Dear [Associate Director's Name],  
  
Following our initial team meeting to discuss the churning SME customers at PowerCo, I have taken some time to think through how we can test our hypothesis that churn is primarily driven by customers' price sensitivities.  
  
**Formulating the Hypothesis as a Data Science Problem**  
Our hypothesis can be stated as follows:  
*"H1: SME customers with higher sensitivity to price changes are more likely to churn."*

To test this hypothesis, we'll build a predictive model that can forecast customer churn based on various features, with a focus on indicators of price sensitivity.  
  
**Major Steps to Test the Hypothesis**  
  
1. Data Collection:  
 - Historical data on customer churn rates, segmented by SMEs.  
 - Pricing data, including any changes in prices over time.  
 - Customer profile data, like business size, industry, etc.  
  
2. Data Cleaning:  
 - Handle missing values, outliers, and duplicate entries.  
  
3. Exploratory Data Analysis (EDA):  
 - Investigate the relationship between price changes and churn rates.  
 - Examine other factors like contract length, payment methods, and customer satisfaction.  
  
4. Feature Engineering:  
 - Create new variables that might be indicators of price sensitivity, such as percentage change in price over a specific period.  
  
5. Model Building:  
 - Use machine learning algorithms like Logistic Regression, Random Forest, or Gradient Boosting to build the predictive model.  
  
6. Model Evaluation:  
 - Use metrics like accuracy, precision, recall, and AUC-ROC to evaluate the model.  
  
7. Deployment:  
 - Implement the model to run on the 1st working day of every month to identify customers who should be offered a 20% discount.  
  
**Data Requirements**  
  
1. Customer Data:  
 - Customer ID  
 - Contract Length  
 - Monthly Charges  
 - Payment Methods  
  
2. Business Data:  
 - Industry  
 - Business Size  
 - Geographic Location  
  
3. Churn Data:  
 - Churn Status (Yes/No)  
 - Date of Churn  
  
4. Pricing Data:  
 - List of historical prices - for both electricity and gas.  
 - Date of price change  
  
After acquiring the data, we'll perform feature engineering and build a binary classification model, such as Logistic Regression or Random Forest. The model will be chosen based on a balance of complexity, explainability, and accuracy. This will allow us to quantify the impact of pricing on churn rates and assess the efficacy of the client's proposed 20% discount.  
  
Best regards,  
[Your Name]