Appendix 6
Additional controls on HSNO approvals

Standard controls

Each HSNO approval for GMOs and New Organisms will have standard controls in Section 3.3 (just after the organism description) entitled “Requirements to meet the Standards”.

Additional controls

Sometimes PC1/PC2 laboratories do not address residual risk once PC1 or PC2 containment is imposed; or PC1/PC2 laboratories do not provide species-specific control measures (very important for plants and fish).

In many cases the UABSC does not apply any additional controls because they are not needed. In this case Section 3.3, subsection 2, under “Additional controls” indicates “None” or “No additional controls”.

Where do I find additional controls in a HSNO approval?

Section 3.3, subsection 2 has additional controls: “Controls additional to the requirements of the Standards”. Those in subsection 2.2 are the important procedural controls.
Some important examples of procedural additional controls

a. **Additional controls for work with transgenic plants and fish:** In the case of plants and fish the additional control on HSNO approvals will be “plant house procedures will be followed” or “transgenic fish facility procedures will be followed”. The wording of the control allows the plant house or fish facility to amend and improve their procedures and ensure they are specific for the plant/fish being contained.

b. **Replication-defective viral vectors:** Transducing cell lines with replication-defective viral vectors at PC1 level will have a small residual risk when handling concentrated viral vector stocks. In this case additional controls will be applied:

   - Replication-defective viral vectors are to be handled in a Class II biological safety cabinet (BSC)
   - Gloves are to be used
   - Very high titre sticks are to be kept in a secure freezer
   - Material and media that have come in contact with high titre stocks are to be chemically sterilised before removal from the BSC

c. **Antibiotic resistances for pathogenic bacteria:** Some HSNO approvals for modification of pathogenic bacteria have the control that clinically relevant antibiotic resistances will not be used.

d. **Older approvals (pre 2006 HSNO approvals)**

Some older approvals have the additional control imposed as a result of regulators concerns at the time:

2.2 **All work involving culture of human or animal cells must be carried out in a Class 2 Hood unless the origin and properties of the cells are sufficiently characterised and are known not to contain infectious agents.**

**What about standard University of Auckland controls?**

While these controls are important and must be observed, they are not procedural controls.