# Analysis on quicksand in pipe laying engineering of overhead power lines to underground conversion ( 107 )

Jie Zhou
Shibei Electricity Supply Company of State Grid Shanghai Municipal Electric Power Company, Shanghai

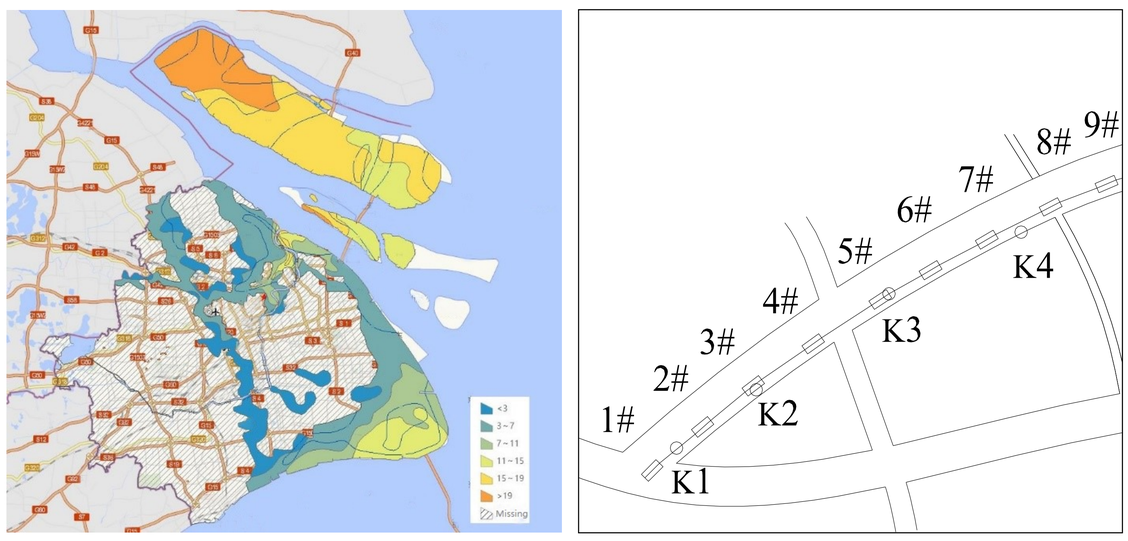
Yue Zhang
Shibei Electricity Supply Company of State Grid Shanghai Municipal Electric Power Company, Shanghai

## Introduction

The 10kV overhead power lines to underground conversion is one of the most important means of distribution network transformation. However, due to the engineering geological conditions of Shanghai, quicksand happens, which always results in great losses.

## Methods

In this paper, the causes of quicksand and the engineering geological characteristics of Shanghai were introduced from the perspective of power grid engineering. It was found that quicksand occurred frequently in ②$_3$ layer in shallow soil, and it was formed from silt and sandy.







- Geological exploration method
- Drill hole database method
- Soil layer distribution diagram method

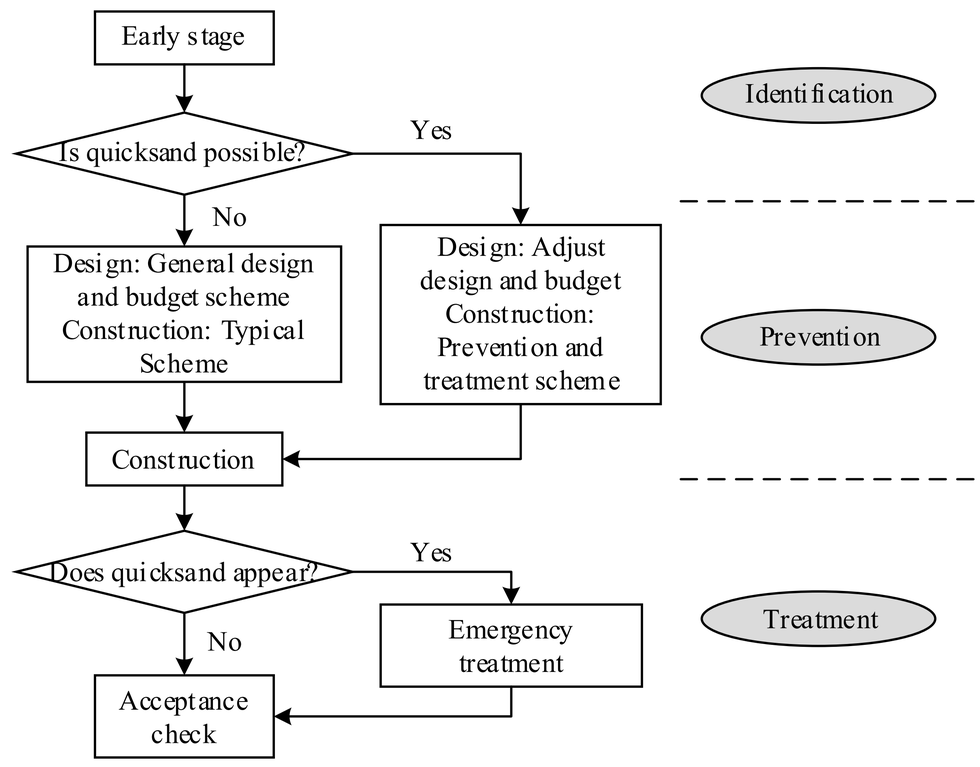
The methods above are given for identifying the possibility of quicksand in Shanghai.

## Results

The main works to deal with quicksand are:

- Identification of quicksand in the early stage of the project;
- Quicksand prevention measures before construction;
- Emergency treatment measures in construction.

Figure gives the identification, prevention and management system of quicksand in the overhead power line into underground engineering.




## Conclusions

It is recommended that the consideration on quicksand and other adverse geological disasters should be taken into account in the early stage for the overhead power line into the underground engineering.