

Dear Neighbor,

BPA, along with your local electric utility, is continually looking for ways to improve safety awareness and practices around electrical lines and equipment. We feel our efforts are best spent in reaching people like yourself — those most likely to be living and working around high-voltage power lines.

This booklet presents safe practices for work and recreation activities near high-voltage transmission lines.

Please take this opportunity to reacquaint yourself, members of your family, and others that use or have access to your property, with these safety precautions. If you have other questions, please feel free to contact your nearest BPA office (listed on page 1), or your local utility.

Thank you for taking the time to let us share how “working smarter” near power lines can save lives — even your own.

Sincerely,



FRED JOHNSON, CHAIRPERSON
Central Safety and Health Committee
Bonneville Power Administration

Table of Contents

- | | |
|---|--|
| 1 | BPA Transmission Offices; Using the Easement;
General Safe Practices |
| 2 | Induced Voltages |
| 3 | Irrigation Systems |
| 5 | Underground Pipes and Cables |
| 6 | Wire Fences; Electric Fences;
Buildings; Vehicles |
| 7 | Lightning; Fires; Kite Flying and Model
Airplanes; Vandalism and Shooting;
Metal Objects; Climbing; Pacemakers |
| 8 | Trees and Logging; Explosives |
| 9 | Concerning Towers and Conductors;
Conclusion; Related Publications |

Preface

High-voltage transmission lines can be just as safe as the electrical wiring in our homes — or just as dangerous. The crucial factor is ourselves: we must learn to behave safely around them.

This booklet is a basic safety guide for those who live and work around power lines. It deals primarily with nuisance shocks due to induced voltages, and with potential electric shock hazards from contact with high-voltage lines.

In preparing this booklet, the Bonneville Power Administration has drawn on more than 60 years of experience with high-voltage transmission. BPA operates one of the world's largest networks of long-distance, high-voltage lines. This system has more than 300 substations and more than 15,000 miles of transmission lines, almost 4,400 miles of which are operated at 500,000 volts.

BPA's lines make up the main electrical grid for the Pacific Northwest. The grid delivers large blocks of power to substations located near load centers. Public and investor-owned utilities and rural cooperatives take delivery of the power at these points and deliver it to the ultimate customers.

BPA's lines cross all types of property: residential, agricultural, industrial, commercial and recreational. They traverse hundreds of miles of irrigated and non-irrigated farmlands.

The magnitude of an induced voltage depends on the voltage of the transmission line, distance from the conductor, size or length of the object, and its orientation to the line. Shocks caused by an induced voltage do not usually present a hazard; for this reason we refer to them as nuisance shocks. However, mitigation methods to remove the possibility of hazards are identified in sections of the booklet that follow.

Irrigation Systems

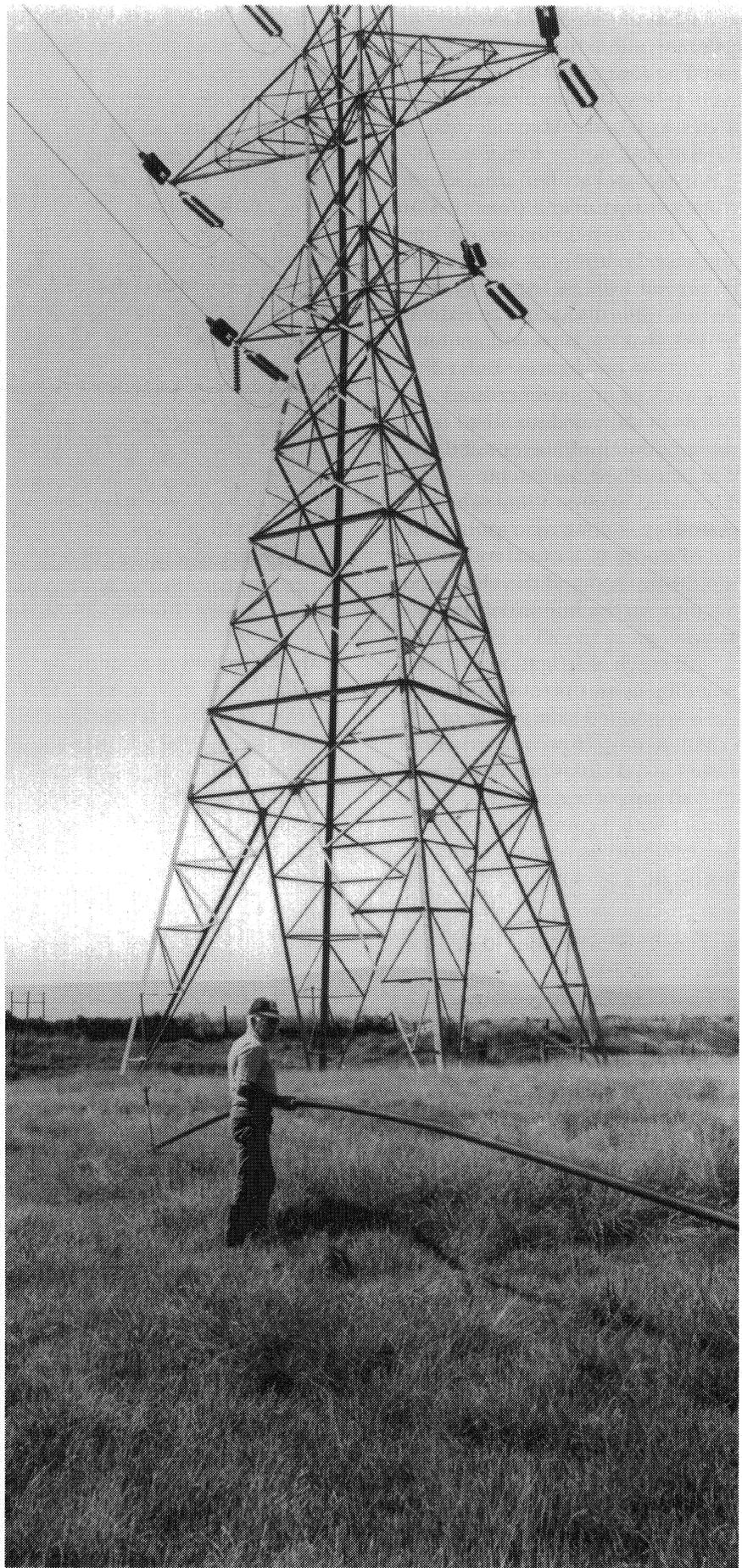
All types of irrigation systems have been operated safely near BPA power lines for years. Nonetheless, caution should be used in storing, handling, and installing irrigation pipe, and in operating spray irrigation systems near power lines.

Irrigation pipe should be moved in a horizontal position under and near all power lines to keep it away from conductors overhead.

Again, we stress that the one critical hazard from overhead lines is the danger of bringing an object — in this case, a length of irrigation pipe — into close proximity to a conductor. One purpose of this booklet is to repeatedly make this warning.

As a precautionary measure, equipment used to install irrigation systems should be kept away from transmission lines. If you wish to, contact one of BPA's transmission offices about your particular situation. If you are working near a line, it is wise to supplement normal precautions by assigning one person to act as a "safety watcher." This person simply stands by, watches, and warns the other workers against unsafe moves.

Great caution should be used when moving a high-pressure irrigation system under a transmission line. The small



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