

## Boxing Clever: Relocating the National Archives of Australia

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### **Abstract:**

*In late 2016 the National Archives of Australia (NAA) began the physical relocation of its Canberra repository and a selection of material from its Sydney repository to the new National Archives Preservation Facility. The relocation was completed in late May 2017.*

*This paper will provide a broad outline of the role of NAA Preservation in the planning and preparation for the move, with a particular focus on audio visual material. It will discuss how NAA Preservation identified cold storage requirements to assist with the building design process, the planning and preparation for the safe handling, transport and storage of the audio visual material.*

**Keywords:** archives, storage, transport, audio visual, relocation

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### **Introduction**

The National Archives of Australia (NAA) has the responsibility to house, preserve and make available the archival resources of the Commonwealth Government. In addition to caring for its collection and making it available through reading rooms and online, the Archives develops and tours exhibitions, publishes books and guides to the collection and delivers educational programs. It also advises other government departments and agencies on records management. We hold a collection of approximately 40 million items mainly documents, of Australian Government activities since Federation in 1901. Collection items can be requested by the public for viewing in the reading rooms located in Australian capital cities or as digital copies available to the public on-line. The repositories housing the collection, in each state and territory, are closed to the public.

In 2011-12 the Government approved a strategy to extend and enhance the Archives preservation and storage capacity. Now completed, The National Archives Preservation Facility (NAPF) is a new facility providing stable, controlled environment storage for 104 shelf km of paper records and 10 shelf km of audio visual material. It includes contemporary preservation and conservation laboratory

areas and records processing and handling areas. It provides accommodation for 150 staff. It is a passive, green facility that will minimise energy and resource use, greenhouse gas emissions and its environmental footprint. In late 2016 we began the physical relocation of 15 million records, almost 25% of the Archives holdings to the new NAPF. The relocation was completed in late June 2017.

When most people imagine archival collections it usually conjures up visions of row upon row of immaculate stacks, holding shelves of standard size uniform blue grey boxes in which reside neat files of paper. And to a certain degree this is close to reality. Moving these kinds of records was relatively straight forward but our collection also includes bound volumes, artworks, posters, plans, films, sound recordings, videotapes, furniture, sculpture, and items of clothing, digital records and many photographs.

This paper will cover a broad outline of Preservation's role in the planning and preparation for the move then more specifically the logistics, planning and physical preparation for our audio visual material from both our existing repositories in Canberra (mere kilometres away) and from our Sydney repository (286 km by road) to the newly constructed NAPF.

### **Surveying the collection**

In March 2015 in preparation for the move to the NAPF, Preservation carried out a collection wide survey of the two Canberra repositories to ascertain the quantity of archival material that was not housed appropriately or required stabilisation for safe relocation. This took note of items not boxed, items boxed inadequately such as damaged boxes or items in boxes too small or large, volumes and items that were at risk of losing information in the move such as damaged or loose labels. All these objects were unable to be safely moved unless they were repackaged.

The results of this survey indicated there were a very significant number of items, approximately 9000, that would require repackaging and / or stabilising prior to the move.

A subsequent search of our data base and the knowledge of conservation staff then identified series that contained potentially fragile items such as glass plate negatives, documents with wax seals, albums and framed items. This revealed a further 2000 items that needed assessment, labelling and/or support. Many of the items that needed attention were a legacy from a time when records were often transferred to the NAA with fewer requirements surrounding archival housing and intellectual control. Conservation then had the formidable task of resolving as many of these issues as time, staffing and budget would allow prior to the collection being moved. The replacement of standard archival storage boxes was delegated to our Storage team whilst the construction of custom boxes and any modification (packing out with additional supports and/or padding) needed for individual boxes known to contain fragile items was carried out by the Preservation repackaging team. We also collected data on items that needed future conservation work that was not possible to carry out prior to relocation.

### **Boxing it up- Collection preparation and Packing**

Whether the transport of a collection is to be handled by internal staff or contractors, it is easier to prescribe methods of packing and transport if guidelines have already been put in place within your institution. The National Archives of Australia Guidelines for Packing and Transporting Records provides advice from the preservation point of view, for packing and transporting records that are in NAA custody, whether the transport is intrastate or interstate.

These guidelines sit within the framework of the National Disaster Preparedness and Recovery Strategy for Archival Records (NDPRS).

The purpose of the guidelines is to ensure consistent practices nationally and to mitigate the risk of damage to records during transportation. The guidelines provide:

- General advice about types of packaging and transit containers available;
- General advice about factors to consider when loading and unloading;
- General advice about the standards of transport suitable for records;
- Specific advice for packing and transporting various record formats e.g.: paper files and documents; bound volumes; index cards; maps and plans; audio-visual and photographic materials.

They informed all preservation decisions made regarding repackaging collection items. These guidelines were also included in the tender for a relocation company to clearly demonstrate our standards and requirements.

### **Contracted movers**

National Archives staff had no direct involvement with the physical relocation except:

- Supervision of the packing and re-shelving of classified records
- Preservation activities that arose during the relocation activities
- Quality Assurance/oversight and validation
- Approved relocation preparation plans

The company engaged to move the Archives had a proven track record in relocating archival and museum material but being a very large company there were numerous crews and new staff employed for the contract, some who had limited or no experience moving collection material.

As the Preservation Quality Assurance officer I played an advisory role during the preparation, packing, transport and re-shelving. I devised handling procedures for the moving crews, held training sessions and supervised the contracted movers when crating artwork and packing delicate and awkward items records such as glass plate negatives. As the preservation delegate I was permitted to directly address the moving staff to provide advice on methodology for packing and correct handling in order to prevent damage to records. Before the move, the company made many visits and I and the director of Preservation walked through the repositories with the moving company, highlighting areas of the collection that required specialist handling, and discussing methodology. Whilst these methods were agreed upon by project managers and supervisors, these plans were sometimes not communicated with moving staff. This was noted by Archives Quality Assurance officers and reported to me.

### **Contingency planning for packing process – Damaged boxes**

At the Sydney Chester Hill repository, where a container was discovered to be damaged during the pick process, the NAA QA/Oversight staff referred the container to Preservation for rectification and possible repackaging, especially with film. Whilst an extremely low likelihood was placed on damaged containers being found at Chester Hill, at our Canberra repositories we placed a Damaged Box kit on a trolley in areas where contracted packers were working. This kit contained red packing tape to stabilise the box and seal it for transport. This has enabled Archives staff to easily locate these boxes and replace them now the relocation is complete. Any box too damaged (eg: missing lid for example) was placed on the damaged box trolley and these were taken to Preservation to replace the box before it was then transported.

## **Access and Control of records during relocation**

### **Public Access to Records**

Throughout the relocation period the Archives still received and provided access to the Collection. However it was acknowledged and communicated to agency and public clients that there would be disruptions, delays and in some instances restrictions to parts of the Collection. Outreach to regular researchers was carried out and they were encouraged to pre-order files prior to the period of restriction. During the relocation researchers were advised to utilise digitised records and other online resources to reconcile their queries before attempting to access other records. The building holding our reading room temporarily turned the library into record storage for those records that had been earmarked by both researchers and staff to maintain the workflow of sections such as Access and Examination for the duration of the move.

### **Control of records during the move**

The moving company and the NAPF team produced daily reports at box level with respect to the relocation of records as follows:

- a. **Quarantine Status** – the box is in a quarantine period of three (3) days prior to picking (but may be accessed during the quarantine period if a record in the box is the subject of an emergency request);
- b. **Outbound Staging Status** – the box has been picked and staged;
- c. **Transfer Status** – the box has been either loaded to a vehicle or transferred to a load marshalling area;
- d. **Inbound Staging Status** – the box has been unloaded at the NAPF (is in a staging zone);
- e. **Put away Status** – The box has been put away in its new location at the NAPF

## **Moving our AV material – Planning to Execution**

The Archives holds approximately 860,000 audio visual records which occupy 7.6 per cent of the shelf space. The holdings include motion picture film, video and audio records created by Commonwealth broadcasting authorities and other agencies.

### **Identifying low temperature storage requirements**

In 2012-13 the NAA undertook a project to determine an ideal model for low temperature storage in the National Archives, based upon recognised international storage standards and practices. The aim of this project was to assist the Archives in planning for the increased capacity for low temperature storage and, to feed into the functional design briefs for the Chester Hill upgrade storage project in Sydney and the NAPF building projects in Canberra.

In addition to the ideal model, a further three models were developed as a contingency plan to accommodate proposed capacity and resource limitations in the building projects. The new building's temperature control storage comprises of three cold storage rooms set at -20 degrees (sub-zero), 4 degrees and 8 degrees.

Using international and national storage standards, a storage strategy model was developed to determine the low temperature storage requirements for each format. The formats identified as requiring low temperature storage conditions included: motion picture, photographic and aerial film formats; microforms; photographic prints; audio and video magnetic media; optical media; data formats; and scientific specimens.

This strategy was applied to the national holdings to determine shelf metre quantities for each type of storage environment.

In order to define an ideal storage model various ISO storage standards, the National Archives storage standards and Image Permanence Institute (IPI) recommendations were referred to for all of these formats. Different formats were then prioritised for sub-zero, cold, cool or room temperature storage.

In order to obtain a full picture of the total quantities of materials requiring low temperature storage in the National Archives, data was gathered from a wide range of sources including:

- RecordSearch which is the National Archives collection management database which holds intellectual and physical control data for the National Archives collection.  
Two in- house preservation databases:
- The Preservation Sound and Moving Image database — which captures preservation and format data for Audio-visual records; and
- The National Paper & Photographic Database — which captures preservation and format data for paper and photographic records;
- various surveys undertaken by preservation staff over the last 10 years

This data revealed:

- The number, type and size of each format
- The number, type and size of any containers or boxes;
- The Copy status, that is whether the records were original material from the agency or preservation, duplicating or reference copies;
- Security requirements for the records;
- Where the records were currently located

<b>Format</b>	<b>Total (shm)</b>
audio & video tape	11113.33
b&w motion picture film	5560.34
colour motion picture film	3554.11
b&w photographic print	2898.10
magnetic sound film - acetate	1923.69
b&w photographic still film	1639.52
colour photographic still film	1374.13
colour photographic print	868.44
magnetic sound film - polyester	785.70
glass plate negatives & positives	638.99
microform - polyester	514.09
optical sound film	492.60
microform - acetate	447.93
gramophone disc	402.17
b&w photographic print - historical print	199.77
optical media	196.34
data formats	76.28
specimen	64.44
<b>Grand Total in shelf metres</b>	<b>32749.95</b>

The use of the collection was examined in order to target records for relocation to Canberra. Only items that had been copied either by NAA or the Agency or were low use were sent to the new repository. This decision was based on several factors including the location of preservation expertise

in each state for the different record formats and disaster preparedness strategies for record content, such as not storing preservation and duplicating copies in the same location. In the case of AV we selected by item not consignment or series. Even with all the surveys, estimates had to be made about different formats as some of the information was not gathered in earlier. In these cases we erred on the size of the larger formats to ensure enough space was provided for.

The Chester Hill (Sydney) repository identified the need to pre-pack **110,784** collection items, out of a total of **180,206** Collection items to be transferred, into approximately **8,306** boxes. The boxes were provided and packing was completed by the Relocation Contractor. The relocation schedule for cold room items also aligned with cooler local weather, avoiding the heat of the summer months.

### **Preparing AV material for moving**

AV materials often require additional packaging or cushioning layers to provide protection from shocks and vibration during transport. Vibration acts like repeated small impacts over an extended period and can cause considerable damage. Cushioning materials also add extra buffering against changes in temperature and relative humidity.

### **Film base records**

For the transportation of motion picture records it is best to use the existing cans and pack flat in boxes or cartons. They may require air-conditioned transport if records are likely to travel long distances in hot weather conditions and they may require air-ride suspension to prevent vertical movement of films within cans.

If climate controlled trucks or air freight is not possible, then plan to transport in cooler, drier months rather than during summer.

The motion picture film records were pre-packed into non-archival custom boxes in preparation for transport.

There were five sizes of boxes custom made to accommodate the ten film can sizes that were to be transported.

Each box had:

- a layer of 8mm Polyethylene (PE) foam on the bottom of the box
- a layer of 3mm PE foam between each film can
- a layer of 8mm PE foam on the top of the box
- two Cell-O air cushions in each of the corners of the box

The boxes were used for transport only and the film cans were unpacked from the boxes onto the shelves in the cold vaults.

### **Photographs and large format items**

Preservation staff prepared the boxes of photographic records for transport according to the NAA *National Guidelines for Packing and Transporting Non-digital Archival Records*. Any photographic albums that needed to be were pre-packed into custom transport boxes. These boxes were used for transport only. The majority of photographic records were in standard archival boxes.

There was a number of existing non-standard box types that needed palletising and shrink wrapping for transport including some plan folders.

Large format cold storage items stored at the old Canberra repository in plan folders were transported in their drawers, shrink wrapped on pallets. The items were then transferred to their new plan cabinet drawers by Archives Preservation staff. Framed photographs in boxes were checked prior to transport and extra padding and support were added where required.

## **Glass Negatives**

Whilst the majority of the glass plates were sufficiently packed, 1500 boxes at our Canberra repository containing aerial photographs which appeared to be well packaged on the shelf but were, on closer inspection, at risk from breakage. The number of plates in each box varied from half full to full with only a piece of bubble wrap in a zip lock bag to prevent movement. Pieces of custom cut archival board were placed in each box to prevent movement during transit. It was fortuitous that these were opened and checked individually as there was a section of the series that contained quarter size plates which required padding out and board separators inserted. These boxes were all labelled as fragile with instructions to be treated with extreme care. The boxes were packed into padded crates and the trolleys transporting these records were also padded out to minimise vibration. The weight of this material is significant, so extra care had to be taken not to overload crates or trolleys. The packing, loading and unloading of the glass plates was supervised by Preservation staff.

## **Unanticipated Issues**

### **Pick List Printout Error**

On the first day of the relocation we noted that packed trolleys were full with one extra box stacked on the top. This obviously was a risk to the box resting precariously outside the trolley. We stopped the packing to determine why this was occurring. The moving staff worked from pick lists of container barcodes showing the old location and the new location at the NAPF. The trolley cages accommodate 50 standard archival boxes but the pick lists had been printed out with 51 items on each page. We devised a way to shrink wrap the box to the top of the trolley in its correct orientation. This avoided the need to reprint thousands of pages which would have resulted in an unacceptable delay whilst still ensuring the safety of the records.

### **Technical difficulties with Temperature control rooms**

After the initial testing of the cold storage areas the building team could not achieve the conditions required in the freezer. New, larger dehumidifier units (from overseas) were ordered. These, they advised, would be ready within 4-5 weeks. However, similar units had been known to take between 10-18 weeks to be delivered.

The obvious impacts of this were:

1. A delay to moving the records intended for the freezer into this space and
2. The budget for this move of records did not extend past 30 June 2017.

At the time records destined for the freezer were:

1. Frozen records stored in chest freezers or similar at our old Canberra repository and
2. Non- Frozen records at our Chester Hill Sydney repository stored at ambient conditions

It was decided that

- The chest freezers and their contents were to be moved by the moving contractor ASAP and remained in their chest freezers in locations within the NAPF until the freezer space is operational. Unfortunately, one of these portable freezers did not successfully start up again once it was relocated and the items in this freezer defrosted. It is a consolation that the items defrosted slowly inside the freezer.
- Items from Sydney were stored temporarily in the cold or cool rooms until the freezer was operating.

It was decided that the records in transit boxes (containing film cans and photographic albums) would not be unpacked in this move, as it would be easier to relocate them to the freezer in their transit boxes at a later stage, when it became operational. This move between cool and freezer locations was then completed by the moving company at an extra cost to the Archives.

## **Transport Truck overloaded**

A truck from Sydney loaded with AV material was found to be 2.4 tonne over the road limit at a weigh bridge halfway through its journey to Canberra. This occurred due to scheduling changes. Originally trucks were to hold a variety of material formats which distributed the weight evenly amongst the trucks but due to delays at the destination multiple trolleys of similar formats were loaded onto the vehicle. Another truck was sent to alleviate some this load. There were concerns about the safety and security of the items being unloaded and reloaded on to the new truck. It was decided they were safe as they were securely packed onto their trolleys but by the time the new truck arrived, the authorities who could authorise the new load weight had left. This, and delays caused by a major road accident further down the highway both trucks had to return to Sydney for the evening.

## **Outcomes**

As well as ensuring that the Archives holdings moved safely to our new building, preparing for the move has also presented an opportunity to correct past errors or oversights, and improve on series and item descriptions. It has highlighted areas where a more holistic approach would improve outcomes for access and preservation of the collection. This includes the need for clearer and more consistent communication between work sections that begins from the time records are earmarked by agencies to come into the Archives custody, and continue throughout the life of the records. This includes preservation becoming actively involved in wider long term storage strategies, records handling training, digitisation programs and access issues.

During this process the repackaging team were able to view huge swathes of the Archives holdings and delve into boxes in the repositories in a way we normally would not have and as such we have developed a much richer understanding of the records we hold and the physical condition they are in. From this knowledge we will be able to contribute further insight into future preservation project planning.

## **Conclusions**

- Routine archival and conservation work is the ideal preparation for moving collections
- Know your collection –its chemical makeup, its condition, how vulnerable it is. Conservation are the best placed people to identify, understand and mitigate the risks to the collection – make your voice heard
- Like all well managed projects, make sure all the necessary stakeholders are identified from the very beginning.
- Get involved from the outset
- Communication and team work are essential. Don't assume that your work does not have an impact on others activities
- Know the limitations of the data you have available
- Be flexible, look at different ways for doing things and have a contingency plan.

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