

# Offshore Oil Wells Integrity: STPA Analysis of the Subsea Christmas Tree

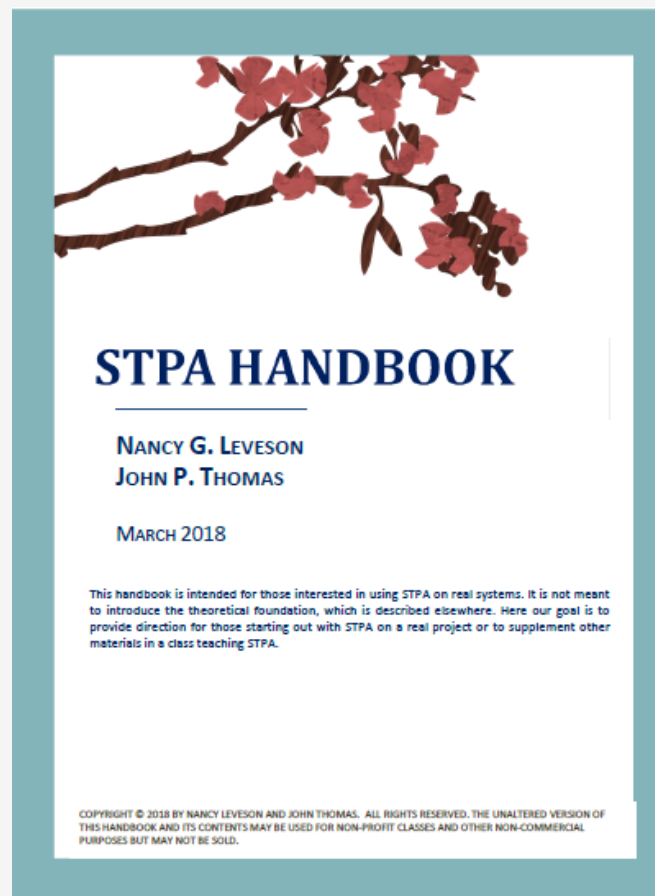
Lucas Ribeiro de Almeida  
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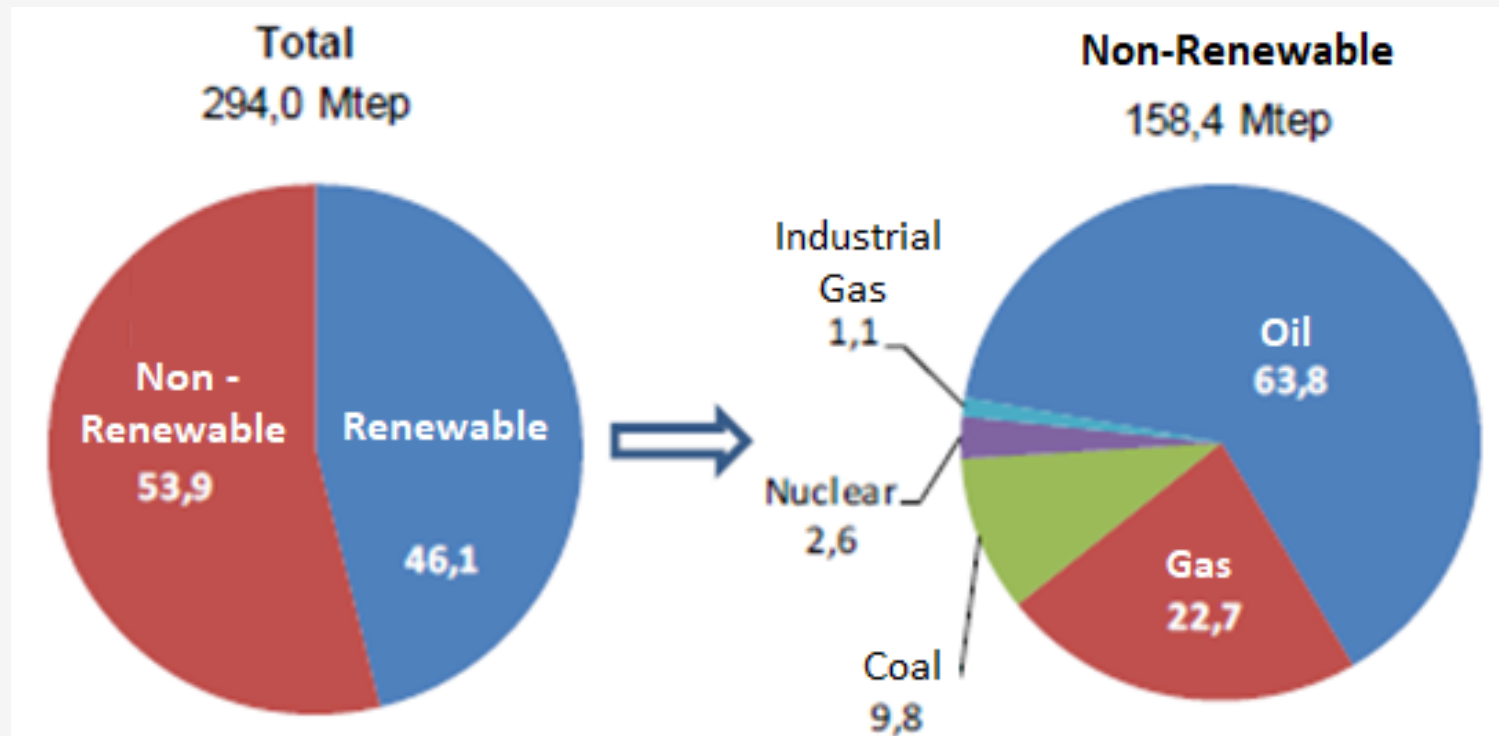
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# OBJECTIVES

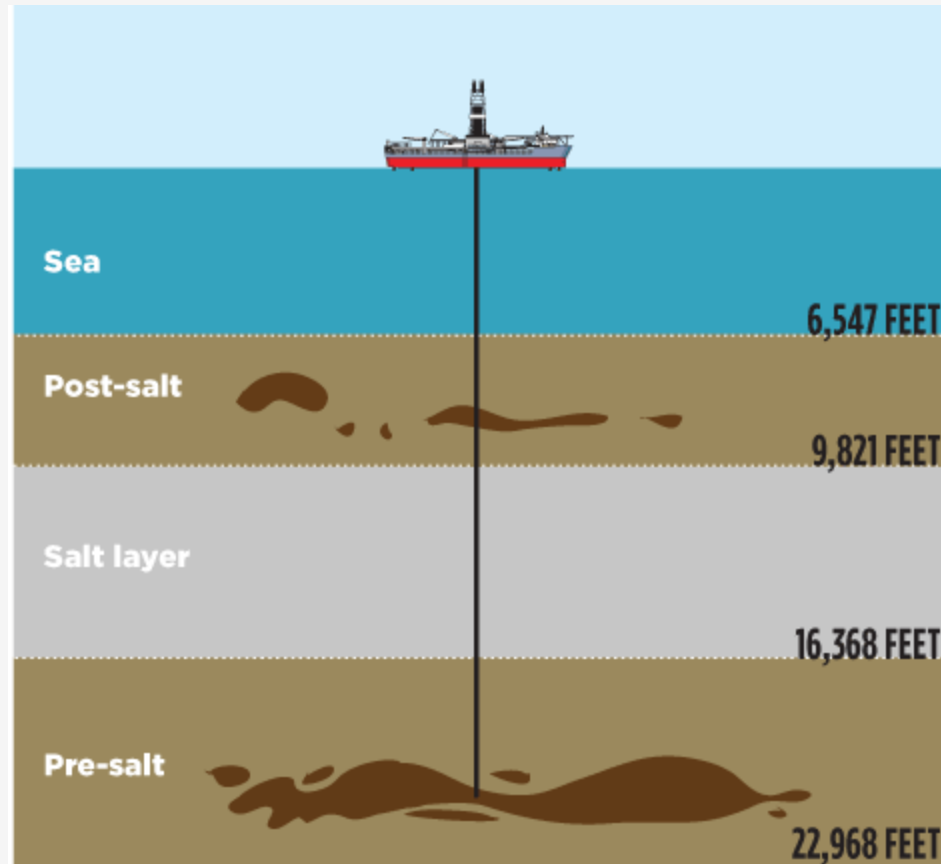


# CONTEXT



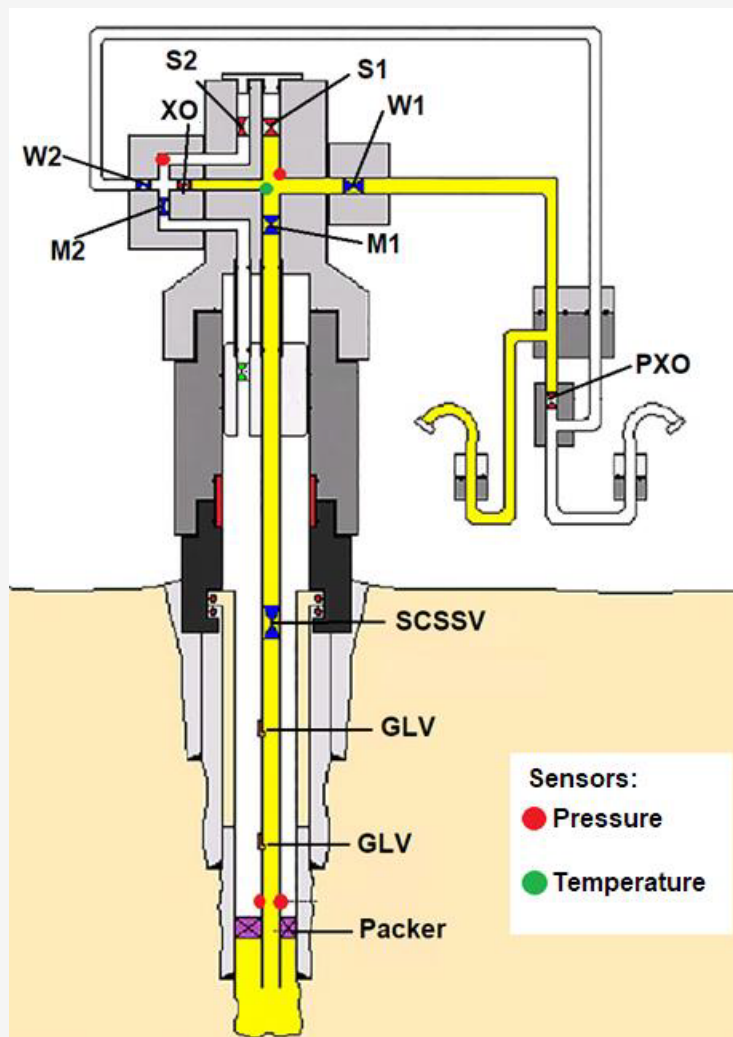
Brazilian energy matrix (MME, 2020)

# CONTEXT



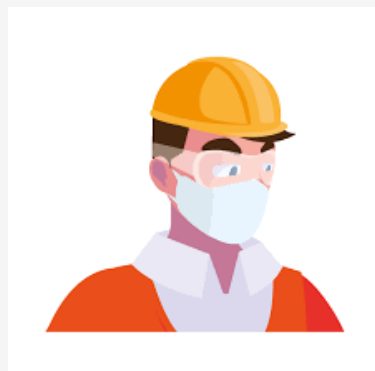
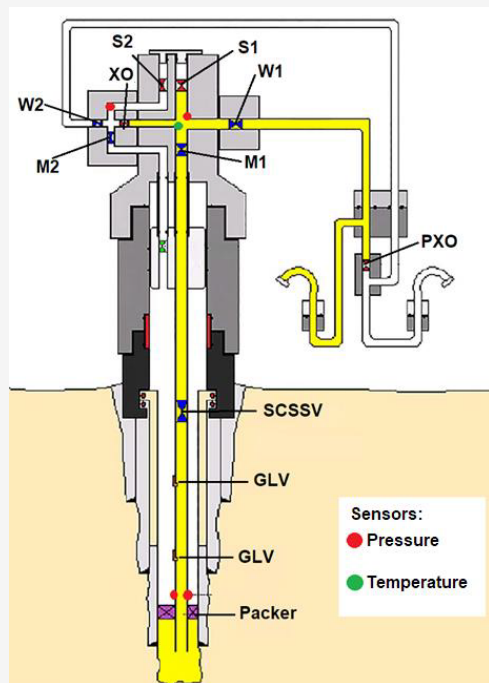
Pre Salt depths

# CONTEXT



Subsea Christmas Tree Scheme (ALVES, 2021)

# SYSTEM BOUNDARIES

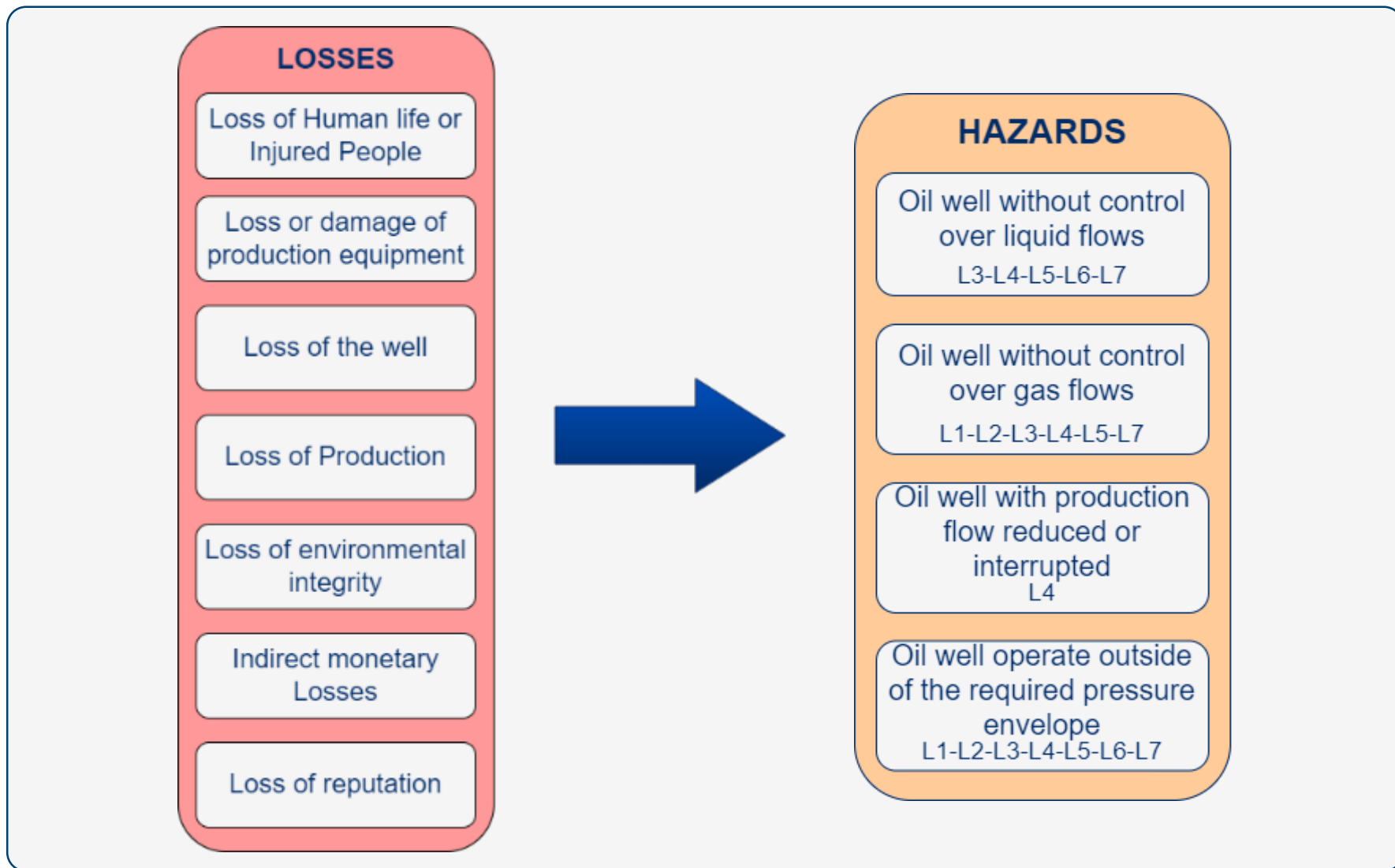


Floating Production Unit

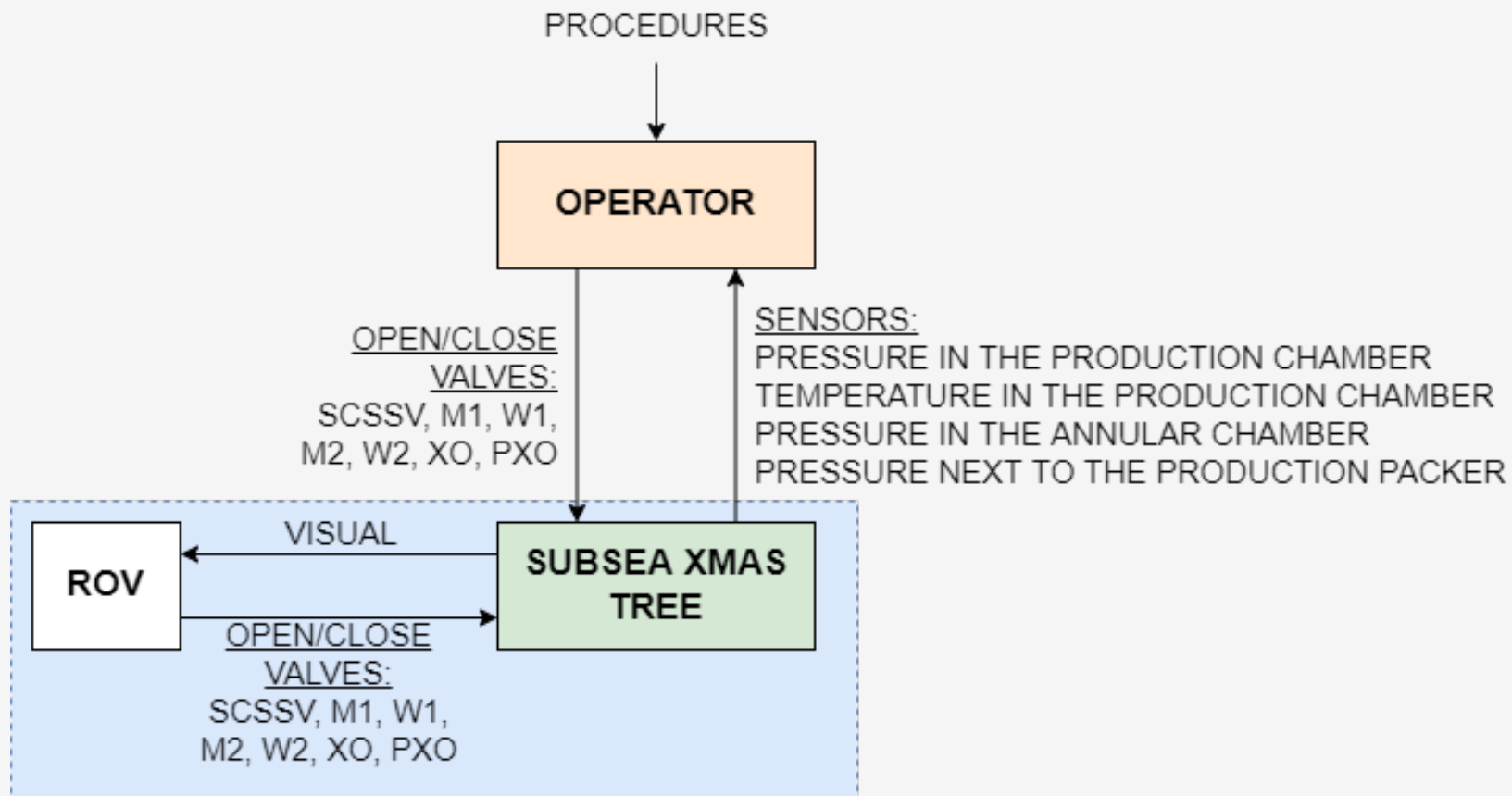


ROV

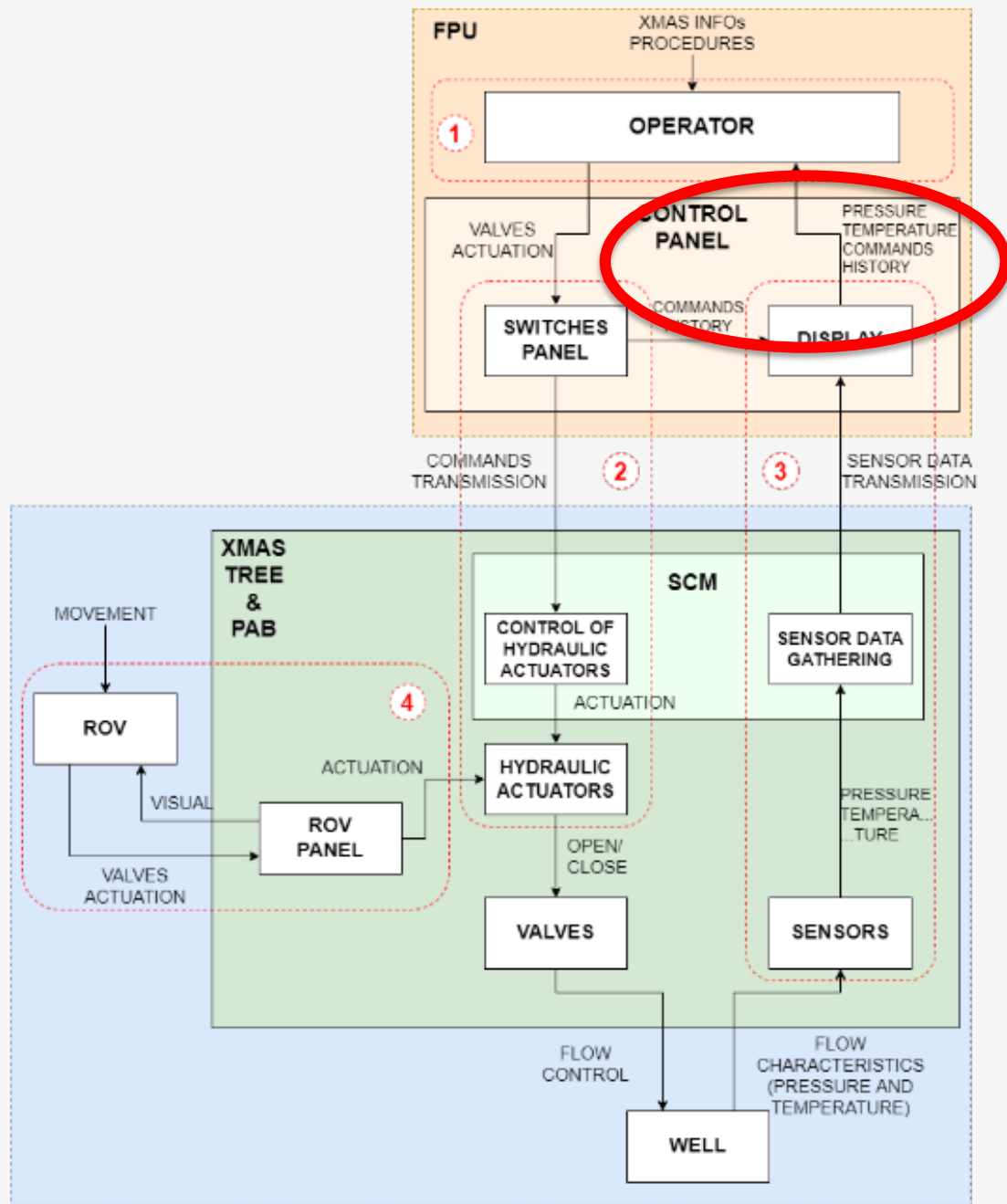
# SYSTEM DETAILS



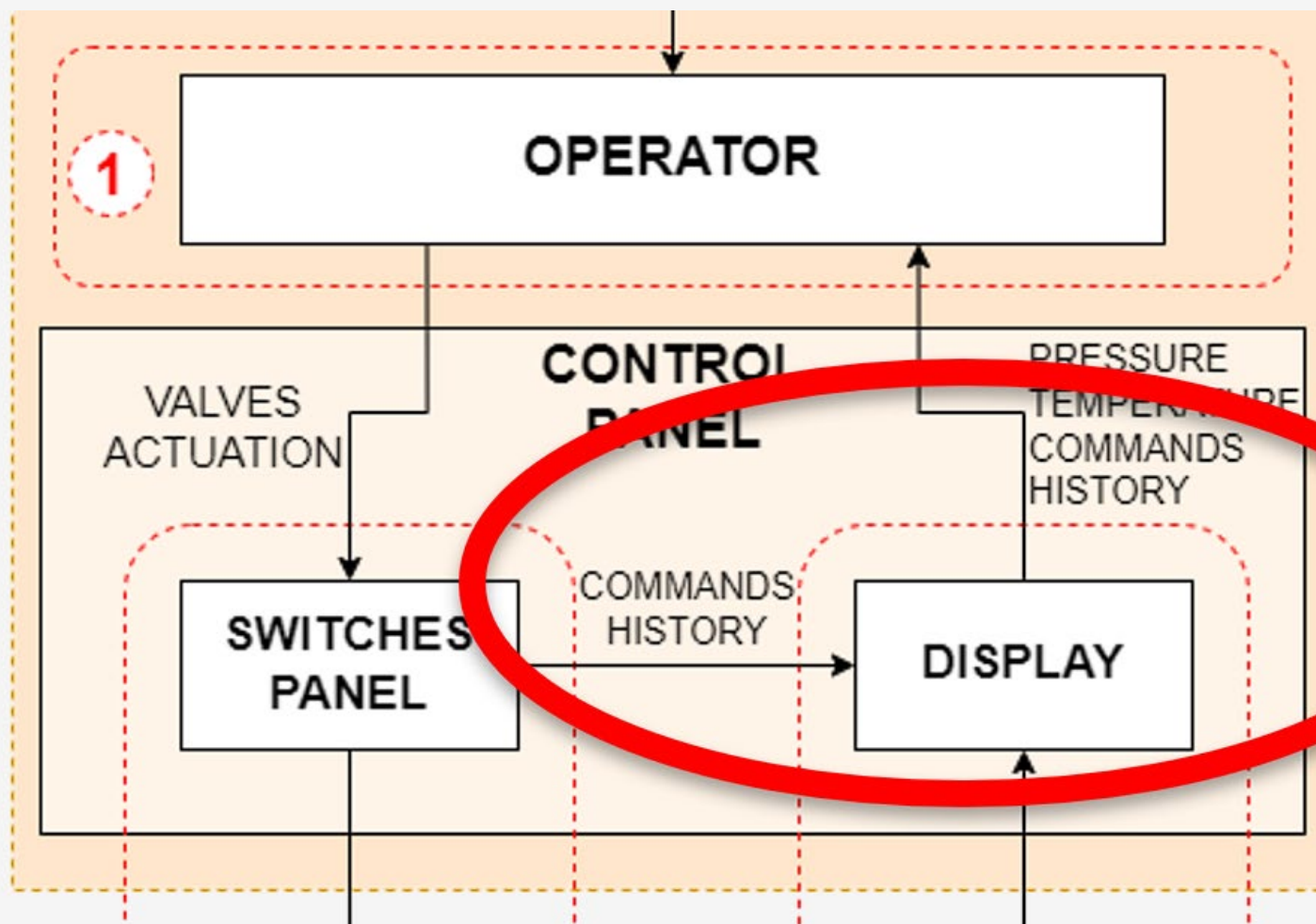
# CONTROL STRUCTURE





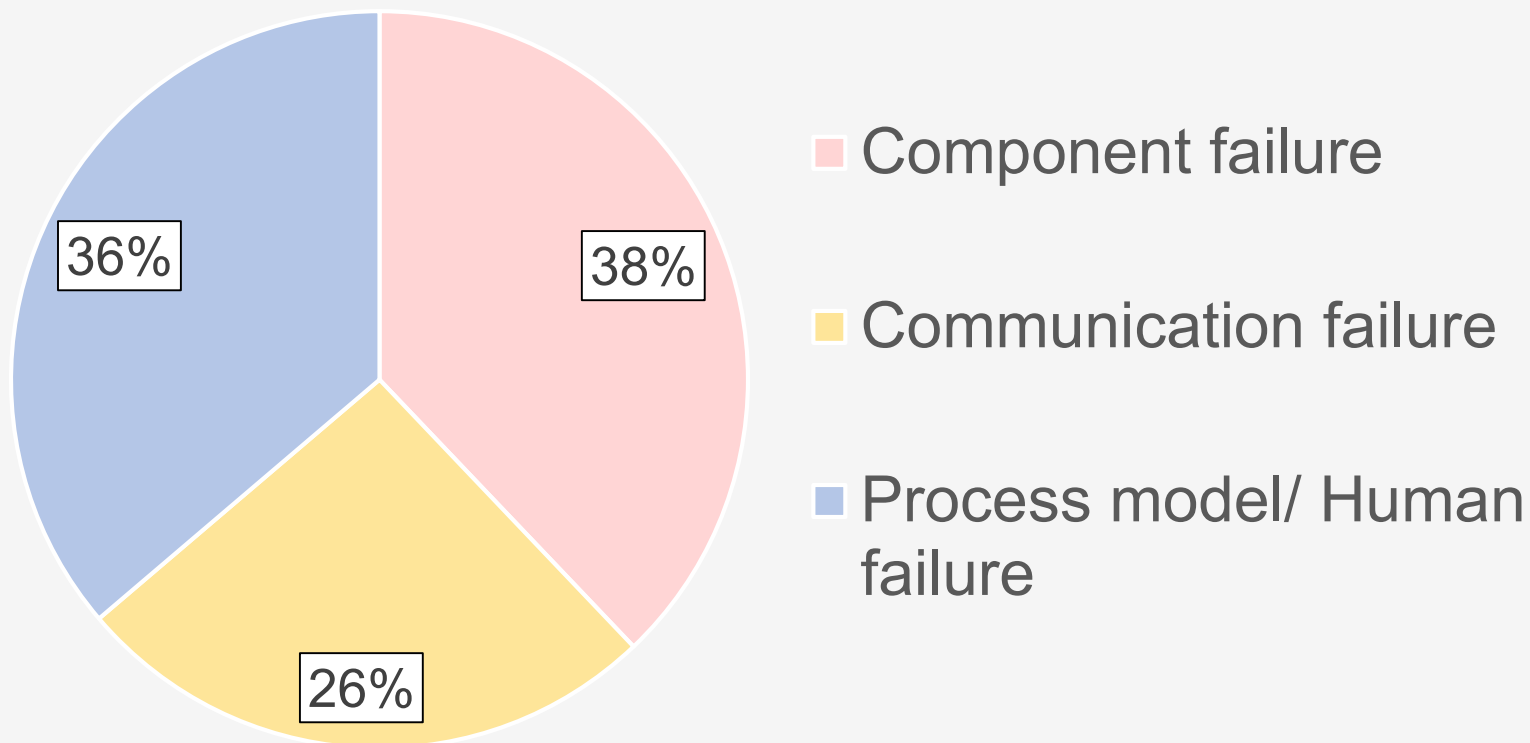


# CONTROL STRUCTURE

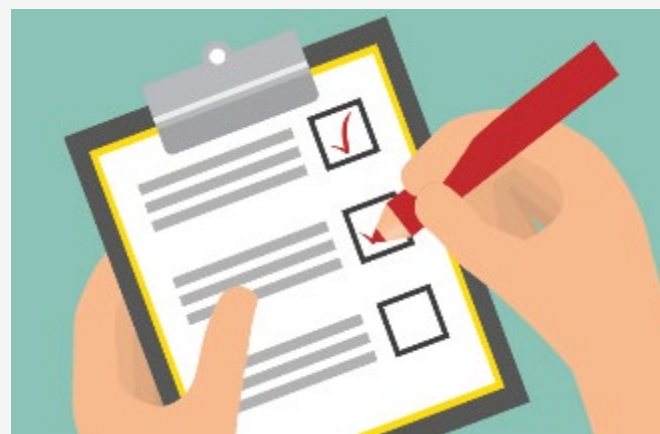
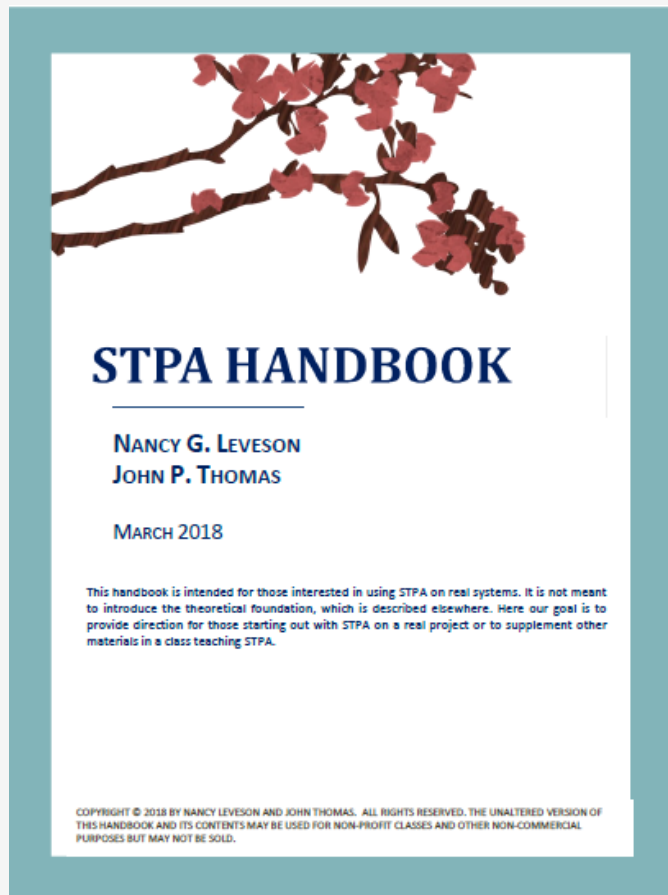


# CONCLUSIONS

- UCAs → 40
- Loss Scenarios → 541 over which:



# ONGOING WORK





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Finep  
INOVAÇÃO E PESQUISA



PNV  
USP



prh



anp  
Agência Nacional  
do Petróleo,  
Gás Natural e Biocombustíveis

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