



QUALITY ASSURANCE DOCUMENT

**DEVIATION DISPOSITION REQUEST**

Manufacturer AB Sandvik Materials Technology	Material Steam Generator Tubes	Report No DDR 6301
Sandvik Order No 381-00502/00503	Size 19.05 x 1.07 mm	Rev No 0
Purchaser Ansaldo	Sandvik Grade Sanicro 69	Page                      of 1                              1
Purchase Order No 4700030516	Grade Alloy 690	Sandvik Quality Plan QP 63 Rev 2
Specification PX-SPV-20-AESC001 Rev 1	Project Palo Verde 1	Sandvik Procedure CP 6344 Rev 6

Deviation: During unpacking of boxes for Palo Verde 1 SG 1 at the Ansaldo plant it was revealed that some tubes had been damaged by screws during packing in Sandviken. During Sandvik reinspection of boxes at the Ansaldo plant, further damaged tubes were found.

All damaged tubes are listed below:

<u>Row No</u>	<u>Column No</u>	<u>Tube No</u>	<u>Box No</u>
41	146	3002	7
49	144	5501	9
55	90	975	9
71	88	63459	11
95	24	64899	13
103	130	64374	13

Cause for deviation: The completion of the boxes was not performed in the correct way as intended in CP 6344 Rev 2. Even though the personnel were informed about the danger of not inserting the screws at the correct place and in a correct angle, some persons did not perform a correct assembly of the boxes. Root cause: Human error.

Corrective Action: All 6 tubes will be replaced acc. to QP 63 and all applicable Control Procedures, i.e. the requirements of all Ansaldo specifications will be met.

Preventive Action: For the current packing of Palo Verde 1 SG 2, the following actions have been taken. The 4 first actions have also been incorporated in CP 6344 Rev 6.

- Only qualified persons are allowed to use screws to finish the boxes.
- The positioning of the screws has been changed to horizontal, at half the height of the blocking.
- Each row shall be QA inspected in the box. The approval of each row will be documented by adding a personal QA inspector stamp on each vertical divider, at the top screw position.
- The height of the blocks has been increased to 80 mm.
- The tubes will be inspected by Miz 30 after box assembly. This is valid for tubes 1 and 27 in each row package. This action will be incorporated in next revision of CP 6344.

**10 CFR 21 Condition: The technique of using screws in the boxes has also been used for the RSG Projects Palo Verde 2 (Ansaldo) and Sequoyah 1 (Doosan). This means that there is a potential risque that similar damage to tubes could have been caused during packing of these 2 projects for the US market.**

Name Per-Olof Lund	Position QA Mgr, Specialty Tubes	Date 2004-04-27	Signature  
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Purchaser's decision:

Name	Position	Date	Signature
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