

Determining Intervention for Behaviour-Based Safety (BBS) Implementation in Building Construction Project

^{1,2} Yohanes Eka Prayuda

¹United Tractors, Cakung

²Master of Mechanical Engineering

Swiss German University

Tangerang City, Indonesia

eka.prayuda@gmail.com

Gembong Baskoro

Master of Mechanical Engineering

Swiss German University

Tangerang City, Indonesia

gembong.baskoro@sgu.ac.id

Sumarsono Sudarto

Industrial Engineering Department

Mercubuana University

Jakarta, Indonesia 11650

sumarsono@mercubuana.ac.id

Edi Sofyan

Master of Mechanical Engineering

Swiss German University

Tangerang City, Indonesia

edi.sofyan@lecturer.sgu.ac.id

Aditya Tirta Pratama

Master of Mechanical Engineering

Swiss German University

Tangerang City, Indonesia

aditya.pratama@sgu.ac.id

Abstract - The construction works value in country has been increased for the last 5 years, so does the workplace accident number that boosts consideration of safety issue in industry, including the listed private construction firm. Its revenue growth in the last 3 years, was offset by decreased total number of workplace accidents in contrary to the increased workplace's major accidents number. About 75% of company's workplace accident involved subcontractors, over 60% of its root causes were dealing with Unsafe Behavior, and 68% of workplace accidents in 2019 caused by Unsafe Action. It triggers a strong impetus to initiate Behavior Based Safety implementation, by the DO-IT (Define-Observe-Intervene-Test) approach using in-depth interview, structured self-assessment questionnaires and statistical tests. The findings deal with Safety Key Behavior (SKB) criteria in 17 areas of entire construction works through formulating at-risk behavior that leads to unsafe action by the workers, grouped into 3 circles of processes, i.e., execution, supervision and planning/ management. This study contributes to address mutual obligation between company and subcontractors in prioritizing safety behavior improvement to help the policy makers enhancing safety performance in the industry.

Keywords—behavior based safety, safety key behavior, unsafe action, at-risk behavior, statistics.