Paperless maintenance records: an Australian regulatory perspective

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About the presentation

This brief presentation covers Australian regulatory requirements dealing with paperless maintenance records.

- specific aviation legislation dealing with maintenance records
- other federal legislation dealing with paperless records
Australian aviation legislation framework

- Acts Interpretation Act (records includes electronic records)
- Civil Aviation Act (CAA)
- Civil Aviation Safety Regulation (CASR)
- Manual of standards (MOS)
- Electronic Transaction Act
Maintenance records are created by maintenance personnel and certifies that maintenance has been carried out to the standards required under the regulation.

Correctly completed maintenance records are essential for establishing the airworthiness status of an aircraft.

The Civil Aviation Safety Regulation sets out how maintenance record should be created, retained and altered.
Regulation 42.395 of CASR Part 42 specifies the information that must be recorded in the maintenance records for an aircraft:

- Identification of the aircraft
- Description of maintenance
- Details of any parts fitted
- Signature and authorisation number of the person certifying the maintenance
- Date of certification
Maintenance records life cycle – an aircraft operated by 2 operators

**AMO**
- Maintenance records are created by maintenance personnel working within a maintenance organisation
- The maintenance organisation must give the maintenance record to the operator of the aircraft

**Operator**
- The operator must keep the record for the duration the operator remains the operator
- The operator gives the records to the subsequent operator when the aircraft is permanently transferred to such operator

**Subsequent Operator**
- The new operator must keep the record for the duration the aircraft is in service
- The operator may destroy the records after the aircraft no longer in service
An ideal paperless maintenance record system should allow maintenance personnel to **enter all the information into electronic medium** and allow the person to **sign the record electronically**.

A paperless system should allow AMO to **transfer the record to the operator electronically**.

The operator should be able to **read and retain those record electronically**.

**Paperless maintenance record**
Regulation 42.1085

(1) If a person is required to record information under this Part, or to ensure that information is recorded, the person must ensure that the record:

(a) is written in a legible form in English; and
(b) will remain legible for the time for which the record is required, by this Part, to be kept.
Acts Interpretation Act

- **record** includes information stored or recorded by means of a computer

- **writing** includes any mode of representing or reproducing words, figures, drawings or symbols in a visible form
Regulation 42.1090

(1) If a person is required to keep record under this Part, or to ensure that record is kept, the person must ensure that the record is kept:
(a) in a system that allows the record to be retrieved; and
(b) in a manner that protects the record from being lost, damaged or accidentally altered.
Regulation 42.1095

(1) If a person makes a change to a record made under this Part, the person must make the change in a manner:
(a) that retains the original record; and
(b) that identifies himself or herself; and
(c) that includes the date the change is made.
National legislation allows record to be in electronic format and airworthiness regulations do not restrict use of electronic record.

Whilst records can be electronic format – can any person or operator be forced to accept electronic records?

What is the legal basis for electronic signature? What kind of electronic signature is acceptable for maintenance records?
The following requirements imposed under a federal legislation (in this case under aviation legislation) can be met in electronic form:

- a requirement to give information in writing
- a requirement to record information
- a requirement to provide a signature
- a requirement to produce a document
- a requirement to retain a document
The method used must **identify the person** and **indicate their approval of the information communicated**
- approval in this case the certification of maintenance.

**Businesses to determine the signature technology** that is appropriate to their particular needs
- not necessarily digital signature

The choice of a **particular method must be as reliable as appropriate in the circumstances**
- digitised version of a written signature
- personal identification number (PIN)
- biometric technology

**Electronic signature**
- Electronic Transaction Act sets the minimum level of acceptability of electronic records and in most cases is not binding on any person or organisation other than some government agencies.
  - in an electronic transaction both parties should agree

- Electronic maintenance records should be transferable – so these have to be created in a format that all parties can read and retain easily.

- Compatibility is the largest obstacle in creating a paperless system for maintenance records for its entire life cycle – not legislation

Acceptability and compatibility electronic maintenance records
What is the best way forward for industry

- Increased application program compatibility would lead to increased acceptance of paperless maintenance records
- International standards for electronic maintenance record
- Common interface platform for different application program for maintenance records otherwise known as application programming interface (API)
Questions