The transportation restrictions on flooded lead acid where there are environmental concerns regarding spillage in case of an accident. The thermal runaway can occur with improper charging. The SLA has a relatively low energy density compared with other rechargeable batteries, making it unsuitable for handheld devices that demand compact size. In addition, performance at low temperatures is greatly reduced. The SLA is rated at a 5-hour discharge or 0.2C. Some batteries are even rated at a slow 20 hour discharge. Longer discharge times produce higher capacity readings. The SLA performs well on high pulse currents. During these pulses, discharge rates well in excess of 1C can be drawn. In terms of disposal, the SLA is less harmful than the NiCad battery but the high lead content makes the SLA environmentally unfriendly. Ninety percent of lead acid-based batteries are being recycled. [10]

### III. RECYCLING PROCESS FLOW

Firstly, the battery that is spent or used is collected from various sources such as from vehicle, company, industry and etc. These collected batteries are then taken to recycling facilities where they are broken down and separated into components to begin the recycling process. The lead, plastic and acid from the battery are separated and sent for further recycling process. The process starts by removing the combustible material, such as plastics and insulation. [4] The plastic recycled from old batteries and are used to manufacture battery cover and cases. [5] The best way for the bigger sets of plants is to crush down these batteries and undergo separation using Hydro-separation concept. [4] The battery grids Lead are recycled and Lead oxides are used to manufacture new battery grids and components. The sodium sulfate crystals separated from old batteries acid are recycled and used for various purposes. [5] Then the new battery production and other lead products are sending to dealers, distributors and retailers. Finally, it is being sold to consumer for they uses.

### IV. BATTERY TREND

**A. Old Trend**

In old days where technology was not up to what we have today. The batteries are disposed by buried it in the ground or throwing it into the river. Later we came to know that these actions cause soil pollution and water contaminations.

**B. Today's Trend**

With the technologies we have today, batteries are no longer thrown away instead it is recycled. Recycling batteries have become a good solution in a way to reduce soil pollution and water contaminations.

**C. Future Trend**

It is predicted that the future batteries are going to be the one that no need to recycle again because in the future hydrogen Cell and Fuel cell type batteries are going to replace today’s batteries. If these batteries came into use, these batteries will be refilled with chemicals or electrolyte into the cell and reuse again. If you wish to refill your battery cell you have to just go to the public hydrogen refueling station to refill your cell. [6]

**D. Pyrometallurgy**

Metals containing in lead-batteries are separated for recycling by means of kilning. As the treatment of lead-batteries is dangerous, it is necessary to isolate them from water and air. In general, it is practiced in the presence of gas nitrogen or argon. [9]