Standard Operating Procedure: Filling Storage Vessels with Liquid Nitrogen

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This SOP will outline how the tissue bank storage vessels are filled with Liquid nitrogen on a regular basis to maintain storage conditions.

1. **Background**
   This is an SOP for the UOS for the refilling of the licensed tissue bank storage vessel with liquid nitrogen to maintain storage conditions.

2. **Quality Assurance/ Control**
   The vessels storing banked material should be checked and filled every other day to ensure material remains at the appropriate temperature. This should be recorded on a tank chart.
   The pressurised vessel should be filled on a weekly basis by BOC as per agreed procedures.
   The Pressurized storage vessel should be checked annually by a qualified engineer (normally BOC)

3. **Procedure**
   1. On Monday, Wednesday and Friday afternoon, wearing suitable protective clothing (Lab coat, goggles, cryo gloves) the storage vessels for the Human Tissue Bank are checked to ensure they are in good condition and refilled with liquid nitrogen from the master cylinder. A record is kept of the monitoring and refilling of the vessel.
   2. Holding the hose from the master cylinder firmly, pointing to an empty area of the room, turn the nitrogen on slowly and allow the hose to vent.
   3. Remove the lid from the storage vessel and then remove an empty stack (or if there is tissue in all the cheeses the one with the fewest specimen) and stand carefully on the remaining stacks.
   4. Carefully place the vented hose well into the gap created by the missing stack and gently turn on the master cylinder allowing the nitrogen to flow slowly into the storage vessel.
   5. Monitor the liquid nitrogen level in the vessel until it is level with the top of the storage stacks.
   6. Turn off the supply of nitrogen from the master cylinder and carefully remove the hose, store it at the side of the master cylinder.
   7. Gently replace the previously removed stack being careful not to let the liquid nitrogen splash out of the storage vessel as the stack descends. Replace the lid of the storage vessel.
   8. Record the fill on the LN2 Tank Record

4. **Associated Documents**

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