

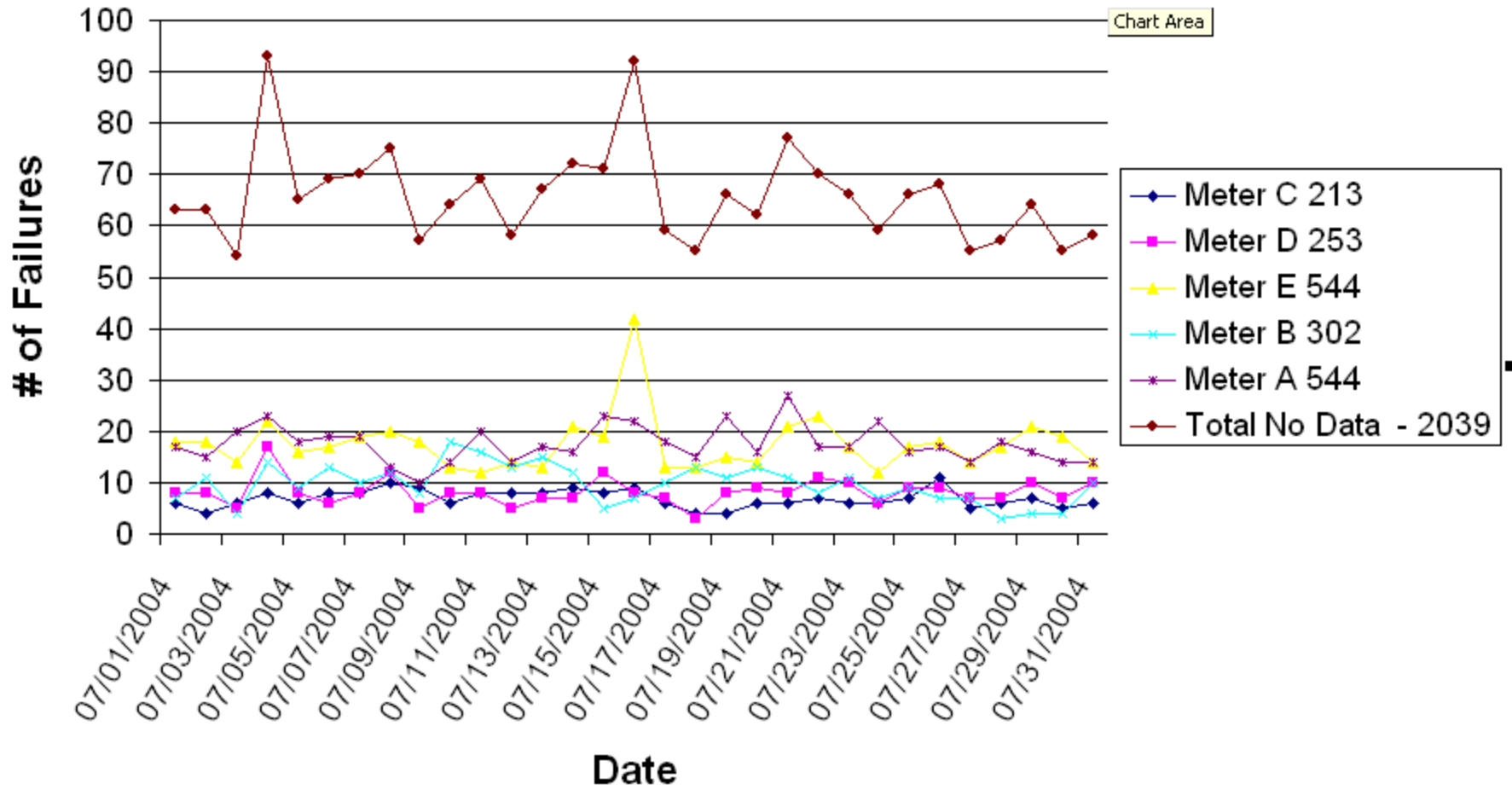
# Meter Communications

Update

# Meter Communications

- Communication performance is analyzed and reported on a monthly basis – benchmark established
- 1<sup>st</sup> step in identifying problem areas
- Performance improvements will be tracked
- Focus primarily on IMO Conforming Meters

# Failures By Meter



# Failures by Cause

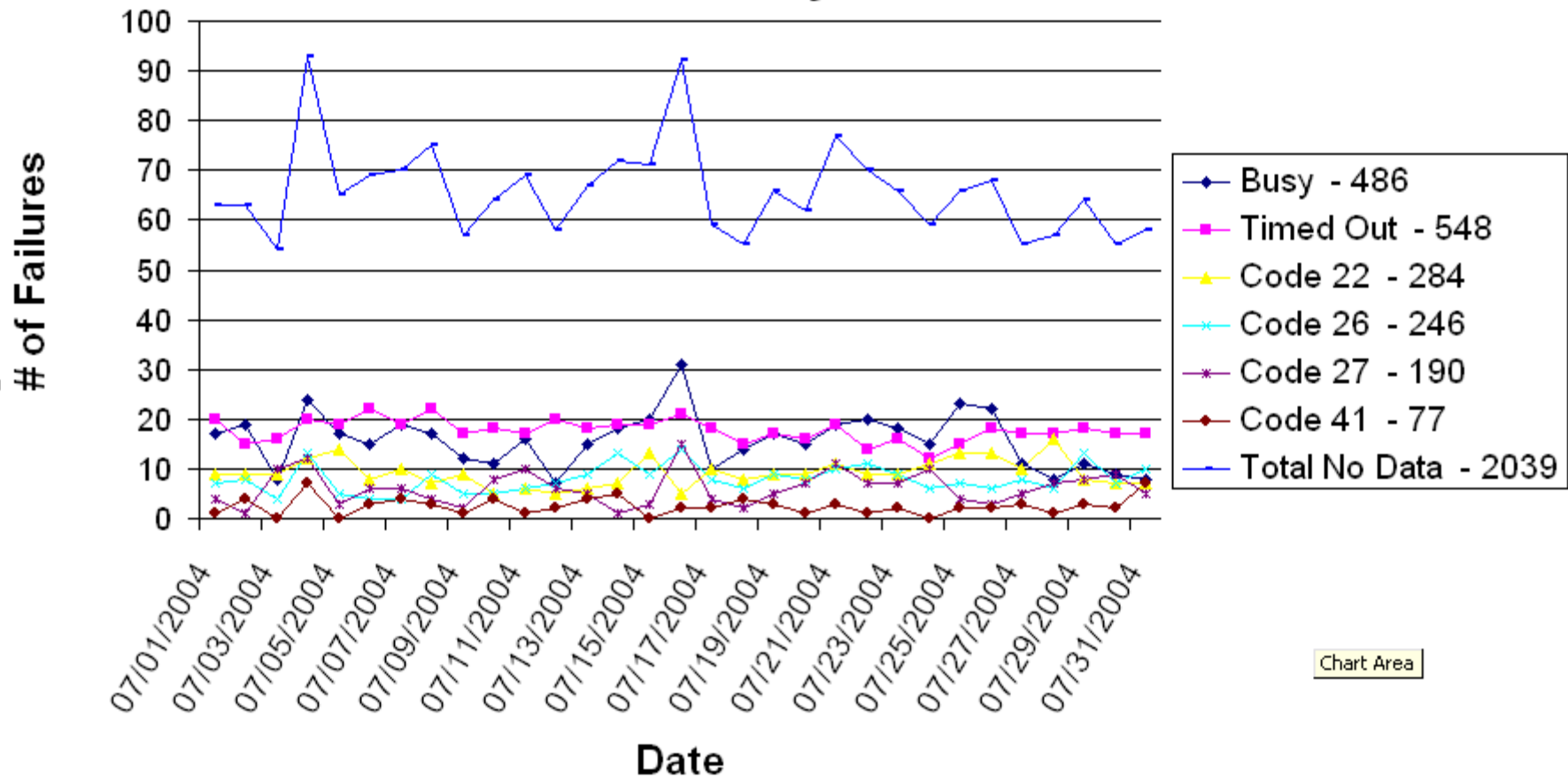
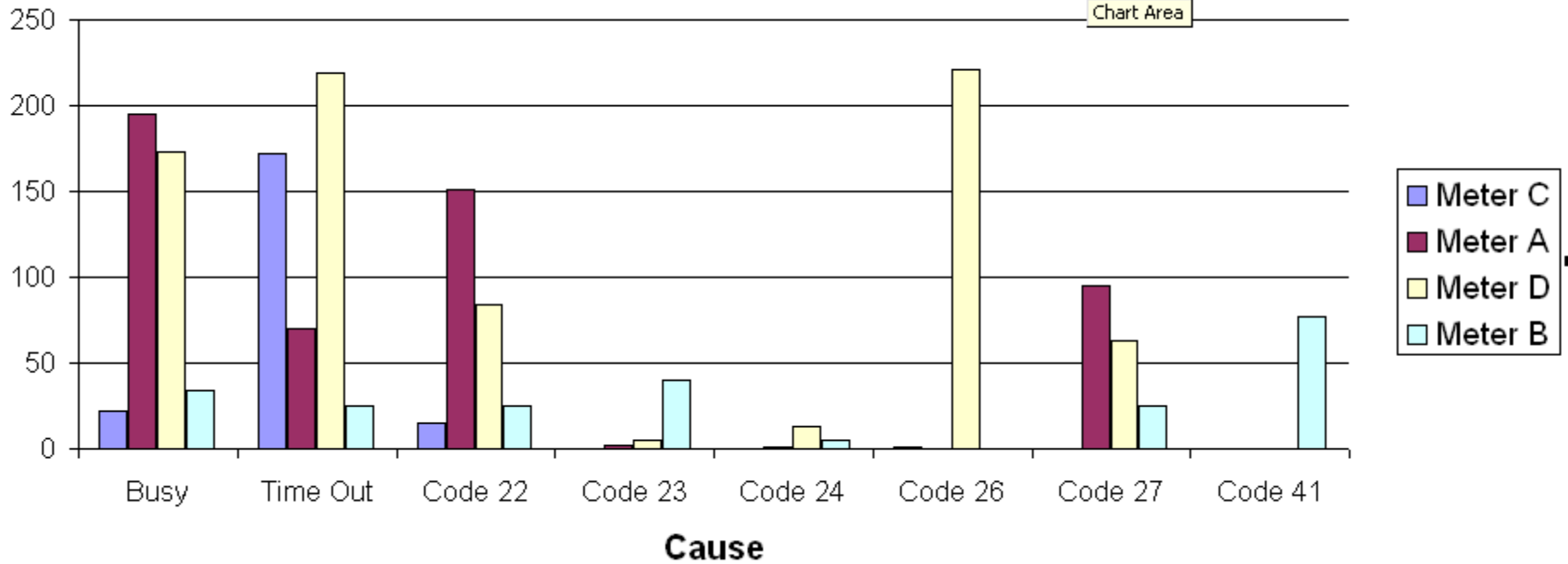


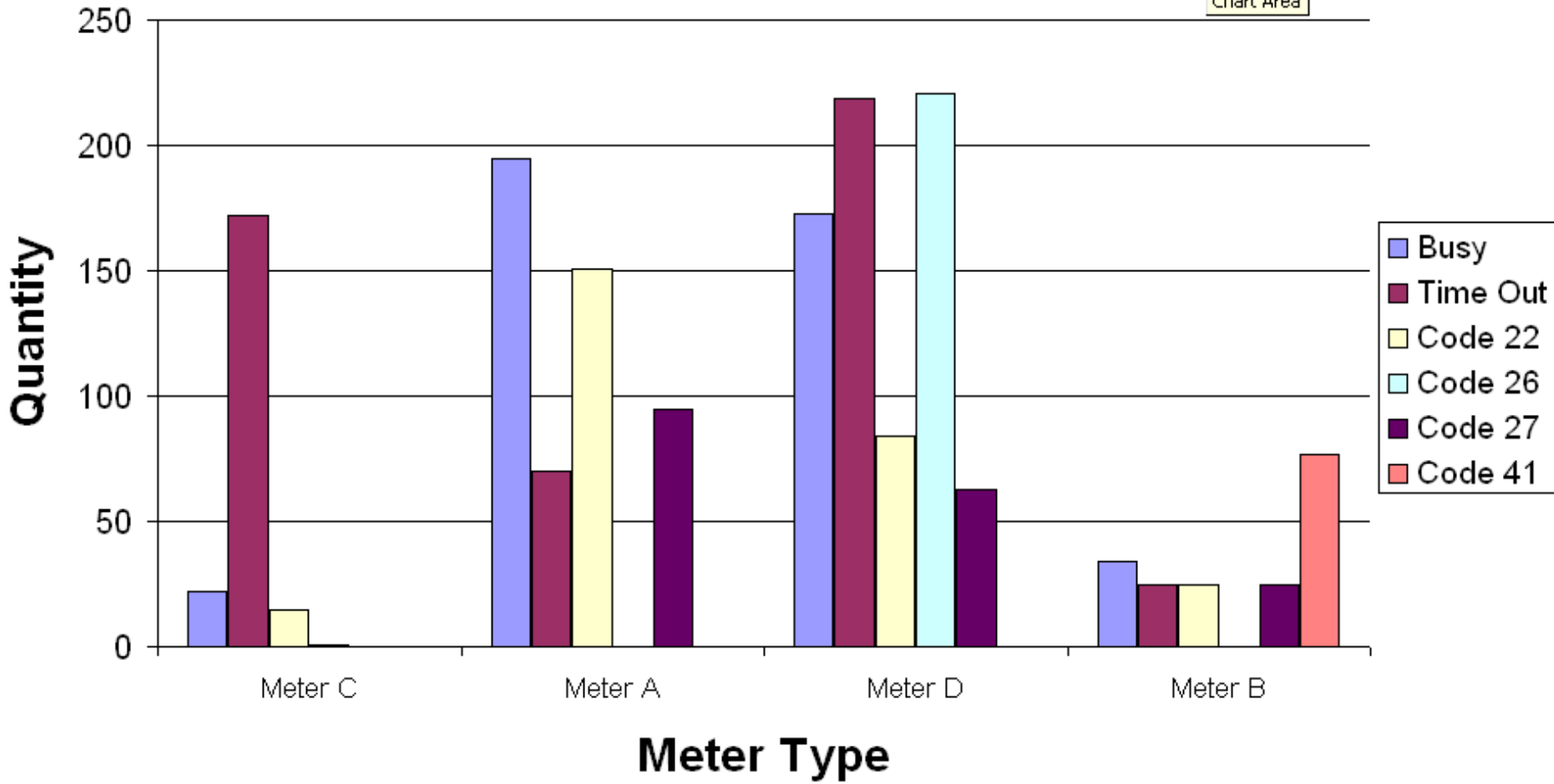
Chart Area

### Meter Type vs Cause - Jul 04

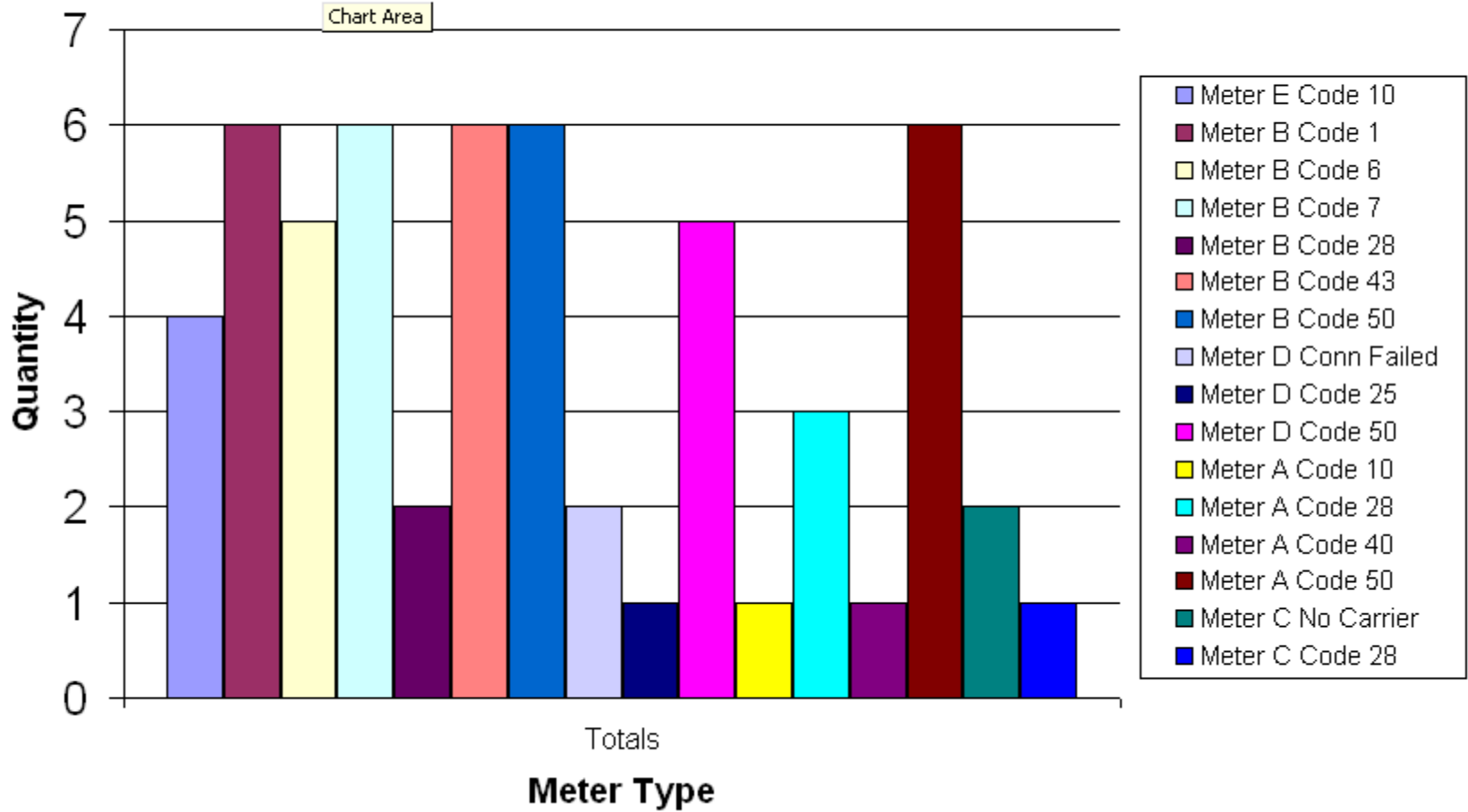


Cause vs Meter Type - Jul 04

Chart Area



## Other Reasons/Codes - Jul 04



# Call Cycle Performance

									Failures &
Date	Call Cycle	Retry 0	Retry 1	Retry 2	Retry 3	Retry 4	Failures	Successes	Successes
08/01/2004	0	4	1						5
	11	272	17	6		1	9	296	305
	22	264	13	6	2		8	285	293
	33	116	16		4		1	136	137
	44	63	11				3	74	77
	55	11					0	11	11
	66	6	3	2			0	11	11
	MA	251	11	4		2	8	268	276
	RD	220	44	2	1		4	267	271
	SA	602	18	8			26	628	654
	TL	19					1	19	20
	T2	4					0	4	4
<b>Total Successes</b>	<b>2004</b>	<b>1832</b>	<b>134</b>	<b>28</b>	<b>7</b>	<b>3</b>	<b>60</b>		<b>2064</b>
<b>Percentage</b>	91.34	83.50	6.11	1.28	0.32	0.14	2.73		

## MV90 Errors - IMO Conforming Meters

Error Number	Error Code	Power Measurements ION	Schlumberger Q1000	ABB Alpha
22	COMM. I/O TIMEOUT	1. The <b>MV90 Password #2</b> field does not match the <b>ION Unit ID</b> for the port that is being used for MV90 communications.	Typical <b>MV90 system error</b> when MV90 attempts to connect to a <b>non Q1000 device type</b> .	1. The <b>MV90 Password #1</b> field contains the meters <b>ReadOnly</b> password and the MV90 system attempts to perform an <b>Autotimeset</b> .
		2. Typical <b>MV90 system error</b> when MV90 attempts to connect to a <b>non ION device type</b> .		2. Typical <b>MV90 system error</b> when MV90 attempts to connect to a <b>non Alpha device type</b> .
				3. <b>MV90 masterfile baud rate</b> does not match the <b>Alpha baud rate</b> .
23	COMM. - CRC/CHECKSUM ERROR			
24	COMM. PROTOCOL ERROR	The <b>MV90 Password #1</b> field is not the correct password to read the meter. Please refer to the IMO ION Framework Document.		
25	COMM. - PORT ERROR			
26	COMM. - SECURITY ERROR			The <b>MV90 Password #1 and Password #2</b> field (if populated) is not the Alpha meters password.
27	COMM. - DIAL ERROR / NO ANSWER			
28	COMM. - CARRIER SIGNAL LOST			

# Next Step

- Identify external failures/issues
- Look for areas of improvement
  - Resolve specific causes by meter type (high percentage opportunities)
  - Further refinement of call cycles
- Enhance MV90 Error Listing for IMO Conforming Meters
- Identify new concerns (if any)