



Fire Protection Training

Procedures Handbook 4300

PUMPING

TOPIC: Limitations Associated with Supplemental Water Sources

TIME FRAME: 15 Minutes

LEVEL OF INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will list and describe the potential limitations when using supplemental water sources.

Standard: With a minimum of 70% accuracy

MATERIALS NEEDED:

- Appropriate visual aids
- Audio visual equipment

REFERENCES:

- IFSTA, Water Supplies for Fire Protection, 4th Edition, Appendix D

PREPARATION: All firefighting personnel should have the ability to locate supplemental water sources within their operational area. Such water sources should be designated on pre-plans. This information may become critical if normal water supplies are curtailed by power outages, broken water mains, or earthquakes.



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LIMITATIONS ASSOCIATED
WITH SUPPLEMENTAL WATER
SOURCES

PRESENTATION	APPLICATION
<p>I. SUPPLEMENTAL WATER SUPPLIES</p> <p>A. Naturally Occurring</p> <ol style="list-style-type: none">1. Lakes2. Rivers3. Streams4. Creeks5. Springs6. Oceans or coastal waterways <p>B. Human Constructed</p> <ol style="list-style-type: none">1. Dams2. Canals3. Aqueducts4. Cisterns5. Swimming pools6. Irrigation systems <p>II. LIMITATION IN USING</p> <p>A. Access</p> <ol style="list-style-type: none">1. Restricted weight roads2. Restricted weight bridges3. Steep terrain4. Locked gates5. Marshes or bogs	



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<ul style="list-style-type: none">6. Sewage tanks7. Below ground cisterns8. Leach fields9. Height of lift10. Length of hard suctionB. Adapters<ul style="list-style-type: none">1. Thread type2. Coupling sizes<ul style="list-style-type: none">a. Not always standardb. Especially with agricultural sources3. Thread damageC. Distances<ul style="list-style-type: none">1. Near enough to be effective2. Additional resources needed for shuttle operation3. Adequate hose to reach water sourceD. Capacity<ul style="list-style-type: none">1. Will source run dry<ul style="list-style-type: none">a. Swimming poolb. Livestock troughsc. Springsd. Wellse. Creeks	



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<ul style="list-style-type: none">f. Pondsg. Elevated tank2. Though not dry is fill rate adequate<ul style="list-style-type: none">a. Floto pumpb. Gravity flowc. Damaged hydrant systemd. Ejector operatione. Drafting operation<ul style="list-style-type: none">(1) Deep enoughE. Contamination<ul style="list-style-type: none">1. Desirable to isolate booster tank from pumping operation<ul style="list-style-type: none">a. Flash system after use with booster tank waterb. Not contaminate booster tank itself2. Environmental<ul style="list-style-type: none">a. Pollutedb. Chemical residuec. Salt waterd. "Gray" water3. Affect on pump<ul style="list-style-type: none">a. Corrosionb. Bacterial growth	



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<ul style="list-style-type: none">F. Weather Related Condition<ul style="list-style-type: none">1. Water supply subject to freezingG. Legal Right to Take<ul style="list-style-type: none">1. Generally for emergency operations there is a right to take the water2. May have to compensate or replenish in some cases	



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SUMMARY:

Effectively utilizing supplemental water sources is difficult unless proper prior planning and pre-emergency practice has occurred. It is best that you not wait until the primary water supply system has failed to determine what supplemental system is going to be tapped.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by instructor(s).