

## Minutes of Meeting

**Date:** August 16, 2023

**Attendees:** Javad, Masoud, Amin, Malihe

### Discussion:

#### 1. Hauling Operation Optimization:

Malihe introduced an optimization model for material transportation centered around the Hauling Cycle (drive empty-load-drive full-unload). The objective function aimed to maximize material transportation between 2 sources and 3 dump destinations. Constraints included minimum material transport requirements, a 24-hour material handling duration, and a focus on enhancing optimization. The group explored avenues for improvement, considering mixed-goal programming to incorporate safety and material handling goals, or separate optimization for each target. Furthermore, integrating other vehicles like water trucks into the simulation was discussed to evaluate potential accidents with hauling trucks.

#### 2. Software GUI Enhancement:

Amin showcased software GUI progress and highlighted adjustable risk calculation features. The team engaged in a dialogue about enhancing GUI user-friendliness for all users. Masoud proposed modifying criteria and options buttons for ease of use. A discussion about preventive and mitigating barriers, risk factors, and calculating safety levels based on MTBF and risk probability took place.

### Next Meeting:

- **Malihe:** Include other vehicles and auxiliary equipment in the simulation. Update reports based on simulation additions and optimizations, sending them to Amin for incorporation into the annual report. Share safety and risk analysis resources with Amin.
- **Amin:** Integrate all three previous reports into an annual report. Develop safety correction factors and risk assessment equations. Revise GUI based on Masoud's input, replacing the + and – buttons with “add” and “remove”.