

## **ABSTRACT**

*PT Purna Baja Harsco is a company engaged in manufacturing by processing raw materials into semi-finished goods or finished goods. The company produces two kinds of slag products, namely precious slag ball and Precious slag grid. The company routinely produces products that allow minor to serious work accidents to occur. In the process of making precious slag, a lot of machining involves moving the components of the slag pot to the atomizing location, as well as transferring hot molten metal, sharp machine surfaces and other materials that can cause work accidents. The use of machinery in producing precious slag can potentially cause work accidents that can potentially burn, cut, stab, impact and injure workers if not used carefully or according to standard procedures. Based on the hazard event data owned by the company, there were five very diverse incidents. So that risk control is needed to minimize the potential for work accidents or hazards to workers. Minimization of hazard events is carried out by controlling risk with the first step in the form of an analysis of the risk control hierarchy. Hierarchical risk control analysis is the process of analyzing proposals with hierarchical levels for each event. Based on the results of the risk control hierarchy analysis, it can be seen that there is one administrative event, one substitution event, one elimination event and two design events. The results of the analysis of the risk control hierarchy are suggestions or potential solutions for each hazard event that has been adjusted to the level of the risk control hierarchy, among all these proposals there is one potential solution that has the highest frequency of occurrence and can be forwarded into a design, namely a proposal in the form of giving safety signs. There are two locations where the safety sign design will be carried out, namely the explosive area and the loading area. The methods that will be used in the design of safety signs are safety sign assessment and Quality Function Deployment. Safety signs assessment is an activity in the assessment of field conditions that will be installed with safety signs to determine the criteria for safety signs that are suitable in the area, from this assessment process it will be possible to know the location of the installation of safety signs, field conditions, signal words that will be used on safety signs, height, model, and*

*reading distance used in designing safety signs and suitable materials used to design safety signs. The results of the safety signs assessment will be used for the Quality Function Deployment approach. From the results of Quality Function Deployment, the results obtained are size, safe reading distance, type of layout, use of language and font size on safety signs. In designing the safety sign, it refers to the ANSI Z535 standard and considers anthropometric data on the dimensions of body height and dimensions of eye height in accordance with the criteria for users who will read safety signs. So it is expected that the design of safety signs can minimize work accidents in the slag processing area.*

***Keywords: Slag processing, Hierarchy of risk control, Safety signs, Safety Sign Assessment, Quality Function Deployment, ANSI Z535 standard***