This is the peer reviewed version of the following article:


This article may be used for non-commercial purposes in accordance With Wiley-VCH Terms and Conditions for self-archiving”.

This postprint version is available from [http://hdl.handle.net/10195/67619](http://hdl.handle.net/10195/67619)
The article [1] is inspired by Old Testament. Ten process safety rules considered to be the most important by the author are listed in the article. It is known from New Testament that Jesus when asked “which is the great commandment in the law” he summarized entire the Jewish law into only two rules. First of them is known as Greatest Commandment (Love thy Lord thy God) and the second one is referred to as the Golden Rule of Christian ethics (Love thy neighbor as thyself).

We think that similarly the ten commandments of risk based process safety from [1] can be boiled up into two most general rules which should be followed by any manager:

GR1. Thou shalt always maintain a sense of vulnerability. Any thy equipment may fail, any thy personnel may make an error. Even thou thyself art vulnerable and fallible.

GR2. Thou shalt always keep an understanding for vulnerability of thy personnel. They are thy neighbors. Help them resist their fallibility and do not tempt their fragility.

We believe that formulation and explanation of ten commandments in [1] is helpful. Nevertheless, we would like to draw attention to the fact that all the commandments flow from a common source. Brief argumentation is given below on why we think that such a reduction is possible and reasonable:

I. Thou shalt always honor thy container.

Containers represent substantial part of equipment in processes that keep chemicals and energy. Care for the containers stems directly from the knowledge that each of containers can fail and cause damage. Commandment I therefore results from GR1.

II. Thou shalt always maintain a sense of vulnerability.

Commandment II constitutes main part of GR1. Manager that is aware of GR1 feels obliged to disseminate and promote sense of vulnerability among all persons involved in the process.

III. Thou shalt eliminate normalization of deviation.

Normalization of deviations described in the article represents a sort of mechanisms how human fallibility can be materialized. It is a task of a manager according to GR2 not to allow deviations to promote in this way and cope with them, for example, using tools such as management of change.

IV. Thou shalt know thy chemistry.

The comment in the article [1] itself identifies Commandment IV to be a consequence of Commandment II (or GR1 in our wording). Knowledge of our chemistry is a piece of information that
lays in the fundament of our process. Similarly as any other part of our process it is never perfect and may cause failures or errors.

V Thou shalt educate, train and drill employees

It means to be concerned about their own safety. Constant and effective training is an important tool to help employees resist their fallibility. This commandment would be then grouped in GR2, as it is all about ensure other human beings integrity.

VI Thou shalt create and nurture a strong risk based process safety culture.

Safety culture is a term related to attitude of personnel. If there is not a safety culture, where people rank safety in first place, no amount of training will suffice. This commandment can be also derived from GR2, for it praises safety among people.

VII Thou shalt recognize those who exemplify process and occupational safety

Again, this commandment would be part of GR2, for recognition is the main way to incentive safety culture, as the safety itself is a difficult concept to actually experience in daily life.

VIII. Thou shalt not tolerate omissions in documentation.

Omitting things which are obligatory, but can be skipped is always tempting, because it can seem that omission of “unnecessary” details allows us to do our work faster with less effort, no matter it can be less safe. Accepting this attitude is against GR2, because it can expose the personnel to unsafe situations.

IX. Thou shalt not manage from behind thy desk.

This approach is manifestation of the missing empathy with our neighbors and thus crossing GR2. Manager sitting behind his/her desk does not help his/her subordinates resist their fallibility and does tempt their fragility.

X. Thou shalt not violate rules.

Violating the rules is similar to omissions – circumventing or altering the barriers, which are set to protect people from their fallibility, is in direct contradiction with GR2.

Sincerely Yours,

Milos Ferjencik, Aline Cardoso Anastacio, and Jindrich Masin

Institute of Energetic Materials, Faculty of Chemical Technology, University of Pardubice, Studentska 95, 53210 Pardubice, Czech Republic; milos.ferjencik@upce.cz (for correspondence)

LITERATURE CITED