

N E B R A S K A



E N E R G Y O F F I C E

# The Crisis Hits—Now What?

Newport, Rhode Island

August 4, 2009



## Occupied Housing Units by Fuel Used for Home Heating in Nebraska, 2007

### 2007 Total Occupied Housing Units – 699,728

Fuel	Home Heating	% of Total
Utility Gas	462,545	66.10%
Bottled, Tank, or Liquefied Petroleum Gas	59,453	8.50%
Electricity	153,299	21.91%
Fuel Oil, Kerosene, etc.	5,541	0.79%
Coal or Coke	156	0.02%
Wood	10,017	1.43%
Solar Energy	104	0.01%
Other Fuel	7,007	1.00%
No Fuel Used	1,606	0.23%

Source: 2007 American Community Survey, U.S. Census Bureau.



# Benchmarks

- National natural gas supply – close to 3 trillion cubic feet in storage by November 1
- National gasoline supply – 200 million barrels
- Midwest Region propane supply – 25 million barrels in storage by the end of September



# Data and Information Tracked

- Daily pipeline terminal supply reports
- Daily AAA motor fuel price report
- Weather Forecasts
- Demand
- OPIS email alerts
- EIA's "Monthly Report of Prime Supplier Sales of Petroleum Products Sold for Local Consumption" (EIA-782C)
- Windshield surveys
- Phone calls from constituents concerning:
  - Long lines at terminals
  - No fuel at terminals
  - Issues at the retail level
- Propane and heating oil dealers and industry contacts
- Harvesting and planting dates



# Data and Information Tracked

- Track executive orders and emergency declarations from other states
- U.S. Department of Energy's Office of Electricity Delivery & Energy Reliability website for Infrastructure Security & Energy Restoration (ISER)  
([http://www.oe.energy.gov/our\\_organization/iser.htm](http://www.oe.energy.gov/our_organization/iser.htm))
- National Propane Gas Association hours-of-service exemptions for propane  
(<http://www.npga.org/i4a/pages/index.cfm?pageid=832>)
- ImapData.com
- Minerals Management Services (<http://www.mms.gov/>)
- National Weather Service's National Hurricane Center  
(<http://www.nhc.noaa.gov/>)
- Gas prices around the country (map)  
([http://www.gasbuddy.com/gb\\_gastemperaturemap.aspx](http://www.gasbuddy.com/gb_gastemperaturemap.aspx))



# Data and Information Tracked

- **Federal Motor Carrier Safety Administration**  
(<http://www.fmcsa.dot.gov/about/news/news-releases/09press.htm>)
- **Energy Assurance Guidelines**  
(<http://www.naseo.org/eaguidelines/>)

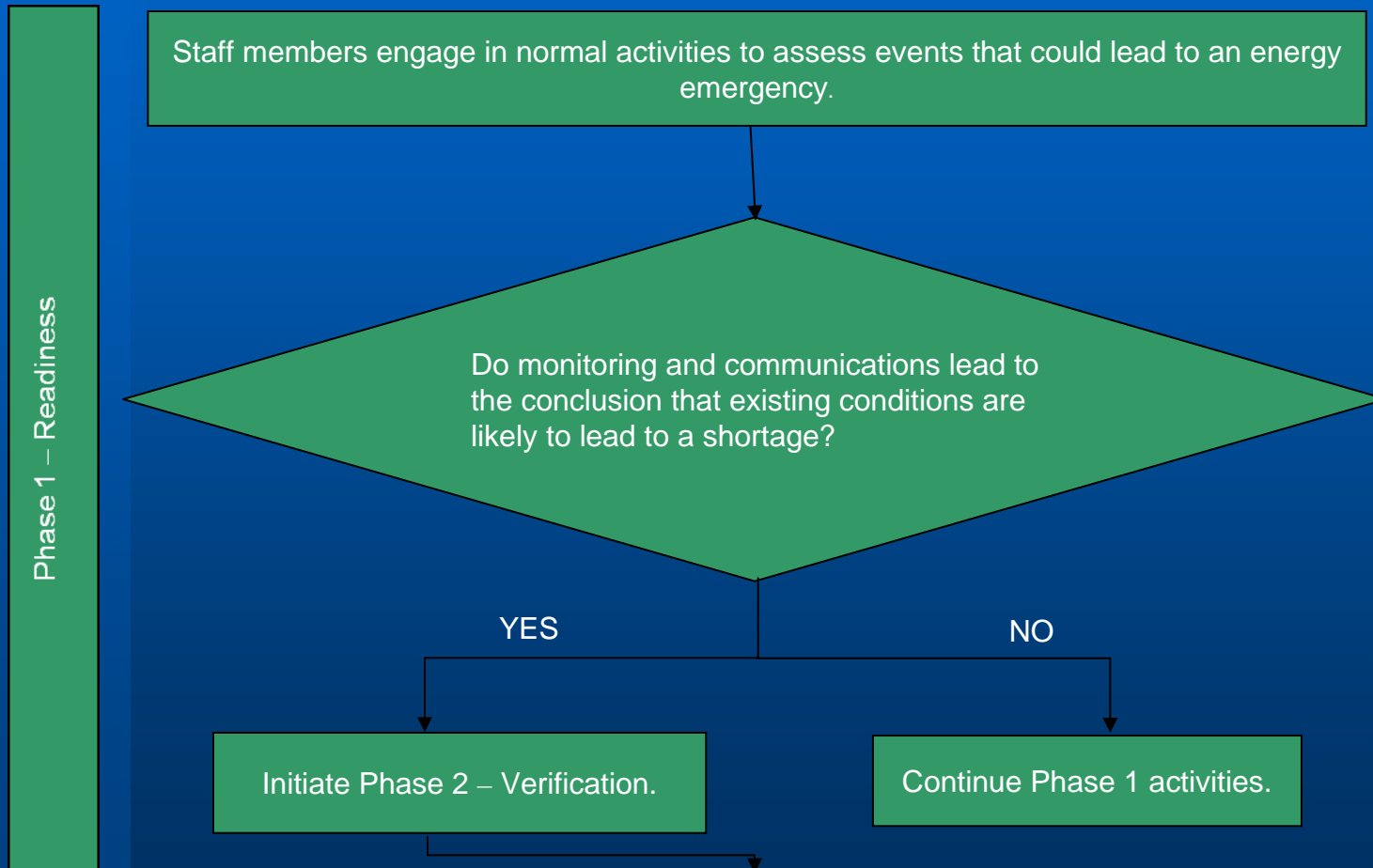


# Preparation

- Set up qualitative and quantitative triggers
- Estimate the amount of fuels I need in storage for the state's basic needs
- Track supply at the retail level
- Acquire feedback as to what response actions are wanted or needed from State and local governments during an event
- Estimate State-specific supply benchmarks and triggers for the response actions
- Gain access to public and private bulk storage levels
- Brainstorm conservation ideas
- Brainstorm mandatory and voluntary measures and the impact each could have

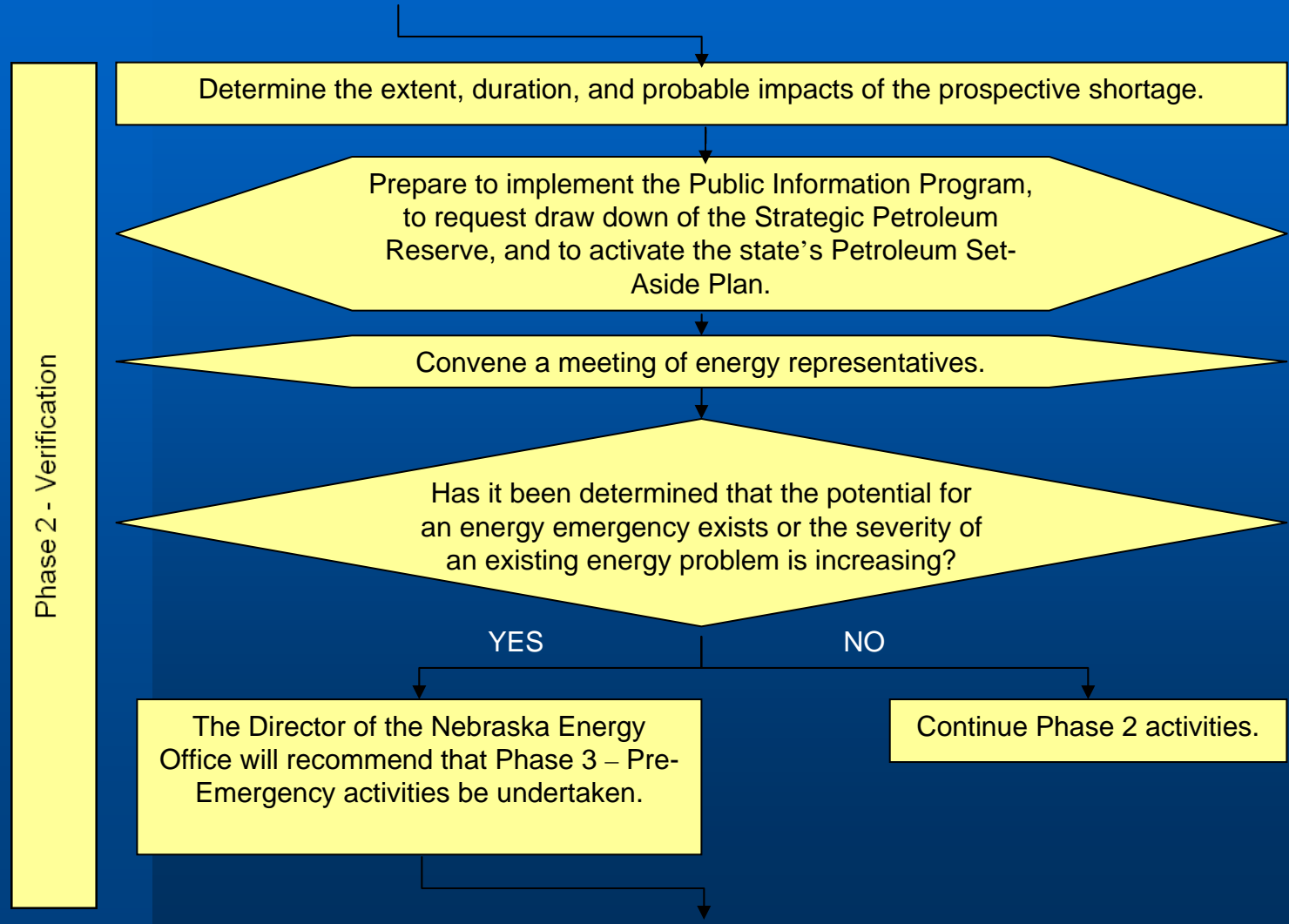


# Emergency Phase 1 – Readiness



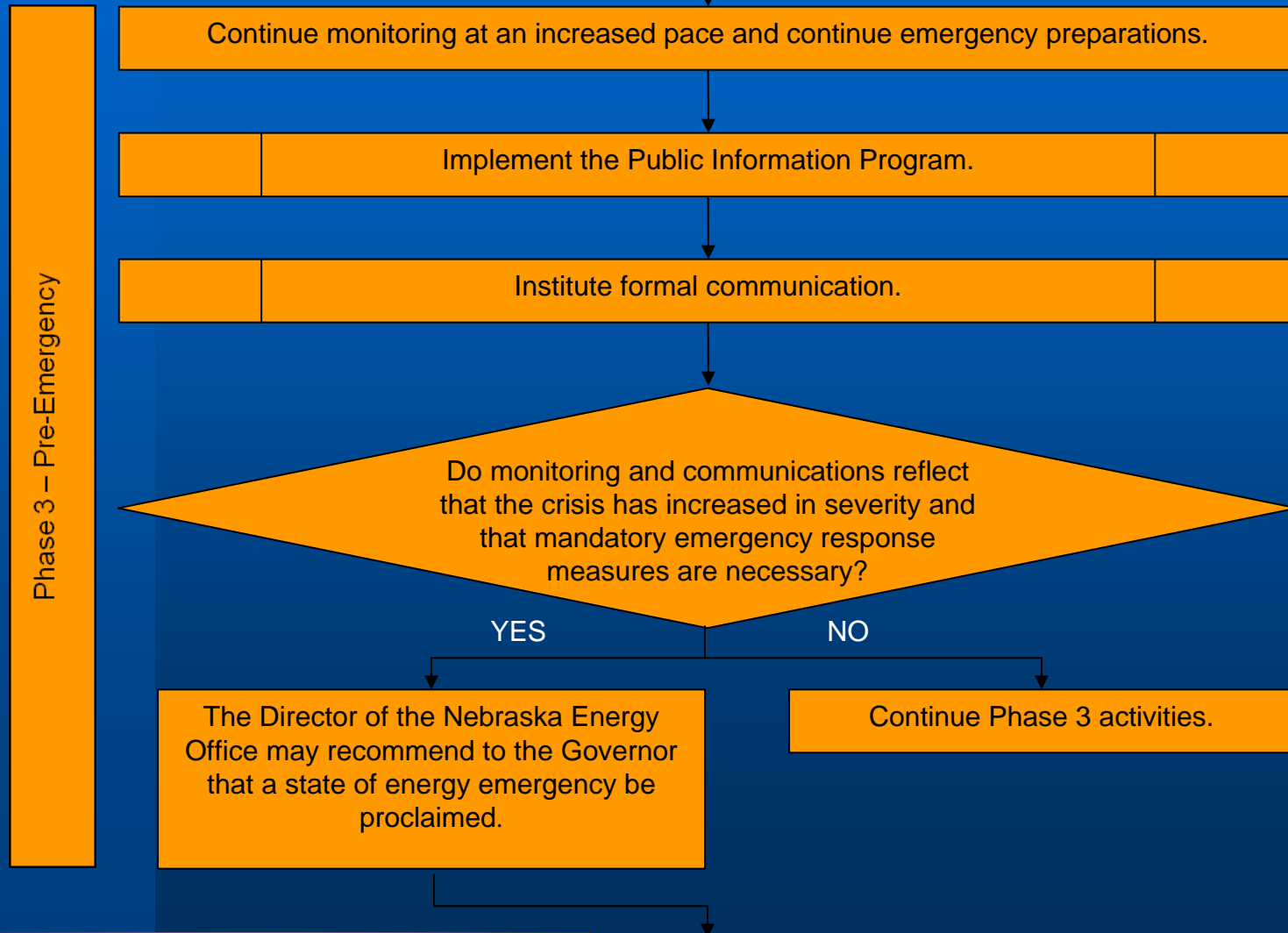


# Emergency Phase 2 – Verification



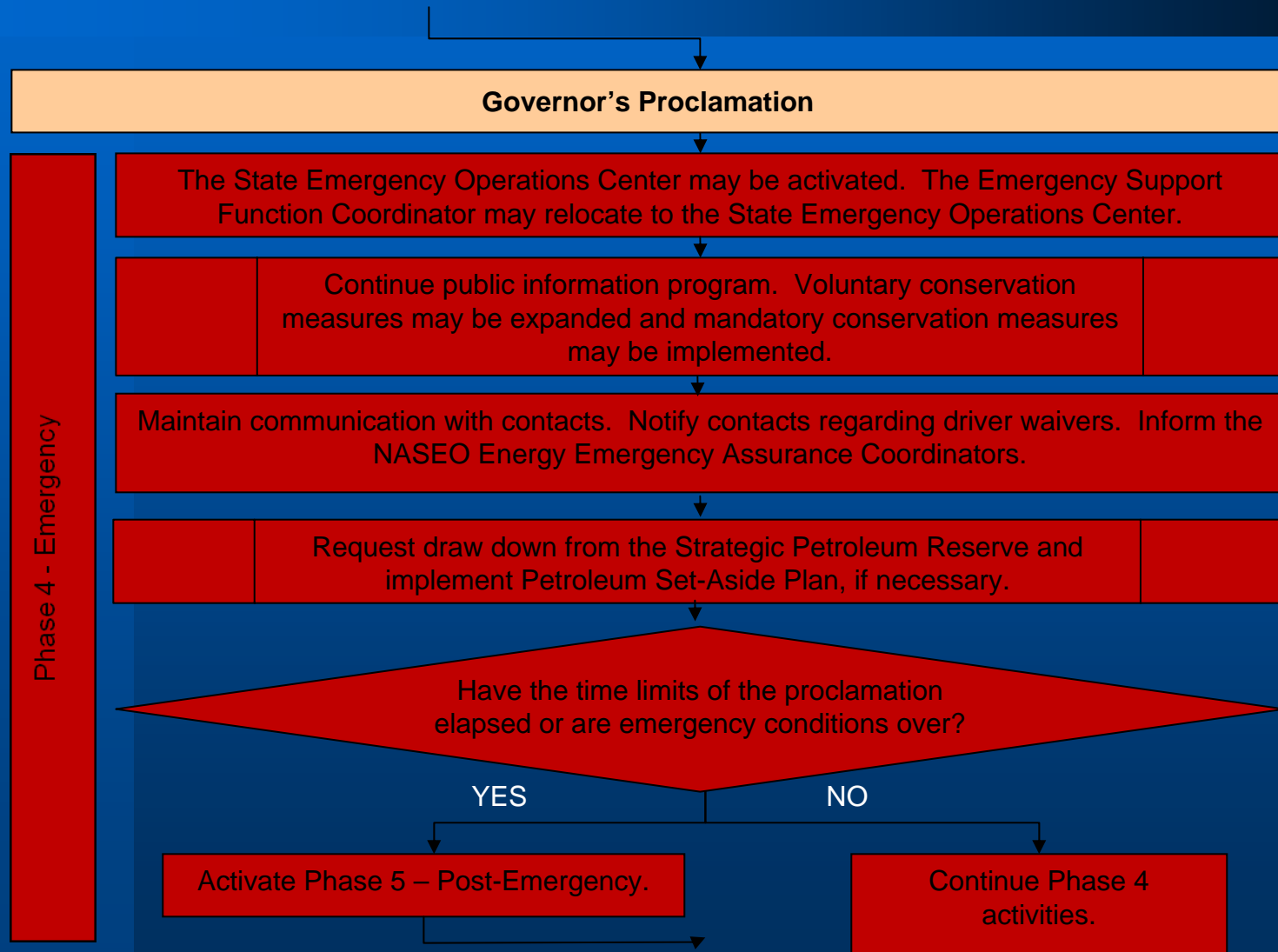


# Emergency Phase 3 – Pre-Emergency



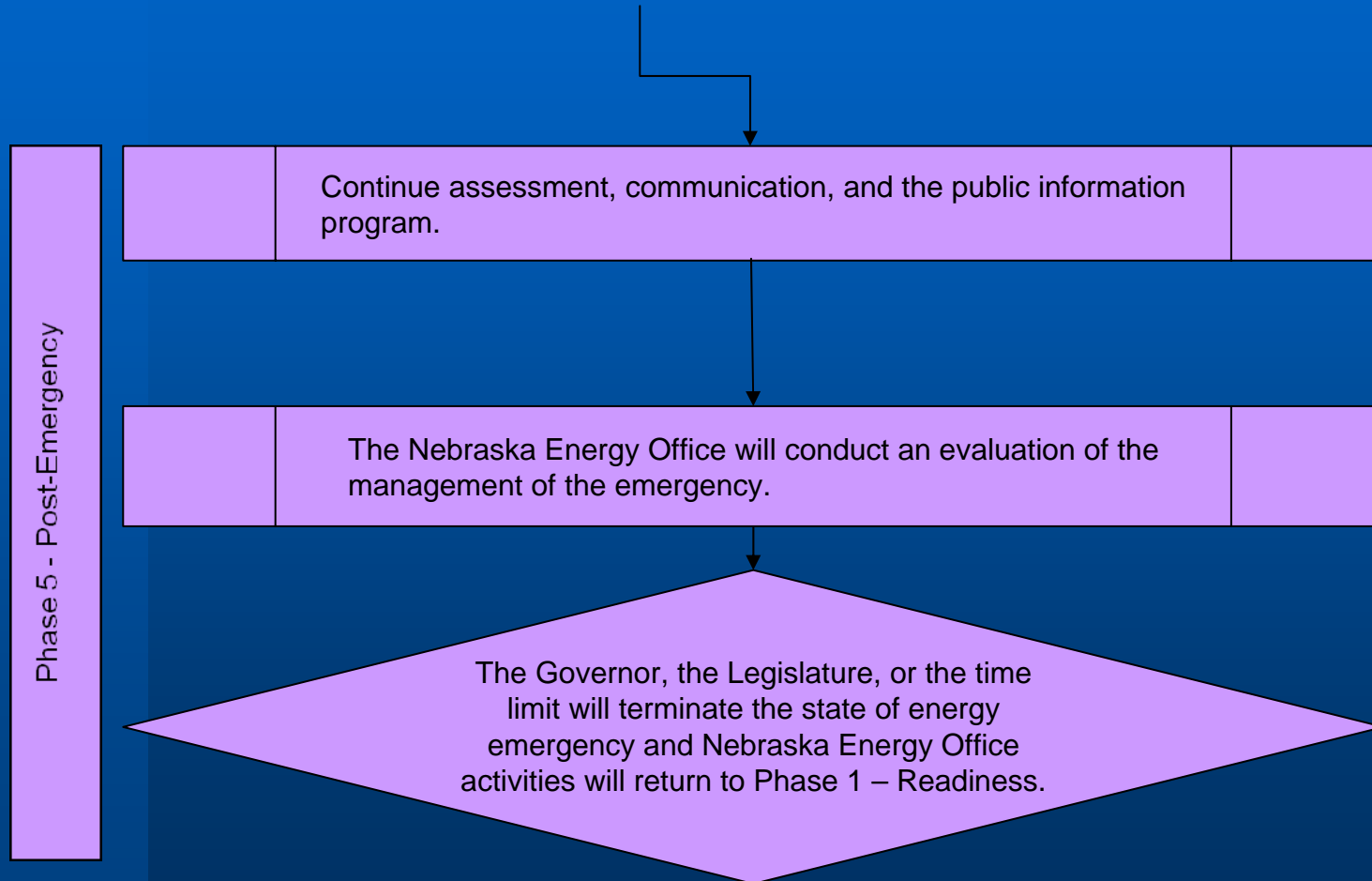


# Emergency Phase 4 – Emergency





# Emergency Phase 5 – Post-Emergency



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## **Propane Shortage Indicators**

Factors that may lead to energy shortage conditions:

- Changes in government regulations
- Disruptions at production fields serving Nebraska
- Disruptions to pipeline flow
- Extremely cold weather

Indicators of the severity of the outage:

- Propane supplies
- Deliveries of propane
- Availability of alternate fuels and emergency supplies
- Curtailments
- Changes in underground propane storage
- Spot market prices for propane

## **Electricity Shortage Indicators**

Factors that may lead to energy shortage conditions:

- Weather:
  - floods
  - ice storms
  - drought
  - windstorms
- Shutdown of generating facilities for inspections, for scheduled and unscheduled maintenance, and for repairs
- Union strikes in the coal mining and/or transportation industries
- Unanticipated surges in demand
- Damage to generating facilities
- Disruption to transmission facilities
- Changes in government regulations relating to plant emissions and other aspects of generation of electricity

Indicators of the severity of the outage:

- Surplus and reserve generating capacity
- Level of generating fuel stocks
- Curtailments
- Public appeals by utilities for electricity conservation for the purpose of maintaining continuity of the system
- Availability of power pool reserves

## **Petroleum Shortage Indicators**

Factors that may lead to energy shortage conditions:

- Changes in taxes or government regulations affecting conditions of production, transmission, or sale of products
- Disruption of operations at refineries serving Nebraska
- Oil import disruptions
- Product pipeline disruptions
- Weather
  - colder/warmer than normal weather
  - drought
- Price differentials
  - between Nebraska and adjacent states
  - basis spread between gasoline and distillate

Indicators of the severity of the outage:

- World and Gulf Coast crude oil prices
- Nebraska prices for gasoline, diesel fuel, and propane
- Availability of product at retail level
- Product inventories, days of supply, and projected deliveries at Nebraska pipeline terminals
- Product inventory and days of supply at refineries serving Nebraska
- U. S. crude oil and product supply balance
- World crude oil supply
- Changes in oil imports

## **Natural Gas Shortage Indicators**

Factors which may lead to energy shortage conditions:

- Changes in government regulations
- Disruptions at production fields serving Nebraska
- Disruptions to pipeline flow
- Extremely cold weather

Indicators of the severity of the outage:

- Natural gas supplies
- Deliveries of natural gas
- Availability of alternate fuels and emergency supplies
- Curtailments
- Changes in underground natural gas storage
- Spot market prices for natural gas

## **Situation Report**

Communications and statistical data will be the primary sources of information for the situation reports. Situation reports will address events and options, the utilities' ability to meet demand, availability of alternate sources of power/fuels, generating fuel (in the case of electricity), stocks/supply, product deliveries, demand/consumption patterns, prices, production, and the utilities' efforts to balance supply and demand during the energy emergency.

Possible questions to ask pipelines and refineries:

1. How is supply for the state? Is supply good, low, or are there outages?
2. Are there shortages at any terminals? Which terminal(s) and which fuel(s)?
3. When is a delivery of the fuel anticipated? How many loads will be in this delivery?
4. Are the terminals (pipelines, etc.) on allocation or rationing?
5. Is there a line of trucks waiting to load at any terminals? How many trucks are in line? How long have the trucks been waiting?
6. What problems do you foresee?

Possible questions to ask other states' energy emergency assurance coordinator(s):

1. Discuss the state's situation with the contact.
2. How is supply for the state? Is supply good, low, or are there outages? Which fuel(s)?
3. What problems do you foresee?

Possible questions to ask the state fire marshal:

1. Are there signs of illegal container use?
2. Are there any signs of stockpiling or hoarding?
3. What problems do you foresee?

Possible questions to ask the state agriculture department:

1. Are there any outages at the retail level? What location(s)?
2. What are the farmers reporting to you?
3. Are any stations or coops closed? Why?
4. Are there any signs of stockpiling or hoarding?
5. What problems do you foresee?

Possible questions to ask associations:

1. Have any members reported supply problems? Is supply good, low, or are there outages? Which fuel(s)?
2. When is a delivery of the fuel anticipated? How many loads will be in this delivery?
3. What problems do you foresee?
4. Are there line(s) at any terminals? If yes, which terminal(s)? How many trucks are in line (number)? How long is the wait?
5. Are there any outages at the retail level? What location(s)?
6. Are any stations or coops closed? Why?
7. Are there any signs of stockpiling or hoarding?

Possible questions to ask each of the terminals:

1. How many days of supply does this terminal have, or how many loads are in storage?
2. Are there any shortages?
3. When does the terminal anticipate a delivery of the fuel? How many loads will be in this delivery?
4. What problems do you foresee?
5. Are there line(s) at any terminals? If yes, which terminal(s)? How many trucks are in line (number)? How long is the wait?