

## **ABSTRACT**

*PT PLN (Persero) is a company committed to organising a quality electricity supply. Efforts to improve services must be supported by the provision of the right main distribution material to serve customers well. One of the main distribution materials is steel poles, in this study aims to provide suggestions for improvements in the flow of better steel poles. The problem faced in the supply of steel poles is the uncertainty of demand and supply, which causes delays in the supply of steel poles and the gap between supply and demand. Improvement recommendations are expected to reduce the impact of uncertainty on the supply chain performance of steel pole supply. The research was conducted in the Supply Chain Management Division as an organisation that controls the supply of steel poles with multiple stakeholders. The research methods used were Soft System Methodology (SSM) and Analytical Hierarchy Process (AHP). SSM is used to identify problems in the supply of steel poles by analysing with stakeholders using rich pictures, CATWOE and conceptual models. Identification of the supply chain system includes the steel pole preparation process, the supplier selection process, the steel pole purchasing order process, the contract control process and the goods receipt process. AHP method is used to determine the priority of improvement areas, with respondents being employees of PT PLN (Persero) involved in the supply of steel poles. Based on the results of the AHP calculation, improvements are recommended in the purchase order process (24.87%) and forecasting method (23.44%). The proposed improvement in the purchase order process is a change from decentralization to centralization. With the centralized method of purchase order steel poles, it will reduce the lead time for supplying steel poles and minimize the impact of demand and supply uncertainty. Proposed improvements to the experience method in managing historical data using the multiplicative method with better MAD, MSE and MAPE values than the moving average, weighted moving average and exponential smoothing methods with the previous year's realisation data.*

**Keywords:** *Supply Uncertainty, Demand Uncertainty, Supply Chain, Soft System Methodology, Analytical Hierarchy Process*