

## ***Oil Containment for Transformers***

Key parameters for deciding whether or not to use oil containment for your transformers are NEC rules, insurance policy requirements and lost production profits.

The National Electric Code (NEC) requires that containment be utilized in all indoor transformer installations. Section 450.26 addresses this and Factory Mutual recommends a few additional requirements.

When installing transformers outdoors, the NEC (450.27) requirements are less specific. Some facility managers choose to proceed without containment so that installation costs are minimized. The decision-maker should also consider the facility's insurance policy and the cost of lost production.

If a transformer leaks oil it is likely that all dirt around the transformer as deep as 15 ft. down (in porous soil) will have to be excavated and removed to avoid ground contamination and penalties from the Environmental Protection Agency (EPA). This is not only costly -- tens of thousands of dollars -- but it also means that plant equipment fed by the transformer may not be operating during this lengthy cleanup process. Lost production profits is the key parameter to be considered when choosing your solution.

Solutions to this problem include using dry-type transformers (preferably cast-coil for industrial sites), using environmental friendly liquids in your transformer or building containment pits for liquid-filled transformers. The latter is often the most economical, initial cost option (thousands of dollars) and allows a facility owner to eliminate soil removal and cleanup premiums from the plant's insurance policy.

You might be asking, "Why don't utilities use oil containment pits with their pad mount transformers?" The reason is that utilities can manage the risk internally. They have hundreds of transformer installations, trained crews and smaller lost production costs than industrial processing plants.

### **For more information...**

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