

# INFORMATION SHEET



## Power Failure Action Plan

### Alternative storage during a power failure

Each immunisation facility should have a back-up plan and alternative vaccine storage if a power failure or fridge failure occurs, such as:

- Back-up power supply e.g. Generator or battery/solar back up
- Cooler or esky (enough to fit all vaccines)

Keep in mind there may only be 20–30 minutes before the vaccine refrigerator temperature rises above +8°C when there is a power failure so alternative storage must be ready quickly.

### What to do when power goes off (if using cooler box/esky)

1. Immediately isolate the vaccines, keep refrigerated between +2°C to +8°C and put a sign on the refrigerator stating 'Power out. Do not use vaccines. Keep refrigerator door closed.'
2. Cover the glass door with insulating material (cardboard, bubble wrap or a blanket) and place ice bricks in empty spaces, taking care not to place them alongside vaccines, and keep the door closed.
3. Closely monitor the refrigerator temperature – if the inbuilt min/max thermometer is not working, use a battery powered min/max thermometer. If the temperature rises to +8°C, move vaccines to a prepared cooler boxes or eskies.

### Preparing your cooler box or esky

1. Place **one layer** of ice/gel packs at bottom of the esky (do not condition\* ice/gel packs in time sensitive cases such as power failure)
2. Place **two layers** of insulating material (i.e. bubble wrap) on top of ice/gel packs (ensure vaccine stock is **not in direct contact** with ice/gel packs)
3. Place vaccines on top of insulating material
4. Place the probe of min/max battery-operated thermometer inside a vaccine box in the centre of the vaccine stock
5. If practical, move data logger to esky
6. Place two layers of insulating material on top of vaccines
7. Place one layer of ice/gel packs on top of insulating material and seal the lid of the esky
8. Place min/max battery-operated thermometer on top of the cooler and monitor the temperature on the NSW Health "[Vaccine Cooler Temperature Chart](#)":
  - i. Monitor every 5 minutes for the first 30 minutes
  - ii. Monitor every 15 minutes for the second 30 minutes
  - iii. Monitor hourly thereafter (provided the temperatures are stable)

**Remember to reset the thermometer after each reading**

\*Condition – see [National Vaccine Storage Guidelines – Strive for 5](#) Section 9.2 - Freezing and conditioning ice packs and gel packs (page 33)

### When power is returned

1. Record the refrigerator min/max temperature then **reset** the thermometer
2. Ensure the refrigerator temperature has returned to between +2°C and +8°C before returning vaccines to the refrigerator
3. Download and analyse data logger information to assess for cold chain breach

### Reporting a cold chain breach

If a cold chain breach has occurred, report it to Public Health Unit (PHU) immediately on 1300 066 055. Isolate vaccines **do not use or discard vaccines** until advice is received from the PHU.

## What is a cold chain breach?

A 'cold chain breach' has occurred if vaccine storage temperatures have been outside the recommended range of +2°C to +8°C. It excludes fluctuations up to +12°C, lasting no longer than 15 minutes. When vaccines are repeatedly exposed to temperatures outside the +2°C to +8°C range, the loss of potency is cumulative and cannot be reversed.

## Responsibilities of safe vaccine storage and management

How often	Action required
Twice daily	<ul style="list-style-type: none"><li>Record current, minimum and maximum temperature of vaccine refrigerator on chart</li><li>Record in the morning and in the evening, at opening and closing of practice</li><li>Reset thermometer after each reading</li><li>Check that temperatures have remained between the +2°C to +8°C range</li><li>This must be done every day the practice is open, including weekends</li></ul>
Once a week	<ul style="list-style-type: none"><li>Download and review data logger</li><li>Download data, save to computer, and review data</li><li>Check that temperatures have remained between the +2°C to +8°C range</li></ul>
Annually	<ul style="list-style-type: none"><li>Service vaccine refrigerator– contact manufacturer</li><li>Calibrate thermometers/data loggers and change batteries</li><li>Perform <a href="#">vaccine storage self-audit</a> (<i>Appendix 2 of National Vaccine Storage Guidelines - Strive for 5</i>).</li></ul>
If breach identified	<ul style="list-style-type: none"><li>Report temperatures outside the +2°C to +8°C range to your Public Health Unit.</li><li>Do not use or discard vaccines until advice is received from the Public Health Unit.</li></ul>

## Further information

- [National Vaccine Storage Guidelines - Strive for 5](#)
- HETI Vaccine Storage and Cold Chain Management training module available at [http://www.health.nsw.gov.au/immunisation/coldchain/story\\_flash.html](http://www.health.nsw.gov.au/immunisation/coldchain/story_flash.html)
- Contact Central and Eastern Sydney PHN if you require training or further information about cold chain management:

**Public Health Unit:** 1300 066 055

**CESPHN Immunisation Support:** 1300 986 991

[immunisation@cesphn.com](mailto:immunisation@cesphn.com)

<https://www.cesphn.org.au/general-practice/help-my-patients-with/immunisation>