Nuclear Training Course 233
TIMS Ref. 23003

Reactor-Boiler and Auxiliary

Nuclear Training Course 233

Reactor And Auxiliaries

June 1992

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ABSTRACT OF CURRENT REVISION

June 1992 ⇔

Removed hyphenation of text from previous version. General revision to correct grammatical errors and minor changes to improve clarity. Added revision number to course notes. Included module title with module number in headers. Added Abstract of Previous Revision.

Module 1, Page 3	Changed $MW_{(th)}$ per hour to $MWh_{(th)}$
Module 1, Page 3	Added statement to section on withdrawal of adjuster rods.
Module 2, Page 13	In Figure 2.1, moved Moderator HX TCV from outlet to inlet to reflect actual field location.
Module 4, Page 1	Slight wording change to Objective 4.5 to match intent of all five objective parts.
Module 4, Page 4,5	In Table 4.1 and Table 4.2, changed Gd precipitation pH value from >6 to >7 to agree with 224 course material.
Module 4, Page 7	Added note to Figure 4.2 to indicate that it refers to a unit with adjusters out of the core. Changed other note to indicate that Gd is added to compensate for the lack of Xe.
Module 4, Page 10	Expanded explanation of auto poison addition. Footnote added.
Module 4, Page 12	Material covering Objective 4.5 e) restated.
Module 5, Page 7	Corrected statement about conductivity effect on radiolysis to agree with 224 course material.
Module 5, Page 9	Added summary point to address Objective 5.1 c).
Module 7, Page 15	Bleed condenser major roles item (a) expanded to include HTS supply conditions of 8 MPa, 250°C to reflect other stations.
Module 7, Page 24	Second summary point reworded to match Objective 7.17.
Module 7, Page 25	Summary point added to address Objective 7.21.
Module 7, Page 25	Section on feed pump failure rewritten to be more concise.
Module 7, Page 26	Statement added to cover reactor trip on HTS low flow.

Module 7, Page 27	Note added to include fluctuating TCV on the bleed cooler at some stations.
Module 8, Page 4	Sidenote added to refer reader to other sources for further information.
Module 9, Page 3	Qualified statement about upper limit on HTS isotopic.
Module 10, Page 6	Purification half–life at 25 kg/s corrected to 60 minutes from 20 minutes as previously stated.
Module 10, Page 7	Fourth summary point reworded.
Module 10, Page 9	Footnote added to cross reference with 228 Materials course.
Module 10, Page 14	Summary point added to address Objective 10.5 a).
Module 11, Page 3	Statement added to explanation of fuel centerline melting.
Module 11, Page 6	Expanded summary point for Objective 11.3 c).
Module 13, Page 9	Summary point added to address Objective 13.6.
Module 13, Page 17	In Figure 13.6, moved PRV open point to 3 kPa(g).
Module 13, Page 18	Added chemical equation for steam/zirconium oxidation reaction.
Module 13, Page 18	Added description of hydrogen igniter locations at the various stations with a footnote for details specific to Darlington NGS.
Module 14, Page 7	Changed ΔP to P for trends. Slight rewording of section on annulus gas leakage.
Module 16, Page 2	Added fourth area of CANDU fuel performance assessment – d) performance under major upset conditions.
Module 16, Page 3	Added further explanation to point 7) under "methods to minimize fuel failure mechanisms".
Module 16, Page 9	Added summary point to address Objective 16.1 b).
Module 18, Page 1	Corrected objective numbers.
Module 18, Page 7	Added sidenote to clarify liquid zone response during a reactor stepback.
Module 18, Page 19	Added sidenote to reference discrepancy between actual and indicated boiler level during a main steamline break.

NOTES & REFERENCES

Module 18, Page 22	Sidenote added to refer reader to 235 course for further information on turbine–generator speed response due to power mismatch.

ABSTRACT OF PREVIOUS REVISION

June 1991 ⟺

Added abstract of current revisions. General revision to correct grammatical errors and minor changes for clarity.

Module 7, Page 6	Added references to pressurizer temperature.
Module 17, Page 8	Deleted reference to neutrons in the irradiated fuel bay, since their contribution is insignificant.
Module 18, Page 11	Clarified and separated discussion of large and small LOCAs with respect to crash cooling.
Module 18, Page 12	Qualified pressurizer level decrease statement for LOCAs to exclude leaks from the top of pressurizer.

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