

TracerLynx Project Case Study

Petro Chemical Facility
Comparison of Optimized vs. Non-Optimized

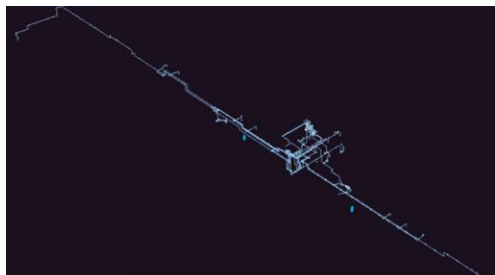
21-JUNE-2021



Blind Study – Petrochemical Process Project

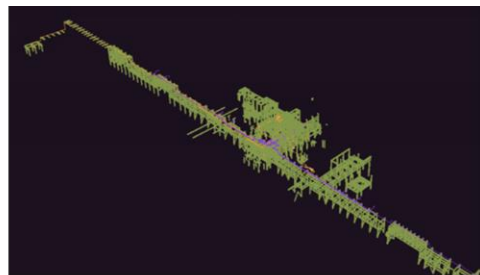


Gulf Coast Region, USA



Non-optimized

49 Circuits

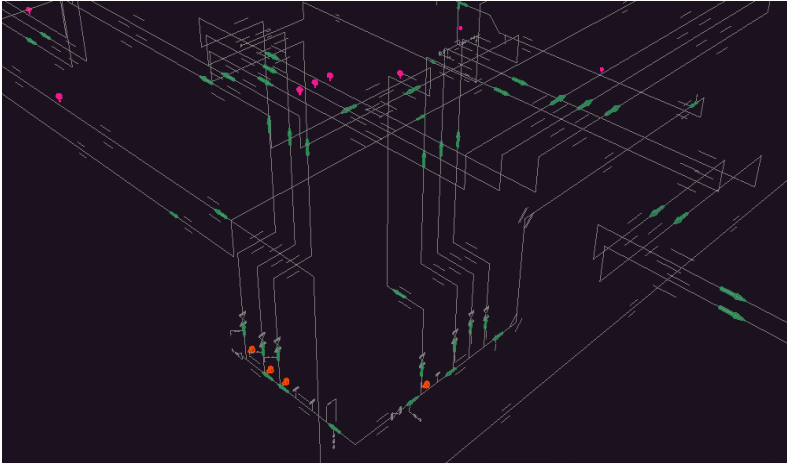


Optimized

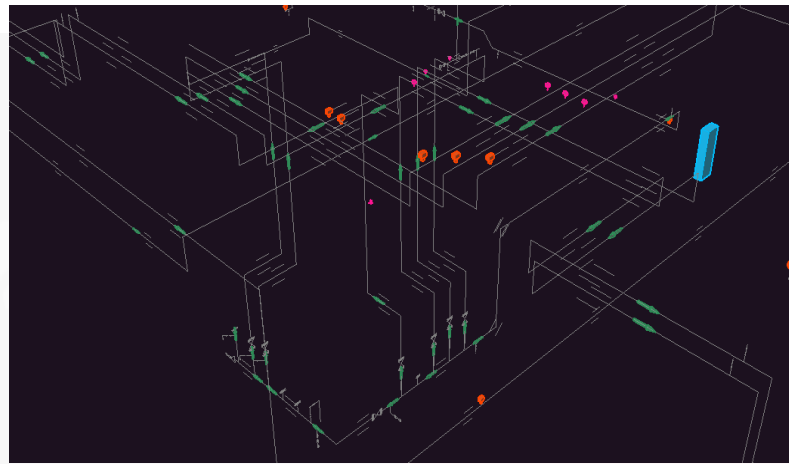
50 Circuits

- This case study highlights an example where 2 independent engineering teams designed a unit within a petrochemical facility.
- The unit shown on the left highlights a starting point for a design without TracerLynx while the image on the right provides much more clarity and depth pertaining to the required EHT scope.

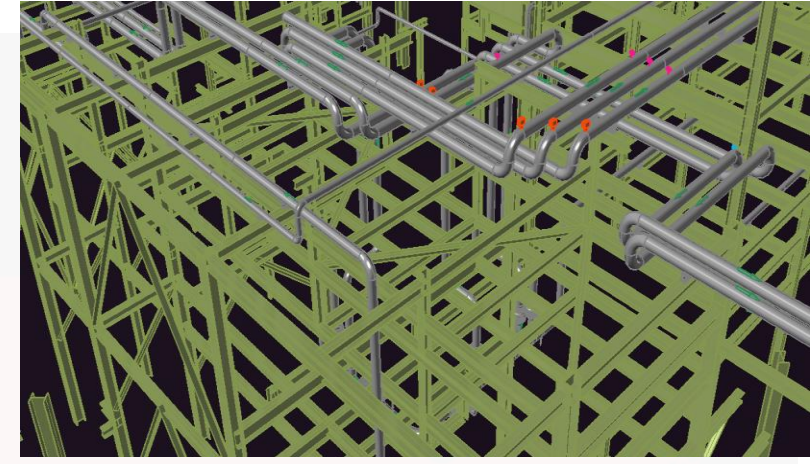
Very Different Decisions for PC & RTD Placement



Non-optimized



Optimized



- Optimized Team could see conduit support structure within TracerLynx.

- When utilizing the full capabilities of TracerLynx, as highlighted in the middle and right images, the design team was able to pinpoint the most cost-effective locations for the power connection boxes and RTD sensors.
- When TracerLynx was not utilized as shown in the image above left, the design team merely applied a best guess as to the location of the EHT components, which could have resulted in **AVOIDABLE** power distribution costs for the Project.

TracerLynx provides the designers with the ability to optimize EHT power connection & sensor placements

Very Different Decisions for PC & RTD Placement

		NON-OPT	OPT	NON-OPT	OPT	NON-OPT	OPT	Delta	Material	Material	Material	Labor	Labor	Labor	Total	Total	Total	Total	
		HTP-01	HTP-01	HTP-02	HTP-02	Total	Total	OPT vs Non-Opt	Total Non-Opt	Total-Opt	Total Delta Opt vs Non	Total Non-Opt	Total Opt	Total Delta Opt vs Non	\$ Non-Opt	\$ Opt	\$ Delta	% Delta	
POWER WIRE AND CONDUIT	Power Wire	#10	4613.4	1996.5	0	3742.2	4613.4	5738.7	1125.3	\$ 876.55	\$ 1,090.35	\$ 213.81	\$ 3,914.01	\$ 4,868.71	\$ 954.70	\$ 4,790.55	\$ 5,959.07	\$ 1,168.51	24%
		#8	960.3	0	973.5	534.6	1933.8	534.6	-1399.2	\$ 618.82	\$ 171.07	\$ (447.74)	\$ 2,460.95	\$ 680.33	\$ (1,780.62)	\$ 3,079.77	\$ 851.40	\$ (2,228.37)	-72%
		#6	5082	3742.2	5775	3742.2	10857	7404.4	-3372.6	\$ 4,885.65	\$ 3,367.98	\$ (1,517.67)	\$ 13,816.62	\$ 9,524.65	\$ (4,291.97)	\$ 18,702.27	\$ 12,892.63	\$ (5,809.64)	-31%
		#4	861.3	0	772.2	4276.8	1633.5	4276.8	2643.3	\$ 1,029.11	\$ 2,694.38	\$ 1,665.28	\$ 2,771.72	\$ 7,256.87	\$ 4,485.15	\$ 3,800.83	\$ 9,951.26	\$ 6,150.43	162%
		#2	0	0	3366	0	3366	0	-3366	\$ 3,298.68	\$ -	\$ (3,298.68)	\$ 7,139.29	\$ -	\$ (7,139.29)	\$ 10,437.97	\$ -	\$ (10,437.97)	-100%
	Power Conduit	3/4"	396	339	210	257	606	596	-10	\$ 624.18	\$ 613.88	\$ (10.30)	\$ 2,570.65	\$ 2,528.23	\$ (42.42)	\$ 3,194.83	\$ 3,142.11	\$ (52.72)	-2%
		1"	115	55	107	164	222	219	-3	\$ 330.78	\$ 326.31	\$ (4.47)	\$ 1,130.07	\$ 1,114.80	\$ (15.27)	\$ 1,460.85	\$ 1,441.11	\$ (19.74)	-1%
		1 1/2"	382	247	600	262	982	509	-473	\$ 2,386.26	\$ 1,236.87	\$ (1,149.39)	\$ 5,831.90	\$ 3,022.85	\$ (2,809.05)	\$ 8,218.16	\$ 4,259.72	\$ (3,958.44)	-48%
		2"	218	51	320	318	538	369	-169	\$ 1,743.12	\$ 1,195.56	\$ (547.56)	\$ 4,336.17	\$ 2,974.07	\$ (1,362.11)	\$ 6,079.29	\$ 4,169.63	\$ (1,909.67)	-31%
							2348	1693											
	FLEX CONDUIT	FLEX (LIFT)	72	84	57	45	129	129	0	\$ 258.00	\$ 258.00	\$ -	\$ 820.83	\$ 820.83	\$ -	\$ 1,078.83	\$ 1,078.83	\$ -	0%
		3/4" ST	24	28	15	15	43	43	0	\$ 172.00	\$ 172.00	\$ -	\$ 729.62	\$ 729.62	\$ -	\$ 901.62	\$ 901.62	\$ -	0%
3/4" 45		24	28	15	15	43	43	0	\$ 258.00	\$ 258.00	\$ -	\$ 729.62	\$ 729.62	\$ -	\$ 987.62	\$ 987.62	\$ -	0%	
RTD WIRE AND CONDUIT	ROUTED LENGTH	VERT ₁									\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%
		HORIZ										\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%
		VERT ₂										\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%
	RTD CABLE	TOTAL LENGTH	4851	2737	4013.7	4667	8884.7	7404	-1460.7	\$ 3,279.94	\$ 2,739.48	\$ (540.46)	\$ 11,281.22	\$ 9,422.33	\$ (1,858.89)	\$ 14,561.16	\$ 12,161.81	\$ (2,399.35)	-16%
	RTD Conduit	3/4"	766	639	757	717	1523	1356	-167	\$ 1,568.69	\$ 1,396.68	\$ (172.01)	\$ 6,460.57	\$ 5,752.15	\$ (708.41)	\$ 8,029.26	\$ 7,148.83	\$ (880.42)	-11%
		1"	122	5	95	55	217	60	-157	\$ 323.33	\$ 89.40	\$ (233.93)	\$ 1,104.62	\$ 305.42	\$ (799.19)	\$ 1,427.95	\$ 394.82	\$ (1,033.12)	-72%
		1 1/2"	90	125	190	307	280	432	152	\$ 680.40	\$ 1,049.76	\$ 369.36	\$ 1,662.86	\$ 2,565.56	\$ 902.70	\$ 2,343.26	\$ 3,615.32	\$ 1,272.06	54%
		2"	175	55	80	50	255	105	-150	\$ 826.20	\$ 340.20	\$ (486.00)	\$ 2,055.25	\$ 846.28	\$ (1,208.97)	\$ 2,881.45	\$ 1,186.48	\$ (1,694.97)	-59%
							2275	1953											
	FLEX CONDUIT	FLEX (LIFT)	84	105	63	48	147	153	6	\$ 294.00	\$ 306.00	\$ 12.00	\$ 935.36	\$ 973.54	\$ 38.18	\$ 1,229.36	\$ 1,279.54	\$ 50.18	4%
3/4" ST		28	35	21	16	49	51	2	\$ 196.00	\$ 204.00	\$ 8.00	\$ 831.43	\$ 865.37	\$ 33.94	\$ 1,027.43	\$ 1,069.37	\$ 41.94	4%	
3/4" 45		27	35	21	16	48	51	3	\$ 288.00	\$ 306.00	\$ 18.00	\$ 814.46	\$ 865.37	\$ 50.90	\$ 1,102.46	\$ 1,171.37	\$ 68.90	6%	
											\$ (6,121.77)			\$ (15,550.62)					
TOTALS											\$ 95,334.93	\$ 73,662.54	\$ (21,672.39)	\$ 215,550.62	\$ 153,878.23	\$ (61,672.39)	-23%		

- This Blind Study showed that using TracerLynx resulted in a savings of 23%.
- Both design teams were made up of equally trained nVent EHT Designers.
- The main differentiating variable was TracerLynx.



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