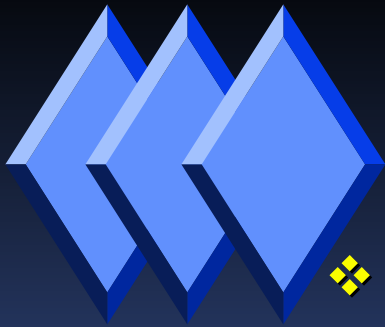




*Reliability Elements
and attributes of
Measurement Accuracy*



Elements of Reliability

❖ Inherency

- inherently *reliable design* (engineering/standards)
- *quality construction* (materials, training)
- *competent operation* (dispatching, switching)
- *adequate maintenance* (CBM, tree trim, other)
- *minimal exposure to hazards* (OH/UG, shielding)

❖ Redundancy

- independent *backup* (looped feeds)

❖ Recovery

- automatic clearing/sectionalizing/reclosing devices (*relaying & distribution automation*)
- timely and competent human response to sustained faults (*outage management*)

Measurement Attribute	93-96				1997				1998				1999				FY2000/2001				FY2001/2002				FY2002/2003				FY2003					
	SAIDI (PS1)	SAIFI (PS2)	MAIFI (PS3)	cause (PS4)	SAIDI (PS1)	SAIFI (PS2)	MAIFI (PS3)	cause (PS4)	SAIDI (PS1)	SAIFI (PS2)	MAIFI (PS3)	cause (PS4)	SAIDI (PS1)	SAIFI (PS2)	MAIFI (PS3)	cause (PS4)	SAIDI (PS1)	SAIFI (PS2)	MAIFI (PS3)	cause (PS4)	SAIDI (PS1)	SAIFI (PS2)	MAIFI (PS3)	cause (PS4)	SAIDI (PS1)	SAIFI (PS2)	MAIFI (PS3)	cause (PS4)	SAIDI (PS1)	SAIFI (PS2)				
Inputs to System																																		
Was Incident Recorded?	0.70	0.70	0.40	0.55	0.65	0.65	0.35	0.50	0.65	0.65	0.37	0.53	0.67	0.67	0.45	0.57	0.85	0.85	0.40	0.60														
Source Record Accurate?	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.96	0.96	0.92	0.93														
Was doc. put in System?	0.80	0.80	1.00	0.80	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.77	0.77	0.77	0.77	0.95	0.95	0.95	0.96														
No keying/coding errors	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.98	0.98	0.98	0.98	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90														
Processing in System																																		
Stable (frozen) input data	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	0.98	0.98	0.98	0.98	1.10	1.10	1.00	1.00	1.02	1.02	1.02	1.02														
Correct algorithms	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00														
Secure data repository	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00														
Reports from System																																		
Proper Exclusions Applied	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.05	1.05	1.05	1.05	1.02	1.02	1.02	1.02														
Proper Definitions Applied	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00														
Accuracy Factor (per unit)	0.52	0.52	0.37	0.41	0.45	0.45	0.24	0.35	0.48	0.48	0.28	0.39	0.51	0.51	0.31	0.39	0.73	0.73	0.33	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Correction Factor	1.92	1.92	2.69	2.44	2.21	2.21	4.10	2.87	2.07	2.07	3.63	2.53	1.96	1.96	3.21	2.54	1.38	1.38	3.05	1.99	####	####	####	####	####	####	####	####	####	####	####	####	####	####

This spreadsheet contains sample data for instructional and discussion purposes only. None of the data contained herein are to be construed to correlate to actual data from any particular company.

