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**January 22 - Meeting before Kansas Senate Utilities Committee**

**Statement of Fact: There were no PCB or PCB contaminated transformer spills in the State of Kansas from the May 4 tornados on the Empire system.**

**Question #1 - The extent which PCB transformers can be identified and their location:**

Beginning in January 1982, The Empire District Electric Company has tested all major oil containing electric components in our substations to include power transformers, voltage regulators, and oil circuit breakers. A total of 10 substations are located in the State of Kansas, of these two have in service oil filled equipment that is PCB Contaminated greater than 50 ppm.

Kansas locations with PCB contaminated transformers & voltage regulators remaining in service are listed below:

Substation # 278 - 1601 East Front Street, - Galena - Cherokee County  
Substation # 388 - 13247 SW Star Road - Chetopa - Cherokee County

The typical pole mounted distribution transformers that provide electric power to homes or that are

used for commercial business applications are inspected for PCB Contamination when they are removed from service for repair, or replaced as part of an upgrade service order. Once removed from service, transformers that do not have data plates certifying they contain no PCB Contaminated oil are tested by Empire Personnel before the unit is repaired, placed back into service or shipped offsite for disposal. The oil test results determine if the item will require special disposal handling as a hazardous waste. The manufacture of PCB's as a chemical has been banned by law since 1978. With perhaps a few exceptions in the very early years, all transformers manufactured after July 6, 1979, have a data plate that certifies the PCB free status of the equipment. All electrical service equipment found to contain PCB Contamination > 50 ppm, are stored for disposal and promptly scheduled for pick up and decommissioning by an EPA licensed facility. In accordance with EPA regulations Empire receives a certificate documenting the approved disposal method when the oil has been chemically detoxified and the equipment scraped for metal recycling, incinerated, or placed in an EPA approved land fill.

**Question # 2 - The number of known transformers / voltage regulators in the Kansas distribution system which contain PCB's:**

PCB Contaminated Transformers

Location	Serial Number	Gallons of Oil	PPM
Sub # 278 - Galena, KS	# RBP - 177914,281	281 gallons	170 ppm
	LTC	360 gallons	270 ppm
Sub # 388 - Chetopa, KS	# D -557190 V-Reg	70 gallons	415 ppm
Sub #388 - Chetopa, KS	# D - 557452 V-Reg	70 gallons	530 ppm
Sub #388 - Chetopa, KS	# D - 557191 V-Reg	70 gallons	209 ppm

Because contaminated transformers are not externally marked the actual PCB status of any Pre-1979 distribution pole mounted and commercial pad mount transformers can not be known unless first taken out of service, opened, and tested by drawing a small vial of oil for laboratory analysis. In 2003, The Empire District Electric Company took 765 oil samples of unlabeled Pre-1979 manufactured transformers that had been removed from service in all the states of our distribution territory. A total of 35 of these Pre-1979 transformers or only about 5% tested positive for PCB contamination > 50 ppm. Total PCB contamination positive results for pole mounted transformers, including all years of manufacture, is about 1%. This percentage is steadily decreasing.

**Question # 3 - Problems identified with the disposal of transformers containing PCB's:**

Except for two shipments in the mid 1980's to an Environmental Protection Agency (EPA) licensed facility that later filed for bankruptcy and was closed within a few months of our manifested shipment, Empire has incurred no problems with the prompt disposal of PCB contaminated oil, transformers, or other contaminated equipment.

Since 1989, Empire has exclusively used Clean Harbors Environmental Services and its predecessor companies to process, treat and dispose of PCB Contaminated oil, dirt debris and electrical equipment. Typically all contaminated equipment is shipped directly to their EPA and Kansas State Permitted Hazardous Waste Management Facility located in Coffeyville, Kansas

**Question # 4 - Describe actions to replace transformers containing PCB's over the past ten years, the net results of those actions, and plans for the future regarding transformers containing PCB's.**

Over the past ten years Empire has been environmentally pro-active in the discovery and removal of PCB contaminated electrical equipment. No out of service PCB Contaminated equipment is stored for any future reuse option unless the oil has been retro filled and the unit reclassified as Non-PCB. All related inventory component parts to include replacement bushings have been tested, and all identified PCB contaminated items previously held in storage for potential reuse as replacement parts have been properly disposed of.

In 2002 all large PCB capacitors, a total of 304 including 6 in Kansas, were removed from active service and replaced with Non-PCB capacitors as part of an environmental improvement project. These capacitors contained very high concentrated amounts of PCB's. The total cost of this project exceeded \$150,000.00.

In addition to the environmental project, the Safety & Environmental Services Department budgets funds exclusively for the discovery and disposal of PCB contaminated equipment and waste. During the last 10 years over \$ 470,000 has been spent by Empire to routinely test, retro fill, or dispose of PCB contaminated electrical equipment, drained oil, or contaminated soil debris throughout our service territory in Kansas, Missouri, Oklahoma, and Arkansas. The estimated cost associated with transformers located in Kansas is \$38,000.

Empire will continue it current program or testing and disposal of PCB transformers, equipment, oil, and debris.