ROW	BLOWDOWN FACILITIES (DRUMS, PUMPS, STACKS)	FIRED BOILERS	BLDG. HIGH OCCUPANCE (>15 PERSONS)	BLDG. LOW OCCUPANCY (15 PERSONS OR LESS)	BUILDINGS UTILITY	COOLING TOWER	ELECTRICAL OVERHEAD POLE LINES	ELECTRICAL MAIN SUBSTATIONS	ELECTRICAL CONTROL AND DISTRIBUTION CENTERS (SEE NOTE 7)	FIRE STATIONS, FIRE PUMPS	FLARE STACKS	HIGHWAYS, ROADS & PUBLIC AREAS	LOADING AND/OR UNLOADING RACKS	NATURAL GAS METERING STATIONS (MAIN PLT)	PIPEWAYS (MAJOR)	PUMPS (FLAMMABLE)	PUMPS (NONFLAMMABLE)	RAILROADS (MAIN LINES-RAN)	RAILROADS (SPURS-CENTER LINE)	OIL-WATER SEPARATORS (API-CPI)	SEWER MAINS (FLAMMABLE)	PLANT ROADS (EDGE)	PROPERTY LINES (OTHER THAN ROADS & RAILROADS)	PRESSURE STORAGE VESSELS (500,000 GAL OR LESS)	SPHERES & SPHEROIDS (OVER 500,000 GAL)	NFPA CLASS III LIQUID STORAGE	ATMOSPHERIC, LOW & INTER VAPOR PRESS. STORAGE	PROCESS UNITS MODERATE HAZARD	PROCESS UNITS INTERMEDIATE HAZARD	PROCESS UNITS HIGH HAZARD
A	A																													
B	100(30)	A																												
C	200(61)	200(61)	A																											
D	100(30)	100(30)	A	A																										
E	100(30)	A	A	A	A																									
F	50(15)	100(30)	A	A	100(30)	A																								
G	50(15)	50(15)	A	A	20(6)	100(30)	A																							
H	100(30)	100(30)	A	A	0	100(30)	A	A																						
I	50(15)	25(8)	A	A	0	20(6)	A	A	A																					
J	200(61)	100(30)	A	A	50(15)	100(30)	25(8)	50(15)	A	A																				
K	A	A	A	A	A	A	A	A	A	A	A																			
L	200(61)	100(30)	A	A	50(15)	100(30)	20(6)	0	0	50(15)	A	A																		
M	100(30)	200(61)	A	A	150(46)	100(30)	200(61)	100(30)	50(15)	200(61)	A	100(30)	A																	
N	50(15)	100(30)	A	A	100(30)	100(30)	200(61)	100(30)	100(30)	100(30)	A	100(30)	100(30)	10(3)																
O	20(6)	20(6)	A	A	20(6)	25(8)	200(61)	20(6)	0	20(6)	A	0	20(6)	10(3)	A															
P	50(15)	50(15)	A	A	50(15)	50(15)	200(61)	100(30)	50(15)	100(30)	A	100(30)	100(30)	50(15)	15(5)	3(1)														
Q	25(8)	5(2)	A	A	0	A	200(61)	15(5)	15(5)	0	A	15(5)	15(5)	10(3)	0	3(1)	3(1)													
R	200(61)	100(30)	A	A	0	100(30)	200(61)	25(8)	0	50(15)	A	A	200(61)	25(8)	0	100(30)	50(15)	N/A												
S	50(15)	25(8)	A	A	A	35(11)	A	A	A	50(15)	A	A	A	25(8)	A	15(5)	A	A	A											
T	100(30)	200(61)	A	A	150(46)	100(30)	200(61)	100(30)	50(15)	200(61)	A	100(30)	100(30)	100(30)	20(6)	10(3)	15(5)	100(30)	100(30)	25(8)										
U	25(8)	50(15)	A	A	20(6)	20(6)	20(6)	20(6)	20(6)	20(6)	A	10(3)	10(3)	10(3)	A	10(3)	10(3)	10(3)	10(3)	10(3)	A									
V	15(5)	15(5)	A	A	15(5)	25(8)	200(61)	15(5)	15(5)	12(40)	A	A	20(6)	15(5)	3(1)	10(3)	10(3)	10(3)	A	50(15)	A	A								
W	200(61)	100(30)	A	A	25(8)	25(8)	25(8)	0	A	25(8)	A	A	100(30)	25(8)	25(8)	100(30)	50(15)	N/A	A	100(30)	10(3)	A	N/A							
X	200(61)	200(61)	A	A	150(46)	50(15)	200(61)	100(30)	50(15)	200(61)	A	200(61)	100(30)	100(30)	25(8)	C,D	25(8)	200(61)	100(30)	200(61)	25(8)	A	B,C,D	B,C,D						
Y	200(61)	300(91)	A	A	250(76)	100(30)	200(61)	200(61)	100(30)	300(91)	A	300(91)	100(30)	100(30)	50(15)	C,D	25(8)	200(61)	100(30)	200(61)	50(15)	A	B,C,D	B,C,D	B,C,D					
Z	B	B	A	A	B	B	200(61)	B	B	200(61)	A	B	B	B	B	B	B	B	A	B	A	A	B,C,D	B,C,D	B,C,D	B,C,D				
AA	200(61)	200(61)	A	A	200(61)	200(61)	200(61)	200(61)	A	250(76)	A	200(61)	150(46)	A	10(3)	A	A	200(61)	A	200(61)	A	A	B,C,D	B,C,D	B,C,D	B,C,D	B,C,D			
BB	100(30)	100(30)	A	A	50(15)	50(15)	200(61)	100(30)	50(15)	200(61)	A	100(30)	200(61)	100(30)	15(5)	A	A	100(30)	A	200(61)	20(6)	15(5)	100(30)	200(61)	200(61)	A	150(46)	50(15)			
CC	150(46)	150(46)	A	A	100(30)	100(30)	200(61)	100(30)	100(30)	300(91)	A	100(30)	200(61)	100(30)	25(8)	A	A	200(61)	A	200(61)	20(6)	20(6)	200(61)	250(75)	250(75)	A	200(61)	100(30)			
DD	200(61)	200(61)	A	A	200(61)	200(61)	200(61)	200(61)	200(61)	300(91)	A	150(46)	300(91)	150(46)	35(11)	A	A	300(91)	A	250(75)	30(9)	30(9)	300(91)	300(91)	300(91)	A	250(75)	200(61)	200(61)		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

COLUMN

TABLE BASED ON PIP PNE00003 WITH ADDITIONS
PROCESS UNIT AND OFFSITES LAYOUT GUIDE

NOTES:

1. THIS TABLE DOES NOT ACCOUNT FOR VAPOR CLOUD EXPLOSIONS, CUSTOMER SAFETY AND PROPERTY PROTECTION, ENVIRONMENTAL OR FLARE VENT/STACK DISPERSAL REQUIREMENTS.
2. DISTANCES ARE IN FEET (METERS).
3. "A" INDICATES THAT AN ENGINEERING SAFETY DECISION IS REQUIRED.
   * REFER TO GAP GUIDELINES 2.5.2
4. "B" INDICATES THAT AN ENGINEERING SAFETY DECISION IS REQUIRED.
   * REFER TO NFPA 30 FOR TANKS LESS THAN 90 FEET (27.5 M) IN DIAMETER
   * REFER TO GAP GUIDELINES 2.5.2
5. "C" INDICATES THAT AN ENGINEERING SAFETY DECISION IS REQUIRED.
   * REFER TO NFPA 58
   * REFER TO NFPA 30 FOR TANKS LESS THAN 90 FEET (27.5 M) IN DIAMETER
   * REFER TO GAP GUIDELINES 2.5.2
6. "D" INDICATES THAT AN ENGINEERING SAFETY DECISION IS REQUIRED.
   * REFER TO API 2510.
   * REFER TO NFPA 58
   * REFER TO NFPA 30 FOR TANKS LESS THAN 90 FEET (27.5 M) IN DIAMETER
   * REFER TO GAP GUIDELINES 2.5.2
7. GREATER SPACING MAY BE REQUIRED IF CONTROL OR DISTRIBUTION CENTER SERVES MORE THAN ONE PROCESS UNIT.
8. "M" INDICATES MINIMUM DISTANCE REQUIRED FOR MAINTENANCE AND/OR OPERATIONS ACCESS.

DRAWING NO.	REFERENCE DRAWINGS	REV.	DESCRIPTION	BY	DATE	CHK	APP.	PE

DRAWN:	DATE
DESIGNED:	DATE
CHECKED:	DATE
APPROVED:	DATE
PE:	DATE

TITLE
MINIMUM SPACING REQUIREMENTS
FOR OFFSITES EQUIPMENT
IN REFINERIES AND PETROCHEMICAL PLANTS
SAG10

SCALE	JOB NO.	DRAWING NO.	REV.
N.T.S			

SCALE APPLIES IF PLOTTED ON SIZE "D" (22"X34")