

(3) Title

IPA/SEC will provide a STAMP based hazard analysis tool i-STAMP(code name)

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Abstract

STAMP (Systems-Theoretic Accident Model and Processes) is the new concept that an accident occurs by the Emergent Properties of the system, and STPA (System Theoretic Process Analysis) is based on the STAMP and is the new hazard analytical method which focuses on the mutual interaction during components and specifies a hazard causal factor.

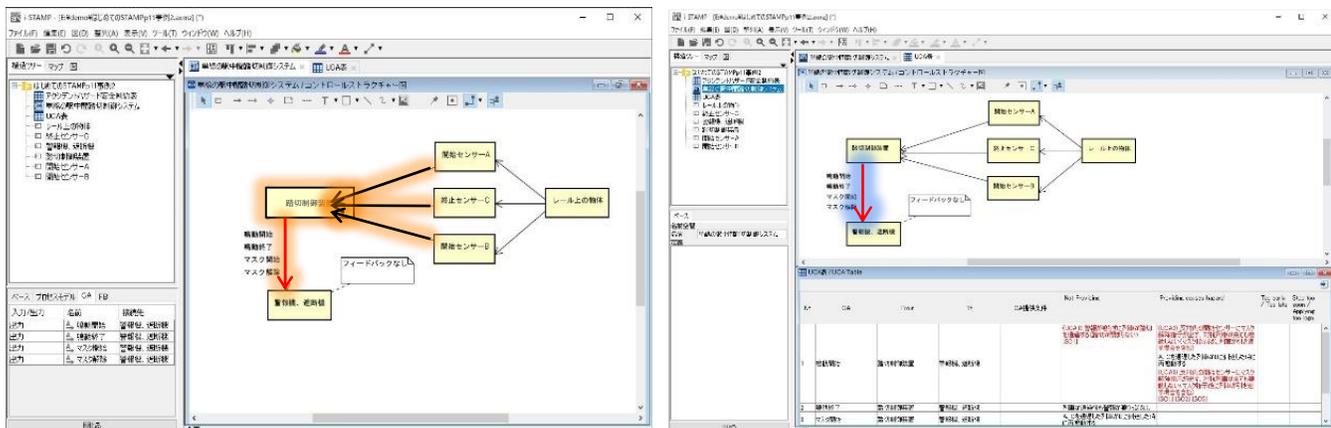
STAMP and STPA are a new concept and a new method. Therefore, the engineer who works on application of STAMP/STPA for the first time must research a STPA procedure in detail of what to do and how to do, and is annoyed to understand the essence of STPA procedure.

STAMP/STPA is the method to get free idea in an analysis. While analyzing, so the engineer perceives something new idea, and return to previous Step and often continue the analysis. That's a desirable thing to improve the comprehensiveness. On the other hand, it's necessary to renew tables/diagrams which were made at previous Step and analyze, and work of tables/diagrams renewal takes time and effort. That makes the efficiency of the analysis work fall. Thought will be stopped by tables/diagrams renewal work. It's a big problem.

* It takes much time to understand analysis details of work and a procedure. Much experience is needed to analyze efficiently.

* Tables/diagrams creation and edit work are troublesome, and engineer can't concentrate on thought.

IPA thought these are hindrance of the STAMP spread, and thought STAMP support tool utilization was effective as the countermeasure for hindrance. Several STAMP support tools are also proposed overseas so far, and software of these tools are released as open source, and it can be used freely. But when IPA tried those tools out, it was difficult to say that the tool with which an analysis is supported. And it seems that these are tool to make a fair copy of an analyzed result, and the assumption user of these tools are the advanced level engineer about an analysis by STAMP or STAMP researchers. So IPA decided to develop an STAMP support tool which really support STAMP analysis and is useful even for the engineer of the beginner's course level who will try to introduce STAMP. We call this tool as i-STAMP (i-STAMP is a development codename). Engineer can enjoy the effect of the tool utilization, too. IPA will release software of i-STAMP as open source in March, 2018. Now We're advancing development of i-STAMP.



Keywords

- (1) STAMP/STPA
- (2) STAMP support tool
- (3) IPA/SEC
- (4) STPA step navigation
- (5) Improving STPA work efficiency