



Assessor Assessment Guide Unit Standard 3307

Demonstrate knowledge of elements of construction and loads in fixed and mobile property fires (Level 4, Credit 8, Version 3)

In order to achieve competency in this unit standard a candidate must display an understanding of the knowledge components by completing an oral or written assessment and practically demonstrate knowledge of: building construction and services in relation to fire; ship construction, cargoes and services in relation to fire; and vehicle construction, cargoes and services in relation to fire.

This assessment may take place at a real or at a simulated practical event.

The assessor may elect to question candidates during completion of the practical assessment to ensure theoretical knowledge can be applied during practice. This technique also provides the assessor with reinforcement that knowledge has been retained.

Where a candidate is being assessed on the basis of a RCC process evidence must be produced that indicates a candidate has successfully directed operations at a defensively controlled fire at both structure and vehicle fires in a safe manner without causing avoidable environmental or equipment damage.

Assessors may use this guide to record evidence of a candidates overall performance but should be aware that this may not, on its own be an adequate record for moderation purposes without appropriate notes or appendices. Notes should include a summary of the process used and a statement about the quality of the candidate's performance.

ASSESSORS SHOULD ALWAYS REVIEW THE REQUIREMENTS CONTAINED IN THE UNIT STANDARD DOCUMENT PRIOR TO CONDUCTING ASSESSMENTS

For this unit the following resources are available from FRSITO to assist Learners, Instructors and Assessors:

- Assessor Assessment Guide
- Learner Assessment Guide

Assessors: General Notes:

Prerequisite: Candidate must hold Unit Standard 4651, *Apply knowledge of structural fire behaviour* before this unit can be registered on their NZQA Record of Learning.

Assessors Name	_____	Assessor No.	_____
Candidate Name	_____	NZQA No.	_____
Date of Assessment	_____	Final Result	_____

Level Descriptor

Level	Process	Employing	Responsibility
4	Carrying out processes that: <ul style="list-style-type: none"> Require a wide range of scholastic skills Offer a considerable choice of procedures Are employed in a variety of familiar and unfamiliar contexts 	Employing: <ul style="list-style-type: none"> A broad knowledge base incorporating some theoretical concepts Analytical interpretation of information Informed judgement A range of sometimes innovative responses to concrete but often unfamiliar problems 	Applied: <ul style="list-style-type: none"> In directed activity Under broad guidance and evaluation With complete responsibility for the quantity and quality of output With possible responsibility for the quantity and quality of the output of others

	Information or actions that may provide support for competency	
General	Has the candidate: <ul style="list-style-type: none"> <input type="checkbox"/> Gained Unit Standard 4651? <input type="checkbox"/> Satisfactorily completed a pre course self test? <input type="checkbox"/> Satisfactorily completed an oral or written on course or post knowledge assessment? <input type="checkbox"/> Satisfactorily completed simulation exercises? <input type="checkbox"/> Attend a course covering the Unit Standard subject matter? <input type="checkbox"/> Provided proof of experience through records? <input type="checkbox"/> Practically demonstrated in a practical scenario? <input type="checkbox"/> Other (please list)? <hr/> <hr/>	Assessor Notes:

Element and PC	Evidence Typical answer/product/performance expected from the learner/candidate(s)	Judgement Statement (A statement that defines the standard to be achieved)	Result C/NYC
1	Demonstrate knowledge of building construction and services in relation to fire		
1.1	Candidate must identify construction types and their effect on fire behaviour is described in accordance with the reference standards. Range: <ul style="list-style-type: none"> <input type="checkbox"/> residential <input type="checkbox"/> commercial <input type="checkbox"/> industrial <input type="checkbox"/> multi-storey Did the candidate: <ul style="list-style-type: none"> <input type="checkbox"/> Satisfy the requirements of the range? Assessor notes:	Identify construction types and their effect on fire behaviour is described in accordance with the reference standards.	

Element and PC	Evidence Typical answer/product/performance expected from the learner/candidate(s)	Judgement Statement (A statement that defines the standard to be achieved)	Result C/NYC
1.2	<p>Candidate must describe methods of controlling and utilising building services to support incident management strategies in accordance with the reference standards.</p> <p>Range:</p> <ul style="list-style-type: none"> <input type="checkbox"/> heating <input type="checkbox"/> ventilation <input type="checkbox"/> air-conditioning <input type="checkbox"/> electrical system <input type="checkbox"/> gas systems <input type="checkbox"/> lifts <p>Did the candidate:</p> <p><input type="checkbox"/> Satisfy the requirements of the range?</p> <p>Assessor notes:</p>	<p>Describe methods of controlling and utilising building services to support incident management strategies in accordance with the reference standards.</p>	
1.3	<p>Candidate must describe methods of controlling and utilising fixed fire detection and protection systems to support fire fighting in accordance with the reference standards.</p> <p>Range:</p> <ul style="list-style-type: none"> <input type="checkbox"/> smoke and heat detectors <input type="checkbox"/> sprinkler systems <input type="checkbox"/> risers <input type="checkbox"/> gas flooding <input type="checkbox"/> automatically controlled reaction devices <input type="checkbox"/> air sampling systems <input type="checkbox"/> communication systems <p>Did the candidate:</p> <p><input type="checkbox"/> Satisfy the requirements of the range?</p> <p>Assessor notes:</p>	<p>Describe methods of controlling and utilising fixed fire detection and protection systems to support fire fighting in accordance with the reference standards.</p>	

Element and PC	Evidence Typical answer/product/performance expected from the learner/candidate(s)	Judgement Statement (A statement that defines the standard to be achieved)	Result C/NYC
1.4	<p>Candidate must describe common fire engineering design features in accordance with the reference standards.</p> <p>Range:</p> <ul style="list-style-type: none"> <input type="checkbox"/> protected paths <input type="checkbox"/> open paths <input type="checkbox"/> safe paths <input type="checkbox"/> fire cells <input type="checkbox"/> fire compartments <p>Did the candidate:</p> <p><input type="checkbox"/> Satisfy the requirements of the range?</p> <p>Assessor notes:</p>	<p>Describe common fire engineering design features in accordance with the reference standards.</p>	

Element and PC	Evidence Typical answer/product/performance expected from the learner/candidate(s)	Judgement Statement (A statement that defines the standard to be achieved)	Result C/NYC
2	Demonstrate knowledge of ship construction, cargoes and services in relation to fire.		
2.1	<p>Candidate must describe the effect of bulk cargoes on fire behaviour in accordance with the reference standards.</p> <p>Range:</p> <ul style="list-style-type: none"> <input type="checkbox"/> grain <input type="checkbox"/> sulphur <input type="checkbox"/> coal <input type="checkbox"/> cement <input type="checkbox"/> chemicals <input type="checkbox"/> petroleum products <p>Did the candidate:</p> <p><input type="checkbox"/> Satisfy the requirements of the range?</p> <p>Assessor notes:</p>	<p>Describe the effect of bulk cargoes on fire behaviour in accordance with the reference standards.</p>	

Element and PC	Evidence Typical answer/product/performance expected from the learner/candidate(s)	Judgement Statement (A statement that defines the standard to be achieved)	Result C/NYC
2.2	<p>Candidate must describe the fire behaviour of vessel types and their construction features in accordance with the reference standards.</p> <p>Range:</p> <ul style="list-style-type: none"> <input type="checkbox"/> tankers <input type="checkbox"/> cargo and container vessels <input type="checkbox"/> passenger vessels <input type="checkbox"/> roll-on-roll-off vessels <input type="checkbox"/> fishing vessels <input type="checkbox"/> military vessels <p>Did the candidate:</p> <p><input type="checkbox"/> Satisfy the requirements of the range?</p> <p>Assessor notes:</p>	<p>Describe the fire behaviour of vessel types and their construction features in accordance with the reference standards.</p>	
2.3	<p>Candidate must describe methods of controlling ship's services for fire fighting in accordance with the reference standards.</p> <p>Range:</p> <ul style="list-style-type: none"> <input type="checkbox"/> heating <input type="checkbox"/> ventilation <input type="checkbox"/> air-conditioning <input type="checkbox"/> electrical system <input type="checkbox"/> gas systems <input type="checkbox"/> lifts <p>Did the candidate:</p> <p><input type="checkbox"/> Satisfy the requirements of the range?</p> <p>Assessor notes:</p>	<p>Describe methods of controlling ship's services for fire fighting in accordance with the reference standards.</p>	

Element and PC	Evidence Typical answer/product/performance expected from the learner/candidate(s)	Judgement Statement (A statement that defines the standard to be achieved)	Result C/NYC
2.4	<p>Candidate must identify fixed fire detection and protection systems and methods of controlling them for fire fighting are described in accordance with the reference standards.</p> <p>Range:</p> <ul style="list-style-type: none"> <input type="checkbox"/> smoke and heat detectors <input type="checkbox"/> sprinkler systems <input type="checkbox"/> risers <input type="checkbox"/> gas flooding <input type="checkbox"/> automatically controlled reaction devices <input type="checkbox"/> communication systems <input type="checkbox"/> air sampling systems <p>Did the candidate:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Satisfy the requirements of the range? <p>Assessor notes:</p>	<p>Identify fixed fire detection and protection systems are identified and methods of controlling them for fire fighting are described in accordance with the reference standards.</p>	
2.5	<p>Candidate must describe the impact of fire fighting operations on ship stability in accordance with the reference standards.</p> <p>Range:</p> <ul style="list-style-type: none"> <input type="checkbox"/> metacentric height <input type="checkbox"/> free surface water <input type="checkbox"/> fire fighting water <p>Did the candidate:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Satisfy the requirements of the range? <p>Assessor notes:</p>	<p>Describe the impact of fire fighting operations on ship stability in accordance with the reference standards.</p>	

Element and PC	Evidence Typical answer/product/performance expected from the learner/candidate(s)	Judgement Statement (A statement that defines the standard to be achieved)	Result C/NYC
3	Demonstrate knowledge of vehicle construction, cargoes and services in relation to fire.		
3.1	<p>Candidate must describe the effect of bulk cargoes on fire behaviour in accordance with the reference standards.</p> <p>Range:</p> <ul style="list-style-type: none"> <input type="checkbox"/> grain <input type="checkbox"/> sulphur <input type="checkbox"/> coal <input type="checkbox"/> livestock <input type="checkbox"/> chemicals <input type="checkbox"/> petroleum products <p>Did the candidate:</p> <p><input type="checkbox"/> Satisfy the requirements of the range?</p> <p>Assessor notes:</p>	<p>Describe the effect of bulk cargoes on fire behaviour in accordance with the reference standards.</p>	
3.2	<p>Candidate must describe construction features of vehicle types in terms of their effect on fire behaviour in accordance with the reference standards.</p> <p>Range:</p> <ul style="list-style-type: none"> <input type="checkbox"/> truck <input type="checkbox"/> truck and trailer <input type="checkbox"/> bus <input type="checkbox"/> railway rolling stock <p>Did the candidate:</p> <p><input type="checkbox"/> Satisfy the requirements of the range?</p> <p>Assessor notes:</p>	<p>Describe construction features of vehicle types in terms of their effect on fire behaviour in accordance with the reference standards.</p>	
3.3	<p>Candidate must identify vehicle's fuel type, and its effect on fire behaviour is described in accordance with the reference standards.</p> <p>Range:</p> <ul style="list-style-type: none"> <input type="checkbox"/> petrol <input type="checkbox"/> diesel <input type="checkbox"/> liquefied petroleum gas <input type="checkbox"/> compressed natural gas <p>Did the candidate:</p> <p><input type="checkbox"/> Satisfy the requirements of the range?</p> <p>Assessor notes:</p>	<p>Identify vehicle's fuel type, and its effect on fire behaviour is described in accordance with the reference standards.</p>	

Element and PC	Evidence Typical answer/product/performance expected from the learner/candidate(s)	Judgement Statement (A statement that defines the standard to be achieved)	Result C/NYC
3.4	<p>Candidate must describe procedures for isolating vehicles' electrical systems in accordance with the reference standards.</p> <p>Did the candidate:</p> <p><input type="checkbox"/> Describe isolating procedures correctly?</p> <p>Assessor notes:</p>	<p>Describe procedures for isolating vehicles' electrical systems in accordance with the reference standards.</p>	
3.5	<p>Candidate must describe special hazards associated with vehicles in accordance with the reference standards.</p> <p>Range:</p> <ul style="list-style-type: none"> <input type="checkbox"/> auxiliary power units <input type="checkbox"/> air and brake lines <input type="checkbox"/> air conditioning <input type="checkbox"/> biohazards <input type="checkbox"/> electrical systems <p>Did the candidate:</p> <p><input type="checkbox"/> Satisfy the requirements of the range?</p> <p>Assessor notes:</p>	<p>Describe special hazards associated with vehicles in accordance with the reference standards.</p>	