	DBPL	12	100	(a)192 (b)360	(a)192 (b)360	(a) € 14112 (b) € 5400	1834128
29	Summit Narayanganj Power Unit II	4	55	36	396	Tk 8900	8900
30	Summit Rupganj 33 MW	4	33	16	32	Tk 172800	172800
31	Summit Maona 33 MW	4	33	16	32	Tk 172800	172800
32	Doreen 22 MW Narsingdhi	8	22	24	192	Tk 6600422	6600422
33	RPCL,Gazipur 105 MW	6	105	216	864	Tk-14588453	14588453
34	BR-Power zen Kodda 150 MW	9	150	(a) 30 (b) 60	(a) 810 (b) 60	(a)Tk 4500 (b)Tk 8500	13000
35	Agrico -100 MW Brahmangaon	114	100	(a) 2 (b) 8	(a) 44 (b) 1824	(a)$ 1430 (b)$ 6657	695482
36	Agrico 100 MW Aourahati	114	100	(a) 2 (b) 8	(a) 44 (b) 1824	(a)$ 1430 (b)$ 6657	695482
37	RPCL Raozan 25.5 MW	3	25.5	48	48	Tk 141120	141120
38	Dohazari 100 MW	6	100	216	56	€ 10696	1005424
39	Energypac Power vencher Ltd 11 MW	4	11	48	171	Tk 5500	5500
Total			3097.5		13764		103778055.4
Thus total requirement for			5982.44		26583.47		200434540.7

Table-21 (Continued)

Reciprocating Engine (Fuel filter) (HSD/HFO/GAS)

Sl .No	Name of Plant	No. of Unit	Capacity (MW)	Fuel Filters			Equivalent .BDT
				No of Fuel Filters used/set	No of Filters used/ Year	Cost of Filters/ year	
1	Doreen 11 MW Feni	4	11	4	4	Tk 105000	105000
2	Doreen 22 MW Feni	8	22	8	8	Tk 211000	211000
3	Doreen 22 MW Tangail	8	22	1	8	Tk 211000	211000
4	Summit-Ullapara 11 MW	4	11	1	4	Tk 48763	48763
5	Chapai 100 MW	12	100	2	24	$ 868	74648
6	Desh Cambridge Kumargaon 10 MW	6	10	1	1	$ 30	2580
7	Energy Prima Ltd 50 MW	29	50	29	-	$ 870	74820
8	Baraka Power 51 MW Sylhet	19	51	19	19	Tk 161500	161500
9	Modhumuti 100 MW	6	100	48	96	Tk 11934	11934
10	Midland	23	150	138	138	Tk 1361784	1361784
11	Midland	6	51	6	12	Tk 7044	7044
12	Faridpur 50MW	8	50	24	4	$ 23812	2047832
13	Titas 50MW	6	50	(a) 48 (b) 12	(a) 48 (b) 24	(a) € 6240 (b)€ 24096	2851584
14	Katakhali 50MW	6	50	12	12	$ 4880	419680
15	Powertek Mutiara Jamalpur	12	100	24	36	€ 27720	2605680
16	Orion Power Sonargaon	6	104	12	6	Tk 108600	108600
17	Digital Power & Associates Ltd	12	102	2	12	Tk 1014600	1014600
18	Banglatrac Power Unit-2, Ltd,Jessore	77	100	385	770	Tk 13689060	13689060
19	Banglatrac Power Unit-1, Ltd,Daukandi	154	200	(a) 770 (b) 462	(a)3080 (b) 1848	(a) Tk 8590120 (b)Tk 3248784	11838904
20	Summit ,Jangali 33 MW	4	33	2	4	Tk 370800	370800
21	Paramount B-Trac Energy Ltd	135	216	675	675	$ 21659.4	1862708.4
22	Shahjibazar Power Co.ltd	32	86	(a) 1 (b) 1	(a) 32 (b) 32	(a) Tk 608335 (b)Tk 394350	1002685
23	Hathazari Peaking Power Station	11	98	(a) 2 (b) 2 (c) 2	(a) 32 (b) 8 (c) 1	(a) € 150 (b)€ 997 (c)€ 1469	245904
24	HF Power Ltd	12	113	(a) 48 (b) 2	(a) 94 (b) 24	(a) Tk 960000 (b)Tk 150195	1110195
25	Feni Lanka Power Ltd	1	114	2	6	€ 20538	1930572
26	Orion Power Rupsha Ltd		105	12	12	Tk 160000	160000
27	Orion Power Meghnaghat Ltd	12	100	12	24	€ 14240	1338560

Table-22

28	Regent Energy & Power Lrd Ghorasal	34	114	34	148	Tk 17800	17800
29	DBPL	12	100	(a) 24 (b) 64	(a)24 (b) 64	(a) € 18600 (b)€ 7488	2452272
30	Summit Narayanganj Power Unit II	4	55	(a) 28 (b) 2	(a)14 (b) 2	(a) Tk 5500 (b)Tk 238233	2437333
31	Summit Rupganj 33 MW	4	33	2	4	Tk 370800	370800
32	Summit Maona 33 MW	4	33	2	4	Tk 370800	370800
33	Doreen 22 MW Narsingdhi	8	22	8	8	Tk 211000	211000
34	RPCL,Gazipur 105 MW	6	105	12	12	Tk 3065233	3065233
35	RPCL,Gazipur 52 MW	6	52	12	24	Tk 67338	67338
36	BR-Power zen Kodda 150 MW	9	150	(a) 48 (b) 2	(a)144 (b) 6	(a)Tk 15100 (b)Tk 320000	335100
37	Agrico -100 MW Brahmangaon	114	100	(a) 3 (b) 2	(a) 342 (b) 228	(a)$ 1412 (b)$ 2756	358448
38	Agrico 100 MW Aourahati	114	100	(a) 3 (b) 2	(a) 342 (b) 228	(a)$ 1412 (b)$ 2756	358448
39	Acron ,Zulda infrastructure services Ltd, unit 1, 100 MW	8	100	(a) 36 (b) 44	(a)18 (b) 10	(a) €1512 (b)€ 3500	471128
40	Acron ,Zulda infrastructure services Ltd, unit 2, 100 MW	8	100	(a) 36 (b) 44	(a)18 (b) 10	(a) €756 (b)€ 7000	729064
41	Acron ,Zulda infrastructure services Ltd, unit 3, 100 MW	8	100	(a) 36 (b) 44	(a)18 (b) 20	(a) €756 (b)€ 7000	729064
42	RPCL Raozan 25.5 MW	3	25.5	6	6	€ 4506	423564
43	Dohazari 100 MW	6	100	12	10	€ 1230	115620
44	Energypac Power vencher Ltd 11 MW	4	11	16	4	Tk 35000	35000
Total			3499.5		8806		55221849.4
Thus total requirement for			5982.44		155054		94402457.7

Table-22 (Continued)

Reciprocating Engine (Lube Oil Filter) (HSD/HFO/GAS)

Sl .No	Name of Plant	No. of Unit	Capacity (MW)	Lube oil Filter			Equivalent BDT
				No of Lube oil Filter used/ set	No of Filters used/ Year	Cost of Filters/ year	
1	Doreen 11 MW Feni	4	11	4	8	Tk 742047	742047
2	Doreen 22 MW Feni	8	22	8	16	Tk 1484095	1484095
3	Doreen 22 MW Tangail	8	22	1	16	Tk-1484095	1484095
4	Summit-Ullapara 11 MW	4	11	1	8	Tk 209500	209500
5	Chapai 100 MW	12	100	78	936	$ 173160	14891760
6	Desh Cambridge Kumargaon 10 MW	6	10	4	8	$ 27	2322
7	Energy Prima Ltd 50 MW	29	50	4	8	$ 216	18576
8	Baraka Power 51 MW Sylhet	19	51	19	38	Tk 1406000	1406000
9	Modhumuti 100 MW	6	100	124	744	Tk-11934	11934
10	Midland	23	150	92	92	Tk 3558744	3558744
11	Midland	6	51	36	72	Tk 411048	411048
12	Faridpur 50MW	8	50	48	96	$ 10560	908160
13	Titas 50MW	6	50	468	468	€ 23868	2243592
14	Katakhali 50MW	6	50	72	72	$ 19467	1674162
15	Powertek Mutiara Jamalpur	12	100	936	468	€ 36550	3435700
16	Orion Power Sonargaon	6	104	124	372	Tk 5257600	5257600
17	Digital Power & Associates Ltd	12	102	78	468	Tk 1902888	190288
18	Banglatrac Power Unit-2, Ltd,Jessore	77	100	231	462	Tk 1081080	1081080
19	Banglatrac Power Unit-1, Ltd,Daukandi	154	200	462	1848	Tk 6826512	6826512
20	Summit ,Jangali 33 MW	4	33	78	78	€ 444600	38235600
21	Paramount B-Trac Energy Ltd	135	216	405	405	$ 20390.4	1753574.4
22	Shahjibazar Power Co.ltd	32	86	1	64	Tk 4371450	4371450
23	Hathazari Peaking Power Station	11	98	1	156	€ 95	8930
24	HF Power Ltd	12	113	78	936	Tk 5790470	5790470
25	Feni Lanka Power Ltd	1	114	124	62	€ 5170	485980
26	Orion Power Rupsha Ltd		105	1	1	Tk 200000	200000
27	Orion Power Meghnaghat Ltd	12	100	936	936	€ 40060	3765640

Table-23

28	Regent Energy & Power Lrd Ghorasal	34	114	34	148	Tk 52000	52000
29	DBPL	12	100	936	936	€ 69264	6510816
30	Summit Narayanganj Power Unit II	4	55	(a) 124 (b) 2	(a) 62 (b) 2	(a) Tk 5280 (b)Tk 810480	815760
31	CPRL	16	113	32	128	-	
32	Summit Rupganj 33 MW	4	33	78	78	Tk 444600	444600
33	Summit Maona 33 MW	4	33	78	78	Tk 444600	444600
34	Doreen 22 MW Narsingdhi	8	22	8	16	Tk 1484095	1484095
35	RPCL,Gazipur 105 MW	6	105	744	744	Tk 6695616	6695616
36	RPCL,Gazipur 52 MW	6	52	468	468	Tk 4740	4740
37	BR-Power zen Kodda 150 MW	9	150	150	150	Tk 9400	9400
38	Agrico -100 MW Brahmangaon	114	100	5	570	$ 3021	259806
39	Agrico 100 MW Aourahati	114	100	5	570	$ 3021	259806
40	Acron ,Zulda infrastructure services Ltd, unit 1, 100 MW	8	100	(a) 150 (b) 80	(a) 15 (b) 10	(a) € 900 (b)€ 1900	263200
41	Acron ,Zulda infrastructure services Ltd, unit 2, 100 MW	8	100	(a) 150 (b) 80	(a) 30 (b) 20	(a) € 1800 (b)€ 3800	526400
42	Acron ,Zulda infrastructure services Ltd, unit 3, 100 MW	8	100	(a) 150 (b) 80	(a) 30 (b) 20	(a) € 1800 (b)€ 3800	526400
43	RPCL Raozan 25.5 MW	3	25.5	3	9	€ 14320	1346080
44	Dohazari 100 MW	6	100	12	12	€ 830	78020
45	Energypac Power vencher Ltd 11 MW	4	11	16	8	Tk 110000	110000
Total			3599.5		12833		121992798.4
Thus total requirement for			5982.44		21328.7		202754437.2

Table-23 (Continued)

4.2 Finding out requirement of filters and cost there of:

From table 12 to table 23 the requirement of different type of filters for different type of power plants of installed capacity 16,984 MW against 118 power plants were worked out as shown in Table 24. The findings are further evaluated to total installed capacity i.e. 22,066 MW out of 148 power plants of different types. The findings are tabulated also in Table 24.

Information of Total filter including cost

Gas Turbine/ Combined Cycle Power Plants (Gas Fueled)

Sl. No	Name of Filter	Total No of Plants	Total Capacity in MW	No of Plants Found Filters	No of Filter Used/Year	Price			Equivalent BDT	Remarks
						USD	EURO	BDT		
1.1	Coalescer	39	9742	36	39592	1080337	85860	10664683	111,644,505.00	
1.2	Pre Filter	39		35	37428	1019046	114012	12934401	111,289,485.00	
1.3	Fine Filter	39		34	29118	1196004	250308	15494500	141,879,796.00	
2	Fuel Filter	39	9742	22	338	9822	-	2326484	3,171,176.00	
3	Lube Oil Filter	39		32	470	35288	3702	163214	3,545,970.00	
4	Control Oil Filter	39		11	23	3400	-	140860	433,260.00	
5	Hydraulic Oil Filter	39		20	113	7335	-	270265	901,075.00	
Reciprocating Engine (HSD/HFO/Gas fueled)										
6	Air Filter	74		65	19787	180714	64833	84343943	105,979,649.00	

Table-24

7	Fuel Filter	74	5982.44	62	12137	60722	147798	36201078	55,316,182.00	
8	Lube Oil Filter	74		67	24216	229997	663482	47798274	129,945,324.00	
9	Hydraulic Oil Filter	74		2	6	-	-	-		
Thermal Power & Hydro Power Plants (Gas/Coal fired)										
10	Fuel Filter	5	1260	8	-	-	-	-		
11	Lube Oil Filter	5		63	-	-	-	38643	38,643.00	
12	Hydraulic Oil Filter	5		2	-	-	-	4500	4,500.00	
Total			**16984.44**			**3,822,665.00**	**1,329,995.00**	**210,380,845.00**	**664,149,565.00**	
Total Requirement for Installed Capacity			**22066**			**4,966,364.85**	**1,727,915.06**	**273,324509.1**	**862,855,902.3**	

Note: 1 USD ($) =86 BDT &
1 Euro (€) = 94 BDT

Table-24 (Continued)

4.3 The particulars of International & National filters Manufacturer and Suppliers are listed in following tables.

The list of local Manufacturer & Supplier is given in Table 25
The list of local Manufacturer with address are given in Table 25.1
The list of local Supplier with address are given in Table 25.2
The list of International Manufacturers & Supplier with address are given in Table 26

The list of local Manufacturer & Suppliers in Bangladesh

Sl. No	Type of Filter	Local	Manufacturer & Supplier
1.	Fuel filter, Air filter ,Lube oil filter & other filter	Local	Saj Engineering & Trading Company Address: House # 351 (5th floor, Road-05, Dhaka Phone: 01711-566532
2.	Pre Filter, Bag Filter/Pocket Filter, HVAC Air Filter, Panel Filter, Mini Pleat HEPA Filter	Local	Filtech filtration limited Address: Dhaka 1212 Phone: 01718-069869
3.	Coalescer	Local	Atlas Copco Bangladesh Ltd Address: Impetus, Level # 6 Gulshan Link Road Tejgaon I/A Dhaka 1208, 242/B Bir Uttam Mir Shawkat Sarak, Dhaka 1208 Phone: 01755-666100
4.	Oil filter, Air filter	Local	Olila Glass Industries Limited Address: House: 127 (2nd/3rd Floor), Road: 10, Niketan Block #C, Dhaka 1212 Phone: 09614-500765
5.	Air filter, Oil filter	Local	Japan Solartech (Bangladesh) Limited, Address: House#3(1st Floor),Road#7, Block # F, Dhaka 1213 Phone: 01778-741894
6.	Oil Filter / Fuel Filter,	Local	OSMO Filter Company Ltd. Address: 29/B Tongi , Bscic, 1702 Tongi, Bangladesh.
7.	Coalescing filter	Local	Khaza Ajmiri filter co. (KAF) Address: Madina Auto Complex 871, SK Mujib Road Dewanhat, Chattogram
8.	Others ventilation filter	Local	Innova and MEP Engineering Ltd Address: House # 358-360, Road # 05, Mirpur DOHS, Dhaka-1216. ; Phone: +8801819504816, +8801717758090
9.	Oil filter, Air filter	Local	Multipath Technology Address: House #27, Road #35, Sector #7, Uttara Model Town, Uttara Dhaka 1231 ; Phone: 02-8954734 , 017-13034535
10.	Fuel filter, Air filter ,Lube oil filter & other filter	Local	Saj Engineering & Trading Company Address: House # 351 (5th floor, Road-05, Dhaka Phone: 01711-566532

Table 25

11.	Coalescer filter, Hydraulic filter ,Lube oil filter, Air filter	Local	EnPower Bangladesh Address. EnPower Bangladesh Suite # 5, H # 3/3, Block – E, Lalmatia, Dhaka-1207. Phone. Phone:+880 1755 520 620.
12.	Air filter	Local	Safe Filtration Ltd. Head Office. 39, Malibagh Chowdhury Para, Dhaka-1219, Bangladesh; 02-58317773, 01312007142, 01312007143, 01312007145 Factory. 74, Boro Dewra, Vadam Road Tongi, Gazipur. 02-58317773. 01312007142, 01312007143, 01312007145.
13.	Air filter	Local	Smart Air Address: Gulshan Shopping Center, Unit B216-B219, 3rd floor, Dhaka 1212 Phone: 01309-094353
14.	Lube Oil	Local	City Lube Oil Industries Ltd. Address: 61, Red Crescent House, 9th Floor, Motijheel C/A, Dhaka 1000 Phone: 02-47118362
15.	Air Filter	Local	ENERGY POINT Address: 430, 2 Bir Uttam Mir Shawkat Sarak, Dhaka 1208 Phone: 09606-066688
16.	Air Filter. - Lube Oil Filter.	Local	Bogra Motors Pvt. Ltd. Address: 63/A, West, Panthapath, Dhaka Phone: 02-9145914
17.	Air Filter	Local	Boss Filter Address, : NITOL NILOY TOWER, 69, Airport Road, Nikunjo-2, Khilkhet, Dhaka, Bangladesh ; Phone, : +8801956660000
18.	Brake pad, Air Filter, Oil Filter	Local	Ak Trade International Co. Address: House# 155, West Arjot Para, Tejgaon

Table 25 (Continued)

The list of local Manufacturer in Bangladesh

Sl.No	Type of Filter	Local	Manufacturer
1.	Fuel filter, Air filter ,Lube oil filter & other filter	Local	Saj Engineering & Trading Company Address: House # 351 (5th floor, Road-05, Dhaka Phone: 01711-566532
2.	Pre Filter, Bag Filter/Pocket Filter, HVAC Air Filter, Panel Filter, Mini Pleat HEPA Filter	Local	Filtech filtration limited Address: Dhaka 1212 Phone: 01718-069869
3.	Coalescer	Local	Atlas Copco Bangladesh Ltd Address: Impetus, Level # 6 Gulshan Link Road Tejgaon I/A Dhaka 1208, 242/B Bir Uttam Mir Shawkat Sarak, Dhaka 1208 Phone: 01755-666100
4.	Oil filter, Air filter	Local	Olila Glass Industries Limited Address: House: 127 (2nd/3rd Floor), Road: 10, Niketan Block #C, Dhaka 1212 Phone: 09614-500765
5.	Air filter, Oil filter	Local	Japan Solartech (Bangladesh) Limited, Address: House#3(1st Floor),Road#7, Block # F, Dhaka 1213 Phone: 01778-741894
6.	Oil Filter / Fuel Filter,	Local	OSMO Filter Company Ltd. Address: 29/B Tongi , Bscic, 1702 Tongi, Bangladesh.
7.	Coalescing filter	Local	Khaza Ajmiri filter co. (KAF) Address: Madina Auto Complex 871, SK Mujib Road Dewanhat, Chattogram

Table 25.1

The list of local Suppliers in Bangladesh

Sl.No	Type of Filter	Local	Suppliers
1.	Others ventilation filter	Local	Innova and MEP Engineering Ltd Address: House # 358-360, Road # 05, Mirpur DOHS, Dhaka-1216. ; Phone: +8801819504816, +8801717758090
2.	Oil filter,Air filter	Local	Multipath Technology Address: House #27, Road #35, Sector #7, Uttara Model Town, Uttara Dhaka 1231 ; Phone: 02-8954734 , 017-13034535
3.	Fuel filter, Air filter ,Lube oil filter & other filter	Local	Saj Engineering & Trading Company Address: House # 351 (5th floor, Road-05, Dhaka Phone: 01711-566532
4.	Coalescer filter, Hydraulic filter ,Lube oil filter, Air filter	Local	EnPower Bangladesh Address. EnPower Bangladesh Suite # 5, H # 3/3, Block – E, Lalmatia, Dhaka-1207. Phone. Phone:+880 1755 520 620.
5.	Air filter	Local	Safe Filtration Ltd. Head Office. 39, Malibagh Chowdhury Para, Dhaka-1219, Bangladesh; 02-58317773, 01312007142, 01312007143, 01312007145 Factory. 74, Boro Dewra, Vadam Road Tongi, Gazipur. 02-58317773. 01312007142, 01312007143, 01312007145.
6.	Air filter	Local	Smart Air Address: Gulshan Shopping Center, Unit B216-B219, 3rd floor, Dhaka 1212 Phone: 01309-094353
7.	Lube Oil	Local	City Lube Oil Industries Ltd. Address: 61, Red Crescent House, 9th Floor, Motijheel C/A, Dhaka 1000 Phone: 02-47118362
8.	Air Filter	Local	ENERGY POINT Address: 430, 2 Bir Uttam Mir Shawkat Sarak, Dhaka 1208 Phone: 09606-066688
9.	Air Filter. - Lube Oil Filter.	Local	Bogra Motors Pvt. Ltd. Address: 63/A, West, Panthapath, Dhaka Phone: 02-9145914

Table 25.2

10.	Pre Filter, Bag Filter/Pocket Filter, HVAC Air Filter, Panel Filter, Mini Pleat HEPA Filter	Local	Filtech filtration limited Address: Dhaka 1212 Phone: 01718-069869
11.	Air Filter	Local	Boss Filter Address, : NITOL NILOY TOWER, 69, Airport Road, Nikunjo-2, Khilkhet, Dhaka, Bangladesh ; Phone, : +8801956660000
12.	Brake pad, Air Filter, Oil Filter	Local	Ak Trade International Co. Address: House# 155, West Arjot Para, Tejgaon

Table 25.2 (Continued)

THE NAME OF FOREIGN FILTER MANUFACTURERS & SUPPLIER COMPANY

SL. No	Types of Filters	Country	Manufacturers & Supplier Company Address
1	Air Filter	USA	AAF Flanders 9920 Corporate Campus Drive, Suite 2200 Louisville, KY 40223-5000 USA **Tel:** +1 888 223 2003
2	Air Filter	Germany	EMW Werner-von-Siemens-Strasse 9 D-65582 Diez Tel.: +49-6432-91810 mail@emw.de
3	Air Filter	Sweden	Camfil Clean Air Solution 3505 South Airport Rd. Jonesboro, AR 72401 Phone- (800) 479-6801 (870) 933-8048, e-mail- filterman@camfil.com
4	Air Filter	China	Sanghai 1200, Cangyuan Road,Shanghai, China, Phone- 008613045620006
5	Air Filter	China	Sangai Zhisun 1199 Huan Cheng Bei Road 201 401 Shanghai , Fengxian District. Phone, +86 21 5136-5716
6	Air Filter	USA	Spectra Cell Call: (713) 621-3101 6030 North Course Drive Houston,
7	Air Filter	India	Spectrum Filteration Pvt. Ltd. 9F, Geetanjali Apartments, 8B Middleton Street, Kolkata 700071 Contact Person - Shantanu Rana Contact Number - +91 (33) 4042 6020 Contact Number - +91 98312 15231 Email: info@spectraco.in
8	Air Filter	Germany	Faist Niederraunau (Bavaria), Germany
9	Air Filter	India	SPX 415, 4th Flr, Ansal Chamber-2, Near Hyatt Hotel, Bhikaji Cama Place-110066.
10	Air Filter	Finland	Eagle Filter William Ruthin katu 1, 48600 Kotka, Finland

Table-26

SL. No	Types of Filters	Country	Manufacturers & Supplier Company Address
11	Air Filter	KSA	GAFCO Plant 7397, Street 141, 2nd Industrial City P.O.Box 355018 Riyadh 11383 Riyadh, Kingdom of Saudi Arabia
12	Air Filter	India	Clairon Plot. No.41, CSEZ Kakkanad, Kochi - 37 Kerala, India
13	Air Filter	Sweden	Vokes Air Svenljunga SE 51285. Sweden +46 325 661 600
14	Air Filter	Korea	Harlit, Handbit Gangnam Finance Center, 152, Teheran-ro, Gangnam-gu, Seoul, Rep. of Korea | 16Country Manager : Hang Il Chun | Business Registration No. : 220-81-83676 | E-commerce Registration: Gangnam No. 10630
15	Air Filter	China	Le Filter Parker No. 9 Hongli Road,Muye District,Xinxiang City,Henan Province,China.
16	Air Filter	USA	Celeros 14045 BALLANTYNE CORPORATE PLACE, SUITE 300, CHARLOTTE, NC 28277, USA
17	Air Filter	India	Freudenberg Filtration Technologies GmbH & Co. KG **+49 6201 7107 264**
18	Air Filter	USA	Clarcor Parker Hannifin Corporation Parker Hannifin Corporation HVAC Filtration Division 100 River Ridge Circle Jefferson, IN 47130 Phone: 1-866-247-4827 Fax: 1-866-601-1809
19	Air Filter	Slovakia	Filter Technik Slovakia s.r.o. Štrková 578/4, 010 09 Žilina, Slovensko
20	Reciprocating Engine (HSD/HFO/GAS)	China	Caterpillar Infocom Network Private Limited. Plot No. 93-94, Riana Tower, Noida Express Way, Sector -136, Noida - 201305 Landmark: Next to CBSE Regional Office, Noida. +919355300833

Table-26(Continued)

SL. No	Types of Filters	Country	Manufacturers & Supplier Company Address
21	Reciprocating Engine (HSD/HFO/GAS)	Austria	INNIO Jenbacher GmbH & Co. OG. Achenseestraße 1-3. 6200 Jenbach
22	Reciprocating Engine (HSD/HFO/GAS)	China	Guangzhou District: Yuexiu · Address: No.2 Qiyi Road, Yuexiu District, Guangzhou, China.
23	Reciprocating Engine (HSD/HFO/GAS)	Finland	Wärtsilä Corporation Hiililaiturinkuja 2 FI-00180 Helsinki Finland
24	Reciprocating Engine (HSD/HFO/GAS)	England	Rools Royce Kings Place,90 York Way, LONDON, N1 9FX
25	Reciprocating Engine (HSD/HFO/GAS)	Finland	Auramarine Address: No. 13, 1515 Yuandong Road, Fengxiang District,. Shanghai, PRC. Zip code: 201401.
26	Reciprocating Engine (HSD/HFO/GAS)	Germany	MWM Caterpillar Energy Solutions GmbH Carl-Benz-Strasse 1 68167 Mannheim Germany
27	Reciprocating Engine (HSD/HFO/GAS)	UAE	AAF East and West Africa. AAF International Air Filtration Systems LLC P.O. Box 28564. Dubai, UAE
28	Reciprocating Engine (HSD/HFO/GAS)	Koreya	Hyundai #50524 35 Yongdangsandan 4- gil, Yangsan-si, Gyeongsangnam-do
29	Reciprocating Engine (HSD/HFO/GAS)	U.S	Baldin 4400 East Highway 30 Kearney, NE 68847 United States ; PHONE. 1-800-822-5394
30	Reciprocating Engine (HSD/HFO/GAS)	Germany	EMW Werner-von-Siemens-Straße 9, 65582 Diez, Germany Phone: +49 6432 91810
31	Reciprocating Engine (HSD/HFO/GAS)	USA	Grensys North America · United States. California. Daly City. 2001 Junipero Serra Boulevard Daly City, California 94014, United States
32	Fuel /Lube Oil Filter	USA	Hillard Corporation 100 West Fourth Street Elmira, NY 14901 Phone- (607) 733-7121
33	Fuel /Lube Oil Filter	Japan	Misuzu Seiko Co. Ltd 3-6-29, Mitejima, Nishiyodogawa-ku Osaka, 555-0012 Japan Phone- 0081-664722841

Table-26(Continued)

SL. No	Types of Filters	Country	Manufacturers & Supplier Company Address
34	Fuel /Lube Oil Filter	Germany	Boll & Kirch Siemensstraße 10 – 14 50170 Kerpen Phone: +49 2273 562-0 info@bollfilter.com spareparts@bollfilter.com
35	Fuel /Lube Oil Filter	USA	Eaton Filtration, LLC 44 Apple Street Tinton Falls, NJ 07724 Voice: +1 732 212 4700 Toll free: +1 800 859 9212 Fax: +1 952 906 3706
36	Fuel /Lube Oil Filter	Switzerland	Kelag System AG Sennwald, Sankt Gallen, Switzerland Phone- +41 81 750 41 50
37	Fuel /Lube Oil Filter	Japan	Mitsubishi Heavy Industries, Ltd. Mitsubishijuko Osaka Bldg., 1-3-20, Tosabori, Nishi-ku, Osaka, 550-0001 Tel: +81-3-6891-4448
38	Fuel /Lube Oil Filter	USA	Fluitek Industrial Filter Company 1100 Chocolate Dr, Cookeville, TN 38501, United States Phone: +1 931-528-6518
39	Fuel /Lube Oil Filter	USA	HYDAC Technology Corporation 260 City Line Road Bethlehem, PA 18017, USA; Call Us Now: Phone Number. Tel: 610.266.0100 hydac@hydac-interlynx.com
40	Fuel /Lube Oil Filter	USA	Turbine Services, Ltd. Group41 Old Gick RoadSaratoga Springs, NY 12866 Phone: (+1) 518.583.6191 Email: sales@turbineservices.com
41	Fuel /Lube Oil Filter	USA	Mult-Tech PO BOX 602085 Cleveland, OH. 44102 Fax: 216-961-3476 Phone: 216-961-3452
42	Fuel /Lube Oil Filter	Netherlands	Ansaldo Thomasen Email Address- info@thomassen.energy Address: 6991 GS Rheden, PO Box 95, 6990 AB Rheden, Netherlands Phone: +31 26 497 5800 Fax Number +31 26 497 5857

Table-26(Continued)

SL. No	Types of Filters	Country	Manufacturers & Supplier Company Address
43	Fuel /Lube Oil Filter	China	Dongfang YOYIK No. 36, Tumenjing Road, Deyang, Sichuan P.R. China Tel: +86-838-2226655/2206509
44	Fuel /Lube Oil Filter	China	Guangdong Fresh Filter Co., Ltd. No. 48-3 Miaotou Road, Zhengguoyang Village, Zhengguo Town, Zengcheng District, Guangzhou, Guangdong Province, China
45	Control Oil/ Hydraulic Filter	Japan	Taisei Kogyo Co. ltd. 984-21, Minami-Owagu, Nasu-Karasuyama-shi, tochigi-ken ZIP-321-0533 Tel- 0287-88-7211 isales@taiseikogyo.co.jp
46	Control Oil/ Hydraulic Filter	USA	Donalson Corporation 1400 W 94th St, Minneapolis, MN 55431, Tel: 1-952-887-3131
47	Control Oil/ Hydraulic Filter	Germany	Mahle Pragstraße 26-46 D-70376 Stuttgart Phone: +49 711 501-0
48	Control Oil/ Hydraulic Filter	Germany	GMBH Pragstraße 26-46 D-70376 Stuttgart Phone: +49 711 501-0
49	Control Oil/ Hydraulic Filter	Germany	Rexorth, Bosch Zum Eisengießer 1. 97816 Lohr am Main, Germany. Telephone: +49 (0)9352-18 0. Fax: +49 (711) 811-5171000. eMail: imprint@boschrexroth.de.
50	Control Oil/ Hydraulic Filter	USA	Turbine Service Ltd. Turbine Services, Ltd. Group41 Old Gick RoadSaratoga Springs, NY 12866 Phone: (+1) 518.583.6191 Email: sales@turbineservices.com
51	Control Oil/ Hydraulic Filter	USA	Kleertech 2380 North Lark Drive Fenton, MO 63026 Local: 636.677.6610 Toll Free: 877.552.2343 FAX: 636.376.3808

Table-26(Continued)

SL. No	Types of Filters	Country	Manufacturers & Supplier Company Address
52	Hydraulic Filter Factory Air Filter Manufacture , Water Filtration Solution Air Compressor Filters Manufacture Coalescer Filter Cartridge	China	Xinxiang Lifeierte Filter Corp. Ltd. Address:Lefilter Mansion, No. 9 Hongli Road, Muye District, Xinxiang, Henan, China 453000.
53	Air Filter , Oil Filter , Truck Parts , Air Compressor Parts , Air Oil Separator	China	Jiangxi Sange Filter Manufacturing Co., Ltd. Address: 2 Lane Mei Shu Dun Road, Xianchong, Wanjiang District,Dongguan City,Guangdong Province, China.
54	Air Filters , Oil Filters , Fuel Filters , Cabin Filters , Oil Seals	China	XTSKY INDUSTRIAL GROUP LIMITED Address : Xingtai Industrial zone,Xingtai city ,Hebei province, China;
55	Air Filter , Oil Filter , Cabin Filter , Fuel Filter	China	XINGTAI FULANGMU FILTER MANUFACTURE CO., LTD.address: NO.9 Dongxin West Road , Daidong , Daishan , Zhoushan City , Zhejiang Province China
56	Air Filter , Vacuum Filter , Hepa Filter	China	Tongxiang Jieanju Environmental Technology Co., Ltd. Address: 329# Tongfu ROAD fengming Economic Development Zone, China
57	Air Filter , Oil Filter, Fuel Filter, Cabin Filter, Auto Oil Filter	China	Hangzhou Rainbow Auto Parts Co.,Ltd Address: China B116, No. 37, Jinyi Road, Economic Development Zone, Hangzhou, Zhejiang, China
58	HEPA Filter , Air Filter , FFU , ULPA Filter , Sub HEPA Filter	China	Snyli Environmental Technology (Shandong) Co., Ltd.China
59	Air Purifier Filter Element; Humidifier Filter Element	China	Nantong Deli Purification Equipment Factory Co. Ltd., China
60	Air Compressor Filter , Precision Inline Air Filter , EDM Wire Cut Filter , Hydraulic Filter, Construction Machinery Filter	China	Suzhou ZJY Trade Co., Ltd. Address icon. Room 901, Building 3, No.99, Yangchenghu Road, China
61	Air Filter, Oil Filter, Cabin Air Filter , Auto Parts Filter	China	Ningbo Hongzhuo Filter Co., Ltd. Address:: 325, Huiquan Road, Economic Development Zone, Fenghua, Ningbo, China
62	Air Filter	China	Foshan Nanhai Qixin Strainer Co. Ltd. Address, Foshan City Nanhai District, Lishui Town, Fenggang Village.
63	Filters , Lube Filters , Air Filters , Oil Filters	China	Shandong Tierun Electrical & Mechanical Equipment Co. Address: Haiyou Building, No. 9, Dongguan Street, Jinan, Shandong, China.

Table-26(Continued)

SL. No	Types of Filters	Country	Manufacturers & Supplier Company Address
64		Belgium	Atlas Copco Airpower N.V. Boomsesteenweg 957. Wilrijk , Antwerpen 2610 Belgium. +32 3 8702111 · +31 625539150
65	air filtration, air filters, HVAC	Australia	Advance Filtration 2/36 mickle st Dandenong south, Victoria
66	Hydraulic Oil Purification.	India	Trinity Filtration Technologies Pvt. Ltd. THANE, MAHARASHTRA, INDIA
67	hydraulic, lubricant	Brazil	TratLub Oil Filtration SAO PAULO, BRAZIL
68	electrostatic cleaning of hydraulic	India	Ferrocare Machines Private Limited. MAHARASHTRA, INDIA
69	Air Filter (23 Pallets) Oil Filter And Air Filter	Malaysia	Ada Cosmetics International Sdn Bhd Malaysia
70	Control oil filter	Hong Kong	Light Spirit Ltd. Hong Kong
71	Control oil filter, filter, bekomat, spare part, oil / water separator	Germany	BEKO Technologies GmbH, Germany
72	lube oil filter, fuel oil filter	India	Fleetguard Filters Pvt., Ltd. India
73	lube oil filter	USA	Valvoline International Inc. United States
74	Coalescer	China	LNS (China) Co., Ltd. China
75	Coalescer	UK	Altair Filter Technology, United Kingdom
76	Coalescer	Japan	Wako Filter Technology Co., Ltd. Japan
77	Hepa Filter, Panel Filter, Pocket Filter	Turkey	Mikropor Makina Ve San Tic As Turkey
78	POCKET AIR FILTER	Thailand	Thai Yang Kitpaisan Co., Ltd.Thailand
79	Fine- filter	Germany	Daimler Truck AGGermany
80	Fine- filter	Germany	Volz Luftfilter GmbH & Co KgGermany
81	Pre- filter	Morocco	Bag Filter Morocco
82	Pre- filter	China	Envitek (China) Ltd. China
83	Pre-Filter	Hong Kong	Raymond Industries Ltd.
84	Pre-Filter	Netherlands	Cf Groep Meerkerk, Netherlands
85	Air Filter & Oil Filter & O-Ring & Fuel Filter & Cabin Filter	China	Longkou Mann Hummel Filtration Yantai, Shandong, China

Table-26 (Continued)

4.4.0 Analysis of the market comparisons including cost & Quality of filters between filter imported & locally manufactured.

The listed local filter manufactures do not manufacture any filters for Power Plants. Therefore the question of the ratio of local manufactured filters to that of imported ones does not arise.

The Local filter manufactures manufacture filters for consumers other than power plants. The local filter manufacturers collect the raw material for filter like paper, cloth & fiber for making different types of filter from abroad. On the other hand the foreign filter manufactures also collect the raw material from their own country or abroad. The raw material for making filter both local and foreign countries are collected from identical sources of different countries. Therefore the quality of local and foreign filters more or less equivalent. In Bangladesh there have no testing & research facilities for improvement of filter quality but foreign filter manufacture mostly have testing & research facilities. So the foreign manufacture filter products may be of better quality & design. The production cost of filters in Bangladesh is less than that of foreign countries due to less labor cost in Bangladesh. As a result final production cost in Bangladesh is less than that of any foreign countries.

5.0 Discussion with Local Manufacturers

Subsequent to submission of Draft Final Report we telephonically contacted the representatives of different suppliers and manufacturers, detailed of them about the outcome of the market survey report. The person concerns contacted were given in the list.
Most of the responses are as follow:
A plant can be established if government provided following facilities:

1. Govt. may allot land at and around Dhaka.
2. Arrange duty free import of project equipment
3. Arrange Bank loan without bi bilateral security.
4. Bank loan with reduced rate of interest.
5. Tax free import of raw materials for 1st 10 years.
6. Govt. may subsidize exports of filters.
7. Govt. should ensure fuel supply, electric supply and other utilities.

List of Manufacturers & Suppliers:

Sl.No	Name	Designation	Manufacturer & Supplier
1	Mr.Jahangir Kabir	CEO	Saj Engineering & Trading Company **Address:** House # 351 (5th floor, Road-05, Dhaka **Phone:** 01711-566532
2	Mr.Mahbub Alam	CEO	Filtech filtration limited (Manufacturer) **Address:** Dhaka 1212 **Phone:** 01718-069869
3	Md.Humayun Rashid	Managing Director	ENERGY POINT (Manufacturer) **Address:** 430, 2 Bir Uttam Mir Shawkat Sarak, Dhaka 1208 **Phone:** 09606-066688
4	Mr.Tohid	Bussiness Manager	Atlas Copco Bangladesh Ltd **Address:** Impetus, Level # 6 Gulshan Link Road Tejgaon I/A Dhaka 1208, 242/B Bir Uttam Mir Shawkat Sarak, Dhaka 1208 **Phone:** 01755-666100
5	Md.Zillur rahman	Managing Director	Olila Glass Industries Limited **Address:** House: 127 (2nd/3rd Floor), Road: 10, Niketan Block #C, Dhaka 1212 **Phone:** 09614-500765
6	Mr.Shahneyaj Rahman	Managing Director	Innova and MEP Engineering Ltd Address: House # 358-360, Road # 05, Mirpur DOHS, Dhaka-1216. ; Phone: +8801819504816, +8801717758090
7	Md.Anowarul Kabir	CEO	EnPower Bangladesh Address. EnPower Bangladesh Suite # 5, H # 3/3, Block – E, Lalmatia, Dhaka-1207. Phone. Phone:+880 1755 520 620.
8	Mr.Arif	Manager	Smart Air **Address:** Gulshan Shopping Center, Unit B216-B219, 3rd floor, Dhaka 1212 **Phone:** 01309-094353
9	Mr.Mussabir Ahmed	Managing Director	**Boss Filter** **Address, :** NITOL NILOY TOWER, 69, Airport Road, Nikunjo-2, Khilkhet, Dhaka, Bangladesh ; Phone, : +8801956660000

6.0 Findings of Survey:

It is found that,

1. Most of the filters are imported from abroad but this are costlier than local manufacturing filter. The local labor cost is cheaper than abroad.

2. Foreign currency involve per year is about USD- 3,822,665.00 & Euro- 1,329,995.00 and BDT 210,380,845.00 total Equivalent BDT 664,149,565.00 over installed capacity 16,984.44 MW .

Total No of Plants	Total Capacity in MW	No of All Types Filter Used/Year	Price			Total Equivalent BDT	Remarks
			USD	EURO	BDT		
118	16984.44	1,63,228	3,822,665.00	1,329,995.00	210,380,845.00	664,149,565.00	

3. The values are further evaluated to USD 4,966,364.85 plus Euro 1,727,915.06 and BDT 273,324,509.1 to total equivalent BDT 862,855,902.3 over installed capacity 22,066 MW.

Total No of Plants	Total Capacity in MW	No of All Types Filter Used/Year	Price			Total Equivalent BDT	Remarks
			USD	EURO	BDT		
148	22066	2,04,727	4,966,364.85	1,727,915.06	273,324509.1	862,855,902.3	

Note: 1 USD ($) =86 BDT &
1 Euro (€) = 94 BDT

6.1 Other findings for Market survey of filters:

- Time allotted for conducting survey was reasonably short.
- Total no. of power plants in Bangladesh is 148.
- Data has been provided by/collected from 118 number of Power Plants.
- Out of 148 Power plants 7 no. of power plants have already been declared retirement.
- Most of the Power Plants provided requested information, regarding filters.
- Categories of filters used in Power Plants are:
- For CCPP/GT:
  a) Gas Turbine Compressors Air inlet system :1) Coalescer 2) Pre filter /Primary filter
  3) High efficiency filters/ Fine filters
  b) Others 1) Fuel Filter 2) Lube Oil Filter 3) Hydraulic Oil Filter 4) Control Oil Filter
- For Engine Based Power Plants-(1) HFO fuel filter (2) HSD Fuel filter (3) Gas fuel filter 3) lube oil filters.
- Most of the Filters are imported from abroad
- Quantity of locally manufactured Filters is negligible
- Total 118 no. Power Plants have provided information regarding filters
- Local filter Manufactures make filter other than power plant and the raw materials are collected from abroad.
- Local Filters Manufacturers also Capable of making Power Plant filter if design, drawing specification & the sample supplied to them.
- Those power plant located in densely air polluted area are contaminated in less time as recommended by the filter Manufacturer.

7.0 Observation

- All the Power Plants have not provided the cost of imported filters so the actual cost of filters imported from abroad will be higher than the collected amount.
- Locally manufactured quality filters must be an attractive source for the consumers (Owners of Power plants).
- Quality filter production in the Country will definitely save huge foreign Currency with easy availability for the Power Plants.
- The factory has to be established with diversity of capability to meet the requirement of different types of filters.
- To import consumables/spares from abroad is a time-consuming process and foreign currency dependent.
- Details specification of filters are attached in this Report as Annexure.
- Considering time limitations of the market survey, the report finalized based on information obtained from different Power Plants.

8.0 Advantage of Using Local made Filters

During our visits to different power Plants in most cases they were advocated about the use of locally manufactured filters of different types and import and encourage them about the benefit and advantages of using local manufacturer filters. The advantages are as follows:

1. The units may be cheaper due to cheap labor cost.
2. Ensured availability
3. Less procurement time.

9.0 Recommendation

- Turbine inlet air filters are essential consumables for operation of the plant & a costly item. Similarly, all other filters play vital role for a Power Plant. Uninterrupted supply of filters is essential to run a Power Plant.
- To import consumables/spares from abroad is a time-consuming process and foreign currency dependent.
- Locally manufactured quality filters must be an attractive source & cost effective for the consumers (Owners of Power plants).
- If an Industry can be established for production of different types of filters for power plants in Bangladesh it would be cost effective with creation of new job opportunity for the Bangladeshi citizens.
- Both output and outcome will have positive impact financially an economically by establishing the filters industry.
- Power Plant filter manufacturing plant may be established at well communicated location in the country from where all the power plant in Bangladesh can collect the filters easily.
- To improve the quality of filters for power plants research facility/research laboratory can be established including training facilities.
- The filter raw material not manufactured locally should maintain sufficient stock for i.e at least for 6 (Six) months and accordingly financial facilities should be made available.