

NOK

Originally published in: 7th International Conference on NDE in Relation to Structural Integrity for Nuclear and Pressurized Components, May 2009, Yokohama, Japan

2.3 NOK QUALIFICATION PROJECTS

Nuclear Power plant Beznau (NOK) in Switzerland has a huge NDT inspection qualification program started last year. During this program, NOK decided to use realistic cracks in most of the cases. The main reason for selecting realistic cracks was to avoid any additional measurements and technical justification to show that the applied inspection techniques would also work on cracks. Also any discussions on the relevance of the qualifications due to unrealistic defects used were avoided.

NOK ordered several test samples from Trueflaw to do inspection qualification. In this paper, two cases are presented: baffle bolts of the pressure vessel internals and RPV bolts. Former was for ultrasonic inspections and the latter for eddy current inspections. Totally there has been more than 20 Baffle bolts and four RPV bolts where cracks have been produced. Part of the work is still ongoing, but currently totally about 90 cracks have been produced during these two project cases. Sample geometries are shown in Figure 4 for both cases.

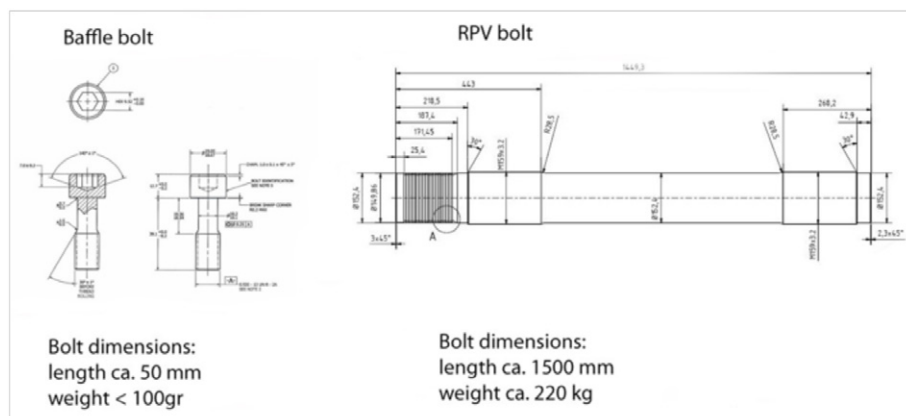


Figure 1
NOK test pieces
for the Baffle
bolt and RPV
qualification.

For all cases, the project has followed similar process: first technical applicability was evaluated in cooperation with the supplier and NOK. Then set defect sizes were validated with full report of the destructive validation results and validation was accepted by the client. Finally, the actual cracks were produced to the open and blind test samples.

The work is still ongoing and the final results are not available yet. There may be more information published after the qualifications have been done and analyses of the procedures performed.