Mitigation method/Results/Conclusion

The investigation revealed that this damage was due to the potential difference between the two buildings. Therefore, bonding of earthing systems should be used to reduce the potential difference, although the residual voltage difference might still remain. Therefore, it was recommended to insert an isolation transformer in the clock line, as shown in Figure 2.2-2. Additional mitigation measures were taken: the antenna tower that is not in use was removed; and to achieve an equipotential earthing system, earthings E0, E1, E3, and EMDF are connected to each other.

More detailed consideration should be given to connecting earthing networks when dealing with power systems of IT or other systems. The earthing resistance of IT systems is too high to absorb power fault current. If the earthing networks of several buildings are connected to each other, the total earthing resistance is lower than the original individual one. Therefore, national regulations or the relative Recommendations should be referred to.

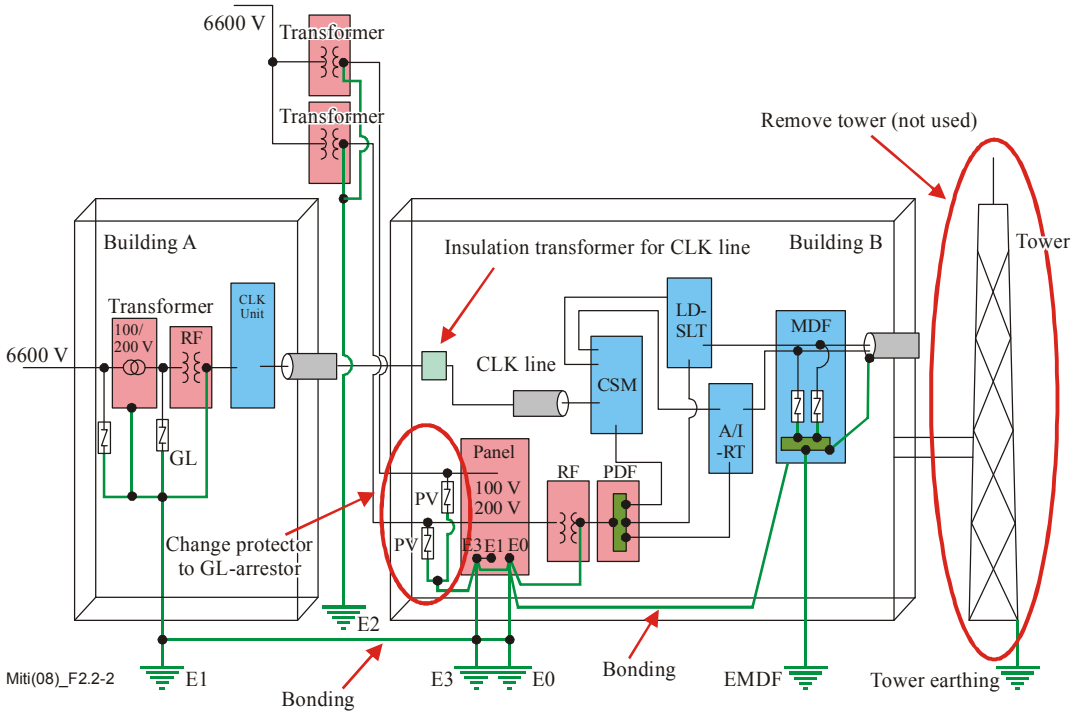

Figure 2.2-2 – Mitigation configuration

References

Recs ITU-T K.27, ITU-T K.35, ITU-T K.40, ITU-T K.56; Annex C.