CHAPTER 6

CONCLUSION

Solution - 2, construct new LYNX Line of about 4 kms along Galle Road from Golumadama Junction to Moratuwa and Angulana PSSs is economically viable. However, it is not a permanent solution to overcome flashover and vegetation problems in RF - 9. It is also to be constructed mostly over existing 11 kV line. Therefore maintenance of new alternative line is also a huge amount of unserved energy.

Due to practical difficulties when implementing the new alternative line and possibility of electrocution are the shortcomings of this option. Apart from that there will be a higher probability to meet vehicle accidents along Galle road which causes permanent supply failures. Therefore this proposal does not meet the requirement of improving reliability of RF - 9 fully.

Solution - 3, replacing the existing LYNX bare conductor with a covered conductor is a much better option than the previous solutions.

From the reliability point of view, covered conductors are highly reliable than bare conductors. It can be constructed using most of the existing resoures of RF - 9 with higher cost benefit ratio. To reduce the surface tracking of CC helical ties should be used. Lightening protection scheme is essential to implement to protect overhead covered conductor line from lightening.

CCs are the most suitable solution for this case study to overcome flashover and vegetation problems in RF - 9.

Most European countries and some countries such as Japan, Korea, Russia etc, are using CC technology for their distribution systems on a large scale. In Sri Lanka, the CEB has used CCs especially along coastal arears.

CEB has not yet adopted any streamlined process for treating insulator in polluted areas under preventive maintenance. Under this study maintenance of the said feeder twice a year is more economical than the two previous options.

For minimizing the failures in RF - 9, washing insulators should be done periodically especially during monsoon period. Secondly, vegetation management system should be efficiently adopted. Thirdly, skilled field staff is needed to implemented proper maintenance schedule in this regard. Finally, the public awareness programmes are to be implemented on vegetation management on to RF - 9.

However during maintenance twice a year, twenty hours of electricity supply should be interrupted approximately. It causes a great disturbance to the consumers. The outage time can be minimized by increasing workforce. But, it cannot be done in provincial level and it should be a policy decision. In addition to that during windy days specially falling of dry coconut leaves on the RF – 9 could not be prevented. The reliability of bare conductor is low when compared to CCs and UG cables. Therefore the power failures due vegetation and insulator flashover cannot be totally reduced.

Live washing of insulators is another better method for reducing flashover on insulators. Utilities use this technique efficiently. Hot washing involves cleaning the insulators with de-mineralized water. De-mineralized water has high resistivity and is pressurized and sprayed in jets from special cleaning machines. The time has come in Sri Lanka to use this hot washing technique in polluted environments especially saline pollution.