

Diploma Thesis Review

Student: **Messas Chahir**

Title: **Processing Facility Pneumatic Control System
Innovation.**

The first chapter is dedicated to the analysis of pneumatic control in accordance with the given task. At the beginning student showed existing pneumatic control solution. In the following text the student only redrew schema in SW Fluidsim and presented simulation results.

The second chapter is dedicated to PLC solution with various explanations of diagram possibilities.

In the third chapter, innovation of pneumatic control system in comparison to electro-pneumatic control system was mentioned, but the description of the innovation itself was deficient.

Discussed possible changes and error states of the facility and their management are partially described in the fourth and fifth chapter.

After thorough reviewing of the diploma thesis, the reviewer`s comments and objections are as follows:

1. Table 1 - incorrectly situated valves.
2. Figure 4 – professional solution without HMI is not acceptable.
3. There are a lot of mistakes in the description of variables (Figure 17 and table 3), so the control system could not operate. Different descriptions of the same variables cannot be used.
4. The solution of Figure 12 is not presented. The description of the used method is missing.
5. At the end of the diploma thesis, the student should have emphasized the advantages of electro-pneumatic control system. Replacement of the existing instrumentation with new modern instrumentation with the same parameters cannot be considered as innovation, because the principle of operation remains unaltered in chapter 3 and 4.
6. Mentioning Industry 4.0 in the thesis is unnecessary.
7. The diploma thesis contains a real PLC program for the new instrumentation and the real working output is missing.
8. Formally, the list of the used abbreviations is incomplete.

In summary, the used terminology is standard and the diploma thesis solutions mostly correspond with diploma thesis requirements. On the whole, the diploma thesis meets the basic criteria for sufficient diploma thesis.

As justified above, the diploma thesis is graded as

E – sufficient

Prague, January 22, 2017

Ing. Miroslav Žilka, CSc.

reviewer