

THE REGULATION EVOLVE FOR THE NUCLEAR SAFETY

ASN decision to the 8-2 article from the « Arrêté ESPN » Accreditation ISO/IEC 17025 for testing laboratories

Let's prepare this evolution together for 2025.



Below what we have to respect this new regulation.

23/09/2021 ASN decision n° 2021-DC-0713 certificated by the 01/06/2022 regulation

For steels and other metals Tests done regarding norms required by conception code. Examples below.						
		N1		N2		
Deadline		09/01/2025 Starting now for EPR2		09/01/2028 Starting now for EPR2		
Test made	Traction	 Room temperature High temperature Longitudinal Transversal 	ISO 6892-1 ISO 6892-2 ISO 5178 ISO 4136	- High temperature ISO 6892-2 - Transversal ISO 4136		
	Bending by impact	 Room temperature Temperature < 0°C Test coupon, all T° ISO 9016 	ISO 148-1 ISO 148-1	 Temperature < 0°C ISO 148-1 Test coupon, all T° ISO 9016 		
	Chemical analysis	- Elements : Al, B, C, Cu, Cr, Mo, Mn, Ni, N, P, S, Si				
	Grain size	- Grain size number	ISO 643			
Instruments involved		Pressurized principal parts of ESPN N1 (*), Materials for technical qualification, Welding witness		Pressurized principal parts of containers of ESPN N2 (**), Welding witness		

ESPN N1 : equipment from the primary and secondary systems of the pressurized water reactor where default can lead to critical accidents.

equipment are applicable too.

ESPN N2 : non N1 equipment where default can lead to an activity discharge.

(*) Not submitted	(**) Not submitted	
Bolting, thimble, cap \leq DN 50 (CPP) and \leq DN 100 (CSP)	Bolting, thimble, cap ≤ DN 100	
Compounds for branch connection \leq DN 50 (CPP) and \leq DN	Compounds for branch connection ≤ DN 100	
100 (CSP)		
Main pressure parts for pipes and their pressurize accessories \leq DN 50 (CPP) and \leq DN 100 (CSP)	NB : the mentioned norms are recommended but the declinations which are prescribed by the professional legislation used for the conception and fabrication of the	



ASN certificated decision n° 2021-DC-0713 linked to the 8-2 article from « Arrêté ESPN » <u>Available on the Légifrance website</u>

In France the Pressurized Nuclear Equipment must fulfill the requirement of the regulation so called "Arrêté ESPN" to ensure the nuclear safety of the nuclear powerplant. This regulation evolve (article 8.2) : some of the material characterization and welding witness have to be realized by laboratories getting an ISO/IEC 17025 accreditation . Then only the laboratories endorsed by an organism member of ILAC could be recognized as compliant with the French regulation

How to prepare for those tests needed under ISO/IEC 17025 accreditation?

- As a laboratory: I get involved in an ISO/IEC 17025 accreditation delivered by and organism member of ILAC and ensure that you can perform test respect to the RCC-M norms.
- As a material producer: I ensure that the laboratories I work with have the required accreditation. If need, I create a partnership with an accredited lab.
- As an ESPN maker or a materials reseller: I check my supply chain work with the correctly accredited laboratories for tests and/or get prepared to perform one more time the non-accredited tests.



The AFCEN goals

- Elaborate technical conception, rules for designing and operating equipment for nuclear powerplant, and guarantee a high level of quality and safety mandatory for operating of nuclear powerplant.
- Ensure that the AFCEN member can commission or build in an industrial way some ESPN (Pressurized Nuclear Equipment)

For further information:

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This evolution will take part to the improve of nuclear power plant quality.

Useful URL



https://ilac.org/







https://www.french-nuclear-safety.fr/

https://www.afcen.com/fr/

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