


VALUE
**CUSTOMER
SERVICE**
PROPOSITION




PEOPLE
**EMPLOYEE
COMMITMENT**
SAFETY



REDUCING
**ENVIRONMENTAL
RESPECT**
IMPACT



CANDOR
**REGULATORY
INTEGRITY**
TRUST



EFFECTIVE
**OPERATIONAL
EXCELLENCE**
EFFICIENT



BERKSHIRE
**FINANCIAL
STRENGTH**
OWNERSHIP



2017 ACC USER GROUP

SEAN BERRYMAN, PE

Manager, Maintenance

NV ENERGY – TRACY GENERATING STATION



OVERVIEW



- Tracy Generating Station
- Operational Experience and Gearbox Failures
- Gearbox Replacements
- Trolley & Hoist Improvements
- Elevator Installation
- In-Line Oil Filtering
- Questions

Tracy Station Overview



Unit #	Type	Original Equipment Manufacturer	Model	Fuel	Capacity Winter/Summer	Commercial Operation Date	Notes
3	ST	Westinghouse		N. Gas	108	1974	Water Cooled
4	GT	General Electric	6FA	N. Gas	63.6	1996	
5	ST	General Electric	Fitchburg	N. Gas/Steam	46.2	1996	Water Cooled
8	GT	General Electric	7FA+e	N. Gas	578/553	2008	
9	GT	General Electric	7FA+e	N. Gas	578/553	2008	
10	ST	General Electric	D11	N. Gas/Steam	578/553	2008	Air Cooled
Clark Mountain 3	GT	General Electric	7EA	N. Gas + Heavy Oil	72	1994	
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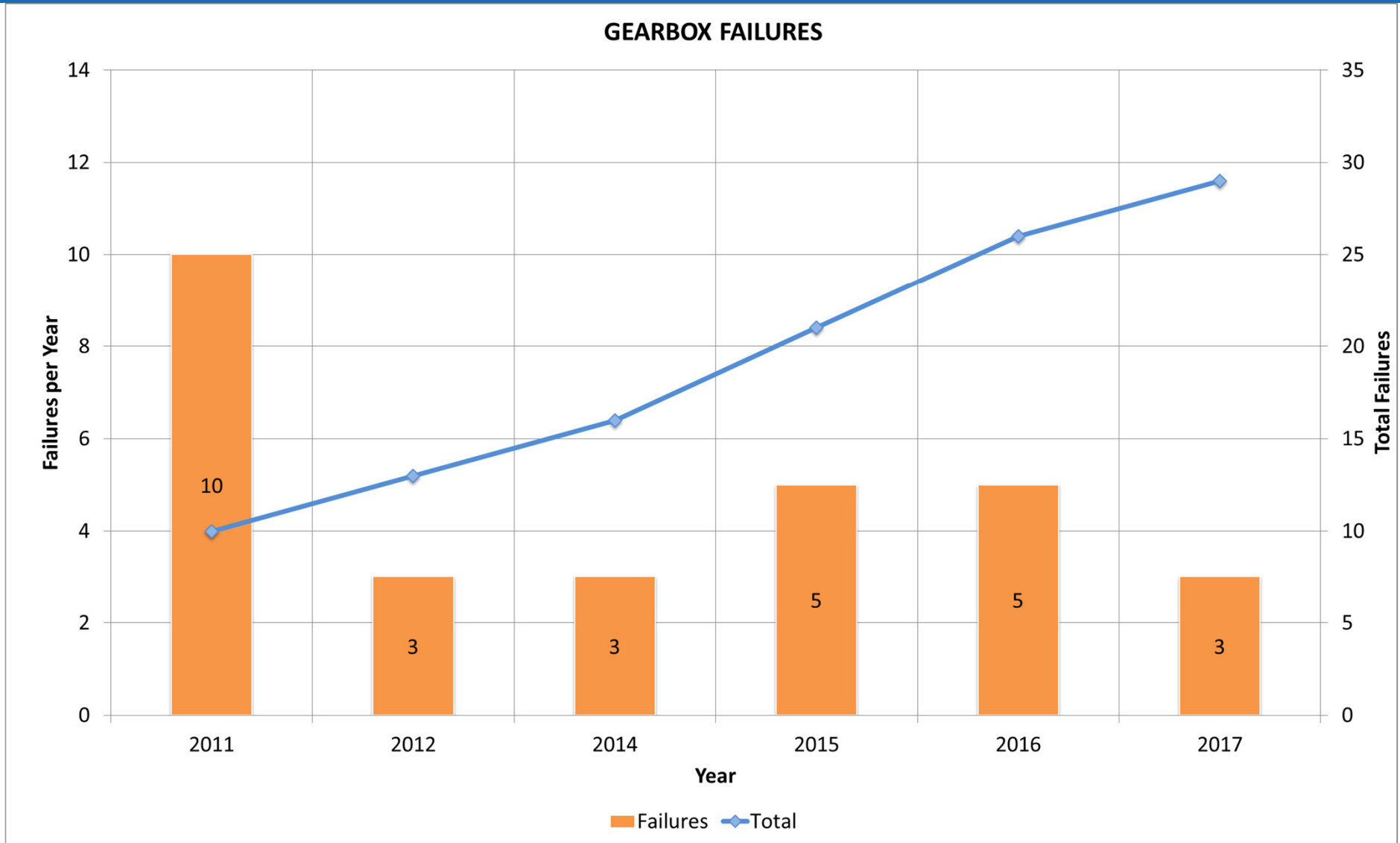
- Load Following Unit
- Operates at greater than 96% equivalent availability annually
- Delivers 35% of the energy needs of Northern Nevada
- 30 air cooled condenser fans
- Fans rated at 250 horsepower, gearboxes rated for 500 horsepower
- All fans are required during summer operation. Out of service fans cause unit derates

Gearbox Failures By Location

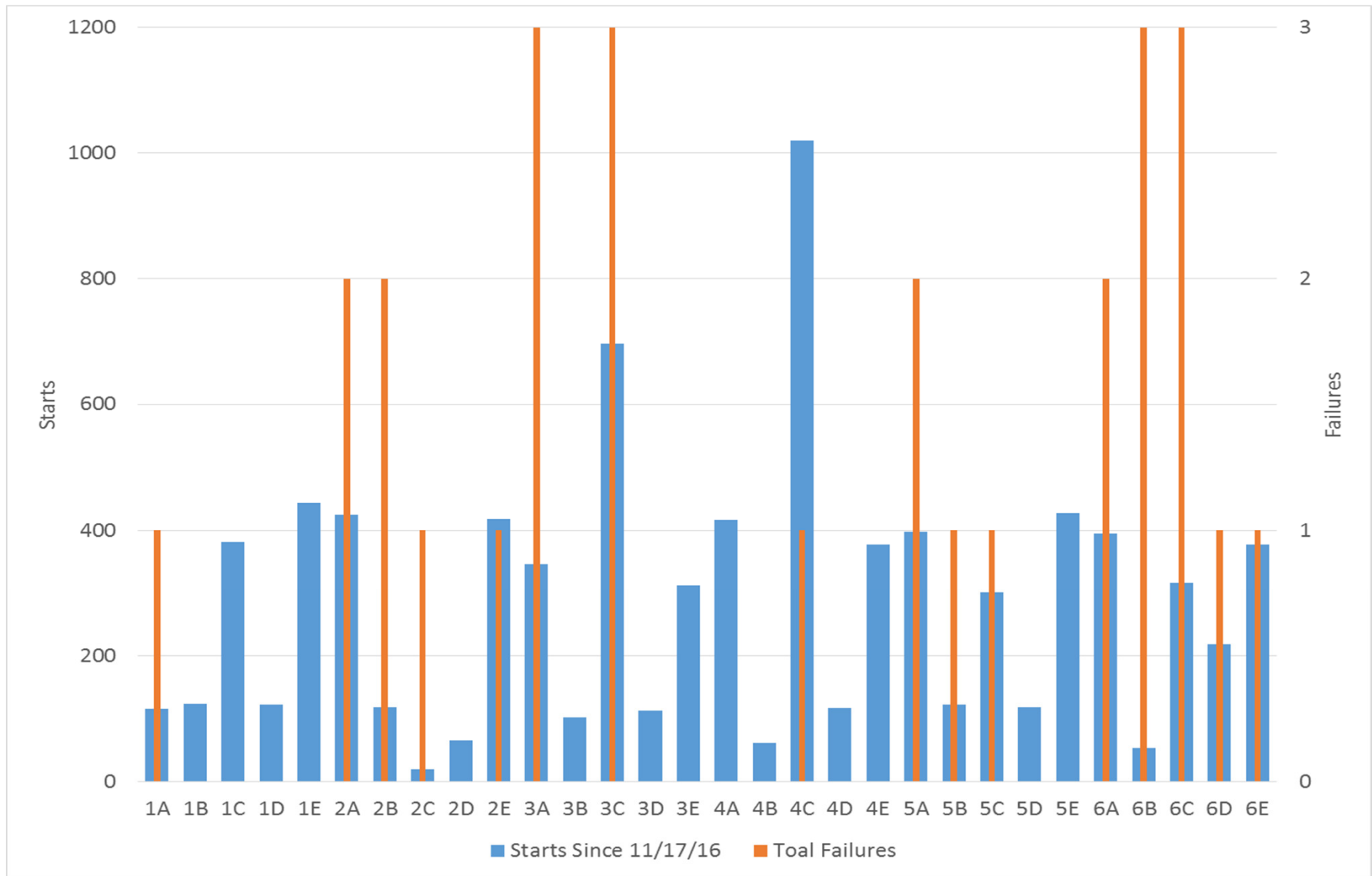


	E	D	C	B	A		A	B	C	D	E	
Street 3												Street 6
Street 2												Street 5
Street 1												Street 4
	↑	↑	↑	↑	↑		↑	↑	↑	↑	↑	

Gearbox Failures By Year



Failures Versus Fan Starts



New Gearboxes and Modifications



- Gearboxes:
 - 20 new gearboxes will be installed on Street 2, 3, 5, 6
 - 750 horsepower rated gearboxes
 - Requires larger hoists (2 Ton → 3 Ton)
 - Requires low profile hoist/rigging to lift new boxes over running motors
- Hoists
 - Old design had an east-west hoist to lift from the ground to elevation, then a transfer was required to run north-south down the ACC streets.
 - Six new hoist were installed that lift directly from ground to the ACC street. Does not require a load transfer.
 - Door & I-beam modifications required

Old Versus New Trolley Design



Torsional Beam Deflection Modification



HSS 4x4x3/8" Stich
Welded I-Beam



Low Clearance Rigging



Low Clearance Hoist



ACC Elevator



Online Oil Filtering




- Operator Friendly Oil Filtering
- Male/Female quick disconnect connection
 - Allows system to be moved from box to box without spilling oil
 - Prevent technicians from mixing up suction/discharge connection on the gearboxes

	04/19/2017	02/21/2017
4 microns	32667	102587
6 microns	10163	80693
14 microns	474	7699
21 microns	40	263
38 microns	3	1
70 microns	0	0



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