

Alternative vaccine storage options in a power failure

The [National Vaccine Storage Guidelines - Strive for 5 \(3rd edition\)](#) requires immunisation service providers to have a back-up plan and alternative storage if a power failure occurs.

Alternative vaccine storage in the event of a power failure may include the following:

- Back-up power supply e.g. generator or battery/solar back-up/UPS system.
- Enough coolers to store all vaccines, each equipped with:
 - ice sheets/packs (frozen)
 - bubble wrap
 - minimum/maximum thermometer (battery-operated)
 - Min/max temperature monitoring chart for cooler
- Freezer onsite (to freeze ice sheets/packs)
- Spare batteries

Uninterruptible Power Supply

Uninterruptible Power Supply (UPS) is an electrical apparatus that provides emergency power when the main power fails. During a power outage, internal batteries in the UPS keep loads running long enough for normal utility power to come back on or to properly shut down systems.

The size and design of a UPS determines how long it will supply power; prices start at over \$1000.

For pricing or further information, please contact suppliers.



Company	Website	Phone
EuroChill	https://eurochill.com.au/	03 8372 0456
NPS Power Protection Solutions	https://nps.com.au/	02 8467 7777
Power Shield	http://powershield.com.au/	1300 305 393
UPS Solutions	http://www.upssolutions.com.au/	1300 555 992
Power On Australia	http://www.poweronaustralia.com.au/	1300 662 435
Petech	https://www.petech.com.au/	02 4388 6787

Disclaimer: This is not a full list of all UPS suppliers in Australia. Please research before purchasing. CESPHN does not endorse any particular brand.

Coolers

[National Vaccine Storage Guidelines - Strive for 5 \(3rd edition\)](#) requires immunisation service providers to have a cooler which has the capacity to accommodate all the facility's vaccine stock (including during influenza season).

Consider the quantity of vaccines stored in your vaccine refrigerator to determine the minimum number of coolers required – ensure that it will be large enough to accommodate:

- All vaccines, loosely packed
- Ice packs/sheets
- Bubble wrap



Tips for using coolers:

- Condition the ice packs/gel packs (See *Strive for 5 - Section 9.2*)
- Pre-chill the cooler before use.
- Note that correctly packing a cooler reduces the risk of freezing.
- Insulate the vaccines with the appropriate material e.g. bubble wrap, so they do not come into contact with the ice packs/gel packs which are at 0°C.
- Ensure the contents of the cooler are packed securely so they cannot move around during transport.
- Keep the cooler out of the direct sun.
- Remove vaccines from the cooler only as they are required.
- Check the temperature has remained within +2°C to +8°C at all times prior to administering the vaccine.
- If you have a portable data logger, place that in the cooler with the vaccines (in addition to the min/max temperature recordings).

Thermometers

A minimum/maximum battery-operated thermometer is essential for temperature monitoring during power failures. When using coolers to temporarily store vaccines following a power failure, place a minimum/maximum thermometer probe in the centre of the vaccine stock and record the temperature using a [temperature monitoring chart for cooler](#)

- If the ice packs **have** been conditioned and the cooler **has** been pre-chilled, monitor the temperature **every 15 minutes** for the first hour, then hourly after that
- If the ice packs **have not** been conditioned and the cooler **has not** been pre-chilled, monitor the cooler **every 5 minutes** for the first 30 mins then **every 15 minutes** for the next 30 minutes, then hourly (provided the temperatures are stable)

Using a battery-operated minimum/maximum or data logger and **reset the thermometer after each reading for accuracy.**

Checklist for thermometers:

- Must record and display current, minimum and maximum temperature
- Accuracy must be $\pm 1^\circ\text{C}$ or better
- Check annually to ensure accurate measurement (Ice slurry test)