

# Professional Standard: Certified Fire Behaviour Analyst Capabilities

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## Authority

This standard was endorsed by the EMPS Panel in March 2019.

## Context

This document is a high-level outline of capabilities that can be observed in practice. These are capabilities expected of personnel in an Incident Management Team who wish to have their practice acknowledged and certified as part of AFAC's Professionalisation Scheme. It is expected that demonstrating the capabilities will require a portfolio of evidence collected over time.

This document is NOT:

- a prescription of what training courses should be delivered;
- a replacement for agency sign off and validation that personnel are able to do the job;
- a selection and recruitment tool for trainees, or
- a template to be used to sign off capabilities in a once-off observation.

The Fire Behaviour Analyst is delegated the role and responsibility for predictive services at a bushfire incident by the Incident Controller.

The Fire Behaviour Analyst will be required to exercise critical thinking and judgement to model and predict the behaviour and potential impacts of a complex bushfire and required to manage the Modelling and Predictions function, as well as maintain effective information flow and reporting arrangements.

Modelling and Predictions is managed in accordance with AIIMS (Au)/CIMS (NZ) and other systems aligned with AIIMS principles and functions.

## Appointment of Fire Behaviour Analyst

Appointment to the role of Fire Behaviour Analyst for a bushfire incident is made by the Incident Controller, or otherwise in accordance with jurisdictional emergency management arrangements. The Incident Controller retains ultimate responsibility for the effective management of the incident management team, including the Modelling and Predictions Unit.

## Accountabilities

The Fire Behaviour Analyst will be required to:

- obtain a briefing from the Planning and/or Intelligence Officer
- lead and manage the Modelling and Predictions Unit
- provide a safe working environment for all Modelling and Predictions Unit personnel
- develop Incident Predictions, Actual and Potential Impacts reports and Strategic Bushfire Behaviour information for the Incident Action Plan
- plan organisation of the Modelling and Predictions Unit
- consider the need for, and establish as required, sources of field and other intelligence to support modelling and predictions
- allocate tasks to Modelling and Predictions Unit personnel
- support the control/management of the bushfire through the development of Incident Predictions, Actual and Potential Impacts reports and the provision of strategic Bushfire Behaviour advice/information
- facilitate effective liaison and cooperation with all relevant persons
- provide progress reports on Modelling and Predictions for the incident to the Planning and/or Intelligence Officer and the Incident Management Team
- estimate future modelling and predictions service needs and support these requirements
- facilitate the establishment and maintenance of portable weather stations and other data collection devices (if required) in support of the Planning and/or Intelligence Section.

The extent to which these accountabilities are required is determined by the scale of incident to be managed.

The specific tasks and responsibilities are described and explained in the *AIIMS Manual (2017)*.

## Stakeholders

The Fire Behaviour Analyst may be required to manage relationships with a range of stakeholders including:

- the Planning and/or Intelligence, Public Information and Operations sections in the incident management structure
- state and regional coordination and control centres.

## Areas of capability

There are two main areas of capability for Incident Management Team members (see Appendix 1), these are:

1. capabilities to *manage the incident*, and
2. capabilities relevant to the *bushfire context*.

### 1. Capabilities to manage the incident include the ability to:

**Model Leadership and Teamwork:** *the ability to act with integrity, influence others, and facilitate team efforts towards the achievement of common goals. This involves:*

- modelling ethics, inclusiveness and good governance;
- creating effective background conditions to build confident and capable teams and engaged stakeholders, and
- applying effective decision making.

**Think and plan strategically:** *the ability to consider multiple perspectives and scenarios to engage in strategic planning and consequence management. This involves:*

- pursuing sense-making and encouraging same in others;
- practicing strategic thinking and planning;
- planning and mapping diverse audiences;
- enabling consequence management.

**Demonstrate self-awareness:** *the ability to monitor stress and fatigue, display resilience and agility and reflect on and adjust to feedback. This involves:*

- monitoring and managing self for symptoms of stress and fatigue;
- displaying resilience and agility, and
- recognising own strengths and limitations.

### 2. Capabilities related to the specific hazard context include the ability to:

**Apply technical skills/knowledge:** *having a relevant understanding of existing policies, structures and doctrine to be applied when managing the incident. This involves:*

- effectively applying appropriate legislation, policy and procedures;
- effectively managing the Modelling and Predictions function at an incident in accordance with AIIMS doctrine;
- demonstrating understanding of broader stakeholder EM arrangements, and
- demonstrating understanding of available systems and technologies.

**Employ expertise in hazard specific knowledge:** *apply a specialist understanding in the Modelling and Predictions context (obtaining specialist advice as required) of the risks and behaviours of bushfire.*

The following table (Appendix 1) describes these capabilities and the expectations for each of the five areas of capability.

## Review

This standard will commence 15 March 2019. The Panel will review this standard after five years or as required.

## Related professional standards

This document should be read in conjunction with:

- Code of Ethics (2017)
- Professional Standard: Certified Fire Behaviour Analyst Requirements (2018)
- Professional Standard: Continuing Professional Development (2018).

Area of Capability	Capability	Incident Management Capability	Behavioural Indicators
<p><b>Model Leadership and Teamwork</b></p>	<p>Model ethics, inclusiveness and good governance</p>	<ul style="list-style-type: none"> <li>Behave in ways consistent with the <i>Code of Ethics and Standards of Professional Conduct</i></li> <li>Accept scrutiny as a naturally occurring process during a crisis</li> </ul>	<ul style="list-style-type: none"> <li>Acts in accordance with the <i>Code of Ethics and Standards of Professional Conduct</i></li> <li>Acts in alignment with organisational frameworks (e.g., OH&amp;S policy)</li> <li>Employs compelling communication to deliver key messages with integrity</li> <li>Treats others with respect</li> </ul>
<p><i>The ability to act with integrity, influence others, facilitate team efforts towards the achievement of common goals</i></p>	<p>Create effective background conditions to build confident and capable teams and engaged stakeholders</p>	<ul style="list-style-type: none"> <li>Engage immediate team and stakeholders so that they are motivated to achieve the outcomes sought</li> <li>Recognise and contribute critical information to support cross-functional team work and decision-making</li> </ul> <p><b>Critical capabilities for a Fire Behaviour Analyst:</b></p> <ul style="list-style-type: none"> <li>Build collaborative relationships with internal stakeholders and utilise local knowledge to inform modelling and predictions</li> <li>Collaborate with the OO, PIO and PO/IO to model bushfire behaviour and contribute to team awareness of existing bushfire behaviour and future predictions, including the potential impacts of the bushfire</li> </ul>	<ul style="list-style-type: none"> <li>Creates a collaborative team climate (e.g., communicates in a way that is open, direct, measured, and approachable)</li> <li>Pursues honest and open input and feedback</li> <li>Responds promptly and constructively to questions and concerns raised</li> <li>Proactively seeks out information required for modelling and prediction of bushfire behaviour, including local knowledge</li> </ul>
	<p>Apply effective decision-making</p>	<ul style="list-style-type: none"> <li>Make effective decisions in a timely manner under conditions of uncertainty, incomplete information, tight deadlines, and pressure and to acknowledge the limitations of these conditions</li> <li>Collaborate with others in decision-making to reach an agreed approach</li> <li>Recognise and articulate the triggers that would require a decision change</li> </ul>	<ul style="list-style-type: none"> <li>Is timely in making decisions that can be assessed as likely to be reasonable at their point in time</li> <li>Employs decision-making styles appropriate and demonstrates flexibility appropriate to the context (e.g., balances the need for speed, thoroughness and inclusiveness with the time available)</li> <li>Can explain, when asked, the reasons for the decision made as well as the processes used (e.g., can</li> </ul>

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		<ul style="list-style-type: none"> <li>• Monitor progress to assess alignment with the objectives and reset as necessary</li> </ul> <p><b>Critical capabilities for a Fire Behaviour Analyst:</b></p> <ul style="list-style-type: none"> <li>• Anticipate the needs of other team members and pre-emptively develop modelling and predictions resources without being explicitly asked</li> <li>• Maintain flexibility to adjust as the incident escalates and declines</li> <li>• Adapt and change based on new information, review predictions, accept errors and move on</li> </ul>	<p>articulate how team and stakeholder needs have been taken into consideration in the decisions made)</p> <ul style="list-style-type: none"> <li>• Clearly articulates the triggers that would require a decision change and recognises them when they occur in practice</li> <li>• Proactively looks for early signs of when the decision needs to be adjusted</li> </ul>
<p><b>Think and plan strategically</b></p> <p><i>The ability to consider multiple perspectives and scenarios to engage in strategic planning and consequence management</i></p>	<p>Pursue sense-making and encourage same in others</p>	<ul style="list-style-type: none"> <li>• Make meaning from sometimes incomplete or conflicting information in high pressure environments</li> <li>• Ability to observe and listen carefully and to recognise discrepancies between expectations and reality</li> <li>• Critically evaluate information and intelligence promptly, to assess risk and diagnose the decision most likely to lead to a positive outcome</li> <li>• Understand the sensitivity of various pieces of intelligence and gaps</li> <li>• Identify what is NOT being considered or said</li> </ul> <p><b>Critical capabilities for a Fire Behaviour Analyst:</b></p> <ul style="list-style-type: none"> <li>• Establish and maintains strong situational awareness of current and future bushfire behaviour and impacts with other IMT members</li> <li>• Diagnose the likely scenarios of bushfire spread and assess strategies for bushfire management in alignment with what can be achieved in the time available</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes mechanisms for testing and improving situational awareness</li> <li>• Identifies knowledge gaps, uncertainty, threats and emerging issues so that these can be managed</li> <li>• Is able to identify patterns and trends in a timely manner</li> <li>• Seeks alternative opinions and perspectives including contra-indicators</li> <li>• Can outline how a judgement has taken into account personal and group biases</li> <li>• Projects possible future conditions based on information and intelligence gathered, weighing up difference sources of credibility</li> </ul>

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	Practice strategic thinking and planning	<ul style="list-style-type: none"> <li>Convert sense-making into a course of potential action</li> <li>Prioritise multiple time and space issues to identify what is important to plan for, and to filter what is not</li> <li>Employ strategies to avoid being distracted by minutiae and to maintain a wider focus, canvassing future outcomes, options and potential impact</li> </ul> <p><b>Critical capabilities for a Fire Behaviour Analyst:</b></p> <ul style="list-style-type: none"> <li>Collaborate to develop strategic plans for multiple scenarios</li> <li>Analyse multiple scenarios from current bushfire location and behaviour and use modelling and predictions for bushfire management and future impacts</li> <li>Engage in problem solving to address gaps</li> <li>Develop strategies to evaluate the effectiveness of the modelling and predictions made</li> <li>Project likely bushfire behaviour and potential bushfire management barriers (including firefighter safety) that will need to be overcome to obtain them</li> </ul>	<ul style="list-style-type: none"> <li>Can predict future conditions that reflect the information gathered through sense-making and evaluate those options</li> <li>Can clearly explain the significance and potential consequences of predictions</li> <li>Acts quickly to adjust the strategy as the context changes</li> <li>Demonstrates creativity and flexibility in adapting plans to improvise in novel situations</li> <li>Challenges IMT members to think and deliberately plan for scenarios based on predicted fire behaviour</li> <li>Identifies emerging intelligence needs and proactively plans acquisition</li> </ul>
	Enables consequence management	<ul style="list-style-type: none"> <li>Maintain a focus on consequences of the incident and actions and assess the consequences of actions to resolve the incident</li> <li>Engage in contingency planning, adjust strategies</li> </ul> <p><b>Critical capabilities for a Fire Behaviour Analyst:</b></p> <ul style="list-style-type: none"> <li>Proactively identify impacts on the bushfire control/management strategies from current fire behaviour and predicted future operations, and</li> <li>Proactively identify bushfire impacts and future impacts (based on modelling and predictions) and</li> </ul>	<ul style="list-style-type: none"> <li>Can identify all those who are potentially affected by the incident</li> <li>Can explain the long term impacts of the incident including the consequences of actions to resolve the incident</li> <li>Anticipates what might go wrong and any unintended adverse effects</li> <li>Identify and assess broader issues beyond the immediate incident based on likely fire behaviour.</li> <li>Influence incident strategies to address likely consequences and impacts</li> </ul>

Area of Capability	Capability	Incident Management Capability	Behavioural Indicators
		work with other service providers to inform recovery needs and to feed this back into the IMT.	
<b>Demonstrate self-awareness</b>  <i>The ability to monitor stress and fatigue, display resilience and agility, and reflect and adjust to feedback</i>	Monitor and manage self for symptoms of stress and fatigue	<ul style="list-style-type: none"> <li>• Develop effective strategies to manage psychological and physiological demands</li> <li>• Employ strategies to identify and manage personal limitations and impact of biases</li> <li>• Manage emotion and display empathy</li> </ul>	<ul style="list-style-type: none"> <li>• Maintains focus and remains grounded when under pressure</li> <li>• Uses coping strategies to manage under sub-optimal conditions</li> <li>• Self-regulates emotions under the pressure of challenging circumstances</li> <li>• Monitors self-behaviour and its impact on others</li> </ul>
	Display resilience and agility	<ul style="list-style-type: none"> <li>• Adapt and overcome adversity</li> <li>• Employ personal strategies to operate effectively in challenging conditions to maintain well-being</li> <li>• Respond to pressure and setbacks whilst remaining focused on objectives and outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Engages in a realistic assessment of predicted tough days</li> <li>• Copes with flux, the unexpected and incomplete information</li> <li>• Recovers quickly from setbacks and perseveres to get things done despite difficulties</li> <li>• Is flexible when faced with sub-optimal or novel conditions and improvises in response</li> <li>• Accepts that things do go wrong and sometimes there are limits to what can be controlled</li> <li>• Acts promptly to signs that action is not producing the desired outcomes</li> </ul>
	Recognise own strengths and limitations	<ul style="list-style-type: none"> <li>• Recognise and monitor personal limitations and biases</li> <li>• Critically reflect on and identify areas of self-improvement in action and in review</li> </ul>	<ul style="list-style-type: none"> <li>• Accepts feedback or criticism and adjust appropriately and objectively</li> <li>• Objectively evaluates what went well and what did not</li> <li>• Critically reflects on own performance and takes responsibility</li> <li>• Demonstrates learning from feedback and experience</li> <li>• Seeks opportunities to extend knowledge, skills and experience</li> </ul>



Area of Capability	Capability	Incident Management Capability	Behavioural Indicators
Apply technical skills / knowledge	Manage the Modelling and Predictions Unit in accordance with AIIMS doctrine	<ul style="list-style-type: none"> <li>Apply AIIMS to manage the Modelling and Predictions Unit</li> <li>Lead, manage and operate to Incident Management Systems principles and structures</li> </ul>	<ul style="list-style-type: none"> <li>Appropriately applies AIIMS to manage the Modelling and Predictions Unit</li> </ul>
	Demonstrate understanding of available systems and technologies	<ul style="list-style-type: none"> <li>Recognise and deploy appropriate systems and technologies</li> <li>Understand the strengths and limitations of systems and technologies</li> </ul>	<ul style="list-style-type: none"> <li>Selects and uses technologies appropriate to the incident</li> </ul>
Employ expertise in Hazard Specific Knowledge	Demonstrate understanding of Bushfire Behaviour	<ul style="list-style-type: none"> <li>Apply specialist understanding of the risks and behaviours of bushfire</li> <li>Apply expertise in bushfire-specific knowledge including understanding the behavioural characteristics and the risks that bushfire poses.</li> <li>Seek specialist advice as required to support decision making</li> </ul> <p><b>Critical capabilities for a Fire Behaviour Analyst:</b></p> <ul style="list-style-type: none"> <li>Detailed knowledge and experience of bushfire behaviour across a wide range of fuel types and weather conditions.</li> <li>Very good working knowledge of the Fire behaviour models used across Australia (beyond own jurisdiction) and where they should and should not be used.</li> <li>Proficiency in the use of predictive services software.</li> <li>Good knowledge of bushfire suppression and management strategies and their applicability in different fuel types and weather conditions.</li> </ul>	<ul style="list-style-type: none"> <li>Uses bushfire specific knowledge to inform their management of the Mapping and Predictions function</li> <li>Able to make predictions for bushfires in a wide range of fuel types and weather conditions (beyond own jurisdiction)</li> <li>Able to articulate how their knowledge of predictive services software would support them in being able to deploy interstate or internationally</li> <li>Able to analyse a range of bushfire suppression options suitable for use based on predicted fire behaviour</li> </ul>