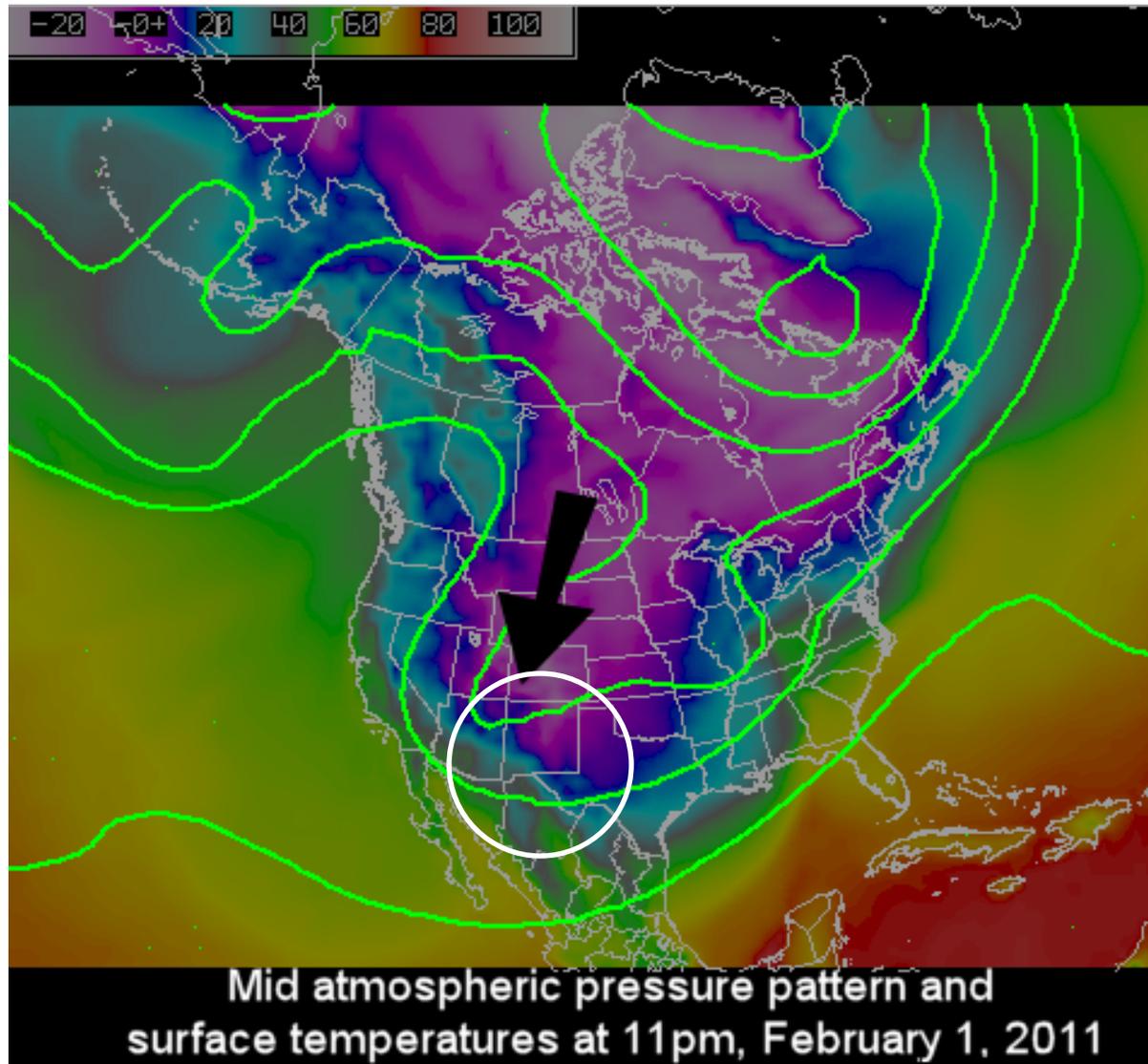


The February 2011 Cold Weather Event in New Mexico

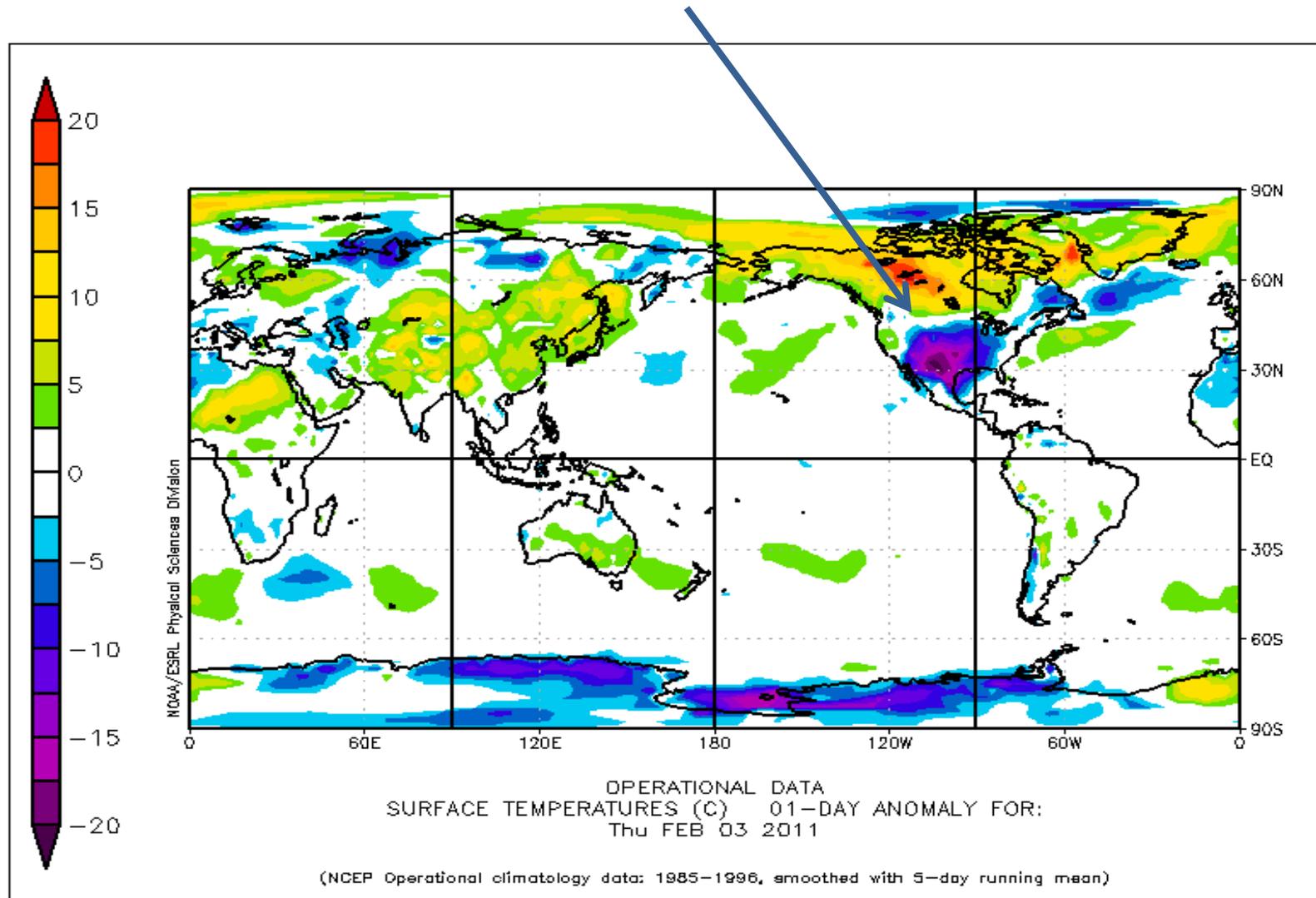
Reliability Technical Conference

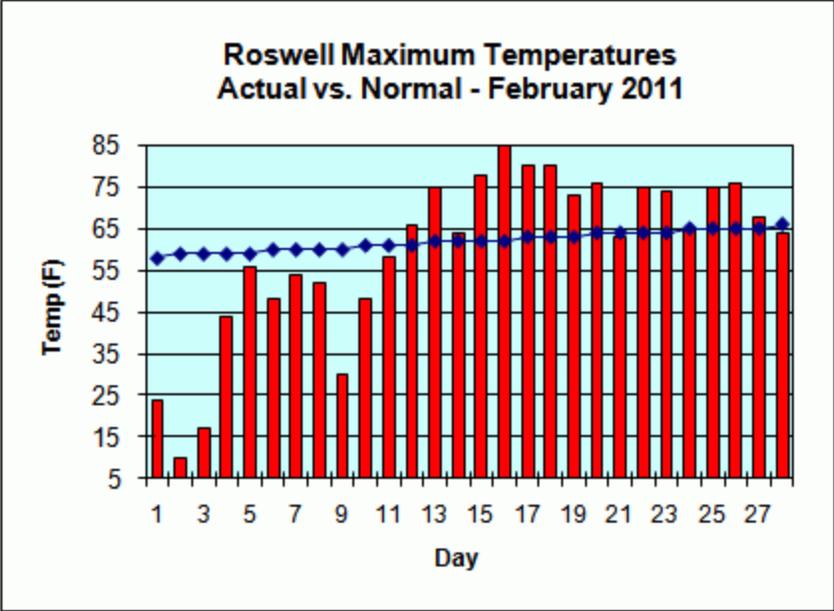
Washington DC
November 29, 2011

Roy E. Stephenson
Director, Utility Division
New Mexico Public Regulation Commission

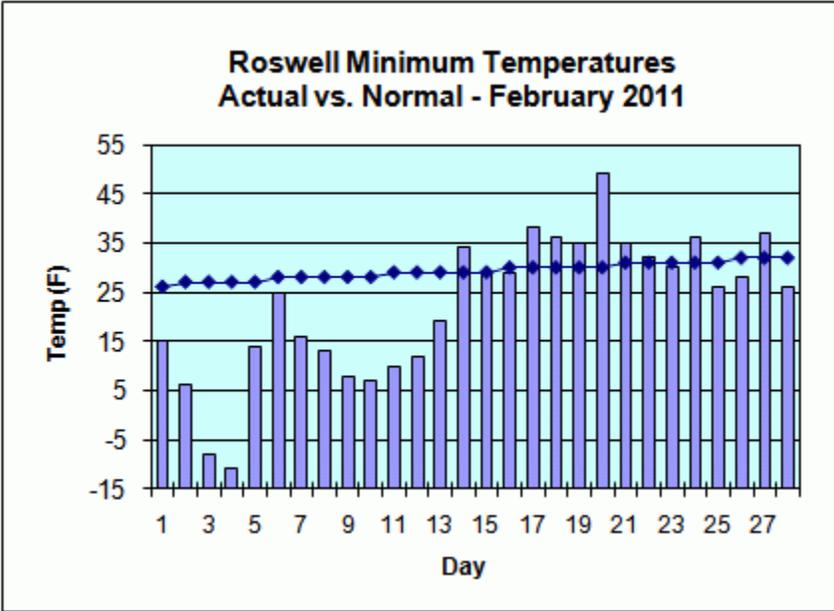


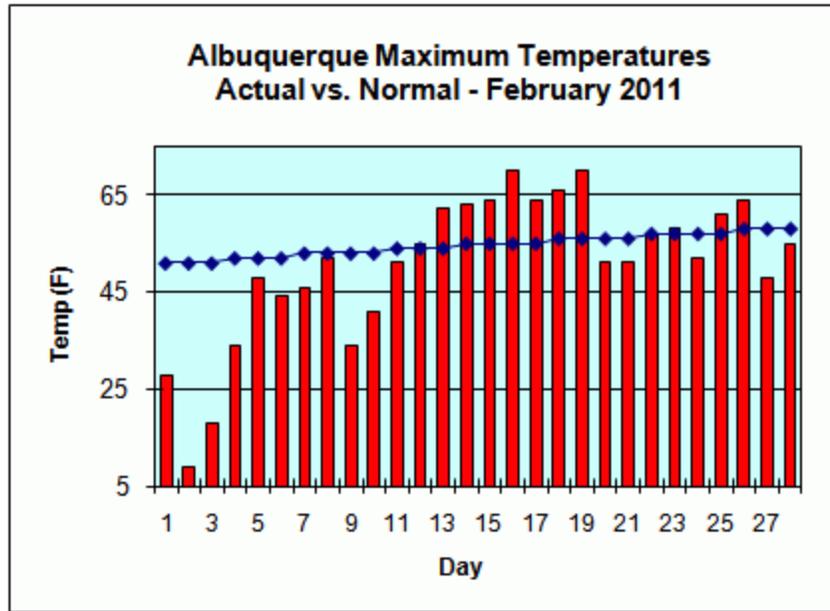
Global epicenter of the cold weather!



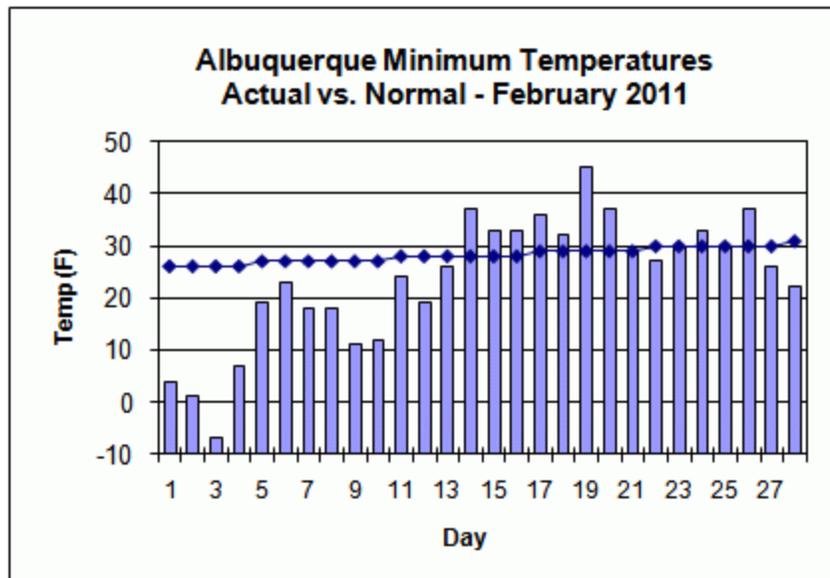


Roswell is in SE NM





Albuquerque
is in north-
central NM



**So it was indeed very cold in NM
and west TX for a sustained
time, but was it so much worse
than other cold weather
events?**

The 2011 severe weather regional patterns did result in record lows in many NM areas, but record cold weather events have hit parts of the state. For example: 1971, 1976, 1979, 1984, 1989 and 1990.

The **CASCADING** Events ...

- As cold weather moves into Texas ...,
 - Electricity and gas demand jump
 - Electric generating plants shut-down or curtail (coal, gas, and renewables all affected)
 - Gas production freezes up
 - Black outs further aggravate gas processing & production
- As a result, gas supply to interstate pipelines diminishes

The **CASCADING** Events ...

- In New Mexico,
 - Electricity and gas demand also jump
 - Some electric generating plants freeze and shut-down or curtail, mostly in the southern NM
 - Gas production in San Juan and Permian basins freeze up
 - Already low, pressures in the interstate pipelines drop even more
- As a result, gas cut off to northern NM communities; people rely more heavily on electricity for heat

ISSUES

- Power plant weatherization
- Electricity increasingly reliant on NG; more demand-side generation
- Lack of back-up fuel at power plants
- NG processing plants unable to flare
- Compressors increasingly reliant on electricity
- Lack of local NG storage
- Tight electrical transmission systems and pipeline systems
- Communications between entities and with customers

Staff's Draft Report on Severe Weather Event of February 2011

- Informal Task Force independently convened by NMPRC Staff, partially in anticipation of inquiries such as the Legislative Task Force
- Participation in Informal Task Force was voluntary; “consensus” was sought wherever possible
- Only publicly-available information was relied upon
- Informal Task Force work purposely avoided interference with Case No. 11-00039-UT (NMGC Investigation)
- Mission of Informal Task Force was to identify root causes of electricity and natural gas service curtailments during Severe Weather Event and to develop a set of recommendations for consideration by the companies, NMPRC, and other relevant state and federal agencies
- Natural Gas Emergency Investigation Task Force (HB 452) has asked for a copy of Staff's Draft Report by August 29
- Report will be finalized after incorporation of FERC/NERC Joint Report (issued August 16, 2011) and final order on 11-00039-UT

Staff's Draft Report (cont'd)

- Staff has not had opportunity yet to review FERC/NERC Report and incorporate its many recommendations and conclusions
- “Quick reading” indicates no major inconsistencies with Staff’s Draft Report. Major conclusions appear to be:
 - Severe Weather Event was indeed severe and rare but not without precedent
 - Rolling electrical black-outs in Texas and Southern NM resulted from inadequate or ineffective weatherization of all types of power plants
 - Inadequate weatherization was primary cause of severe reduction in natural gas production, especially in the Permian and Forth Worth basins
 - Rolling black-outs affecting compression and processing also contributed to reduction in gas available
 - High gas demand, combine with reduced production, caused shortages on pipeline systems
 - Generally, utility response to conditions was adequate to prevent system-wide failures

NMPRC Staff Members of the Informal Task Force:

Consumer Relations: Jim Williamson

Transportation, Pipeline Safety: Jason Montoya

Legal: Nancy Burns

Utility :
Jack Sidler
Timothy Martinez
Steve Schwebke
Bruno Carrara
Roy Stephenson

Staff's Draft Report Recommendations to the NMPRC:

Recommendation NMPRC1:

The Commission should consider implementing a central location on its internet site where utility customers can obtain information on interruptions or curtailments. The Commission should strive for information to be up-to-date and real time.

Recommendation NMPRC2:

The Commission should consider implementing a central location on its internet site where utility customers can obtain information on how and where to report outages and other emergencies and where Commission staff can obtain information on utility contacts regarding normal information, outages and emergencies at their various locations, during both business and non-business hours.

Recommendation NMPRC3:

The Commission should consider modifying its rules to more explicitly require regulated electric and natural gas utilities to consider fuel diversity, alternative or redundant fuel delivery systems, and back-up fuel capability in their planning processes.

Recommendation NMPRC4:

The Commission should consider modifying its rules to require utilities to: 1) recognize natural gas-dependent generating facilities that directly or indirectly serve retail load as critical load; and, 2) require utilities to recognize electricity-dependent natural gas storage and transportation or distribution facilities that directly or indirectly serve retail load as critical load. See also Recommendation NMPRC6.

Recommendation NMPRC5:

The Commission should modify rule 17.9.560.15 NMAC dealing with reporting of electric system outages to the Commission to incorporate a reporting requirement that was instituted by letter in late 2005, but that is not contained in the rule when last revised in 1988. To the extent possible, outage reporting requirements for both electric utilities and natural gas utilities should be consistent. Modification of rule 17.9.660 NMAC may be required to accomplish this.

Recommendation NMPRC6:

For regulated natural gas and electric utility emergency plans, the Commission should consider requiring such plans to include:

- a process whereby the utilities identify “escalating” levels of emergency response that may be needed;
- a method to contemporaneously document the occurrences and the action contemplated for each level; and
- a plan for contemporaneous communication at each emergency level of the potential impacts or actions with potentially affected customers, government agencies and emergency response entities, and the public.

Staff's Draft Report Recommendations to Others:

Recommendation O1:

Properly marked utility service response vehicles should be afforded access privileges in emergencies, consistent with safety considerations, when public road access is otherwise curtailed to the general public.

Recommendation O2:

Electric generating facilities that utilize natural gas as the primary fuel should be allowed to utilize a back-up fuel (such as diesel fuel) during system emergencies.

Recommendation O3:

To reduce fuel interdependencies, natural gas processing plants, pipeline and natural gas storage facilities should utilize natural gas as the primary fuel for driving equipment whenever possible. Permitting processes should encourage the use of natural gas for these applications whenever possible.

Recommendation O4:

Consider allowing natural gas processing plants to bypass (by flaring or other means) natural gas during plant downtime during system emergencies, to avoid production shutdown.

Recommendation O5:

New Mexico should consider: 1) creating an inventory of potential natural gas storage locations in New Mexico and 2) various means of encouraging development of identified viable locations including incentives and fast-track approval methods.

Recommendation O6:

Local, state, and federal governments should encourage winterization and redundancy in critical electrical system and natural gas supply chain components. Methods such as tax incentives, streamlining approval processes, or other innovations could be employed.

Recommendation O7:

As a precaution and because of greater reliance on publicly-available systems such as mobile telephones, all critical services (including electric utility, natural gas utility, water utility, wastewater utility, telecommunications utility, and other critical services) should review their physical communications systems for weaknesses or possible failure points. The Task Force did not examine this topic since there was no telecommunications system failure reported during the February 2011 event.

Recommendation O8:

Given the complexity and interdependence of the natural gas supply chain and the electrical system, a permanent structure, possibly a committee or task force, should be established at the state level to review system failures of the nature experienced in February 2011.

[NOTE: The original version of Recommendation O8 was made by NNSA and was directed at the NMPRC. Because of the implications beyond the NMPRC's jurisdiction, staff of the NMPRC does not believe that this coordination responsibility should be "assumed" by the NMPRC. The original NNSA language has been therefore modified and is being located in this section of the report. NNSA does not agree with these modifications and with the location change.]