Cross | TANK OPTIMIZATION PROGRAM

What is a Tank Optimization Program?

The Cross Company Tank Optimization Program (TOP) is an in-depth review of all tank accessories on your site by a highly qualified Cross technical expert. We look at all aspects of your tank assembly, providing a comprehensive deep dive into the safety, maintenance, and operation of all your tank accessories.



Why participate in the program?

Reduce your risk by keeping your plant and people safe

- On site visual examination of tank(s) and individual tank record keeping to identify hazards or potential hazards with ancillary tank equipment
- Address tank risks before issues become critical or worse dangerous
 Turn data into tangible value
- Reduce maintenance investment with equipment standardization
- Identify obsolescence before it causes downtime by creating a timeline and budget for systematic part replacement
- Make sure you're ready for the next safety audit by ensuring your records match the equipment actually operating on your site
- · Develop preventative maintenance (PM) program for planning & scheduling
- · Improve or showcase your batching capability by improving quality, reducing raw material usage and waste
- Comply with environmental regulations

What is involved in the program?

Our expert will spend multiple days on your site while staying out of the way of day-to-day operations. All of our experts have been through health and safety training for industrial manufacturing sites and will have the correct PPE, as well as an awareness of the hazards that exist. Expect them to get dirty, however, crawling under tanks or climbing to the top of assemblies in order to gather the data they need. An escort by one of your employees will be helpful to guide them around the facility and speed your review.

When the review is complete, you'll get a consolidated, hard copy report with a summary, recommendations and your tank data. All of the information about your facility's tank accessories will be at your fingertips.

CLIENT:			DATE	
UNIT:			REVISION NO.	
LOCATION:			BY	
	EQUIPMENT TYPE		MAWP/MAWT /	
	EQUIPMENT NO.		TAG NO.	
	CERTIFICATIONS	UD STAMPED [] CE MARKED [] CHINA QUALITY [] NACE [] OTHER [
GENERAL	RELIEF FUNCTION	SINGLE(PRIMARY) [] ADDITIONAL(DUAL) []		
DATA	RELIEF VALVE ISOLATION	INLET [] OUTLET []	MFR/MODEL	
	EXIT TYPE	ATMOSPHERE [] HEADER [] FIXED PIPING []		
	MEDIA			
	FLUID STATE	GAS/VAPOR [] LIQUID [] STE	AM []	
SERVICE	OPERATING: PRESSURE		TEMPERATURE	
CONDITIONS	OPERATING: VACUUM		BACKPRESSURE	
	PRESSURE CONDITIONS	STATIC [] PULSATING [] CYCLING []		
	MANUFACTURER		MODEL	
	SIZE:		MFG. NUMBER	
RUPTURE	MATERIALS: DISC		VACUUM SUPPORT:	
	MATERIALS: RINGS	INLETOUTLET	GASKET: INLET OUTLET	
	BURST PRESS/TEMP			
	MANUFACTURING RANGE	ZERO [] -5% [] -10% [] OTH	ER []	
	NON-FRAGMENTING	YES [] NO []	Krg [] Krl [] Krgl []	
	BURST DISC INDICATOR	YES [] NO []	MNFA	
	MANUFACTURER		MODEL	
	TYPE	INSERT [] PRE-TORQUED [] FULL BOLTED [] UNION [] OTHER []		
HOLDER	FLANGE RATING/FACINGS		HEIGHT	
	MATERIALS:	INLET	OUTLET	
	OPTIONS:	J-HOOK [] COATING		
	OUTLET GAUGE TAP	1/4" FPT [] 3/8" FPT [] 1/2" FP	T [] OTHER []	
	STUDS & NUTS	ALLOY STEEL [] 316SS [] OTHER [1	
	NIPPLE/TEE/EFV SET	CS [] SS []	150#[] 3000#[]	
	PRESSURE GAUGE	BRZ/CS [] SS/SS []	SIZE: RANGE:	
	JACKSCREWS	ALLOY STEEL [] 316SS [] OTHER [1	



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Cross Tank Optimization Program Examples



> Safety and Plant Improvements

Our customer is an international chemical manufacturer with 950 staff, on-site engineering and multiple manufacturing locations. Cross Company spent two days

reviewing theaccessories on their 71 tanks to begin the program. We found only 13.5% of their tanks were physically in compliance with current safety standards and none of them met current EPA standards for pressure and vacuum protection data.

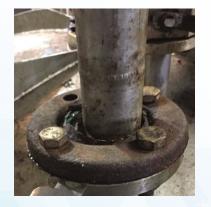
The customer initiated a plant safety program to address overpressurization or potentially damaging vacuum conditions for tank equipment systems. They also purchased correctly specified protection devices to:

- Increase safety
- Decrease plant operations costs
- Improve production
- Decrease batch rate
- Increase plant readiness for EPA inspections
- · Secure reduced risk position for employees liability insurance

• Collapsed tank • Incorrect rupture disc or no disc installed at all

TOP Observations:

- Corrosion and leaking
 equipment
- Improper wiring in Class I Div 1 hazardous area
- Misaligned flanges



> Safety and Production Improvements

Another customer is a small batch chemical production facility with limited engineering and a staff of 42. After a four day review of the equipment on their 59 tanks we found that only 10% of their tanks were physically

in compliance with current safety standards.

The customer purchased new protections for prioritized or dangerous tanks. Their safety manager required staff to review all of the T.O.P data and to bring their tank equipment into compliance. This site has increased critical safety aspects of the tank farm, and

are now ready for EPA inspection audits. In addition, production up-time has significantly improved based on decreased lost batches.

TOP Observations:

- Implosion of two tanks
- No PM site plan
- No safety stock for PRV's or SRV's or rupture discs
- Improper installation of rupture discs and holders
- Open outlet gauge taps

These examples clearly demonstrate customer benefits when the Cross Company Tank Optimization Program is in place. An independent third party tank inspection provides a thorough, unbiased look into the safety aspects of plant applications and process tank performance. Contact Cross Company to apply.