

Advantages and disadvantages Underground transmission & Overhead transmission

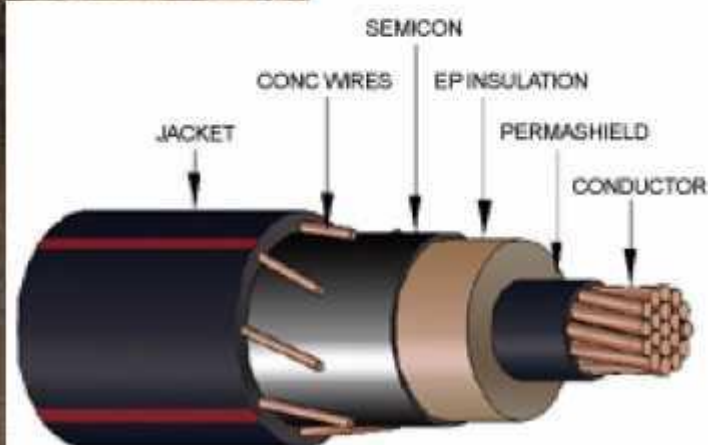
This page covers Advantages and disadvantages of Underground transmission and Overhead transmission. It mentions underground transmission advantages, underground transmission disadvantages, overhead transmission advantages and overhead transmission disadvantages.

What is Underground and Overhead Transmission

Introduction:

The cables laid above the ground for transmission purpose is known as overhead transmission lines while the cables laid below the ground (3-5 feet) for transmission purpose is known as underground transmission lines. These lines are used for electric power transportation from one place to the other.

Benefits or Advantages of Underground Transmission



Following are the benefits or **advantages of Underground Transmission**:

- ➔ They have reduced visual impact due to being below the ground.
- ➔ These lines have reduced EMFs (Electric and Magnetic Fields) and hence eliminates potential health issues.
- ➔ It has lesser transmission losses.
- ➔ It is less affected by extreme weather conditions and hence increases reliability of supply of power.

Drawbacks or disadvantages of Underground Transmission

Following are the **disadvantages of Underground Transmission**:

- ➔ Cost of underground cables (e.g. HVDC) are three times higher compare to overhead lines (e.g. 400 KV).
- ➔ Moreover laying or burying cost of underground lines are greater compare to overhead lines.
- ➔ It is difficult to find and repair the wire breaks in case of failure of system. Moreover it takes days or weeks to overcome the problem.
- ➔ It is difficult to maintain underground system compare to overhead due to underground cabling.
- ➔ Unlike overhead lines which can easily be uprated to carry more power, underground lines can not be uprated to increase the capacity.
- ➔ Underground cables are subjected to damage due to ground movement due to earthquake.

Advantages of Overhead Transmission



Following are the benefits or **advantages of Overhead Transmission**:

- ➔ It is easy to repair and maintain.
- ➔ They are not restricted by landscape i.e. they can be easily installed over river or motorway or hilly regions.
- ➔ Chances of electrocution are less as they run high above the ground.
- ➔ Cheaper to setup compare to underground transmission.

Disadvantages of Overhead Transmission

Following are the **disadvantages of Overhead Transmission**:

- ➔ These lines visually pollute the areas where they are installed.
- ➔ These lines suffer from problems such as terrorism, vandalism and lightning etc.
- ➔ Sometimes these lines come in the way of birds and low flying aircrafts or drones which can be dangerous.

Conclusion: With appropriate technology at appropriate places, advantages of both underground transmission lines and overhead transmission lines can be leveraged for the benefits of a mankind.