Reply to Reviewer A:

These results clearly indicate that the tank should not be used without the repair of the  
mentioned cracks, which was not mentioned in the discussion.  
The case study is about the tank repairment, since it actually has leaked during the water proof test (“micro-cracks in welded joint, which have grown through the thickness during proof testing”)

However it poses the question, not given in the text, what were the lengths of the analysed cracks and on what basis was it concluded that the cracks will grow in depth and not in another dimension - which would lead to catastrophic failure before leaking? And what would a comprehensive analysis of surface cracks entail?  
Next, explain in more detail which cracks are discussed in this paper, considering the drawing of the tank. In other words, connect Figures 2 and 3 and state the directions of the discussed cracks.

This is now clarified with couple of additional sentences and one additional reference, taking into account alos the following paragraph:  
‘All cracks are three-dimensional (3D), i.e. so-called surface cracks, with different lengths and depth approximately 5 mm. Since we are considering here crack growth into depth, i.e. leakage, as it would precede catastrophic failure anyhow, the cracks are represented as being 2D edge crack, with length 5 mm (as if they are running all over the circumference), enabling conservative and simplified approach to solve the problem.’ describes a simplification that was done in considering the 2D edge crack instead of the 3D surface crack.

The FAD diagram (Figure 5) has been technically improved.

Beginning of Chapter 2 is changed to ‘As the case study, possibility of leakage of large spherical tank, Fig.2, is analysed.’  
English is improved and errors corrected

References are arranged in accordance with the rules of the journal and given in the order of quoting.

Reply to Reviewer B:  
  
all comments clarified and corrected:  
Page    Row         comment  
 3      17      Risk matrix     It is 5x5 and shows 6 (six) levels of risk. In ref. API 581 4 (four) levels are introduced.

 4      12      instead of “concrete case” specific case is written  
 4      13      “The second one is based on survey or similar activities, not aimed here” is explanated.  
5       24      “undetectedmicro-cracks”     should be undetected micro-cracks

7       3       “at the border of liquid and gaseous phases”  has some significance, so it is partly left

7       4       “The occurrence of cracks was intensive in the heat-affected-zone (HAZ), being typical for the micro-alloyed steel TTSt E-47.” Is referenced.  
7       13      Text below fig 4. Is now  Figure 4. Cracks in the TTSt E-47 welded joints  
7       15      “The conservative approach has been applied” is refrased (conservative approach explained later)  
8       11-15   why is crack depth 5mm? That is how it was measured.  
9       1       “takan” is now taken  
10      20      word simple in deleted from conclusion  
One paragraph is added to conclusion about further development of this procedure to be focus on how to decrease conservativism.

All following suggestions accepted:  
Too many times used word simply  
No comma before reference  
All equations should be written using equation editor  
References are not in agreement with journal Hemijska Industrija