Form Number LLCF-015	Issue Date 11/27/95	Revision Date 01/15/25	Form Number LLCF-015

Crane Lift Plan

A *Crane Lift Plan* must be used with any lift by or involving GIS personnel. Fill out only Section 1 for lifts that are less than 50% of the cranes rated capacity. Section 1 & Section 2 must be filled out when a lift is 50% or greater of the crane's rated capacity, lifting over or within 6 feet of process piping or equipment or involves the lifting of personnel.

SECTION: 1

Location:_____ Date of Lift:_____

Crane Operator's Name:_____ Certified Operator? Yes____No_____

Lift/Load Description:_____ Method of Communication with Rigger: _____

Supervisor Signature: _____

Weight of load: _____

Weight of lifting tackle: _____

Boom Angle: _____

LIFT IS _____% OF THE CRANE'S RATED CAPACITY

Sea & Wave Conditions: _____ Latest Crane Certification Date: _____

Enviromental Conditions: _____ **(Must be within the past 1 years)**

This lift plan shall be utilized for lifts greater than 50% of the crane's rated capacity or if other conditions warrant a critical lift like lifting of employees in a Personnel Basket.

Verified by: **Operator Name:**

SECTION: 2 Process Piping/Equipment Yes ( ) No ( ) Personnel Lift Yes ( ) No ( )

A. WEIGHT

1. Weight of Headache Ball	_____	lbs.
2. Weight of Block	_____	lbs.
3. Weight of Lifting Bar	_____	lbs.
4. Weight of Slings & Shackles	_____	lbs.
Total Weight of Lifting Assembly	_____	lbs.
Net Weight of Load:	_____	lbs.
Total Weight of Load:		**lbs.**

(Name Plate, Drawings Calculated, Etc.)

B. CRANE PLACEMENT

1. Obstacles or Obstructions to lift or swing?

2. Swing Direction and Degree (Boom Swing)

C. SIZING of SLINGS

1. Number of Slings	
2. Type of Configuration (hitch)	
3. Size of Slings	
4. Sling Length	
5. Rated Capacity of Slings	
6. Number of Shackles	
7. Rated Capacity of Shackles	

Special Instructions / Restrictions for Crane, Rigging, Lift, etc.

D. CRANE

1. Type of Crane		
2. Crane Maximum Rated Capacity	_____	Tons
3. Lifting Arrangement		
a. Max. Distance--Center of Load to Center pin of crane	_____	Ft.
b. Length of Boom	_____	Ft.
c. Angle of Boom at pick-up	_____	degrees
d. Angle of Boom at set	_____	degrees
e. Rated capacity of crane under severest lifting conditions (from chart)		Tons
4. From Chart---Rated Capacity of Crane for this lift	_____	Tons
5. Maximum Load on Crane	_____	Tons

F. PRE-LIFT CHECK LIST

	Yes	No
1. Swing Room	[ ]	[ ]
2. Head Room Checked	[ ]	[ ]
3. Max. Counterweights used	[ ]	[ ]
4. Tag line used	[ ]	[ ]
5. Exp/designated Flagman	[ ]	[ ]
6. Experienced Rigger	[ ]	[ ]
7. Load chart in crane	[ ]	[ ]
8. Wind Conditions	[ ]	[ ]
9. Helicopter Concerns	[ ]	[ ]
10. Inspection of personnel basket	[ ]	[ ]

No Employee will operate a crane without having a current crane certification.

*** When lifting from a vessel, the dynamic load chart should always be used.**

WEIGHT IN POUNDS OF STD. WT. WELD FITTING

NOM. PIPE SIZE	90º LT WELD E11	45 º LT WELD E11	STRAIGHT TEES	REDUCERS	STUB ENDS	CAPS
1	.34	.17	.63	.28	.66	.22
1 ½	.84	.42	1.7	.57	1.2	.37
2	1.5	.75	4.2	.90	2.2	.51
2 ½	3.0	1.5	5.9	1.7	3.5	.81
3	4.7	2.3	8.4	2.2	4.7	1.4
4	8.9	4.4	13	3.6	7.0	2.5
6	24	12	36	8.7	15	6.4
8	47	23	61	14	23	11
10	83	42	91	24	40	20
12	123	61	147	33	49	29
14	158	79	226	59	64	35
16	207	104	242	73	72	45
18	263	132	333	88	85	57
20	323	162	504	131	94	71
24	468	234	765	158	113	102

WEIGHT OF STEEL PLATE

THICKNESS IN INCHES	LBS PER SQ. FT.	SQ. FT. PER TON	THICKNESS IN INCHES	LBS PER SQ. FT	SQ. FT PER TON
3/8	15.3	1.31	1 1/8	45.9	44
1/2	20.4	98	1 ¼	51.0	39
5/8	25.5	79	1 3/8	56.1	35.7
3/4	30.6	65	1 ½	61.2	32
7/8	35.7	56	1 ¾	71.4	28
1	40.8	49	2	81.6	24

WEIGHT IN POUNDS OF WELD NECK FLANGES

NOM. PIPE SIZE	150 LB	300 LB	600 LB	900 LB	1500 LB	2500 LB
1	3	4	4		9	12
1 ½	4	7	8		13	25
2	6	9	12		25	42
2 ½	8	12	18		36	52
3	10	15	23	31	48	94
4	15	25	42	53	73	145
6	24	42	81	110	165	380
8	39	67	120	175	275	580
10	52	91	190	260	455	1,075
12	80	140	225	325	690	1,152
14	110	180	280	400	940	
16	140	250	390	495	1,250	
18	150	320	475	680	1,625	
20	180	400	590	830	2,050	
24	260	580	830	1,500	3,325	

WEIGHT IN POUNDS OF CAST STEEL, FLANGED GATE VALVES

SIZE INCHES	150 LBS.	300 LBS.	600 LBS.	900 LBS.	1,500 LBS.
	55	75	95		180
2 ½	70	100	140		280
3	95	145	170	260	370
4	140	215	330	430	6,101
6	240	420	720	900	1,410
8	400	700	1,220	1,560	2,600
10	630	1,050	1,880	2,350	
12	830	1,490	2,630	3,500	
14	1,150	2,170	3,200	4,680	
16	1,580	2,800	4,230	62500	

WEIGHTS OF SEAMLESS AND WELDED STEEL PIPE

NORMAL PIPE SIZE	OUTSIDE DIAMETER	IRON PIPE SIZE			SCHEDULE NUMBER		
		STD. WT.	X.S. WT.	X.X.S. WT.	40 WT.	80 WT.	160 WT.
1/2	0.840	0.85	1.09	1.71	0.85	1.09	1.3
3/4	1.050	1.13	1.47	2.44	1.13	1.47	1
1	1.315	1.68	2.17	3.66	1.68	2.17	1.9
1 ½	1.900	2.72	3.63	6.41	2.72	3.63	4
2	2.375	3.65	5.02	9.03	3.65	5.02	2.8
2½	2.875	5.79	7.66	13.70	5.79	7.66	10.
3	3.500	7.58	10.25	18.58	7.58	10.25	01
4	4.500	10.79	14.98	27.54	10.79	14.98	14.
6	6.625	18.97	28.57	53.16	18.97	28.57	31
8	8.625	28.55	43.39	72.42	28.55	43.39	22.

SCREW PIN ANCHOR SHACKLES		19 X 7 ROTATION RESISTANT WIRE ROPE WIRE ROPE SLING WEIGHT (APPROX.)		MATERIAL	APPROXIMATE WEIGHT PER CUBIC FOOT	
SIZE (A)	WEIGHT EA.	ROPE DIAM. IN.	LB. PER FT.			
3/16”	.05			ALUMINUM	166 LBS.	
3/4”	0.13	3/16	0.64	ASPHALT	81 LBS.	
5/16”	0.21	1/4	0.133	BRASS	524 LBS.	
3/8”	0.33	5/16	0.177	BRICK (COMMON)	125 LBS.	
7/16”	0.47	3/8	0.25	BRONZE	534 LBS.	
1/2”	0.76	7/16	0.35	CONCRETE	150 LBS.	- 4050 lbs. Per cu. Yd.
5/8”	1.44	1/2	0.45	COPPER	537 LBS.	
3/4”	2.3	9/16	0.58	CRUSHED ROCK	95 LBS.	- 2565 lbs. Per cu. Yd.
7/8”	3.5	5/8	0.71	DRY EARTH LOOSE	76 LBS.	- 2052 lbs. Per cu. Yd.
1”	5	3/4	1.02	IRON CASTING	450 LBS.	
1.1/8”	7	7/8	1.39	LEAD	708 LBS.	
1.1/4”	9.5	1	1.82	LUMBER – FUR – SPRUCE	32 LBS.	- 2666 lbs. Per thousand ft.
1 3/8”	13	1 1/8	2.3	LUMBER – OAK	62 LBS.	- 5166 lbs. Per thousand ft.
1.1/2”	16.5	1 ¼	2.84	MAGNESIUM	109 LBS.	
1 3/4”	29	1 3/8	3.43	MERCURY	848 LBS.	- per flask 76 lbs.
2”	43	1 ½	4.08	PORTLAND CEMENT	94 LBS.	- 3240 lbs. Per cu. Yd.
				RIVER SAND	120 LBS.	- 3240 lbs. Per cu. Yd.
				STEEL	490 LBS.	
				WATER	625 LBS.	
				ZINC		