

## A REVIEW OF FIFA CODES OF PRACTICE TO ADDRESS ENVIRONMENTAL PROTECTION

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### **Abstract**

Codes of practice provide an effective way for government and industry to work together to foster an industry culture of best practice environmental management and continuous improvement. They allow industry to take a leading role in setting minimum environmental standards that will meet the expectations of governments, the public and the industry itself. The draft Codes titled *Code of Practice for Storage and Distribution of Fertilizer* and *Cracking the Nutrient Code: Guideline for Developing a Nutrient Management Code of Practice* has been reviewed against the Queensland Environmental Protection Agency's guideline for *Preparation of Codes of Practice for approval under the Environmental Protection Act 1994*.

### **Introduction**

Every person in Queensland has a duty called the general environmental duty, under the *Environmental Protection Act 1994* (the Act), to minimise environmental harm. The general environmental duty states that a person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm.

In approving a Code of Practice under the *Environmental Protection Act 1994*, the Minister for Environment must be satisfied that a Code states ways of achieving compliance with the general environmental duty for any activity that causes, or is likely to cause, environmental harm. Combining the requirements for approval of a Code by the Minister and the requirement to meet the general environmental duty, establishes the issues a Code must address in order to be considered for approval.

Other factors taken into consideration include the development and commitment to an implementation strategy and a review timetable. A Code will only be approved for a maximum period of four years. This is to allow for and encourage the implementation of a program of continuous improvement. Carter (1998) reported on the development of an extension program to ensure that Codes and guidelines developed by the industry are implemented.

A Code of Practice for a particular activity or industry relates to the whole industry, not just to the members of a specific association or organisation. As a result, there is an expectation that the views of the whole industry will be obtained prior to submitting a Code for approval.

During assessment of a code, the Agency will seek legal opinion to ensure that the proposed Code meets the statutory requirements under the Act. While there is no set format for a Code to satisfy legal requirements, a Code needs to identify environmental objectives, state specific measures or ways to address each environmental objective and provide monitoring techniques or indicators to enable an operator implementing the Code to demonstrate compliance.

The production, storage, transport and application of fertilizers, both inorganic and organic, have the potential to cause environmental harm. Typically during the lifecycle of fertilizer, environmental impacts are associated with the release of contaminants to the air, acoustic, land or water environment. In addition, the impacts of activities on ecosystems, biodiversity and amenity should be considered (Fitzpatrick, 1996 & Sharp, 1998).

The Draft Fertilizer Industry Federation of Australia Inc. Codes, titled *Code of Practice for Storage and Distribution of Fertilizer* and *Cracking the Nutrient Code: Guideline for Developing a Nutrient Management Code of Practice* has been reviewed against the Environmental Protection Agency's

guideline for Preparation of Codes of Practice for approval under the Environmental Protection Act 1994.

## Discussion

### ***Codes of Practice and the Environmental Protection Act 1994***

At its simplest, a Code is a self-imposed set of rules. But a Code approved under the Act has many more uses than simply setting out rules.

For operators within an industry, a Code can be:

- an educational tool, suggesting ways to resolve common operational problems,
- a benchmark, providing a target to strive towards,
- a business management guide, demonstrating what can be achieved and how change can be implemented, and
- a promotional device, offering a positive view of its operations to the market.

For an industry, a Code can be:

- a unifying force, bringing the industry together to discuss the impact of an issue on common interests,
- a commitment to the future and to good environmental management, given to industry members and the wider community,
- a marketing document, showcasing the industry to markets both at home and overseas, and
- a statement of quality, publicly setting the standard the industry expects of itself.

A Code is a document created by industry for industry. While there are no legislative requirements as to the content or format of a Code beyond that it state "ways of achieving compliance with the general environmental duty for any activity that causes or is likely to cause environmental harm (s548 of the *Environmental Protection Act 1994*)," the Minister is under no obligation to approve a code.

Codes of Practice approved under the Act have a very specific meaning and purpose.

These Codes state ways of achieving compliance with the general environmental duty for an activity that causes or is likely to cause environmental harm.

It is important to distinguish a section 548 Code from codes of practice prepared under other legislation or for other purposes. A section 548 Code is one of the factors to be considered by an administering authority in making a number of decisions. For example, the evaluation of an environmental authority under section 11 of the *Environmental Protection (Air) Policy 1997* or under section 13 of the *Environmental Protection (Noise) Policy 1997*. Further, complying with an approved Code offers a defence to a charge of unlawfully causing environmental harm (For example, section 436(2) of the *Environmental Protection Act 1994*).

Under the Act there is no requirement for an industry to prepare a Code. Preparing a Code is a voluntary action taken by industries that want to take a step towards greater environmental responsibility. Also it is not an offence under the Act to fail to comply with a Code. Complying with a Code is voluntary but experience suggests that operators who improve their environmental performance tend to find their operations become more efficient and effective. Also, the defence to a charge of unlawfully causing environmental harm mentioned above is only available if the person charged has been complying with the Code.

Due to differences in the scope, size and variation between operators in a particular industry sector, no Code will fit every circumstance. A Code cannot accurately describe the general environmental duty for each and every circumstance. However, a good Code will set out reasonable and practical measures that can be adapted to each situation, together with assessment tools that will be relevant to all operations.

### ***Preparing a Code - A Suggested Approach***

The EPA believes there are five key features that distinguish a good Code and make them easy for both industry members and EPA officers to apply:

1. clearly identified environmental objectives for the protection of air, noise, water, and land,
2. clearly stated measures which are both reasonable and practicable to address each identified environmental objectives,
3. clearly identified measurements that serve as assessment tools to demonstrate that the measures have been implemented effectively,
4. a clearly stated date for review or expiry of the code, and
5. evidence of public consultation.

### ***Environmental impacts of Fertilizers***

Throughout the lifecycle of a fertilizer, from the winning of raw materials and inputs to the end use application, there are real and potential environmental impacts. The Federation's 1999 – 2000 Annual Report identifies strategies and actions to address most of these issues.

Studies in Moreton Bay have highlighted the impacts of nutrient and sediment transport. The Moreton Bay Study (p. 36) reports that approximately one third of the fertilizer applied to land is used by the crop and the remaining two thirds is lost to the atmosphere through volatilization or enters surface or ground waters. The challenge for the fertilizer industry, primary producers, the community and government is to achieve ecologically sustainable practices through the minimisation of environmental harm, maintenance of the ecosystem and biological diversity while improving the economic viability of production systems (Fitzpatrick, 1996).

### ***Cracking the Nutrient Code***

To facilitate the management of nutrients in agriculture and to minimise environmental harm the Federation has initiated the development of a draft guideline titled, *Cracking The Nutrient Code: Guidelines for the Developing a Nutrient Management Code of Practice for Your Industry, Region or Farm*. The guideline identifies that a Code must:

- be specific, without being prescriptive or inflexible,
- be based on scientific information,
- have support of end users,
- provide training, monitoring, audit and review systems, and
- be recognized and implemented.

These factors are essential for the preparation and implementation of a Code that addresses the needs of a particular sector. The Agency's guideline for the *Preparation of Codes of Practice for approval under the Environmental Protection Act 1994* (2001) also recommends that, irrespective of the activity, the likely environmental impacts are identified. From these impacts, a set of environmental objectives should be derived that identify the major outcomes the industry wishes to achieve for the process or activity.

The guideline identifies three principles for sustainable nutrient management, namely: awareness and understanding of the risks; employing the nutrient management tools available; and adopting a system of continuous improvement, which form the basis of a model used to identify the environmental consequences of nutrient management.

Operational and agronomic activities and their risks together with potential environmental targets are identified. The guideline also provides some management strategies to address identified environmental impacts.

Whilst it is recognized in the guideline that best practice for the effective management of nutrients

will vary depending on a range of factors such as soil type, climatic patterns and farm systems, the notion put forward in the guideline that is difficult and therefore impossible to develop a comprehensive Nutrient Management Code of Practice should be reconsidered. Appendix 2 of the guideline provides examples of measures that may be applied to minimize the risks of environmental harm.

Specific measures for the management of operational and agronomic practices could be formulated for a Code that covers most of the issues raised. A Code should identify specific measures that address environmental issues whilst remaining flexible. For example, one of the fundamental requirements in managing nutrient requirements is to know your soil. Without a detailed knowledge of soil properties, the ability of an individual to effectively manage environmental risks is minimised. Typical soil properties include its type and variability, permeability, water holding capacity, organic matter content, depth to ground water, erodability, etc. Therefore, guidance on the development of an effective farm plan, which maps the variation in soil type, slope, drainage lines, remnant vegetation, riparian zones, etc should be considered.

In support of the farm plan, the Code could identify, for example, specific measures for:

- the storage of fertilizer,
- the containment of spills,
- calibration of equipment – irrigation and spinner,
- management and protection of riparian zones,
- irrigation scheduling,
- determination of nutrient and water requirements,
- the timing and placement of nutrients,
- prevention of nutrient transport in surface waters, and
- restriction of nutrients to the root zone.

In summary, the guideline presents a logical framework for the development of a Code, however, if the Federation decides against the direct development of a Code, it is recommended that the scope of Appendix 1 be reviewed or restricted to the development of a site-specific Code or farm plan. Sample questions provided to guide assessment of various risk categories are site specific and generally require detailed knowledge of the issues to make a assessment.

#### ***Draft Code of Practice for Storage and Distribution of Fertilizer***

The draft Code aims to provide a self-regulatory framework that identifies and manages key environmental and public safety risks for the storage and distribution of fertilizer and to satisfy customers of product quality.

The Code states that measures identified are at a high level and do not provide specific measures. For a Code to be approved under the *Environmental Protection Act 1994*, it must state specific ways to meet environmental objectives and identify measures to demonstrate compliance with the Code.

The draft Code does not comply with these requirements and would not be suitable for submission for approval in its current form. For example,

*'Member companies shall design and construct storage and distribution facilities in accordance with good engineering practices and relevant Australian Standards. The design shall include features to minimise the possibility of accidental release. Member companies shall pay particular attention to the design and layout of bulk and packaged storage areas, including spill containment and safety measures.'*

*or*

*'Member companies shall implement appropriate measures to reduce the likelihood of contamination during the transportation of fertilizer from ship to storage shed'*

These management practices are generic and do not provide the operator with guidance on what represents good engineering practice for the industry or what the appropriate measures are for the transportation of fertilizer. Should storage and distribution facilities be covered, fully contained, bunded, have stormwater diversion drains, not located in areas subject to flooding, have wheel and body wash facilities for transport trucks, etc? What are the relevant Australian Standards? Similarly, what are the features to minimise possible accidents and the design and layout features to achieve best practice environmental management?

What are appropriate measures to reduce contamination? While a *Road Transport Interface – Truck Cleaning Procedure* is referenced; specific measures to reduce environmental harm and prevent contamination are not provided.

These practices do not provide guidance on the measures that may be implemented to demonstrate compliance. For example, spill and cleanup records, records of accidents or complaints and any follow-up or corrective measures. Maintenance of control equipment and analytical results of stormwater samples are other measures that may be implemented.

In addition, the use of words that are ambiguous or unclear in their meaning should be avoided. For example, the words good, optimum, correct, appropriate, suitable and effective are examples of words that can be interpreted in many ways and should be avoided. These words do not convey the standard of management the Code requires.

In summary, the Code offers a sound basis for the development of a site based management plan to ensure product quality is maintained and environmental impacts are minimized but does not fulfill the criteria for adoption under the *Environmental Protection Act 1994*.

## **Conclusion**

The draft guidelines *Cracking the Nutrient Code: Guidelines for developing a nutrient management Code of Practice for your industry, region or farm* and the draft *Code of Practice for Storage and Distribution of Fertilizer* provide a comprehensive framework for the development of one or more Codes of Practice. However, these documents could be converted to comprehensive Codes of Practice that provide operators with self-regulatory tools that encourage continuous improvement and minimize environmental harm while improve profitability and sustainability of the industry and its customers.

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