



RSV Zware Apparatenbouw b.v.
Rotterdam Heavy Equipment

United States Nuclear Regulatory
Commission Region IV
611 Ryan Plaza Drive, Suite 1000
ARLINGTON, Texas 76011
U.S.A.
Att.: Mr. Uldis Potapovs,
Chief Vendor Inspection Branch.



Your ref.

Our ref. KD/81022
Tel. +31 10 872874

Rotterdam, 25th May, 1981.

Your letter dated April 23, 1981.
Your Docket No. 99900039/81-01.

Gentlemen,

This is to acknowledge receipt of your letter dated 23rd April, 1981 with enclosure, which we received May 4th.

Please find listed in this letter our detailed response to the reported finding as requested in your letter.
Documents containing information as evidence to your response you will find attached to this letter.

NRC finding :

Criterion XIII of Appendix B to 10 CFR Part 50 states : "Measures shall be established to control the handling, storage, shipping, cleaning and preservation of material and equipment in accordance with work and inspection instructions to prevent damage or deterioration. When necessary for particular products, special protective environments, such as inert gas atmosphere, specific moisture content levels, and temperature levels, shall be specified and provided".

Contrary to the above, measures have not been established to control storage and preservation of the Black Fox Unit No. 1 reactor vessel in accordance with work and inspection instructions, to prevent damage or deterioration, while the completed vessel is being stored prior to shipment. (See Details Section, paragraph B.3.a.).

RSV-A response :

1. We agree that no written instructions were available for controlling inspection of storage and preservation of the Black Fox I RPV prior to shipment, since shipment of subject vessel was unexpectedly held up. A Quality Procedure (PQ 9.15.02 (E)) has been established and is now issued to all concerned to ensure control of inspection activities in accordance with ANSI requirements (see attachment I to this letter).

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2. To prevent recurrence we issued a memo to the Manager Manufacturing (see attachment II to this letter).
3. QP 9.15.02 (E), rev. 0 has been issued 27th April, 1981.

We hope our response is satisfactory to you.
When you need any additional information, please contact us.

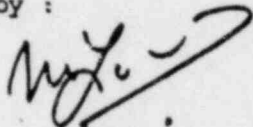
Sincerely yours,

RSV Zware Apparatenbouw b.v.



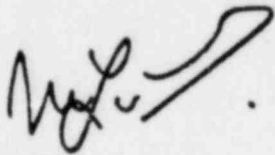
Ir. B. J. A. Sluis
Managing Director

Prepared by :



Ir. M. Lodder
Manager QA



Soort document: IM	Doc. nr. KD/81023	Rev. 0	Blad 1 van 1 bladen
Document bestemd voor: BR - bespr. rapp. TR - techn. rapp. IR - intern rapp. RV - reisverslag IM - int. meded. LO - lit. onderz. TG - tel. gesprek		Bespreking te : Datum bespreking : 1981.03.30 rapport : Samensteller : S.A.Hulshoff	
Onderwerp: Instruction and Procedures	Kopieën bestemd voor: Afd. Naam Aant.		
Order/project nr.:	Mr.P.C. de Ruiter, Manager Manufacturing		
Bestemming:	Mr.C.P.J.Vester, QA Shop Engineer.		
Volg nr.:	* Memo During NRC inspection on March 23rd - 25th, 1981, it was found that no written instructions were available for the control of inspection of the storage of the Black Fox I reactor vessel. You are requested to remind the personnel concerned that according to Chapter 15, par. 2 of the QA Manual control of inspection of storage and preservation must be carried out according to written instructions.  M. Lodder Manager QA.		Info Akte door:
* Bij een besprekings- of reisverslag en een telefoongesprek de gesprekdeelnemer(s) te vermelden.			



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Attachment I to KD/81022

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Quality Procedure no.: 9.15.02 (E)

Rev. : 0

Date : 1981.04.27

Subject : Storage requirements for Reactor Pressure
Vessel Components and Items.

Distribution : See Quality Procedure No. 9.03.01.

Manager QA

A handwritten signature in black ink, appearing to be 'H. J. S.', written over the printed name 'Manager QA' and the company name.

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Rotterdam Heavy Equipment





Storage requirements for Reactor Pressure Vessel (RPV) components and items.

1. Definition of storage

Storage is the act of holding RPV components and items at the manufacturers site.

The storage time starts immediately after completion of the last work carried out on the RPV components/items assembly to be stored and ends with shipment.

2. Applicable documents

2.1. ANSI N 45.2.2-1972 (packing, shipping, receiving, storage and handling of items for Nuclear Power Plants).

2.2. ANSI N 45.2.3-1973 (housekeeping during the construction phase of Nuclear Power Plants).

2.3. Applicable customer's specifications.

3. Preserving status at start of storage time

RPV components and items shall have received the surface preparation, cleaning, preserving and packing status in accordance with the applicable documents of par. 2, as laid down in detail in the applicable RSV-A procedure specification which shall have been prepared for and approved by the customer.

4. Levels for classification of RPV components and items, in accordance with ANSI N 45.2.2-1972

4.1. The requirements for packing, handling, storage and shipping are divided into four levels with respect to protective measures to prevent damage, deterioration or contamination, viz. level A through D.

The following levels apply to RPV components and items :

Level C : Protection required from exposure to environment, airborne contaminants (e.g. rain, snow, dust, dirt, salt spray, fumes), g-forces and physical damage. Protection from vapor and condensation is relatively not so important.

Level D : These components/items are less sensitive to the environment than level C. These components/items require protection against the elements, airborne contaminants, and physical damage.

4.2. Storage level D is applicable to :

- a. Reactor Pressure Vessel.
- b. Reactor Pressure Vessel Head.

Storage Level C is applicable to the small parts, such as :

- a. Studs, nuts, washers.
- b. Metal O-rings.
- c. Gasket retaining clips, rings, pins and drive pin tools.
- d. Thermal sleeves.
- e. Seal surface protector.



- f. Stud protector caps and protector cap mandrel.
- g. Stud guide caps.
- h. Covers for access holes in skirt ring.
- i. Stud elongation measuring rods, and dial depth gauges.
- j. Stud handling tool and nut runner assembly.
- k. Calibration blocks.

5. Environmental conditions for storage

- 5.1. Level C - components/items shall be stored within a fire resistant, weathertight and well ventilated building or equivalent enclosure. Precautions shall be taken against vandalism. This area shall be situated and constructed so that it will not be subject to flooding; the floor shall be paved or equal and well drained.
- 5.2. Level D - components/items may be stored outdoors in an area marked and designated for storage, which is well drained, preferably gravel covered or paved and reasonably removed from the actual construction area and traffic so that possibility of damage from construction equipment is minimized. Component/items shall be stored on cribbing or equivalent to allow for air circulation and to avoid trapping water.
- 5.3. Level D - components/items may be stored in level C - locations, however not vice versa.
- 5.4. Access to storage areas shall be controlled and limited only to personnel designated by the responsible organization. Areas near stored components and items shall be cleaned as required to avoid the accumulation of trash, discarded packing materials and other detrimental soil. The use or storage of food, drinks and salt tablet dispensers shall not be permitted near stored components/items. Measure shall be taken to prevent the entrance of rodents and other animals into indoor storage areas or equipment to minimize possible contamination and mechanical damage to stored material.

6. Storage methods

- 6.1. All components/items shall be stored in such a manner as to permit ready access for inspection or maintenance without excessive handling, to minimize risk of damage.
- 6.2. All components/items shall be plainly marked so that they are easily identified without excessive handling or unnecessary opening of crates and boxes.
- 6.3. Weatherproof covering, when used for outdoor storage, shall be flame - resistant type of sheeting or tarpaulins. They shall be placed so as to provide drainage and to insure air circulation to minimize condensation. They shall be tied down to prevent moisture from entering laps and to protect the coverings from wind damage.



7. Control of components/items in storage

- 7.1. Inspections shall be performed and documented on a periodic basis to assure that the integrity of components/items and its container is being maintained. Deficiencies noted shall be corrected and documented. Characteristics verified during inspection shall include the following :
- a. Identification and marking.
 - b. Protective covers and seals.
 - c. Coatings and preservatives, if applicable.
 - d. Desiccants and inert gas blankets, if applicable.
 - e. physical damage.
 - f. cleanliness.
- 7.2. Items in storage shall have all covers, caps, plugs or other closures intact. Covers removed for internal access at any time for any reason shall be immediately replaced and resealed after completion of the purpose of removal.
- 7.3. The required surface preparation, cleaning, preserving and packaging status is given in detail for a certain component/item in the applicable RSV-A procedure specification.
- 7.4. Items pressurized with inert gas shall be monitored at such a frequency as to insure that the gas pressure is maintained during storage. Desiccant humidity indicators shall also be monitored and desiccants shall be changed or reprocessed when specified.
- 7.5. In the event of fire should occur in the storage area at any time, each item known to have been heated to an ambient temperature of over 65° C or subjected to smoke contamination shall be thoroughly examined and verified to be in conformance with specified requirements.

8. Frequency of inspection

- 8.1. Inspection in accordance with par. 7.1. shall be based for Reactor Pressure Vessel and for Reactor Pressure Vessel Head on a weekly basis.
- 8.2. Inspection in accordance with par. 7.1. shall be based for the internal surfaces of reactor pressure vessel and for reactor pressure vessel head (viz. surfaces under a cover) on a half annual basis.
- 8.3. Inspection in accordance with par. 7.1. shall be based for "small parts" as per par. 4.2. in the status "as packed" on a half annual basis. In case a damage of boxes is observed, these boxes shall be opened and the items unpacked and inspected for damage.
- 8.4. Inspection in accordance with par. 7.1. shall be based for "small parts" as per par. 4.2. in the status "unpacked", as an at random sample of 10 % of the boxes on a two annual basis.

9. Reportage

Written storage records shall be prepared that include such pertinent information as storage location, inspection results and protection.