Information Technology and Facilities Report

Richard Morgan

Vice President & CIO

ERCOT Board of Directors
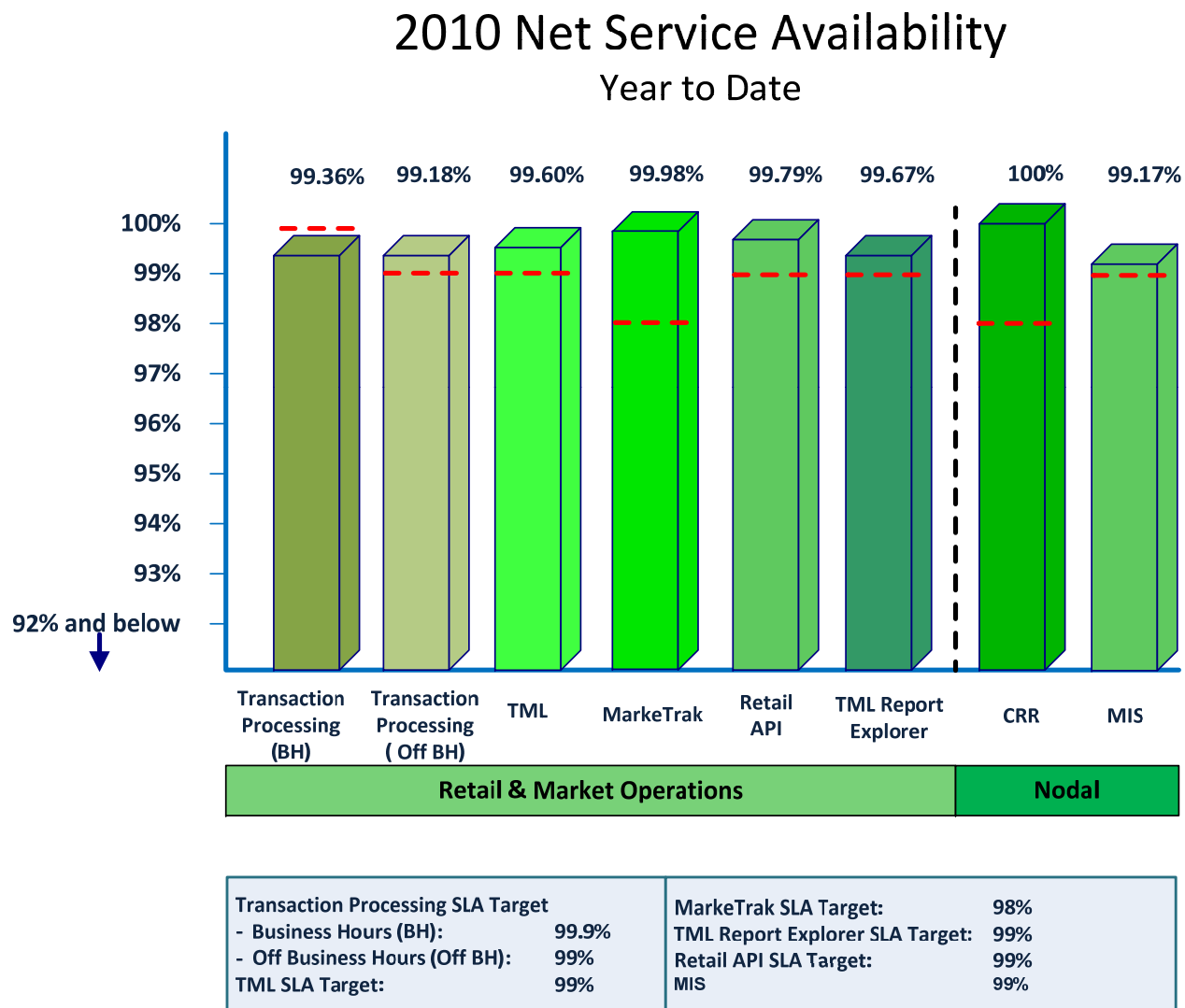
October 19, 2010

Highlights

- **Service Availability:**
  - SLA targets were not met for retail systems, attributable to a 12 hour emergency outage on 9/6 to resolve storage area network (SAN) issues
    - ERCOT declared an emergency outage over Labor Day weekend to correct the SAN issue, but the required market notice could not be given 10 days in advance to be counted as a planned outage
    - TML, Commercial API, and Retail (non-business hours) did not meet targets for the month

- **New Data center and Operations Control Room:**
  - Construction completed and permanent Certificates of Occupancy issued
  - Installation of the communications capabilities in progress for systems relocation in 2011

- **Hardware Failure on 9/4:**
  - ERCOT experienced a storage area network (SAN) hardware failure in the Taylor Datacenter
  - Required a site failover for Nodal systems to the Austin Datacenter on 9/5 and a 12 hour emergency outage on 9/6 for system repairs
  - Portions of ERCOT's data warehouse were unavailable during the outage
  - System transaction processing backlog caused delay from 2 hours to 3 days for data extracts and reports
    - Settlement Input Data, Market Shadow Price, Day-Ahead Report, Weekly Siebel Service Order, ESI ID Service History and Usage and Ancillary Service Bid Stack were affected
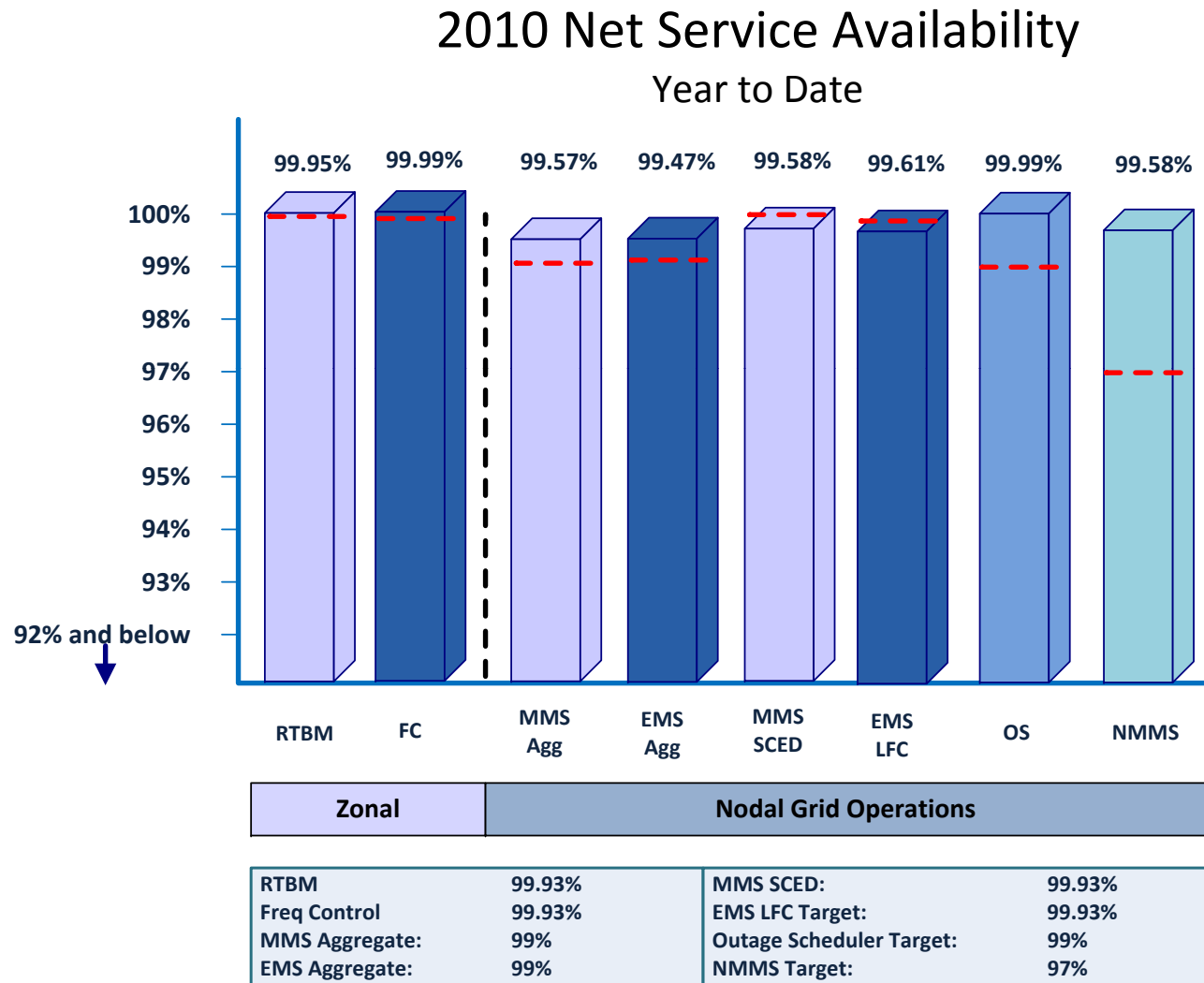
Highlights

- **Commercial API outage 9/19-9/20:**

  - An API component did not properly restart following maintenance activities, which resulted in a 20-hour outage of the Commercial API
  - The alerting mechanism was improperly restarted which extended the duration of the outage
  - Market participants could still download extracts via TML, and Retail API was not affected
  - Only market participants using the Commercial API were impacted

- **Retail processing outage on 9/22:**

  - 43 minute outage caused by an EDI processor engine failure that required an application restart

2010 Net Service Availability (Retail and Market Ops)

2010 Net Service Availability
Year to Date

Transaction Processing SLA Target		MarkeTrak SLA Target:	98%
- Business Hours (BH):	99.9%	TML Report Explorer SLA Target:	99%
- Off Business Hours (Off BH):	99%	Retail API SLA Target:	99%
TML SLA Target:	99%	MIS	99%

2010 Net Service Availability (Grid Ops)

2010 Net Service Availability
Year to Date

		Value
RTBM		99.93%
Freq Control		99.93%
MMS Aggregate:		99%
EMS Aggregate:		99%
MMS SCED:		99.93%
EMS LFC Target:		99.93%
Outage Scheduler Target:		99%
NMMS Target:		97%

September 2010 Net Service Availability

September 2010 Net Service Availability

Transaction Processing SLA Target		MarkeTrak SLA Target:	98%
- Business Hours (BH):	99.9%	TML Report Explorer SLA Target:	99%
- Off Business Hours (Off BH):	99%	Retail API SLA Target:	99%
TML SLA Target:	99%	MIS	99%

September 2010 Net Service Availability

September 2010 Net Service Availability

		99.93%	100%	99.72%	99.99%	99.72%	99.88%	100%	99.84%

Bars:
- RTBM — 99.93%
- FC — 100%
- MMS Agg — 99.72%
- EMS Agg — 99.99%
- MMS SCED — 99.72%
- EMS LFC — 99.88%
- OS — 100%
- NMMS — 99.84%
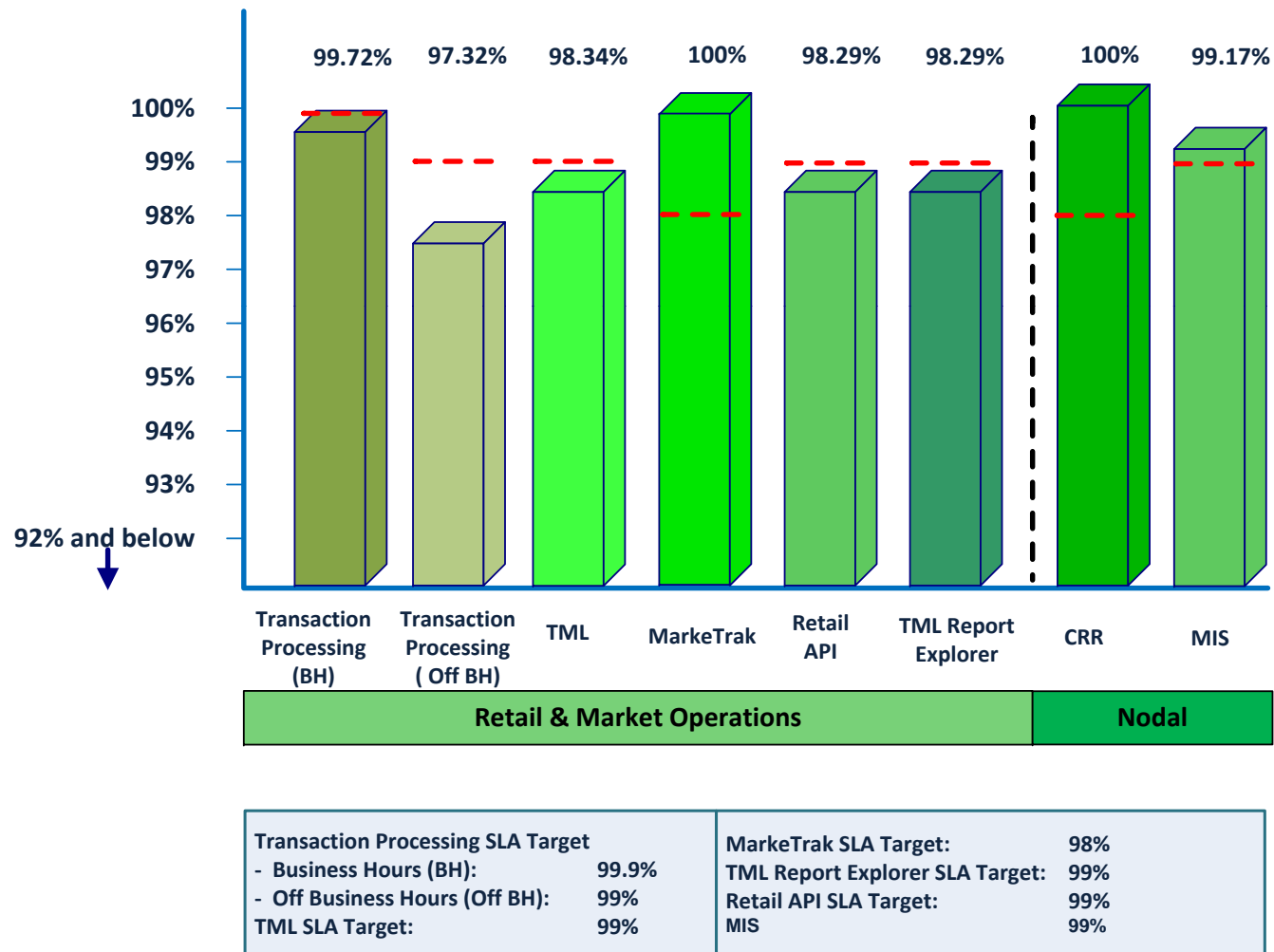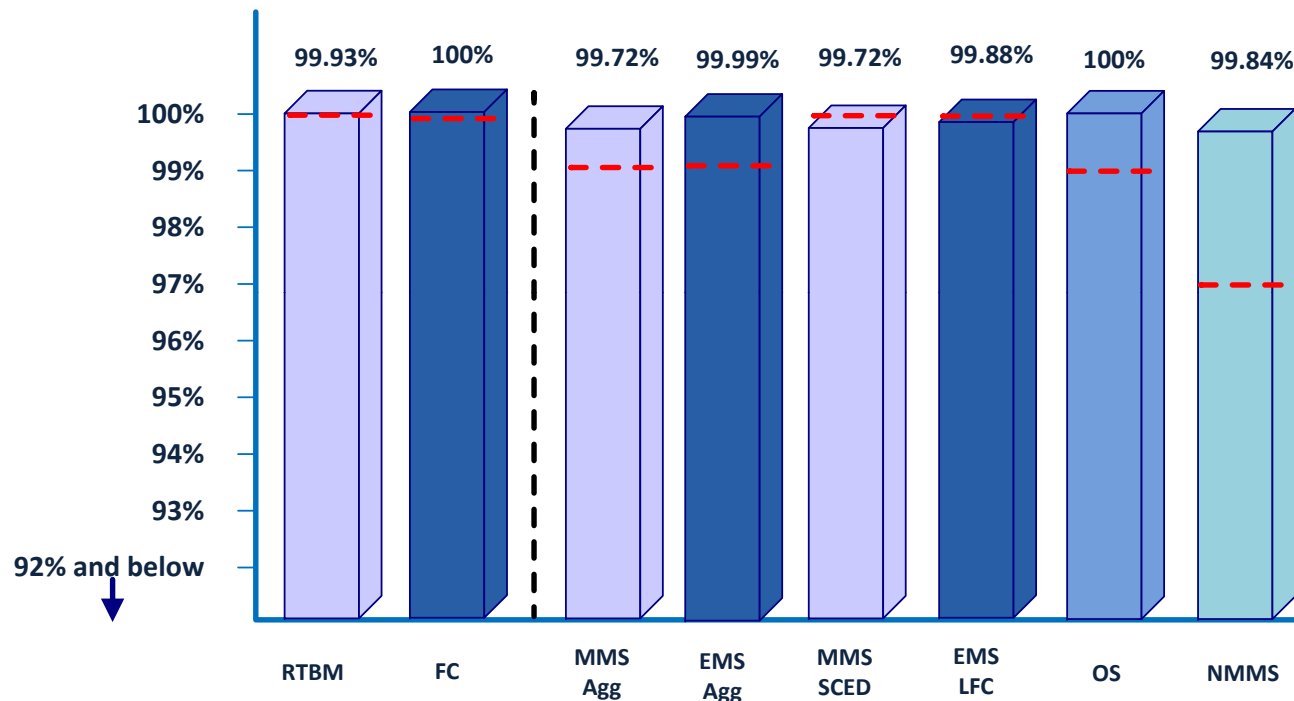
Zonal	Nodal Grid Operations		

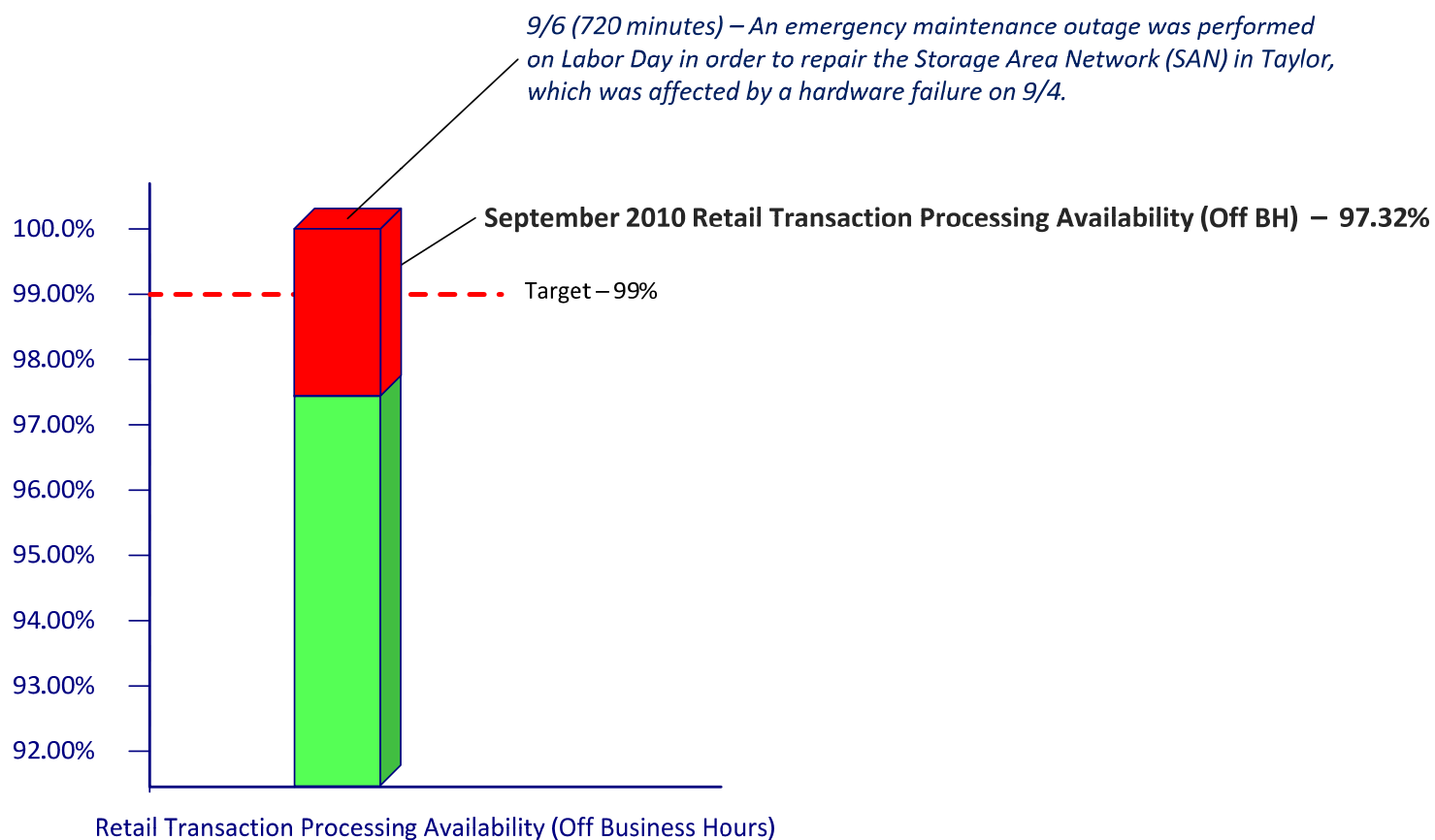|			
RTBM	99.93%	MMS SCED:	99.93%
Freq Control	99.93%	EMS LFC Target:	99.93%
MMS Aggregate:	99%	Outage Scheduler Target:	99%
EMS Aggregate:	99%	NMMS Target:	97%

Retail Transaction Processing Availability Summary

September 2010 Retail Transaction Processing Availability Summary (Business Hours)

9/22 (43 minutes) – An application processor engine failed and an application restart was required.

September 2010 Retail Transaction Processing Availability (BH) – 99.72%

Target – 99.9%

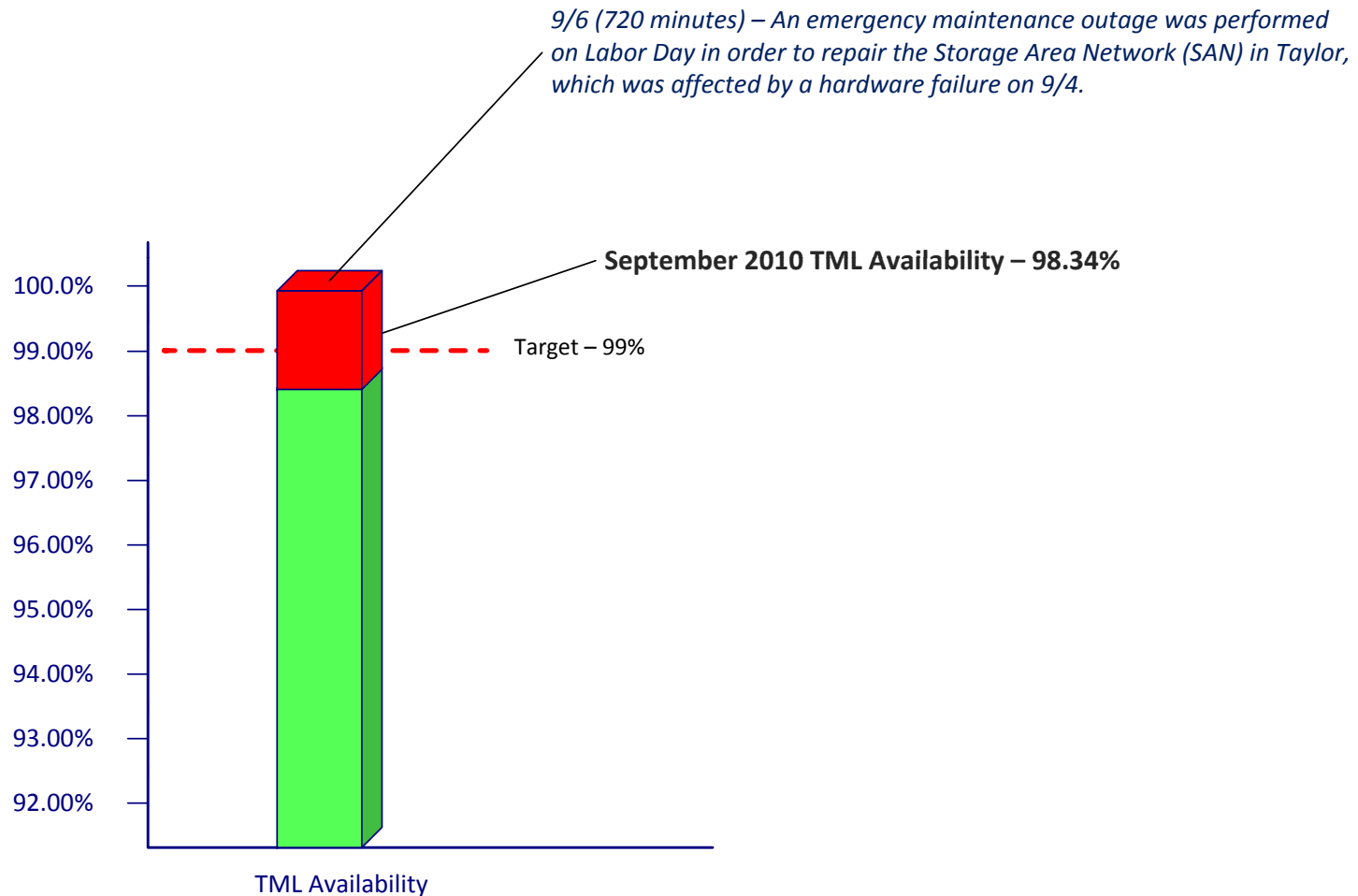Retail Transaction Processing Availability (Business Hours)
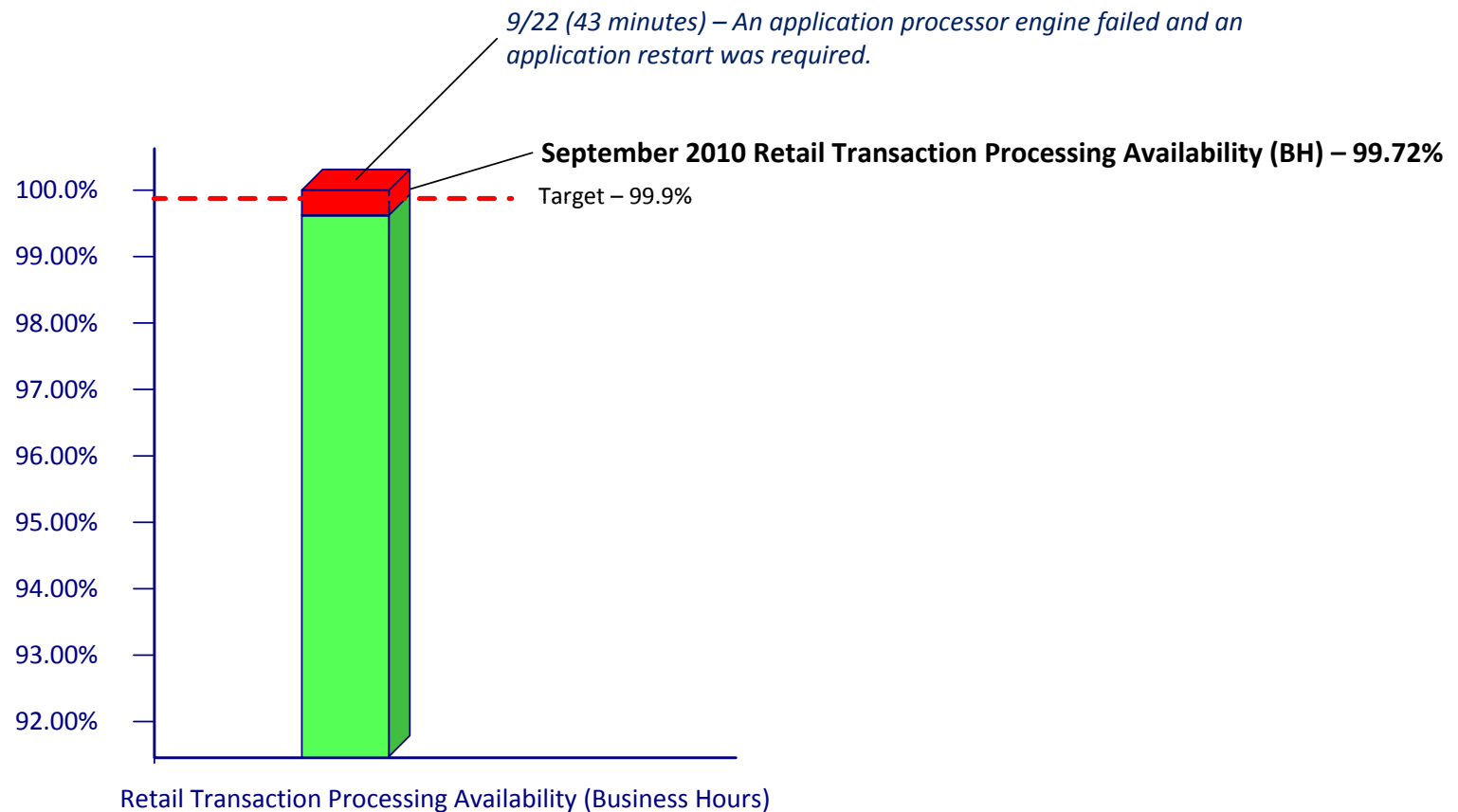
Retail Transaction Processing Availability Summary (cont'd.)

September 2010 Retail Transaction Processing Availability Summary
(Off Business Hours)

9/6 (720 minutes) – An emergency maintenance outage was performed on Labor Day in order to repair the Storage Area Network (SAN) in Taylor, which was affected by a hardware failure on 9/4.

September 2010 Retail Transaction Processing Availability (Off BH) – 97.32%

Target – 99%

100.0%	
99.00%	
98.00%	
97.00%	
96.00%	
95.00%	
94.00%	
93.00%	
92.00%	

Retail Transaction Processing Availability (Off Business Hours)

TML Availability Summary

September 2010 TML Availability Summary

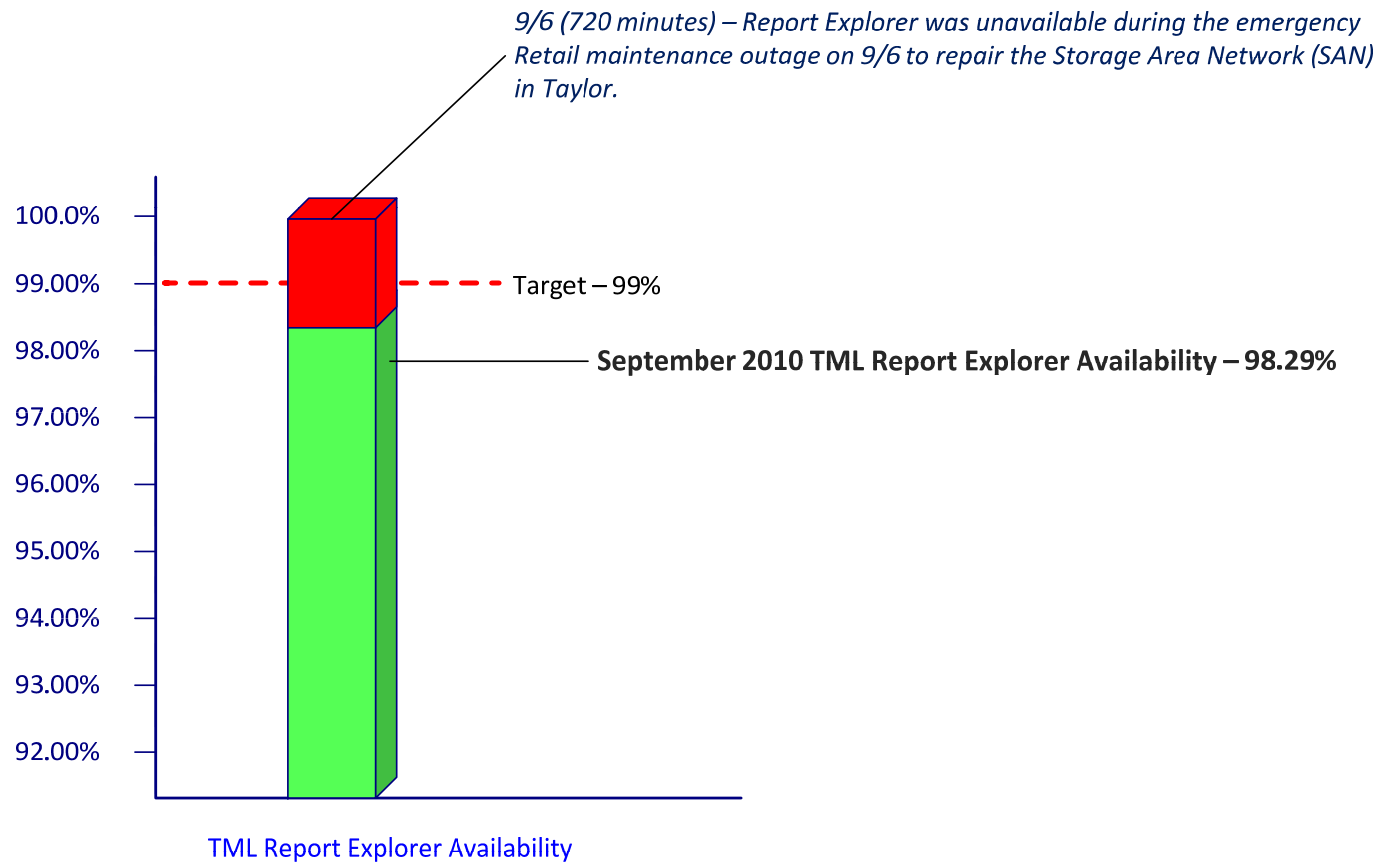*9/6 (720 minutes) – An emergency maintenance outage was performed on Labor Day in order to repair the Storage Area Network (SAN) in Taylor, which was affected by a hardware failure on 9/4.*

September 2010 TML Availability – 98.34%

Target – 99%

100.0%
99.00%
98.00%
97.00%
96.00%
95.00%
94.00%
93.00%
92.00%

TML Availability

MarkeTrak Availability Summary

September 2010 MarkeTrak Availability Summary

September 2010 MarkeTrak Availability – 100%

100.0%

99.00%

98.00% — — — — — — — — — — — — — — — — — Target – 98%

97.00%

96.00%

95.00%

94.00%

93.00%

92.00%

MarkeTrak Availability

TML Report Explorer Availability Summary

September 2010 TML Report Explorer Availability Summary

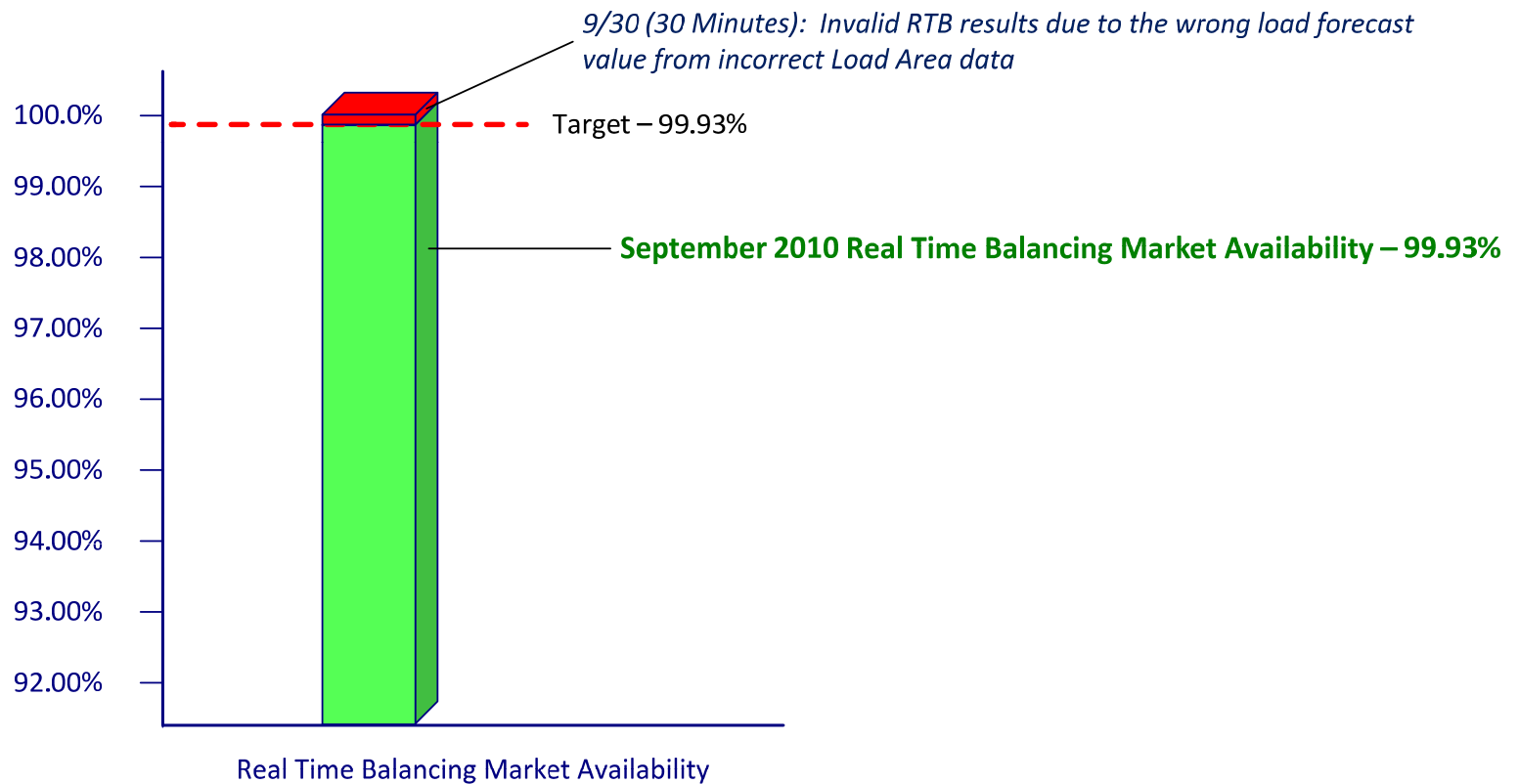*9/6 (720 minutes) – Report Explorer was unavailable during the emergency Retail maintenance outage on 9/6 to repair the Storage Area Network (SAN) in Taylor.*

100.0%

99.00% — — — — — — — — — Target – 99%

98.00% — September 2010 TML Report Explorer Availability – 98.29%

97.00%

96.00%

95.00%

94.00%

93.00%

92.00%

TML Report Explorer Availability

Retail API Availability Summary

September 2010 Retail API Availability Summary

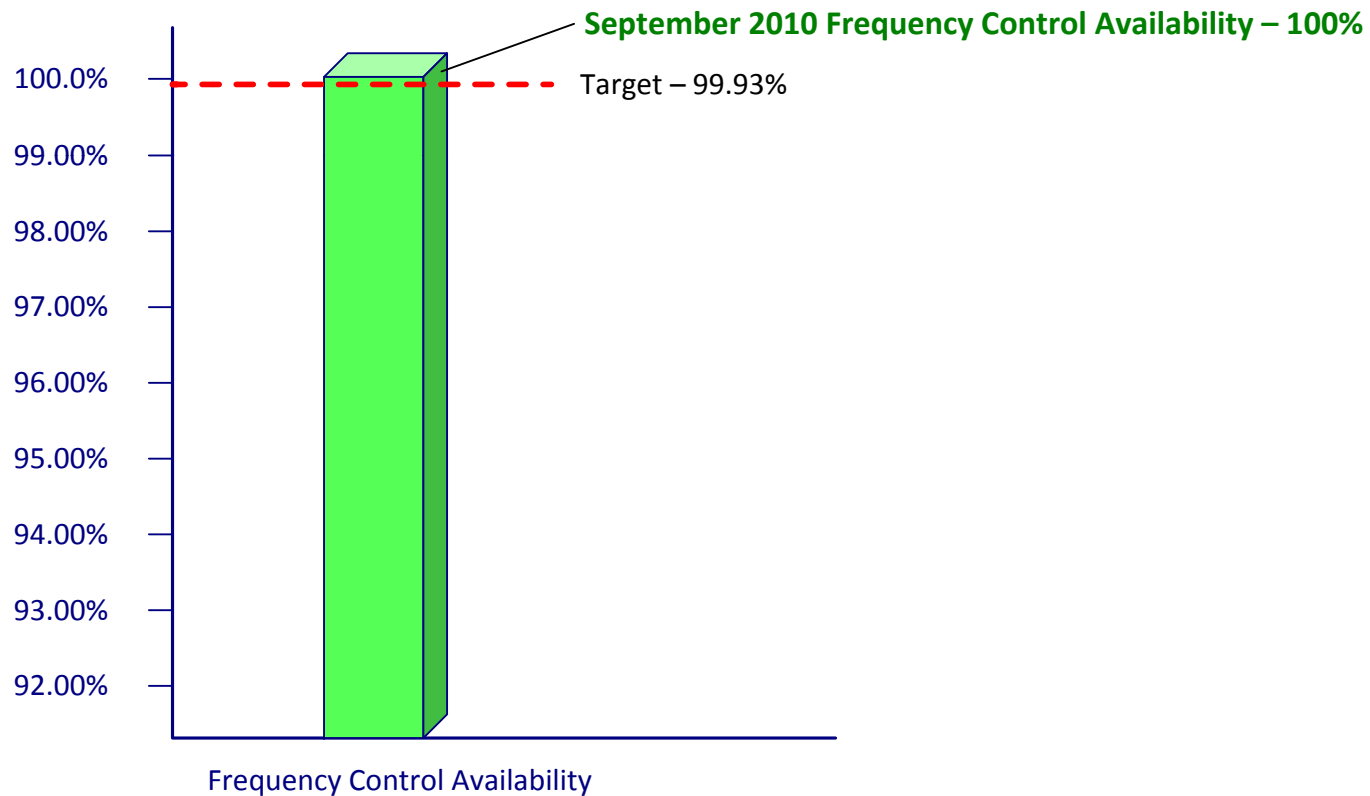*9/6 (720 minutes) –The Retail API was unavailable during the emergency Retail maintenance outage which was taken on 9/6 in order to repair the Storage Area Network (SAN) in Taylor, which was affected by a hardware failure on 9/4.*

Target – 99%

September 2010 Retail API Availability – 98.29%

Retail API Availability

Real Time Balancing Market Availability Summary

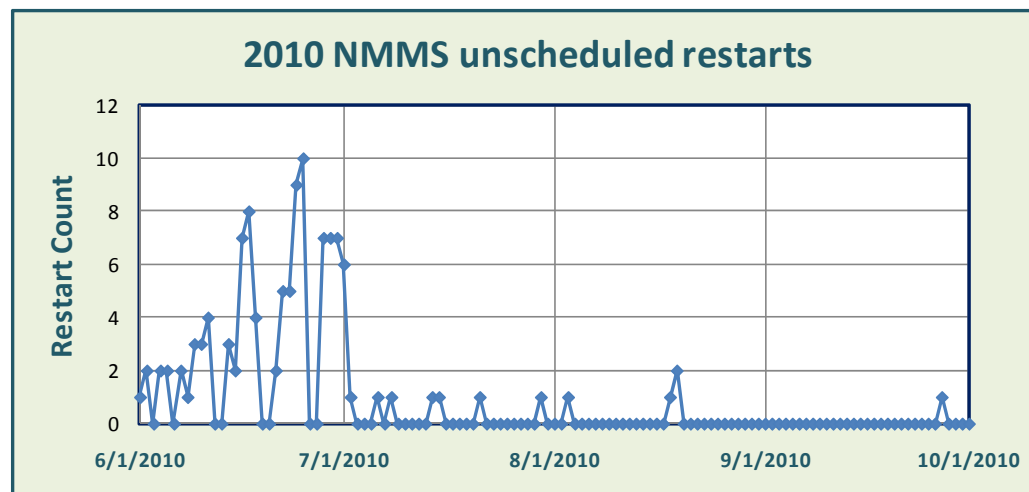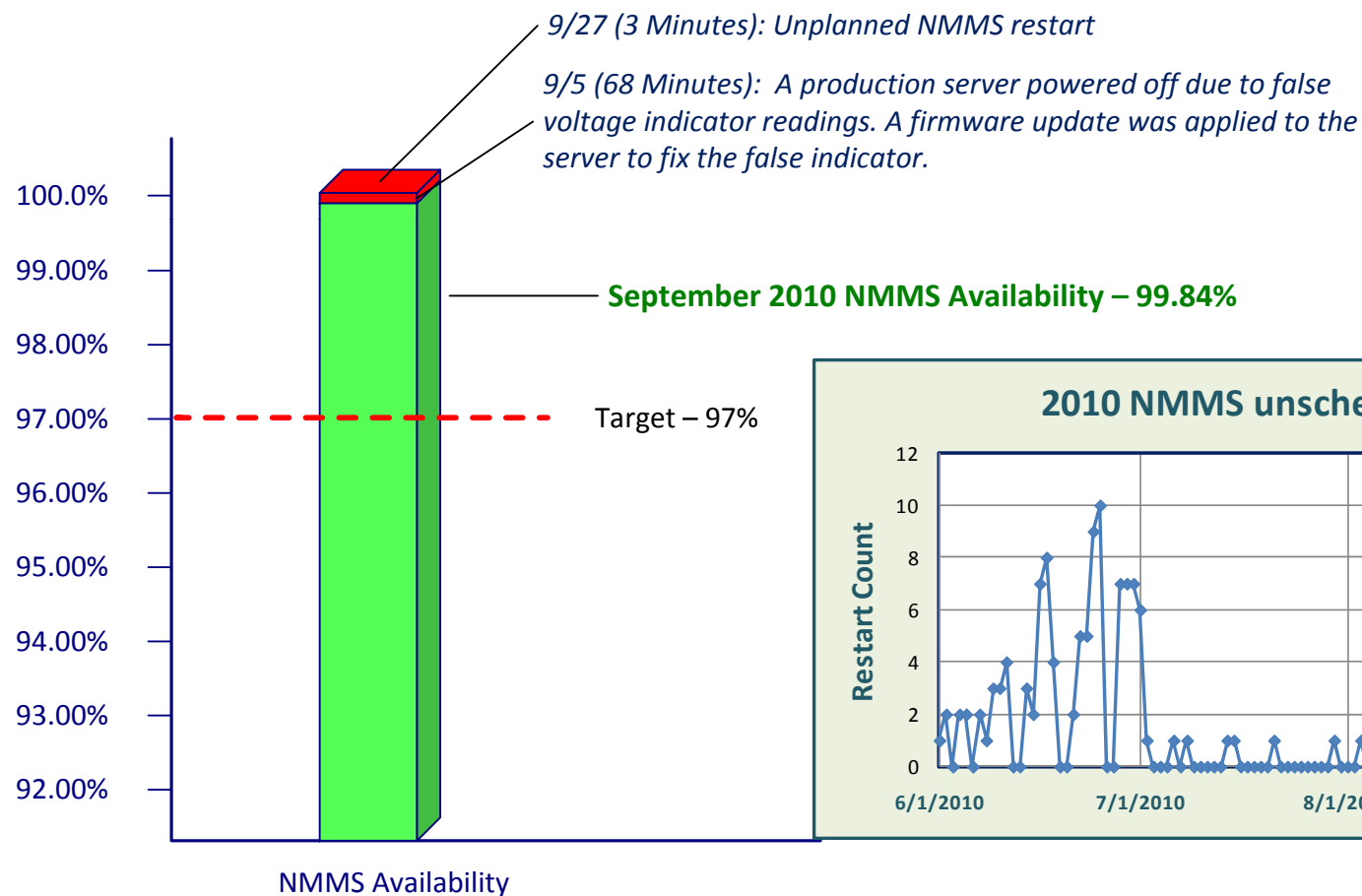## September 2010 Real Time Balancing Market Availability Summary

9/30 (30 Minutes): Invalid RTB results due to the wrong load forecast value from incorrect Load Area data

Target – 99.93%

September 2010 Real Time Balancing Market Availability – 99.93%

Real Time Balancing Market Availability

Frequency Control Availability Summary

September 2010 Frequency Control Availability Summary

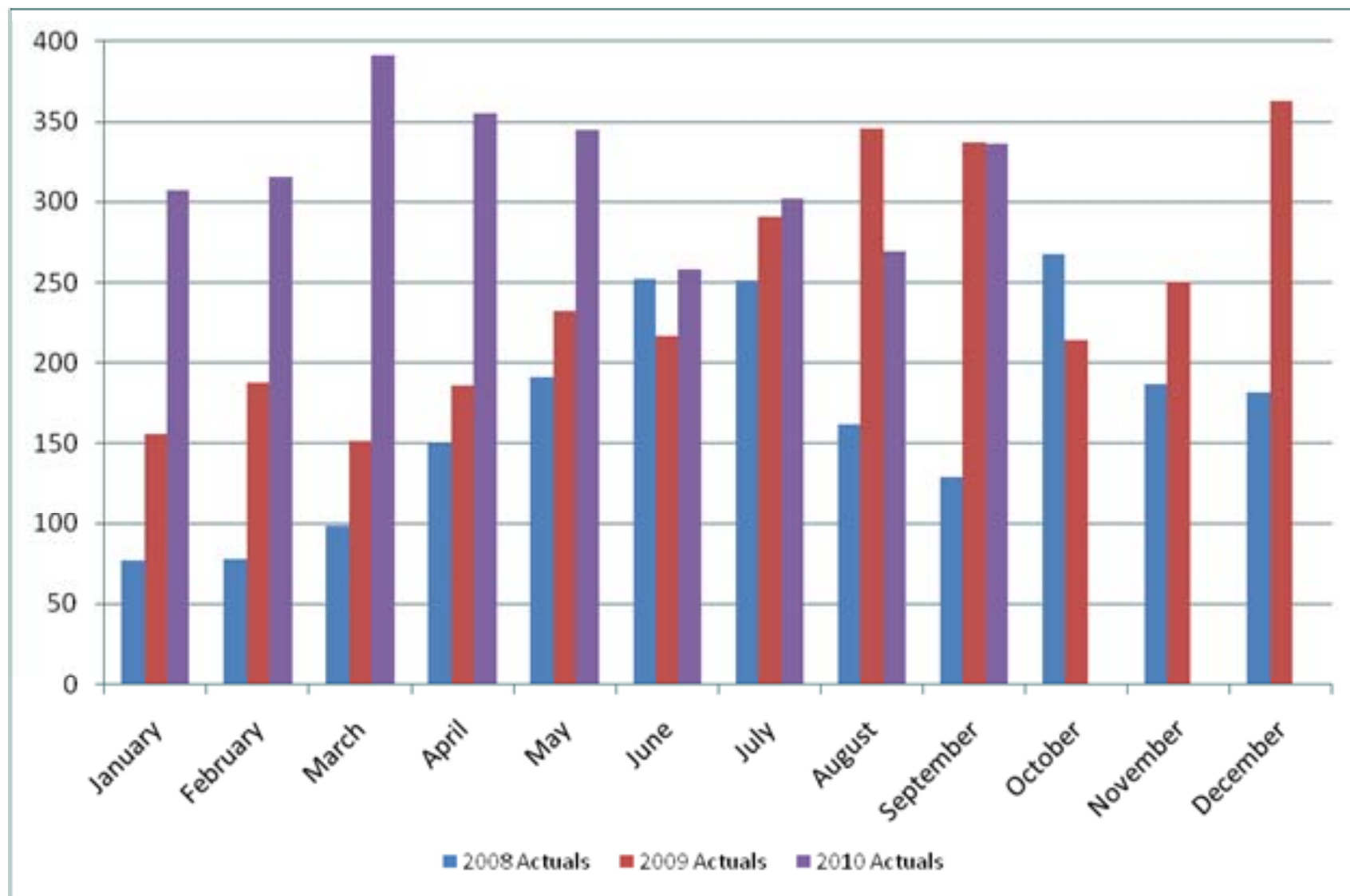September 2010 Frequency Control Availability – 100%

Target – 99.93%

Frequency Control Availability

Network Model Management System

September 2010 Network Model Management System (NMMS)
Availability Summary

9/27 (3 Minutes): Unplanned NMMS restart

9/5 (68 Minutes): A production server powered off due to false voltage indicator readings. A firmware update was applied to the server to fix the false indicator.

September 2010 NMMS Availability – 99.84%

Target – 97%

NMMS Availability

2010 NMMS unscheduled restarts

Restart Count

Release Management Metrics (3-Year Releases by Month)

Release Management Metrics (Nodal vs. Zonal Releases)

Note: **2010 metrics are YTD**
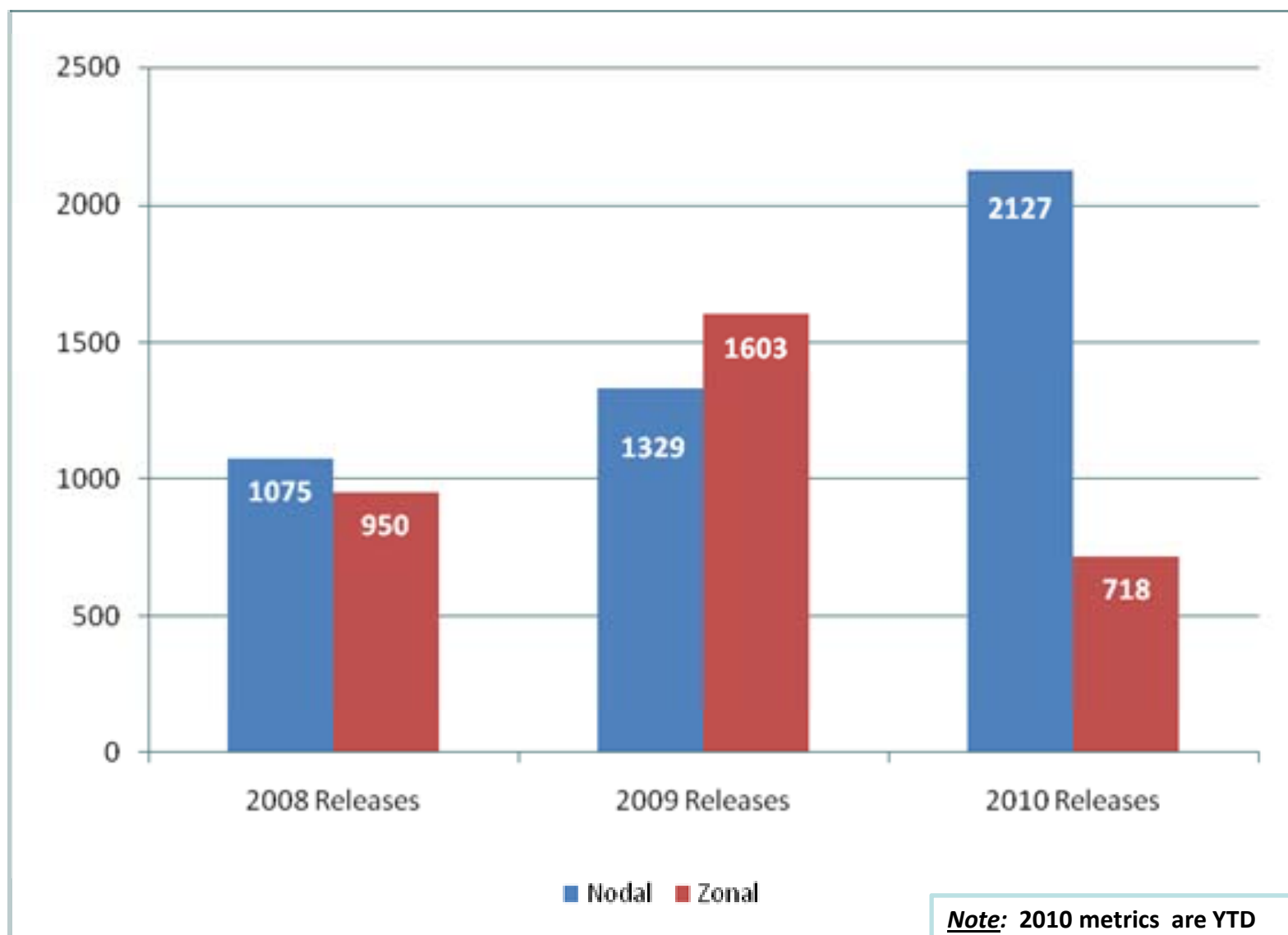
ERCOT Public Website Metrics (September 2010)

Name↑	Reports	Status	Visits	Avg. Time on Site	Bounce Rate	Completed Goals	Visits % Change
http://faq.ercot.com UA-460876-6							
☆ faq.ercot.com	View report	✓	1,483	00:02:19	46.53%	0	⬆ 1.58%
http://nodal.ercot.com UA-460876-5							
☆ nodal.ercot.com	View report	✓	14,115	00:03:17	38.96%	0	⬆ 20.65%
http://planning.ercot.com UA-460876-7							
☆ planning.ercot.com	View report	✓	2,241	00:04:12	20.93%	0	⬆ 6.21%
http://search.ercot.com UA-460876-8							
☆ search.ercot.com	View report	✓	5,802	00:03:00	50.55%	0	⬆ 7.90%
http://www.ercot.com UA-460876-2							
☆ www.ercot.com	View report	✓	103,946	00:02:25	57.81%	1	⬆ 3.22%

**Legend**
Bounce Rate: % of single page visits; **Completed Goals:** Measure of specific predefined actions completed by visitors;
% Change: % change in visits relative to previous month