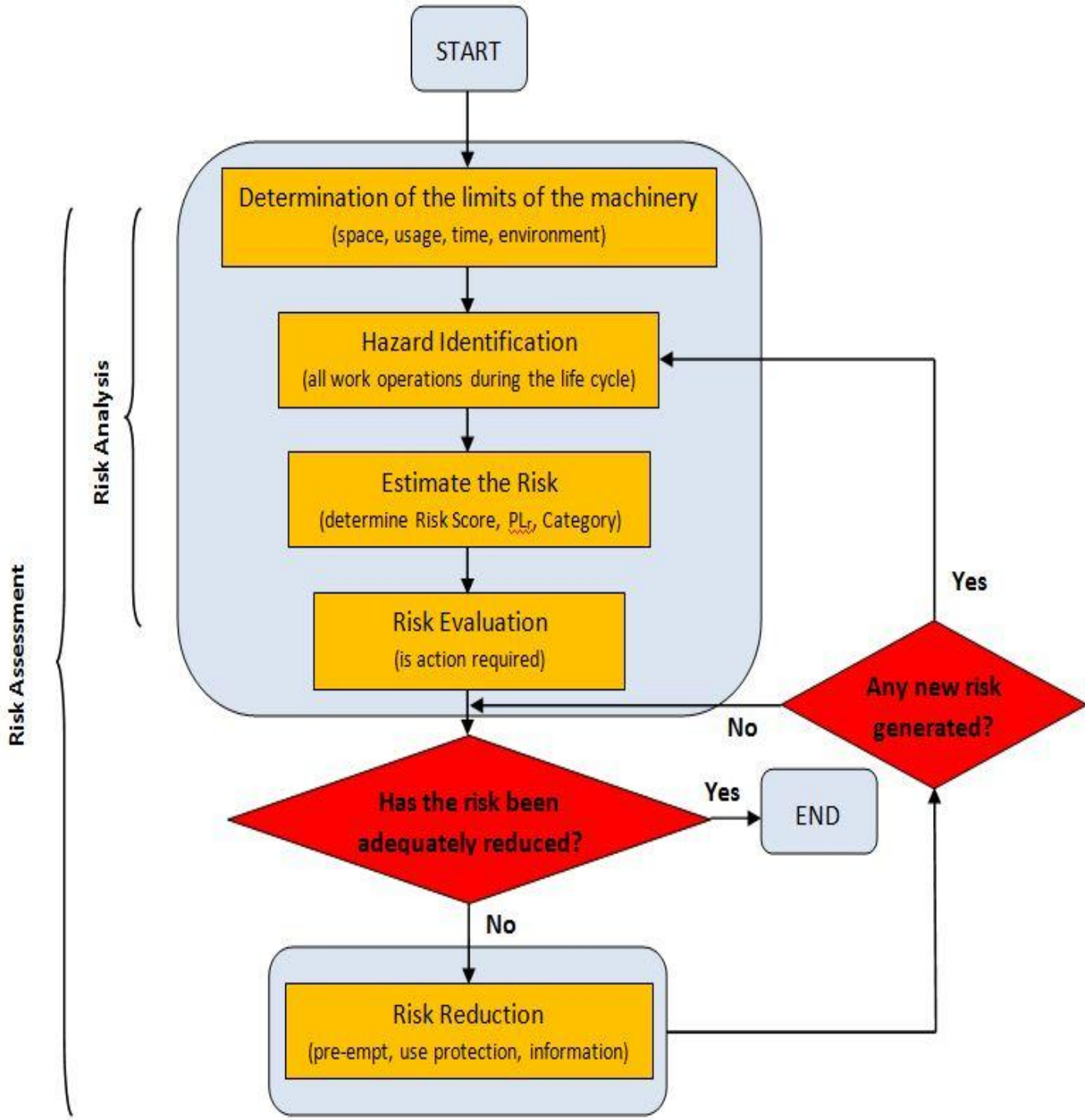
ISO 12100-1 – Process for Risk Assessment



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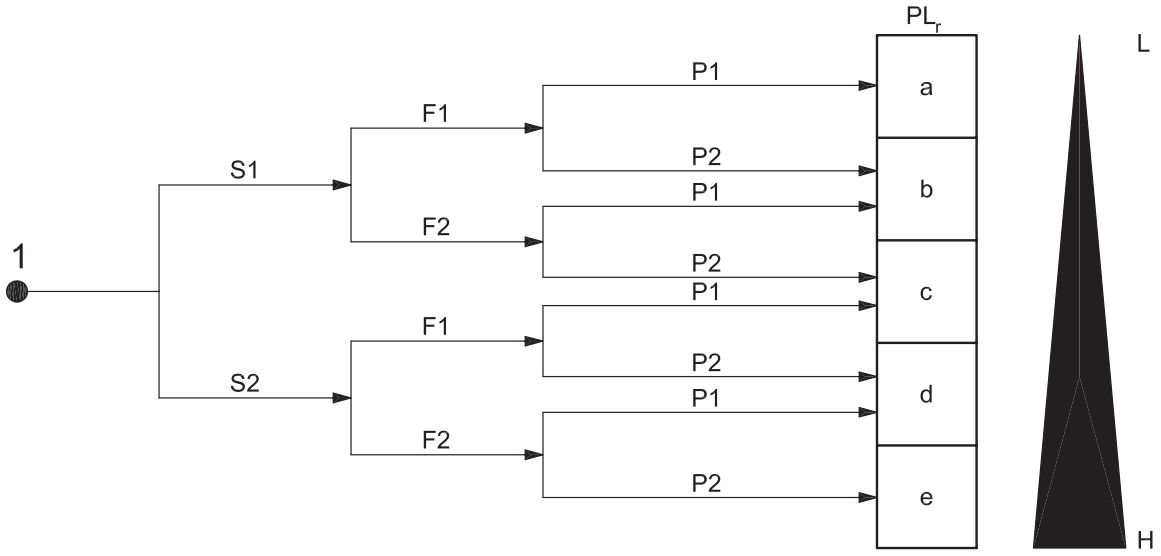


Key

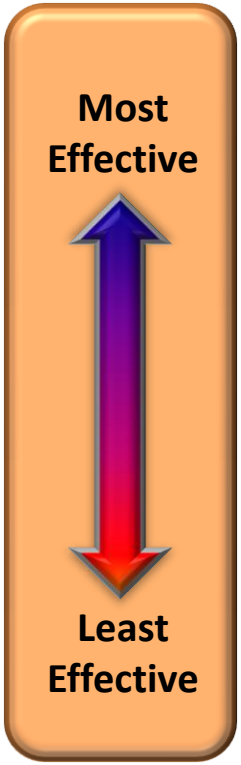
1 starting point for evaluation of safety function's contribution to risk reduction
L low contribution to risk reduction
H high contribution to risk reduction
PL_r required performance level

Risk parameters:

S severity of injury
S1 slight (normally reversible injury)
S2 serious (normally irreversible injury or death)
F frequency and/or exposure to hazard
F1 seldom-to-less-often and/or exposure time is short
F2 frequent-to-continuous and/or exposure time is long
P possibility of avoiding hazard or limiting harm
P1 possible under specific conditions
P2 scarcely possible

Figure A.1 — Risk graph for determining required PL_r for safety function

Risk Reduction



Protective Measures	Examples
Eliminate the Risk	• Design It Out • Process Substitution
Physical Guarding	• Fencing or Barriers • Fixed Covers
Engineering Controls (Safeguarding Technology)	• Interlocks, Light Curtains, Safety Mats • Monitoring Relays, Safety PLCs
Training & Procedures (Administrative Controls)	• Work Procedures • Lockout / Tagout (LOTO)
Awareness Means (Personal Protective Equipment)	• Signs, Warnings, Annunciation Lights • Safety Glasses, Gloves & Footwear

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