

CAC Manitoba: Book of Documents
NFAT Review

Tab	Document
1	North American Electric Reliability Corporation, <i>2012 Long-Term Reliability Assessment</i> (November 2012) p. 59
2	North American Electric Reliability Corporation, <i>2013 Long-Term Reliability Assessment</i> (December 2013) p. 7

TAB 1

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

2012 Long-Term Reliability Assessment

November 2012

RELIABILITY | ACCOUNTABILITY

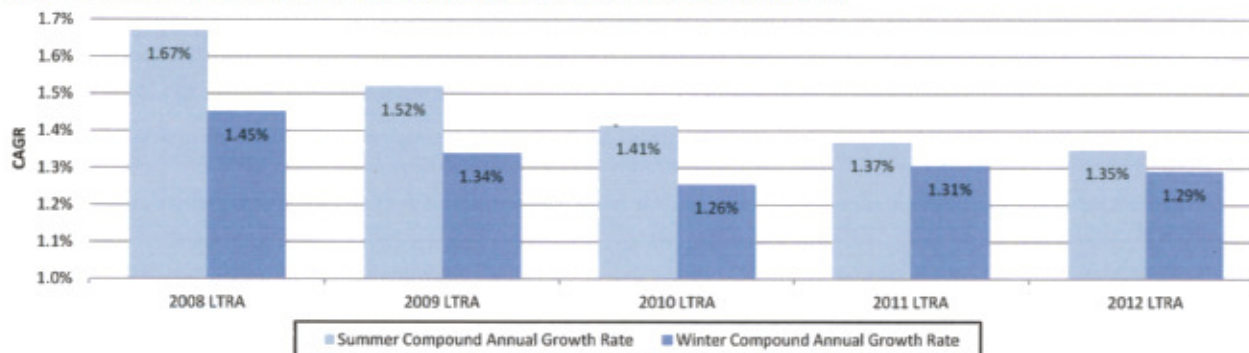


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Demand

The North American electricity demand growth for the summer season during the next decade (2013–2022) remains essentially unchanged from last year’s outlook. NERC-wide, the 10-year compound annual growth rate (CAGR) for on-peak summer demand is 1.35 percent—slightly lower than what was reported in the 2011 *Long-Term Reliability Assessment*. The 10-year growth outlook for winter demand also remains steady at 1.29 percent. There is a 0.02 percent decline compared to a year earlier, but demand still remains above its lowest outlook in 2010 (Figure 47).

Figure 47: NERC-Wide Compound Annual Growth Rate of Seasonal Total Internal Demand



Peak load forecasts provide a future view on electricity infrastructure needs. According to the 2012LTRA reference case, the demand growth for the summer season has reached its lowest level since NERC began reporting this data in 1967. This slower growth outlook will have important implications on the need for new capacity resources.

Despite a slower growth forecast for North America as a whole, several assessment areas project significant electricity demand growth during the next decade, including Alberta (WECC-AESO) and ERCOT. Alberta covers the third-largest proven oil reserves in the world (over 170 billion barrels), and the extraction of these oil sands by surface mining will create substantial load growth—both to support mining operations and corresponding population increases. The Alberta Assessment Area projects average growth of over 3.5 percent annually, totaling over 4 GW by 2022. Continued population growth throughout Texas is largely responsible for increasing electricity demand in load centers during the 10-year outlook.

Although Canada as a whole projects moderate economic growth and corresponding electricity demand growth in the coming decade, Ontario will lag behind in the near term. High commodity prices—in particular oil—will benefit other parts of Canada over Ontario’s manufacturing and export-based economy. During the 10-year period, Ontario’s economy is expected to continue to undergo structural change. As the economy matures, there is likely to be a transition from an energy-intense industrial process-based economy to one with a larger service sector and specialized or high-value-added manufacturing, which could lead to a less energy-intense economy. Demand conservation is another underlying driver for slower demand growth. Accordingly, the NPCC-Ontario Assessment Area is expecting flat demand growth for the 10-year summer outlook with negative growth during the winter.

Most of the remaining assessment areas are planning for moderate demand growth over the 10-year period, attributing mostly local economic conditions as primary determinants (Figure 48).

TAB 2

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

2013 Long-Term Reliability Assessment

December 2013

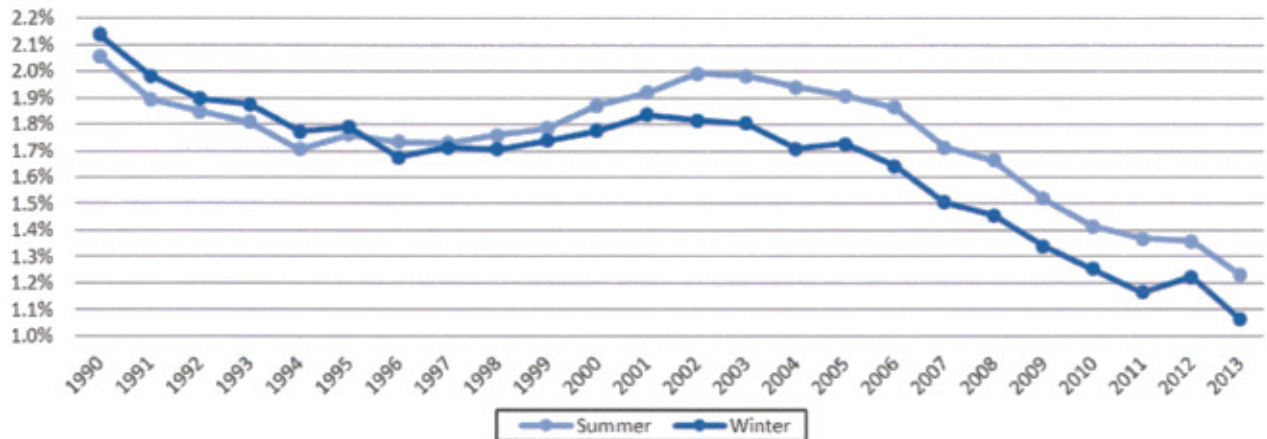
RELIABILITY | ACCOUNTABILITY



Demand

The NERC-wide 10-year compound annual growth rate (CAGR) for on-peak summer demand is expected to fall for the 11th consecutive year to an all-time low of 1.23 percent from 2014 to 2023. Similarly, the winter demand growth rate has steadily declined since 2003.

Figure 4: NERC-Wide 10-Year Compound Annual Growth Rate



Summer projections for peak demand have been in decline for over a decade as a result of load forecasts that are impacted by a combination of slower economic growth, increased participation in Demand-Side Management (DSM) programs (including efficiency gains from new appliance standards), and additional reliance on behind-the-meter generation. These projections align with the U.S. Department of Energy’s Energy Information Administration (EIA) data that indicates a continued decline in the growth rate of annual electricity usage (measured as energy). Energy usage has fallen each decade since the 1950s, from 9.8 percent (1949–1959) to only 0.7 percent per year (2002–2010).¹⁵

Although the NERC-wide demand growth rate continues to fall, the province of Alberta, Canada (WECC-AESO) is a clear exception. The area projects continued growth in both summer and winter electricity usage at rates of 3.46 percent and 3.13 percent, respectively. The ongoing, energy-intensive surface mining and extraction activities underway in Alberta’s oil sands are the primary reason for load growth in the area. SPP has also experienced pockets of significant increases in demand caused by the recent and sudden growth of oil and natural gas drilling industries. ERCOT’s load growth projections are substantially lower at only 1.38 percent, compared to 2.3 percent in the 2012LTRA reference case. This reduction is the result of recent changes in the Moody’s long-range economic forecast for ERCOT.

¹⁵ EIA 2013 Annual Energy Outlook p. 71.