Regulatory Activities in the I&C Area in Nuclear Facilities

De Hijes, D.





REGULATORY ACTIVITIES IN THE I&C AREA IN NUCLEAR FACILITIES

Autoridad Regulatoria Nuclear - Buenos Aires - ARGENTINA

The NUCLEAR REGULATORY AUTHORITY (Autoridad Regulatoria Nuclear, ARN) is the institution of the Argentine State devoted to the control and regulation of nuclear activities with regard to radiation and nuclear safety, safeguards, physical protection and security.

I have worked for the Nuclear Regulatory Authority for more than 10 years performing engineering assessments and plant inspections in the instrumentation and control (I&C) area in nuclear power plants and research reactors. Both engineering assessments and plant inspections always have been related with safety systems of nuclear facilities and have been made with a regulatory approach.



NEW PROJECT NUCLEAR FACILIT

Detailed assessment to ensure that the I&C design comply with the rules given by the safety standards. This activity requires a deep study of several local and international standards.

Detailed assessment of how is carried out the compliance of all **I&C** design principles mentioned on the PSAR.

Grant Construction License

Design Phase

Detailed reviews of the I&C chapter of Preliminary Safety Analysis Report (PSAR) to ensure that the design principles, standards followed by the designer and other traits related
with I&C safety are included.

> Detailed reviews of the I&C chapter of Final Safety Analysis Report (FSAR) to verify that all requirements requested from the PSAR analysis are fulfilled.

Verification of the documentation that shows the training of the personnel who are involved in I&C montage activities, such as cable connections by different methods.

Construction **Phase**

On-site mounting Inspection of I&C equipment to ensure that the safety systems are being implemented according to the statements of the Safety Analysis Report, the safety standards and the design principles.

Verification of the utilization of procedures in I&C mounting tasks to minimize the possibility to make mistakes during the construction

Detailed assessment of the I&C commissioning program in order to guarantee that the proposed commissioning tests will cover all I&C safety function and its behavior will be according to the design previsions.

On-site commissioning Inspections to ensure all tests have been made according to the commissioning procedures and also to verify that all results have been documented correctly.

Commissioning **Phase**

that provide evidence of the results. All acceptance criteria must be fulfilled to

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Detailed assessments of the I&C acceptance criteria included in the commissioning program to verify that each one is clear, unambiguous and allows decide easily if the test was successful or not

> **Grant Operation** License

consider that the test have been successful.

On-site inspections on the planned I&C tasks during outages NPPs to verify the execution of testing and the correct application of the procedures as well as its results

Operation **Phase**

Assessments of I&C design changes to ensure that the new system keeps or improves the original safety levels of the installation. Furthermore, on-site inspections to verify that the implementation of the modifications are perform according to the design prevision