CONSIDERATIONS REGARDING RELIABILITY ANALYSIS METHODS APPLIED ON HYDRAULIC SYSTEMS

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In order to exemplify the way in which the methods which can be used in reliability and performance analysis of hydraulic systems are applied, in figure 1 a simplified water pumping system is described (it is made up of an inexaustible water supply SA, two pumps, P_1, P_2, electro-valve V, and a tank R, also is neglecting the failure of the pipe connection). The two pumps are dimensioned in 2x50%.

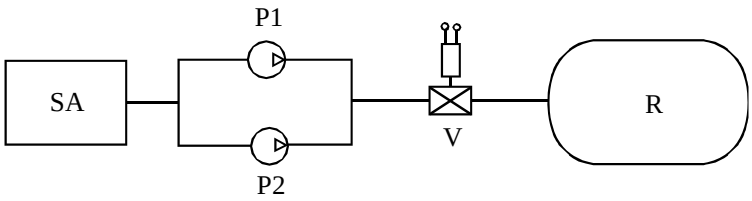

Fig. 1. – Water pumping system

The failure tree

We must take into consideration the following major events:

- E_1 = pump "P_1" is not functioning
- E_2 = pump "P_1" is not functioning"
- E_3 = electro-valve"V" is locked in closed position

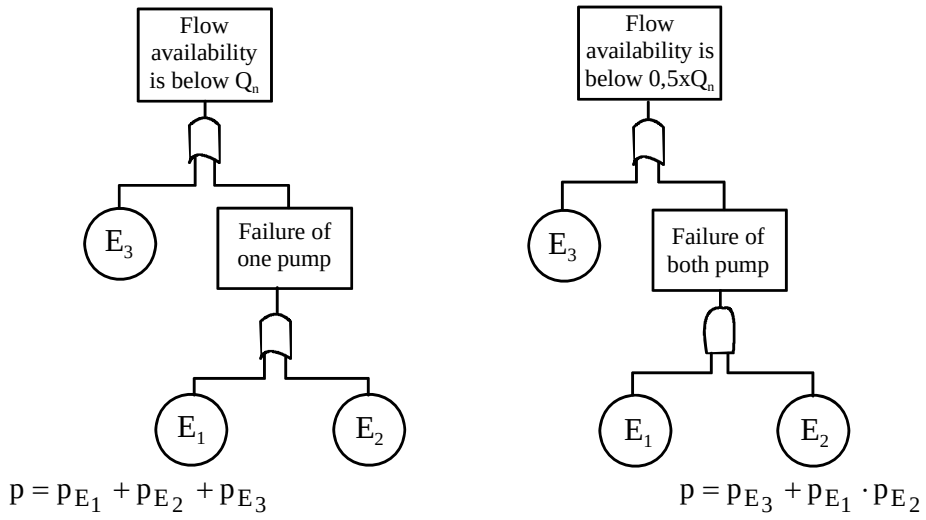

Fig. 2. –Fault tree's evolution

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