

ANNEXURE - I

Project Name:- Health survey of the existing plant structures at IFFCO Paradeep Unit.

Project title:- Inspection report for Condition Assessment of the existing plant structures of FLARE STACK Structure at AMMONIA PLANT IN OFFSITES & UTILITY At Paradeep, Orissa.

Detail description of member to member observation of a FLARE STACK

Grid No.	Member	Section size	Length(m)	Distress observed	Observation
	FLARE STACK				
	ELEVATION OF C1 - C2 AND C3 - C4				
C1	Vertical member	2ISA 150X150X16		S,P	Corrosion, scaling, pitting and deflection noted on the member.
C2	Vertical member	2ISA 150X150X6		S,P	Corrosion, scaling, pitting and deflection noted on the member.
C1-6	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
C2-6	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
1-2	Cross bracing	ISA 90x90x8		S,P	Corrosion, scaling and pitting noted on the member.
5-2	Cross bracing	ISA 90x90x8		S,P	Corrosion, scaling and pitting noted on the member.
3-4	Cross bracing	ISA 90x90x8		S,P	Corrosion, scaling and pitting noted on the member.
3-7	Cross bracing	ISA 90x90x8		S,P	Corrosion, scaling and pitting noted on the member.
5-7	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
1	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
2	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
3	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
4	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
5	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
7	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
6	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
5-13	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
7-13	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
8-9	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
12-9	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
10-11	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
10-14	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
12-14	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
8	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
9	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
10	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
11	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
12	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
14	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
13	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
12-20	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
14-20	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
15-16	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
19-16	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
17-18	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
17-21	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
19-21	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
15	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
16	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
17	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
18	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting

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Detail description of member to member observation of a FLARE STACK

Grid No.	Member	Section size	Length(m)	Distress observed	Observation
19	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
21	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
20	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
19-27	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
21-27	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
22-23	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
23-26	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
24-25	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
24-28	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
26-28	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
22	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
23	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
24	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
25	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
26	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
28	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
27	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
26-34	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
28-34	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
29-30	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
30-33	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
31-32	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
31-35	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
33-35	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
29	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
30	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
31	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
32	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
33	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
35	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
34	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
33-41	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
35-41	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
36-37	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
37-40	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
38-39	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
38-42	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
40-42	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
36	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
37	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
38	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
39	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
40	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
42	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
41	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
40-48	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
42-48	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.

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Detail description of member to member observation of a FLARE STACK

Grid No.	Member	Section size	Length(m)	Distress observed	Observation
43-44	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
44-47	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
45-46	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
45-49	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
47-49	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
43	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
44	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
45	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
46	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
47	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
49	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
48	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
47-55	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
49-55	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
50-51	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
51-54	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
52-53	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
52-56	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
54-56	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
50	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
51	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
52	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
53	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
54	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
56	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
55	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
54-62	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
56-62	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
57-58	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
58-61	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
59-60	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
59-63	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
61-63	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
57	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
58	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
59	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
60	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
61	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
63	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
62	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
61-69	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
63-69	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
64-65	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
65-68	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
66-67	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
66-70	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
68-70	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.

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Detail description of member to member observation of a FLARE STACK

Grid No.	Member	Section size	Length(m)	Distress observed	Observation
64	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
65	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
66	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
67	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
68	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
70	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
69	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
68-76	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
70-76	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
71-72	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
75-72	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
73-74	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
73-77	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
75-77	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
71	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
72	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
73	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
74	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
75	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
77	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
76	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
75-83	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
77-83	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
78-79	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
82-79	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
80-81	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
80-84	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
82-84	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
78	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
79	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
80	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
81	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
82	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
84	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
83	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
82-90	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
84-90	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
85-86	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
86-89	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
87-88	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
87-91	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
89-91	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
85	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
86	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
87	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
88	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
89	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting

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Detail description of member to member observation of a FLARE STACK

Grid No.	Member	Section size	Length(m)	Distress observed	Observation
91	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
90	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
89-97	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
91-97	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
92-93	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
93-96	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
94-95	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
94-98	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
96-98	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
92	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
93	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
94	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
95	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
96	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
98	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
97	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
96-114	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
98-114	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
99-100	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
100-103	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
101-102	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
101-105	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
103-105	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
99	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
100	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
101	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
102	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
103	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
105	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
104	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
103-111	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
105-111	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
106-107	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
107-110	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
108-109	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
108-112	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
110-112	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
106	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
107	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
108	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
109	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
110	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
112	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
111	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting

Legends:-

SC :- Severe Corrosion

MC :- Medium Corrosion

LC :- Light Corrosion

MM:- Member missing NBM:- Nut bolt missing

S:- Scaling P:- Pitting WJO:- Weld joint open out

NBS:- Nut bolt scaling

DPM:- Dust deposition on member

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Detail description of member to member observation of a FLARE STACK

Grid No.	Member	Section size	Length(m)	Distress observed	Observation
ELEVATION OF C1 - C3 AND C2 - C4					
C1	Vertical member	2ISA 150X150X16		S,P	Corrosion, scaling, pitting and deflection noted on the member.
C2	Vertical member	2ISA 150X150X6		S,P	Corrosion, scaling, pitting and deflection noted on the member.
C1-6	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
C2-6	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
1-2	Cross bracing	ISA 90x90x8		S,P	Corrosion, scaling and pitting noted on the member.
5-2	Cross bracing	ISA 90x90x8		S,P	Corrosion, scaling and pitting noted on the member.
3-4	Cross bracing	ISA 90x90x8		S,P	Corrosion, scaling and pitting noted on the member.
3-7	Cross bracing	ISA 90x90x8		S,P	Corrosion, scaling and pitting noted on the member.
5-7	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
1	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
2	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
3	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
4	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
5	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
7	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
6	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
5-13	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
7-13	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
8-9	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
12-9	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
10-11	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
10-14	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
12-14	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
8	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
9	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
10	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
11	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
12	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
14	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
13	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
12-20	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
14-20	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
15-16	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
19-16	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
17-18	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
17-21	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
19-21	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
15	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
16	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
17	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
18	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
19	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
21	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
20	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
19-27	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.

Project Name:- Health survey of the existing plant structures at IFFCO Paradeep Unit.

Project title:- Inspection report for Condition Assessment of the existing plant structures of FLARE STACK Structure at AMMONIA PLANT IN OFFSITES & UTILITY At Paradeep, Orissa.

Detail description of member to member observation of a FLARE STACK

Grid No.	Member	Section size	Length(m)	Distress observed	Observation
21-27	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
22-23	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
23-26	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
24-25	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
24-28	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
26-28	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
22	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
23	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
24	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
25	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
26	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
28	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
27	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
26-34	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
28-34	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
29-30	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
30-33	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
31-32	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
31-35	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
33-35	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
29	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
30	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
31	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
32	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
33	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
35	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
34	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
33-41	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
35-41	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
36-37	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
37-40	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
38-39	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
38-42	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
40-42	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
36	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
37	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
38	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
39	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
40	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
42	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
41	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
40-48	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
42-48	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
43-44	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
44-47	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
45-46	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
45-49	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.

Project Name:- Health survey of the existing plant structures at IFFCO Paradeep Unit.

Project title:- Inspection report for Condition Assessment of the existing plant structures of FLARE STACK Structure at AMMONIA PLANT IN OFFSITES & UTILITY At Paradeep, Orissa.

Detail description of member to member observation of a FLARE STACK

Grid No.	Member	Section size	Length(m)	Distress observed	Observation
47-49	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
43	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
44	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
45	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
46	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
47	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
49	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
48	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
47-55	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
49-55	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
50-51	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
51-54	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
52-53	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
52-56	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
54-56	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
50	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
51	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
52	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
53	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
54	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
56	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
55	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
54-62	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
56-62	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
57-58	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
58-61	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
59-60	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
59-63	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
61-63	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
57	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
58	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
59	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
60	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
61	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
63	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
62	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
61-69	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
63-69	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
64-65	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
65-68	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
66-67	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
66-70	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
68-70	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
64	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
65	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
66	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
67	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting

Project Name:- Health survey of the existing plant structures at IFFCO Paradeep Unit.

Project title:- Inspection report for Condition Assessment of the existing plant structures of FLARE STACK Structure at AMMONIA PLANT IN OFFSITES & UTILITY At Paradeep, Orissa.

Detail description of member to member observation of a FLARE STACK

Grid No.	Member	Section size	Length(m)	Distress observed	Observation
68	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
70	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
69	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
68-76	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
70-76	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
71-72	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
75-72	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
73-74	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
73-77	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
75-77	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
71	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
72	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
73	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
74	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
75	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
77	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
76	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
75-83	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
77-83	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
78-79	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
82-79	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
80-81	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
80-84	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
82-84	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
78	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
79	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
80	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
81	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
82	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
84	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
83	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
82-90	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
84-90	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
85-86	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
86-89	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
87-88	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
87-91	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
89-91	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
85	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
86	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
87	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
88	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
89	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
91	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
90	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
89-97	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
91-97	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.

Project Name:- Health survey of the existing plant structures at IFFCO Paradeep Unit.

Project title:- Inspection report for Condition Assessment of the existing plant structures of FLARE STACK Structure at AMMONIA PLANT IN OFFSITES & UTILITY At Paradeep, Orissa.

Detail description of member to member observation of a FLARE STACK

Grid No.	Member	Section size	Length(m)	Distress observed	Observation
92-93	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
93-96	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
94-95	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
94-98	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
96-98	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
92	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
93	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
94	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
95	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
96	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
98	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
97	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
96-114	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
98-114	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
99-100	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
100-103	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
101-102	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
101-105	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
103-105	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
99	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
100	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
101	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
102	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
103	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
105	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
104	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
103-111	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
105-111	Cross bracing	2ISA 130X130X12		S,P	Corrosion, scaling and pitting noted on the member.
106-107	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
107-110	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
108-109	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
108-112	Cross bracing	ISA 75x75x6		S,P	Corrosion, scaling and pitting noted on the member.
110-112	Horizontal member	2ISMC 200 box		S,P	Corrosion, scaling and pitting noted on the member.
106	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
107	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
108	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
109	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
110	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
112	Side gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting
111	Central gusset plate			S,P	Weld connections and plate noted corrosion, scaling and pitting

Legends:-

SC :- Severe Corrosion

MC :- Medium Corrosion

LC :- Light Corrosion

MM:- Member missing NBM:- Nut bolt missing

S:- Scaling P:- Pitting WJO:- Weld joint open out

NBS:- Nut bolt scaling

DPM:- Dust deposition on member