



# Asbestos in the Electricity Industry

## Shared Learnings

## Asbestos Door Seals

### What happened?

We were removing and replacing original 1950's plant and suspected the door seals on the terminals cabinet were made of asbestos. Samples were taken which confirmed this.

## Generator Terminals Cabinets

### What did we learn?

As we were removing the plant for replacement the cabinets were disconnected externally, wrapped and disposed of as asbestos containing waste. All other similar cabinets were labelled and entered into the asbestos register.

## Panel Door Seals



## Asbestos Containing Mastic

### What happened?

Asbestos Survey identified presence of asbestos within Mastic Jointing.  
The mastic was labelled and entered into the asbestos register.

## Building Mastics and Adhesives

### What did we learn?

Many mastics and construction adhesives used up until the 1980's contained asbestos. These are generally non friable and not an issue unless they need to be removed or begin to deteriorate.  
Be mindful of these products, particularly when demolishing old plant and buildings.

## Mastic



## Asbestos Containing Fabric Insulation

### What happened?

We were removing and replacing original 1950's plant and noticed Fabric Insulation on some of the wiring in the panels. Samples were taken to determine if it was Asbestos containing. The blue wiring tested positive, the other wiring was OK.

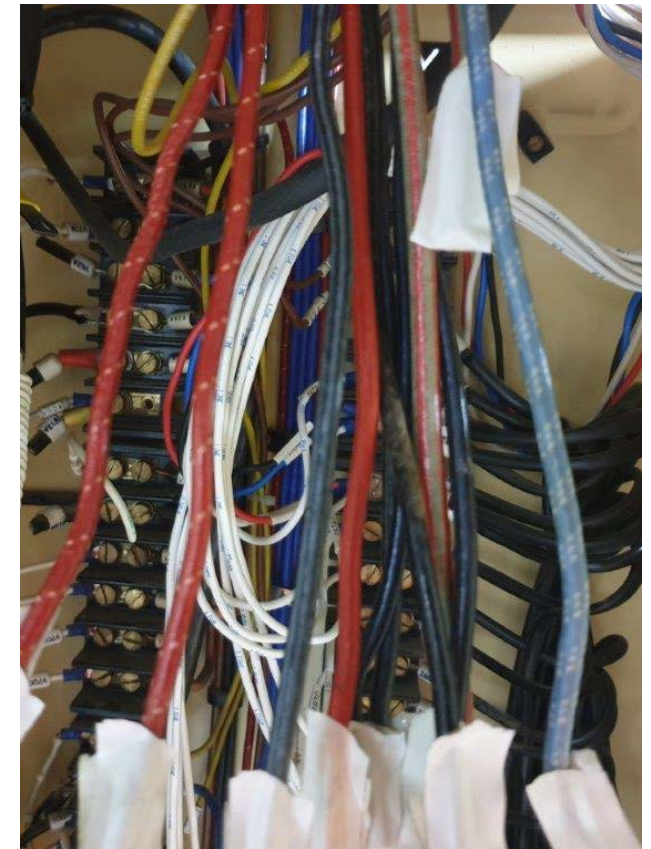
The wiring insulation is in good condition and the panel needed to remain in service. The panel has been closed, labelled and entered into the asbestos register.

## Electrical Panel

### What did we learn?

Some fabric insulation contains asbestos but as it's impossible to tell by sight. Treat all of this insulation as asbestos containing until clarified through testing.

## Wiring in Panel



## Super Six Cladding

### What happened?

Super Six Cladding was commonly used for both walls and roofing. Once it starts to deteriorate with weathering fibre can be lost to the environment. This generally occurs as a result of high rainfall

## Deteriorating cladding

### What did we learn?

In high rainfall events the stormwater overflows the drains and the soil in the immediate area can become contaminated with asbestos fibre posing a risk when it dries out.

Once in the stormwater system the fibre floats on the water surface. In this instance it was being captured in the oily water separator and was able to be sucked out and disposed of. Sampling determined the extent of soil removal around the storm water drains.

## Roof deterioration



## Asbestos Backing on Vinyl Floor Tiles

### What happened?

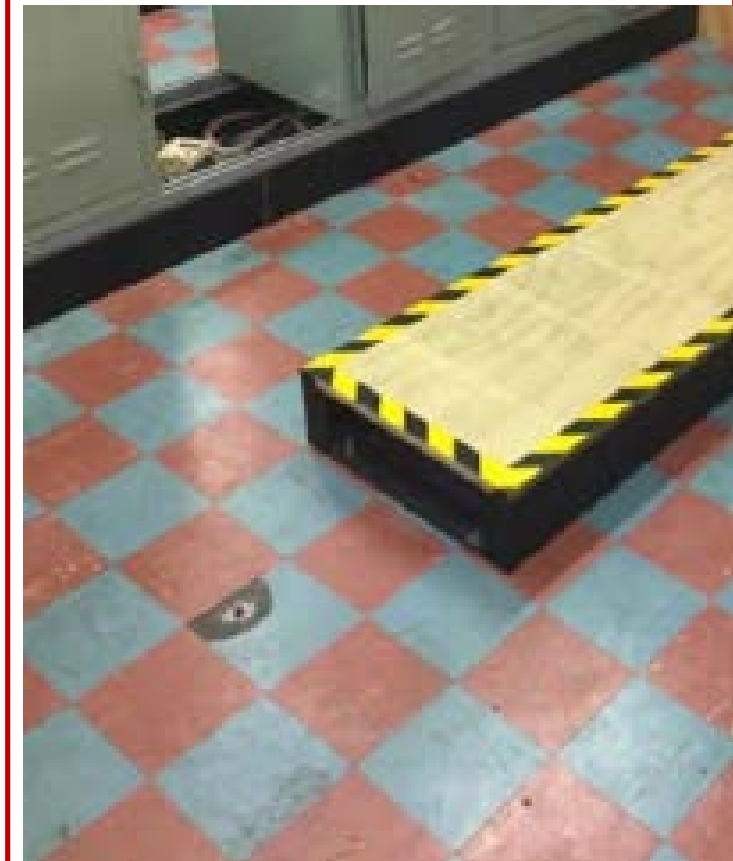
Asbestos Survey identified presence of asbestos on backing of vinyl floor tiles.

## Flooring in general

### What did we learn?

Many types of vinyl flooring products up until the 1980's contained asbestos material in the backing layer which provided the surface for the adhesive to adhere to. The main risk is that when the vinyl is removed this layer, normally white, remains on the floor and is then sanded off creating asbestos dust.

## Vinyl Tiles



## Asbestos Contaminated Dust

### What happened?

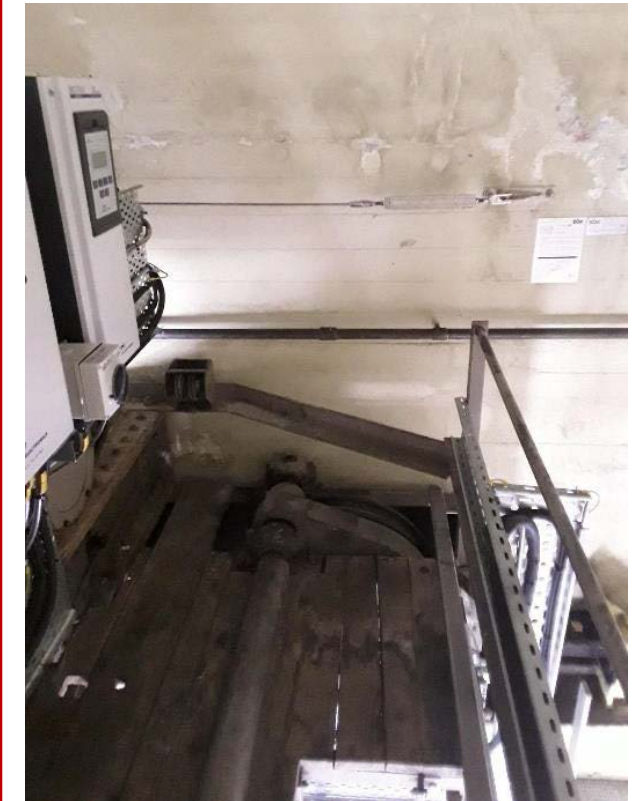
During Site Surveys we identified asbestos contaminated dust in areas where asbestos products had been in use. The example shown here is an overhead gantry crane which historically had asbestos brake pads in place. These brake pads had been removed, but during their use asbestos fibres were released into the environment and settled on the different flat surfaces.

## Flat Surfaces around Asbestos Products

### What did we learn?

Working around Asbestos Contaminated dusts can be as hazardous as working with asbestos. In dusty areas it is imperative to ensure a sample is taken and confirmed as negative for asbestos prior to work commencing. If confirmed as positive the area should be cleaned prior to work commencing, or the area be treated as asbestos contaminated and safe methods of work undertaken.

## Asbestos Contaminated Dust on Ledges around Cranes (from Crane Brake Pads)



## Asbestos Thermal Insulation

### What happened?

During Site Surveys we identified asbestos likely to be present as thermal insulation in our old kitchen water heaters.

## ZIP Water Heater

### What did we learn?

Because this is fully encapsulated it poses no current risk. If it is needing to be removed or replaced or if it gets damaged it should be disposed of as asbestos waste.

## Asbestos containing ZIP – Thermal Insulation





## Asbestos Reinforced Composite

### What happened?

During Site Surveys we identified asbestos in an old cement board in a shed on site.

## Building Product around Sites

### What did we learn?

The material is unsealed and required removal or encapsulation or sealing with paint to prevent further damage or disturbance.  
Removal must be undertaken by a registered asbestos removalist.

## Asbestos reinforced composite materials



## Stator Windings containing Asbestos

### What happened?

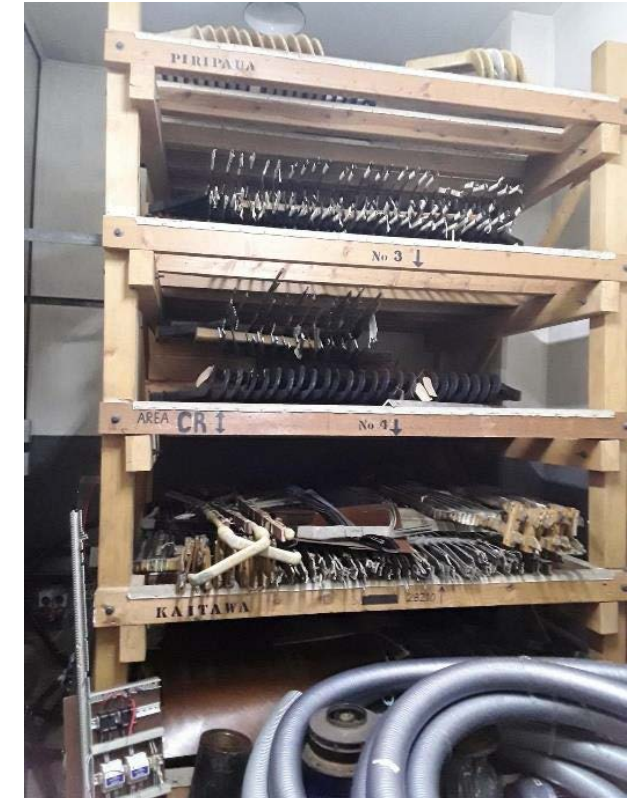
During Site Surveys we identified asbestos in spare stator windings.

## Spares and Stores Items

### What did we learn?

Where possible the old spares for plant that contain asbestos shall be replaced by non-asbestos contaminated products.

## Spare Stator Windings



## Gaskets to Phalanges

### What happened?

During Site Surveys we identified asbestos in one of our siphon buildings in gasket material.

## In use out on the Plant

### What did we learn?

Until requiring replacement, depending on the condition of the gasket, these gaskets can be managed in-situ and regularly inspected to check for damage or disturbance.

They should be removed by a licenced asbestos removalist.

## Chrysotile Gasket



## Thermoplastic Fuse board

### What happened?

During Site Surveys we identified Amosite (Brown) asbestos in thermoplastic fuseboard.

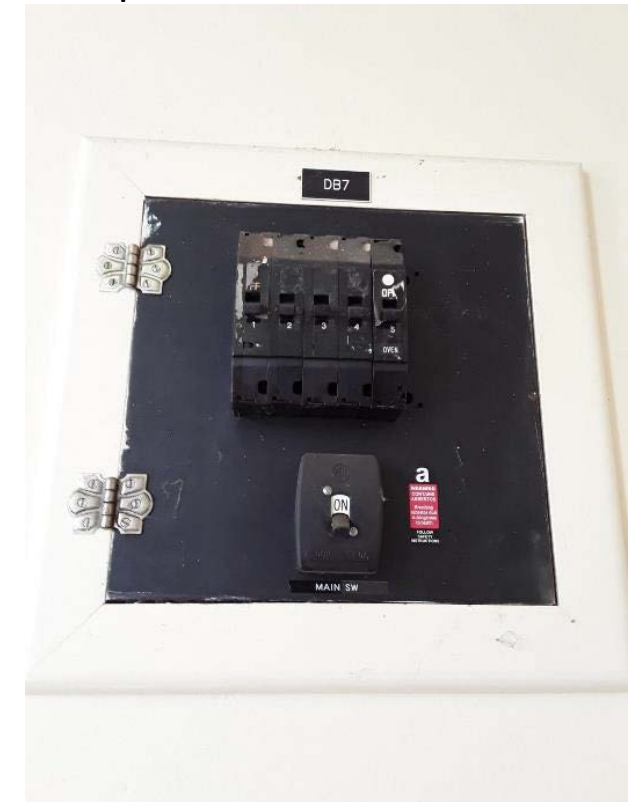
Keep an eye out as you work around power stations across New Zealand for this hard black plastic product.

## In use on the Plant

### What did we learn?

Black thermoplastic asbestos product is common across many power stations. The asbestos is within a strongly bound matrix and is non-friable. It poses no risk unless it is damaged through being drilled or cut into.

## Black Asbestos Contaminated Plastic product



## Hot Water Cylinder

### What happened?

During Site Surveys we identified potential for asbestos thermal insulation hidden within the metal structure of a hot water cylinder.

## Kitchen and Ablution Cupboards

### What did we learn?

The asbestos is contained within the structure and poses no current risk. If it is removed or replaced or damaged it should be disposed of whole as asbestos waste.

## Hot Water Cylinder



## Welding Rod Storage Cabinet

### What happened?

During Site Surveys we identified potential for asbestos thermal insulation hidden within the metal structure of a cabinet used to house welding rods and equipment.

## Welding Bays and Workshops

### What did we learn?

The asbestos is contained within the structure and poses no current risk. If it is removed or replaced or damaged it should be disposed of whole as asbestos waste.

## AIB Millboard, low density insulation



## Gable Cladding Asbestos

### What happened?

During Site Surveys we identified the gable cladding as asbestos.

## Switchyard Building

### What did we learn?

Panels are in good condition with a few minor cracks and paint chips.

If in good condition we can manage in-situ and regularly inspect to ensure no deterioration. If damaged or disturbed the panel must be removed by a licenced asbestos removalist.

## Asbestos Reinforced Composites



Cement Sheet Lining behind  
plasterboard

### What happened?

During Site Surveys we identified the cement sheet lining behind the plasterboard wall in one of our battery rooms to contain both amosite and chrysotile asbestos.

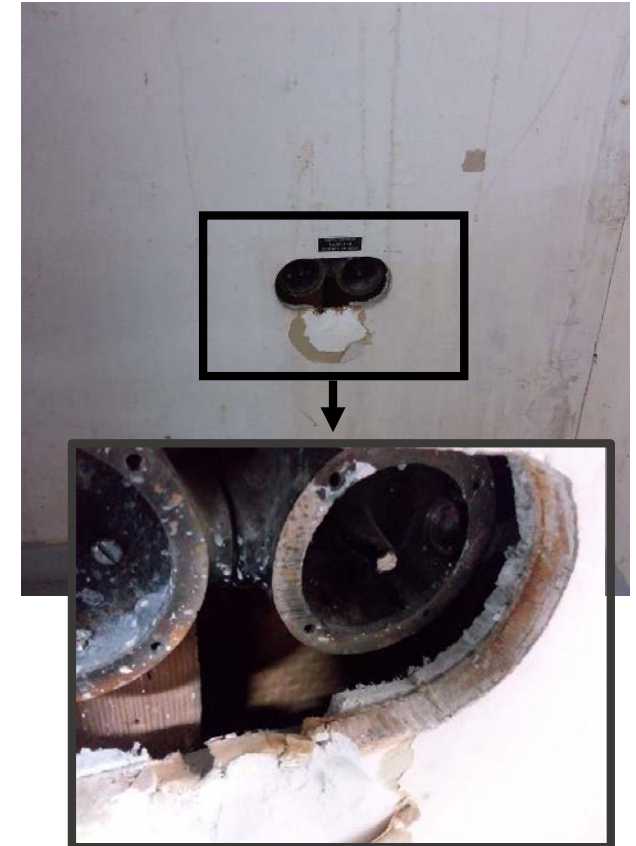
Battery Room Wall

### What did we learn?

Panels are currently able to be managed in situ with regular inspections for damage and disturbance.

Labels are required to alert people to the hazard.

Asbestos Cement Sheet Lining





## Asbestos Rope

### What happened?

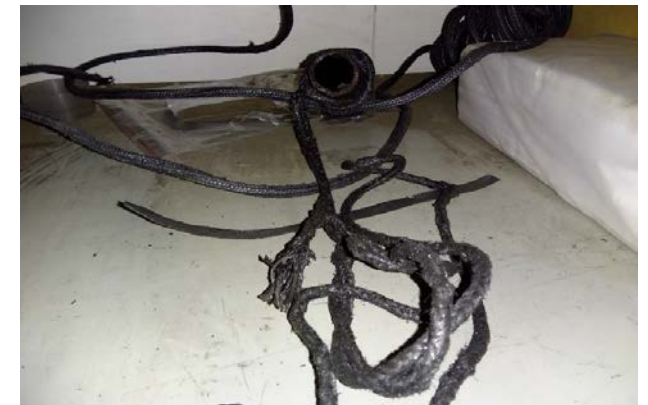
During Site Surveys we identified an asbestos contaminated textile rope .

## Spare and Stores Items

### What did we learn?

Often old spares and stores items can be contaminated with asbestos but because of the type of item haven't been identified as containing asbestos.  
Old items, such as textile ropes, should be checked or replaced to ensure they are asbestos free.

## Asbestos Textile Rope



Black Thermoplastic containing  
Asbestos

### What happened?

During Site Surveys we identified the original switchboards contained black thermoplastic which contains asbestos.

Original Switchboards

### What did we learn?

Black thermoplastic asbestos product is common across many power stations. The asbestos is within a strongly bound matrix and is non-friable. It poses no risk unless it is damaged through being drilled or cut into.

Original Switchboard



## Bitumen Containing Asbestos

### What happened?

During Site Surveys we identified a bitumen product between concrete layers that contained chrysotile asbestos.

## Roof Voids and Gutter Linings

### What did we learn?

Asbestos can be embedded between layers in a bitumen product.

## Bitumen Layer containing Chrysotile



# Shared Learning

## Textured Ceiling Coatings

### What happened?

Historically across New Zealand textured ceiling coatings contained asbestos products.

## Ceiling Coatings

### What did we learn?

Before disturbing any textured ceiling coating ensure you understand if it contains asbestos.

## Textured Ceiling Coatings



## Glues and Lining Products

### What happened?

Behind plasterboards and in glue products behind tiles on floors and walls.

## Floors and Walls

### What did we learn?

Behind tiles and under plasterboard often asbestos contaminated glues or linings are used.

## Glues and Lining Products

