Network Reliability Steering Committee

Annual Report 2000

Network Reliability
Steering Committee

Sponsored by the Alliance for
Telecommunications Industry
Solutions

To the Telecommunications Industry:

This Annual Report reviews the health of the wireline telecommunications networks for the year 2000, as well as trends observed over the last eight years of outage reporting to the FCC. It was a dynamic year in the industry and in the NRSC as well. However, our commitment to the reliability of service to the American public was sustained.

Through his years of service and dedication, Ray Albers, former NRSC Chair, has exemplified this commitment. I would like to take this opportunity to thank Ray, on behalf of the NRSC and the industry.

In considering the extent of the data that has been collected and analyzed over the last eight years, the NRSC has endeavored to make its analysis more useful to the industry in improving network reliability. These changes include expansion of the baseline level for control limits to cumulative data from January 1, 1993 through December 31, 1999, and making the annual report period cover a calendar year.

During the past year the frequency of outages and the outage index, a measure of impact on customers, were above the baseline level, although they remain within the "green" area of the control charts. These results are consistent with those observed in recent years, and demonstrate continued overall reliability of telecommunications networks and services. However, analysis within failure categories shows some atypical results. Central Office (CO) Power and Tandem Switch had the highest ever outage frequency, and Common Channel Signaling (CCS) was at its highest level since 1993, and Digital Cross-connect Systems (DCS) was above its baseline level for a fourth consecutive year. At the same time, the two categories that have historically accounted for more than 60% of all outages—Facility and Local Switch—each recorded their second lowest outage frequency ever.

Analysis of outage data over the course of the eight-year data history shows that total outage frequency is increasing at a rate of 2.2% per year, which still less than the annual growth of the network in lines or calls. It should be noted that within failure categories, the outage frequency rate of increase for CO Power is 14% per year, DCS is 21% per year, and CCS is 11% per year. Also, the frequency of outages with a Procedural Error as a root cause is increasing at a rate of 8% per year.

In the previous Annual Report, it was noted that a large, and unfortunately increasing, number of incidents reported each year can be traced to a failure to apply best practices. I want to reinforce this message, and encourage all service providers and vendors to review the best practices documents available on the NRSC web site ("Fixing Facilities Damages", "Procedural Outage Reduction Report", and "NRIC IV Analysis and Recommendations on Best Practices"). The URL is http://www.atis.org/atis/nrsc/nrschome.htm .

Looking to the future, the challenges of ensuring the reliability of public telecommunications networks seem sure to increase. It is only though our continued effort and cooperation that we will be able to meet these challenges. I look forward to working on this collaborative effort with the dedicated industry, consumer, and government representatives that make up the NRSC.

PJ Aduskevicz
Chair

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INTRODUCTION

This report provides an analysis of U.S. telecommunications network performance based on outage reports to the FCC made by service providers from January 1, 1993 through December 31, 2000. While service providers are required to make such reports for outages meeting various criteria, the vast majority of reports are made for outages that potentially affect 30,000 or more customers for 30 minutes or more. The analysis presented herein is primarily focused on those outages reported on the basis of these 30,000 customer/30 minute thresholds. A discussion of other reportable incidents is included in a section on "Special Outages."

The Network Reliability Steering Committee (NRSC) was established under the auspices of the Alliance for Telecommunications Industry Solutions (ATIS) to monitor network reliability utilizing major outage reports filed with the Federal Communications Commission (FCC) pursuant to Part 63.100 of the FCC Rules. The NRSC's mission is to analyze network outage data reported by companies, to identify trends, make recommendations aimed at improving network reliability, and make the results publicly available, and where applicable refer matters to other industry fora for further action.

During 2000 members of the NRSC included:

Association for Local Telecommunications Services (ALTS)
AT&T
BellSouth
Cellular Telecommunications and Internet Association (CTIA)
Consumer Representative
International Communications Association (ICA)
Lucent Technologies
National Association of Regulatory Utility Commissioners (NARUC)
National Communications System (NCS)
Nortel Networks
Qwest
Siemens ICN
SBC
Telcordia Technologies
United States Telecom Association (USTA)
Verizon

Other organizations participating in the NRSC and its various sub-committees included:

Associated General Contractors of America (AGC)
Dow Chemical
Federal Communications Commission (FCC)
Motorola
National Utility Locating Contractors Association (NULCA)
So-Deep Inc.
Union Pacific Railroad
United States Department of Transportation (USDOT)