

## **DETERIORATION OF CONCRETE COLUMNS USED FOR HIGH AND LOW VOLTAGE TRANSMISSION LINES : CAUSES AND METHODS FOR SOLVING THE PROBLEM.**

---

*IBTISAM MUSTAFA KAMAL \**  
*Basrah University - College of Engineering*  
*Chemical Engineering Department*

*MOHAMAD JAWAD ABIDULLAH AL-MUSAWI*  
*State Company of Electrical Distribution of South*  
*Basrah - Iraq*

### **Abstract**

Causes of deterioration of concrete columns used to hold high and low voltage transmission lines were investigated using visual and chemical methods. It was demonstrated that the main causes of such problem was due to manufacturing factors and environmental factors including the chemical attack especially by chlorides and sulphates accelerated during heavy weather in summer months. Suggestions were made to control the causes of deterioration including manufacturing precautions and using of some protective materials such as incorporation of a polymer in the concrete mix and using asphaltic melt as a thermoplasting coating.

---

\* To whom all correspondence should be addressed.