

TIC-VCD-2003-000134-SR

**Technical Evaluation for the Adequacy for the Repair**  
**for RRR Project**

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Note : Summary Report
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TOSHIBA CORPORATION  
NUCLEAR ENERGY SYSTEMS & SERVICES DIV.

## Technical Evaluation Report for the Repair for RRR Project in Australia

### Summary

Rev.	Initial Issue Date	Issued by	Approved by	Reviewed by	Prepared by	Document filing No.
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## 1 Purpose

This report has been prepared by Toshiba for Australian Radiation Protection and Nuclear Safety Agency ('ARPANSA') who requested Toshiba to supply Consultancy Service on the repair for pool shell in Rector Pool Shell for ANSTO RRR project.

This report summary has been produced solely for this project it may not be used for any other purpose. The contents contains confidential and propriety information. This consultancy service and report is made on the understanding that it shall not be used for any other purpose than the manufacture and repair of a neutron reactor.

## 2 Evaluation Summary

Toshiba has reviewed the repair procedure of the pool shell for the RRR-project in Australia. Evaluation has performed mainly from the viewpoint of the compliance of the procedure against the requirements of the ASME Code Section III Subsection ND, Class 3 Components.

On the provided documents, the two type of repair has been planned as follows:

- 1) Longitudinal welds for strake 2 and 8.
- 2) Circular weld to re-work the misplaced penetration.

Both welds are controlled as full-penetrations and all welds will be tested by 100% RT.

From the point of repair design, the design meets all the requirements of the ND-3000 of the ASME Code Section III, Subsection ND, therefore, the repair design can be concluded as appropriate.

From the welding stand point of view, this repair weld shall be performed in accordance with the requirements of the ASME Code, because we don't think this repair weld is not just a "repair weld" as specified in the ASME Code but a new construction weld.

And it is judged that you need to take additional considerations about the following items based on the ASME Code requirements for the new welding.

ND-3350 Design of welded construction

ND-4230 Fitting and Aligning

ND-4240 Requirements for Weld Joints in Components

ND-5200 Examination of Welds.

And proper consideration for the ASME Code compliance is to be confirmed sufficiently

### 3. Introduction

Australian Radiation Protection and Nuclear Safety Agency ('ARPANSA') requested Toshiba to supply Consultancy Service on the repair for pool shell in Rector Pool Shell for ANSTO RRR project.

The task is to familiarize ARPANSA with the design and the manufacturing processes for the reactor pool shell, and to review the provided documentation of the repair strategies and their effectiveness with regard to the effect of the repairs on the design.

This document shows the evaluation results of the repair procedure. The procedures were reviewed against the compliance of the ASME Code Section III Subsection ND.

This article represents the opinions of the authors and does not necessarily reflect the opinion of the ASME, its members, or its officers, or of the BWRVIP, its members or its officers.

### 4. Scope

We reviewed the provided documents based on only the ASME Code Sec.III subsection ND, and the compliances with other laws or any other regulation are out of our review scope.

In addition to check the code compliance, we have reviewed the procedure against our normal practice.

### 5. Conclusion

On the provided documents, the two types of proposal welds are controlled as full-penetrations and all welds will be tested by 100% RT.

From the point of repair design, the design meets all the requirements of the ASME Code , therefore the repair design an be concluded as appropriate.

From the welding stand point of view, this repair weld shall be performed in accordance with the requirements of the ASME Code, because we don't think their repair weld is not just a "repair weld" as specified in the ASME Code but a new construction weld.

And it is judged that you need to take additional considerations about the following items based on the ASME Code requirements for the new welding.

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ND-4240 Requirements for Weld Joints in Components

ND-5200 Examination of Welds

And proper consideration for the ASME Code compliance it to be confirmed sufficiently.

**END**