SAFETY AND HEALTH STANDARDS
UNFIRED PRESSURE VESSELS

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16.14.1 **INTRODUCTION**

16.14.1.1 Unfired pressure vessels include compressed air tanks and receivers, process vessels, digesters, and other vessels that can be subjected to internal pressure or vacuum but are not heated with direct-fired burning fuel such as is the case with a boiler. Potential hazards associated with these pressure vessels require that design, operation, inspection, testing, and maintenance standards be complied with. This standard does not address gas pressure vessels. (See Safety and Health Standard 16.15)

16.14.2 **REQUIREMENTS**

16.14.2.1 All unfired pressure vessels must be designed and installed in accordance with ASME codes, federal, state, and local governing regulations and must have a NB or ASME stamp.

16.14.2.2 All unfired pressure vessels including process vessels, air tanks, air receivers, etc. must be inspected periodically as conditions warrant, to observe for leaks, cracks, corrosion, and other forms of deterioration. Frequency of inspection must be determined by the person responsible for the maintenance function based on physical and environmental conditions.

- Air receivers on mobile equipment which are subject to vibration and mechanical damages shall be visually inspected as part of the regular preventive maintenance inspection procedure.

16.14.2.3 An inspection log will be kept for each unfired pressure vessel. Entries will be made on the log each time an inspection or test is conducted. The entries will include conditions noted, repairs completed, and results of any tests performed. A file will be kept for each stationary pressure vessel which includes a copy of the original specifications, drawings, certifications, repair records, and inspection and testing records.

16.14.2.4 Compressed air tanks and receivers will be inspected by a certified inspector at least every 48 months. The type of tests shall be determined by the inspector. The certificate of testing will be kept on file as required by the governing regulatory agency.

16.14.2.5 Facilities where pressurized process vessels or equipment is used must provide hazard training that covers a thorough review of the process involving the pressure vessel, potential hazards and control measures,

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and emergency procedures dealing with the pressure vessels. (See Rio Tinto Process Safety Management Training modules Chapter 1, 2, 3 as appropriate)

16.14.2.6 Pressure vessels will be fitted with appropriate pressure relief devices designed for the type of vessel and use for which it is intended.

- Pressure relief devices **must not** be separated from the pressure vessel with an isolation valve. No valve or tee fitting may be installed between the vessel and the relief valve.
- Pressure relief devices will be inspected at least annually and where applicable will be tested.

16.14.2.7 Vents from pressure vessels will be directed such that discharge will not expose personnel to physical or chemical hazards.

16.14.2.8 Modifications to a pressure vessel are not permitted except where such modifications are designed by a qualified professional engineer and completed by qualified persons. Weld repairs must be performed by a certified welder. A pressure vessel which has been modified shall be tested and recertified prior to being placed back into service.

16.14.2.9 Entry into pressure vessels for inspection or maintenance purposes is not allowed except as permitted by the KUCC "Confined Space Entry" and "Lockout and Tagout" procedures.

REFERENCES:

ASME Codes Section I and VIII.
National Board of Pressure Vessels.
State of Utah Boiler and Pressure Vessel Standards.
KUC Safety and Health Standard 16.2 Confined Space Entry Requirements
KUC Safety and Health Standard 16.12 Isolation
KUC Safety and Health Standard 16.15 Compressed Gas

REVISION HISTORY:

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17387	Scheduled Review and update. Include document retention times and definitions. Also, updated format and Document number added.	KUC Safety and Health Standards Committee	10/11

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