

# Lincoln County Fire and Rescue Association

## Standard Operating Guideline (SOG)

Adopted Date: August 21, 2007

Effective Date: January 1, 2007

Number: 204

Title: Relay Pumping Operations (hydrant supply)

Purpose: To assist the Incident Commander with an adequate water supply on large Volume fires when any of the following exist:

- A. Sustained total flows of 500 GPM or greater are needed.
- B. Supply hoseline is in excess of 800' from hydrant to fire location.
- C. Weak hydrants or located at the dead-end of a small water main.

Procedure:

1. A supply hose (4" or 5") shall be established from either a forward or reverse lay from the supply hydrant to the receiving apparatus. It is preferred that supply hose length does not exceed 1000' between apparatus. When excessive supply hose lengths occur, there should be apparatus with similar sized fire pumps spaced every 800-1000' apart in the relay operation.
2. The supply apparatus at the hydrant shall connect a short section of large-diameter hose from the hydrant directly to the largest fire pump intake.
3. The supply apparatus shall operate in VOLUME mode if equipped with a multi-stage fire pump. A 1500 GPM rated pump capacity or larger is preferred as a supply apparatus.
4. When the hose connections have been made for all apparatus involved in the relay pumping operation, the hoseline can be filled from the hydrant direction towards the fire scene.
5. The DISCHARGE pressures shall be initiated with the hydrant fully opened and all supply fire pumps at an idle. Benchmark steps for discharge pressures for all involved supply fire pumps will be:
  1. 50 psi (Initial starting point) Do not gate down valves!
  2. 100 psi
  3. 150 psi
  4. 200 psi

Note: 50 psi may not seem like much water, however on large diameter hose this can be as much 1000 GPM depending on the distance and elevation to the receiving apparatus. **DO NOT EXCEED 200 psi on LDH HOSE!**

6. When ANY apparatus in the relay is receiving less than 20 psi on the intake side of the fire pump, then ALL apparatus in the direction of the hydrant are to increase their discharge pressure to the next level in Step 5.
7. The relay pumping operation is peaked out when the apparatus at the hydrant is registering 20 psi on the intake gauge or ANY apparatus in the relay is discharging LDH at 200 psi.

SPECIAL NOTE: Utilize relief valves if equipped to reduce damage to apparatus and water mains.