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| **Equipment Storage & Preservation Requirements Form** | | | | | | |
|  | 1 Component(s) Description: *Specify the component name and short description.* | | | | | |
| 2 ITER Number(s)/PNI(s): *Populate this field with the PNI (Part Number of ITER) for all of the item-types (format INNNNNNNN) per* [ITER\_D\_28QDBS - ITER Numbering System for Components and Parts](https://user.iter.org/?uid=28QDBS).  ***(Note:*** *you can reference an attached list, appendix, or excel spreadsheet which states these PNIs)* | | | | | |
| 3 Component(s) Identification: *Please provide as much additional identification/numbering information as known. For example, this could be the functional reference numbers (format PPPPPP-TTT-NNNN), the tag numbers or the serial numbers. (This could be attached as an appendix or a spreadsheet to this form.)*  *Please refer to* [ITER\_D\_28QDBS - ITER Numbering System for Components and Parts](https://user.iter.org/?uid=28QDBS) *for additional information.*  ***Note:*** *This field is intended for when the exact scope and quantity of the equipment/components are known and their unique identifiers (FR, S/N, and/or tag numbers) can be and are listed out. This field may not be applicable for generic item-types and may be left blank, provided that blocks 1 & 2 are both populated.* | | | | | |
| 4Special Classifications: | Non Safety Related (NSR):  Safety Relevant (SR):  PIC:  Hazardous Goods/Chemicals:  PE/NPE (ESPN) Equipment or Component  Other: **Specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | |
| 5 References & Revision level:   1. Manufacturer’s Operations & Maintenance Manual (Required) 2. Procedure for Equipment Preservation (per [XT2VTE](https://user.iter.org/?uid=XT2VTE)) *(if one exists for this equipment/components).*   **Note:** These procedures are stored in folder [XA496Y](https://user.iter.org/?uid=XA496Y) | | | | | |
| **STAGE 1 - STORAGE** | **STORAGE INFORMATION** *(mandatory for all cases)* | | | | | |
| **6 Is there a storage duration limit?: YES  or NO  *(If yes, provide details below with unit (i.e.: months, years)):***  Your text such as:  *“This equipment cannot remain in storage for more than \_\_\_\_\_\_ years. If this storage duration is exceeded then \_\_\_\_\_ shall be done thereafter.*  **Note:** If this box is checked “yes”, then this time frame shall also be specified here. In which case, it needs to be specified what actions need to occur if this storage duration is exceeded. | | | | | |
| **7 Storage Level Required:**  A {Temperature & Humidity Control *(between 5°C and 28°C and 10% - 70% Relative Humidity at all times*)}  B {Temperature Control (*between 5°C and 60°C at all times*)}  C {Indoors or Equivalent, no temperature control}  D {Outside storage} | | | | | |
| 8 Additional Storage Information:  Please provide any additional or specific storage requirements, if needed and not covered in the respective storage level standard requirements (A through D). | | | | | |
| 9 **Periodic Preservation Activities Needed?: YES  NO**  *(If yes, provide details in next sections)* | | | | | |
|  | **10Is an existing preservation procedure available for components of this type? YES  or NO**  *If yes, please provide the IDM reference(s) to the procedure(s) in block 5. If new procedure is required, this should be completed according to:*  [ITER\_D\_XT2VTE - Template of Procedure for Equipment Preservation](https://user.iter.org/?uid=XT2VTE) *.* | | | | | |
| **These requirements are certified as correct by:** *(mandatory)* | | | | | |
| **TRO name** | | | **Department** | **Signature** | **Date** |
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| **Preservation Requirements :** **Stage I – Storage/Warehouse, Stage II – During Assembly &Installation, Stage III – After Installation / Before Turnover** | | | | | | | | | | | |
|  | **PRESERVATION** *(mandatory, if preservation is applicable (block 9), otherwise leave blank)* | | | | | | | | | | |
| 11Component | 12Preservation Activity | | | 13 Frequency | 14Applicable Stage(s) | | | | 15 Existing provisions for implementation? | 16Remarks |
| **I** | **II** | **III** | |
| 1. State “*All, per block 2*” or “*All, per block 3*” or specify the scope/tag numbers for this activity. | Your text such as: *Please perform the nitrogen checks per Section XX of Reference 2.* | | | i.e. “*Monthly”, quarterly, annually, etc.* | *Y/N* | *Y/N* | *Y/N* | | *Is there already an agreement or contract in place for carrying out this activity?* | Please provide any additional information, if needed. Otherwise, state “N/A” |
| 2. |  | | |  |  |  |  | |  |  |
| 3. |  | | |  |  |  |  | |  |  |
| 4. |  | | |  |  |  |  | |  |  |
| **These requirements are certified as correct by:** *(mandatory)* | | | | | | | | | | | |
| **TRO name** | | | **Department** | **Signature** | | | | | **Date** | | |
|  | | |  |  | | | | |  | | |

**ADDITIONAL INFORMATION AND FORM INSTRUCTIONS**

**(DELETE these pages prior to uploading into IDM/PLM)**

**IDM Location: These Templates once they are filled out need to be uploaded into IDM in folder:** [**WLTCPQ**](https://user.iter.org/default.aspx?uid=WLTCPQ) **as doc-type** [[HS]-Equipment Preservation Requirements](https://user.iter.org/?uid=XKN6HU)

Typically, these are uploaded by the TRO or delegate, with representatives from CMG, SCOD, and the GPC (General Preservation Coordinator) as reviewers, and the PBS Section Leader or TRO as approver.

**Equipment classified as PIC or PE/NPE shall have this form additionally reviewed by the PBS SRO and QARO.**

**Additionally, PE/NPE shall have this form reviewed by the PE/NPE Network Representative.**

**Section 1 (Fields/Blocks 1 through 10)**

**Block 1 -** Specify the equipment/component type and short description.

**Block 2** – State or list the equipments’ Part Number of ITER (PNI) using the PPPPPP-TTT-NNNN format.

**Block 3** – Please provide as much additional identification/numbering information as known. For example, this could be the functional reference numbers (format PPPPPP-TTT-NNNN), the tag numbers or the serial numbers. (This could be attached as an appendix or a spreadsheet to this form.)

Please reference [ITER\_D\_28QDBS - ITER Numbering System for Components and Parts](https://user.iter.org/?uid=28QDBS) for additional clarity.

Note: This field is intended for when the exact scope and quantity of the equipment/components are known and their unique identifiers (FR, S/N, and/or tag numbers) can be and are listed out. This field may not be applicable for generic item-types and may be left blank, provided that blocks 1 & 2 are both populated.

**Block 4 -**Specify any components special designation as applicable keeping in mind the following definitions:

PIC – Protection Important Component

PE / NPE component - ESPN base materials (i.e. pipes, fittings, nuts and bolts, etc.), supports and spools.

PE / NPE equipment - The manufactured nuclear pressurized vessels (i.e. tanks, heat exchangers, filters, pressurizers, heaters, etc.), sub-assembly including at least one vessel, skids, pressure accessories (i.e. valves) and safety accessories (i.e. safety valves).

**Block 5 –**List applicable references and their revision/version level at the time of this form completion.

**Block 6 –** If the box is checked “yes” that there is a time limit in which the components cannot be stored beyond (maximum storage duration), then this time frame must also be specified here. In which case, the field should be populated accordingly to specify the timeframe and what actions must occur if it is exceeded. - *“The components identified in block 2 cannot remain in storage for more than \_\_\_\_\_\_\_ years/months. If this storage duration is exceeded then \_\_\_\_\_ shall occur.”*

**Block 7 –**Specify the storage level of the component(s) stated in block 1.

**For FULL detail s of Storage Levels A through D, please see next page “Levels of Storage”**

**Block 8 –** Provide any additional or specific storage requirements, if needed and not covered in the respective storage level standard requirements (A through D).

**Block 9 –**This box must be checked yes or no to designate and explicitly designate if periodic preservation activities are required or not. If this box is checked yes, **then the table on the next page must be filled out** to specify the details of the activities. If this box is checked “No” then this record acts as sufficient validation that periodic preservation activities are not required.

**Block 10** - If checked yes, please provide the IDM reference(s) to the procedure(s) in block 5. Please reference:

[ITER\_D\_XT2VTE - Template of Procedure for Equipment Preservation](https://user.iter.org/?uid=XT2VTE)  for information and support.

**Signature Section**: The IO TRO or the equipment’s’ responsible officer/delegate SHALL sign and date this form for authorization. To maintain the integrity/legibility of the document an electronic signature or “See IDM” may be provided in the signature field in lieu of a wet signature.

**Section 2 (Fields 11 through 16) – Preservation Requirements – Fill in preservation requirements for every stage of the components’ lifecycle until commissioning/Turnover:**

* **Stage I – Storage/Warehouse**
* **Stage II – During Assembly &Installation**
* **Stage III – After Installation / Before Turnover**

**NOTE: It is allowed to make reference to parts of the previous section or sections of reference documents if relevant for the preservation activity.**

**Block 11 -**Specify the identification scope of which components/equipment this preservation activity applies to. You can state “All, per block 2” or “All, per block 3” or specify the scope/tag numbers for this activity.

**Block 12 –** State each preservation activity required. (i.e. visual inspection for cleanliness/damage, rotate hand-wheel 90°, etc.)

**Block 13 –** State the frequency for each activity. (i.e. Weekly, Monthly, Every 6 months , etc.)

**Block 14 -** State the applicability of the requirements for each phase (1 = upon receipt and during storage / 2. During installation /3. After installation but before turnover)

**Block 15** - If there is already an agreement in place for carrying out the preservation activities (e.g. component supplier, nominated third party, IO subject matter specialist etc.) this should be noted.

**Block 16 –** Provide any additional information, if needed. Otherwise, state “N/A”

**Levels of Storage**

* **Storage Level A:** Indoor storage with temperature control and all of the same requirements as specified below in Storage Level B, but additionally with humidity control to specified limits.

In reality, IO’s Level A storage areas are better than the requirement and have atmospheric conditions between 5°C and 28°C and 10% - 70% Relative Humidity at all times, but that space is very limited and therefore only extremely sensitive components are stored there.

Components which are extremely sensitive to environment conditions such as temperature change; humidity, or airborne contamination shall be stored in this level of storage. For example:

* Special electronic equipment and instrumentation
* Computers, control panels
* **Storage Level B:** Indoor storage with temperature control. This storage area shall be a fire-resistant, tear-resistant, weather-tight, 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. Components shall be placed on pallets or shoring to permit air circulation. The area shall be provided with uniform heating and temperature control or its equivalent to prevent condensation or corrosion. The minimum temperature shall be **5°C** and the maximum temperature shall be **60°C** or less if so stipulated by the manufacturer.

Components which are sensitive to environment conditions such as temperature change shall be stored in these areas. For example:

* Instrumentation and electrical components
* Motor control centers, switchgear, and control panels
* Motors and generators
* Precision machined parts
* Spares, such as gaskets and O-rings
* **Storage Level C:** Components with this classification shall be stored indoors or in an equivalent environment with all provisions and requirements as set forth for Level B Storage, except that heat and temperature control is not required.

Components which need to be protected from exposure to the environment like sunlight and water vapour (rain or snow) shall be stored in these areas. For example:

* Pumps
* Valves
* Fluid filters
* Instrument cable
* Thermal insulation
* **Storage Level D:** Outside Storage. Components with this classification may be stored outdoors in an area marked and designated for storage that is well drained, preferably gravel covered or paved, and reasonably removed from the actual construction area and traffic so that the possibility of damage from construction equipment is minimized. Components shall be stored on cribbing or equivalent to allow for air circulation and to avoid trapping water.

Components with this storage level classification are not sensitive to temperature change, water vapour, humidity, or airborne contamination. For example:

* Heat Exchangers and Parts
* Tanks & Piping
* Electrical cable and coils
* Structural supports
* Reinforcing steel