

SESSION FORMATION
GÉNIE CIVIL
GÉNIE CIVIL POUR LE NUCLÉAIRE

RÉF: 2406-15

AFCEN nuclear codes for Civil Works (ETC-C and RCC-CW) : Design

EN BREF

RCC-CW codes are published by AFCEN.
RCC-CW codes (Rules for design and construction of PWR nuclear civil works) are used to design and build the civil structures of nuclear power plants.
RCC-CW was published in 2010 and 2012 as ETC-C for EPR nuclear power plant.
The most recent RCC-CW editions (2015 to 2019) can be applied to PWR projects.
This training session explains the requirements of the Part Design.

La formation est dispensée en français.

THÉMATIQUES

Nuclear safety related buildings.
Rules involved in the design of the Civil structures of the EPR nuclear island.
Relations between the different parts of the Code.
Relations between the Eurocodes and the Code. Evolutions of the code since 2010 editions.

CETTE FORMATION S'ADRESSE À

Experienced Civil and Structural engineers, who design or supervise the design of concrete or steel structures and intend to work on nuclear projects.
Experienced designers, familiar with Eurocodes (2, 3, 7) and looking for transition training covering the key changes between the Eurocodes and the RCC-CW editions.

PRÉ-REQUIS

The one day training "general introduction" (ref 0731) is recommended to attend. Moreover, we recommend that each participant comes with an edition of the RCC-CW. Pre-requisites: Civil Engineering

OBJECTIFS

The purpose of this 3-day training session is to outline the requirements of the AFCEN RCC-CW code. Dedicated to the first part (Design) of the code, it covers all the aspects of the design for Civil engineering structures of nuclear power plants (geotechnics, seismic analysis, concrete, prestressing, liner, anchorages, steel works...)

PRINCIPES ET MÉTHODES PÉDAGOGIQUES

- . Questionnaire d'autopositionnement (prérequis, expériences, attentes)
- . Fil rouge assuré par le coordinateur expert ou le chef de projet
- . Temps d'interaction avec le(s) expert(s) et les stagiaires tout au long de la formation
- . Alternance d'apports méthodologiques et d'exemples d'application
- . Evaluation des connaissances à l'aide par exemple de quiz, exercices d'application, étude de cas, retour d'expérience...

INFORMATIONS PRATIQUES

Date : du 28 au 30 septembre 2022 - Durée : 3 jours (21 heures)
Tarif : 2 510,00 € HT + TVA (Déjeuners inclus)
Lieu : France Paris

COORDINATION

Alexandre BOULE, Ingénieur Matériaux de Génie Civil, EDF DIPNN Dir Industrielle

PROGRAMME DÉTAILLÉ ET HORAIRES

MERCREDI 28 SEPTEMBRE

9h00
Alexandre BOULE, *EDF DIPNN Dir. Indust.*
Opening and introduction to the session

Actions

9h30
Philippe BISCH, *EGIS Industrie*
Connections with Eurocode 0
Actions & combinations of actions

Seismic analysis

11h00
Philippe BISCH
Representation of soil effects
Modelling of structures & substructures
Methods of analysis & floor response spectra

Geotechnical design

14h30
Baptiste PELLETIER, *EDF DIPNN Dir. Indust.*
Geological, geotechnical and hydro-geological models
Actions & combinations for geotechnical design

Fin de la journée à 16h30

JEUDI 29 SEPTEMBRE

Concrete structures

8h30
Ludovic CABA, V, *EDF DIPNN Dir Tech*
Differences from Eurocode 2
properties of the material
Shear load
Detailing

10h30
Ludovic CABA
Francis BARRÉ, *Géodynamique & Structure*
Part 2 - Containment reliability assessment
Deformation imposed by shrinkage and thermal loads
Minimum reinforcement with scale effect

Containment design

14h00
Francis BARRÉ
Damien THILLAYE DU BOULLAY, *EDF DIPNN Dir. Tech.*
- Part 1 - Prestressed concrete containment design

15h30
Francis BARRÉ
Damien THILLAYE DU BOULLAY
Part 2 - Containment reliability assessment
Part 3 - Example, prestressed concrete containment analysis

Fin de la journée à 17h00

VENDEDI 30 SEPTEMBRE

Anchors

8h30-10h00
Clément HERVE, *EDF DIPNN Dir Tech*
Anchor systems design

Liners

10h15-12h30
Emeric VIROT, *EDF DIPNN Dir Tech*
Pierre-Claude ARBEZ, *NFM SYSTEMS*
Anchored containment liner
Pools liner

14h00

Emeric VIROT
Pierre-Claude ARBEZ
Anchored containment liner
Pools liner (suite)

Structural steelwork

15h15
Nicolas BOTTELDOORN, *EDF DIPNN Dir Tech*
Materials
Design principles
Admissible deflections

16h15
Alexandre BOULE
Conclusion

Fin de la session à 17h00