Teaching and Learning: The Approaches of a Modern Environmental Regulator

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Abstract

The Environment Protection Authority Victoria (EPA Victoria), located in Melbourne Australia and established in 1971, is the world's third oldest environment protection agency. Like any organisation operating for more than four decades, EPA Victoria has had to change and consider contemporary approaches to its teaching and learning practices for staff engaged in regulatory or enforcement positions. This paper considers the period from 2011 to 2015 which included an Ombudsmen Review in 2011 which was preceded by a Compliance and Enforcement Review. Both reviews led to a range of activities, initiatives and practices being taken by EPA Victoria in its journey to becoming a modern environmental regulator. Particular attention is directed to the pedagogical efficacy of EPA Victoria's Authorised Officer Induction Program (AOIP), which teaches trainee environment protection officers (EPOs). The AOIP is a structured learning program that blends formal and informal learning, theoretical and practical learning, self-directed and peer learning, and individual and social learning. The AOIP created an experiential learning environment that not only fostered the construction of the required knowledge and skills but also sought to engender the desired behaviours EPOs need to succeed in their frontline field force roles. This paper also considers EPA Victoria's recruitment and continuing professional development practices as important elements in the organisation's teaching and learning continuum. The aim was to identify opportunities for other environmental protection agencies, environmental regulators, and regulators more broadly, to learn from the Environment Protection Authority Victoria's experience to improve the capability of their regulatory or enforcement staff.

Keywords: environment, regulation, enforcement, teaching, learning

Introduction

Effective regulation is an essential part of well-functioning economies (OECD, 2010). The role of a regulator therefore is to administer regulation so that the underlying social, economic or environmental policy objectives are achieved 'in accordance with the powers and authority given to them through legislation and government direction' (ANAO, 2014, p. 3).

A modern regulator needs to be transparent, accountable, responsive and decisive in order to effectively deliver on community expectations. Environmental regulation is multi-level, multi-jurisdictional, multinational and multi-faceted and is known to be a complex and difficult process (McMahon, 2006; Emison and Morris, 2012; Pink and White, 2016). Environmental regulation contains nearly all, if not all, of the challenges associated with traditional and emerging fields of law and crime types.

The important role that regulatory professionals play in the effective implementation and enforcement of environmental regulation has been well established (OECD, 2014a, 2014b; Pink, 2016a). Equally areas relating to recruitment, training and continuing professional development of staff in regulatory agencies generally (Queensland Ombudsman, 2007; OECD, 2014b; IPAA, 2015; NZPC, 2015) and environmental regulatory agencies specifically have been subject to practitioner (Pink, 2008; INECE, 2009; OECD, 2009; Jardine, 2011; Krpan, 2011) and academic viewpoints (Farmer 2007; Van Der Schraaf, 2008).

Research purpose

The purpose of this research was to examine the journey of the Environment Protection Authority Victoria, Australia (EPA Victoria), in becoming a modern regulator. In this paper we consider how EPA Victoria has approached three key elements impacting upon a regulators effectiveness: *recruiting*, *training* and *continuing professional development* of regulatory and enforcement staff. The research aim was to identify information, options, and strategies that may assist environmental regulation agencies, and regulators more broadly, to improve their capability and capacity.

Establishing and maintaining a frontline operational workforce (hereafter field force) presents considerable challenges to environmental regulatory agencies (ERAs). To be effective, ERAs must have the capability and capacity to deliver consistent and credible regulatory activities supported by sound, evidence-based decisions. This needs to be done with the recognition that 'most regulatory regimes provide for broad discretion in how they address the harm which they are established to prevent or manage' (Krpan, 2011, p. 99). Much of this capability resides in an ERAs field force which, generally speaking, is represented by environment protection officers (EPOs).[1] This paper considers EPA Victoria's journey to becoming a modern regulator with a particular focus on their experiences in developing their field force capability.

Methods

This paper extends upon a foundational piece of research conducted by Pink (2016a) which considered the roles of regulatory and enforcement professionals engaged in responding to transnational environmental crime, specifically focusing on three core agencies: police

[1] Across jurisdictions and agencies there are different titles for EPOs including: authorised officer, compliance officer, inspector, ranger, warden etc.

agencies, customs and border agencies, and environmental regulatory agencies. Pink and Marshall (2015) suggest there are three types of environmental agency with regulatory roles as reflected in Table 1.

Environmental protection agencies	Typically statutory bodies enacted by legislation for the purposes of administering environmental legislation. The activities of EPAs are closely aligned with the four main media traditionally associated with environmental regulation: air, water, pollution, and waste. EPAs are typically located within a broader government portfolio thereby allowing for the structural separation of policy, programmatic and regulatory activities
Environmental commodity agencies	Tend to be aligned with the specific matters or subjects (and usually associated with commodities, sectors, and industries) that they have been established to regulate[2]
Hybrid environmental agencies	Are government bodies that to varying degrees combine policy, programmatic and regulatory activities and responsibilities

Table 1: Types of environmental agencies

Pink's (2016a) research sought to identify differences and inconsistencies in order to identify potential improvements by critically comparing the organisational contexts of the three core agencies and the influence of these differing, yet related, regulatory and enforcement professions. What became apparent was that, of the three agencies, the environmental regulatory agencies had, by far, the most ground to make up in their approach to recruitment, training and continuing professional development of staff engaged in environmental regulatory and enforcement roles.

Why choose EPA Victoria as the case study agency?

During 45 years of continuous operation the EPA Victoria has matured as a regulatory agency. Its organisational longevity and experience provide a great deal of material across the three main areas under review.

Moreover, EPA Victoria has been the subject of internal and external scrutiny in the form of audits and reviews. These reviews have considered the regulatory actions of EPA Victoria:

[2] Examples of environmental commodity agencies at the federal level of government include The Australian Fisheries Management Authority (AFMA), the Australian Pesticides and Veterinary Medicines Authority (APVMA), and the National Offshore Petroleum Safety and Environmental Management Authority.

- singularly – as was the case in the extensive internally commissioned and independent Compliance and Enforcement Review conducted 'to comprehensively assess our operations as part of the reform of EPA's regulatory approach and compliance and enforcement activities' (Krpan, 2011, p. i),
- jointly – as was the case in an examination of the regulators in the environmental portfolio (VAGO, 2012), and
- collectively – when regulation is considered on a whole of government basis (Victorian Government, 2010).

In the four-year period between 2011 and 2015, EPA Victoria:

- implemented a number of initiatives in response to the Compliance and Enforcement Review (Krpan, 2011), many of which had staff capability (recruiting, training, and continuing professional development) as central or interrelated themes, and
- played a lead role in the Australasian Environmental Law Enforcement and Regulators neTwork (AELERT), in terms of its management and governance and in respect to projects and initiatives.

The timeframe considered in this article (2011–2015) was a time of transformation for EPA Victoria in order 'to better achieve our objectives and deliver our mandate. Our aim is to be a modern, transparent and energetic regulator' (EPA Victoria, 2010, p.6). This transformation had a particular impact on its environment protection officers (EPOs) with the attendant need to develop their capability to deliver a sophisticated mix of risk-based regulatory approaches. This included the provision of authoritative advice on compliance, educating businesses about their statutory responsibilities, taking enforcement action when required and meeting the community's expectations (Krpan, 2011, p. vii). The question became what *skills*, *knowledge* and (most importantly) *behaviours* do EPOs need to succeed in this 'new' modern environmental regulator operating context?

The role of the EPO

The role of the EPO is to protect the environment from pollution by ensuring that industry complies with the *Environment Protection Act 1970,* which prevents the pollution of waterways, land and air, and provides protection from industrial noise pollution. EPOs conduct inspections of businesses and industrial premises to determine their compliance with this legislation. Where a breach of the legislation is identified, for example, discharging wastewater into a storm water drain, the EPO needs to take regulatory action to remedy the problem.

EPOs have significant statutory powers including the power to enter premises without a search warrant, compel action or stop works on a site, and initiate and/or lay[3] criminal charges. In some circumstances these powers meet or exceed the power/authority of a Police Officer which the general public are often unaware and surprised to learn. These statutory powers must be exercised wisely and in accordance with the principles of natural justice.

The EPO role is a complex one. It requires the ability to apply a diverse range of legislative, regulatory and environmental knowledge in unique ways to address the range of environmental

[3] As a statutory authority, it is possible for departmental staff to be the Informant (Complainant) in a matter, however this is unusual for most regulatory agencies who need to go through an independent prosecuting authority like the Office of the Director of Public Prosecution (or similar).

problems encountered. As such, EPOs need a well-developed regulatory identity that supports them to appropriately exercise their judgment and discretion.

Activity	Example
Recruiting	Behavioural assessment
Training	Authorised Officer Induction Program
Continuing Professional Development	Expertise Framework

Table 2: Areas of activity and case studies considered in this paper

Results and discussion

Recruiting

Effective recruitment is a critical first step in ERAs establishing and maintaining an effective field force. While it can be comparatively easy to determine whether a person has the necessary knowledge, skills and experience, it can be much harder to determine if they also have the necessary aptitude (behavioural attributes) to succeed in the role. It is for this reason that some ERAs include psychometric testing in an effort to identify the applicant's potential to perform well in the role. Behavioural assessments, such as those outlined in Table 3, are another avenue available to ERAs to improve their ability to recruit suitable applicants.

Historically, EPA Victoria, like many of its regulatory counterparts, has used a range of recruitment methods and techniques reflecting the agencies shifting interpretation of its regulatory role. This included requiring applicants to respond to selection criteria, and/or attend interviews, and/or perform 'desk-top' or work examples. Krpan (2011) noted that 'EPA Victoria's differing interpretations of the role of its EPOs in its history and the subsequent impact on recruitment practices had contributed to business and community perception of an inconsistent regulatory approach' (p. 238). This led to a need for EPA Victoria to redefine the role of the EPO.

A small group of managers and EPOs (approximately 10 people) were interested in understanding what, if any, behavioural changes were needed between the 'old EPO role' and the 'new EPO role'. This question was pertinent not just for the recruitment stage, but also for training and continuing professional development. With a focus on EPO's observable behaviours the group decided to use a behavioural assessment tool to assist in answering their questions. Examples of some of the better known behavioural assessment tools, and their primary uses and intended benefits, are provided in Table 3.

Test	Main Use & Benefit
Belbin Team Roles (Belbin n.d.)	Identifies people's behavioural strengths and weaknesses in the workplace. Assists in team development, improving working relationships, and self-awareness
PRISM Brain Mapping (PRISM n.d.(a))	Identifies people's behavioural preferences (individually and collectively) that directly relate to personal relationships and work performance. Can provide a behavioural benchmark for a job role against which individual incumbents can be evaluated. Assists in recruitment, personal and team development, self-awareness work performance and career development
DISC (DISC n.d.)	Identifies people's behavioural strengths and challenges. Helps people learn to work more effectively with others

Table 3: Behavioural Assessments: Types and Uses.

In this instance, PRISM Brain Mapping (PRISM) was selected due its capacity to provide individual assessments along with role benchmarks against which recruits could be compared and towards which staff could be molded in their operational roles. The PRISM profiles[4] in Figure 1 have been constructed to provide an illustrative example of the difference in behaviours, between the 'old' and the 'new' EPO role) that were identified by this small working group.

[4] See Appendix 1 for more information about the quadrants that comprise the PRISM profile.

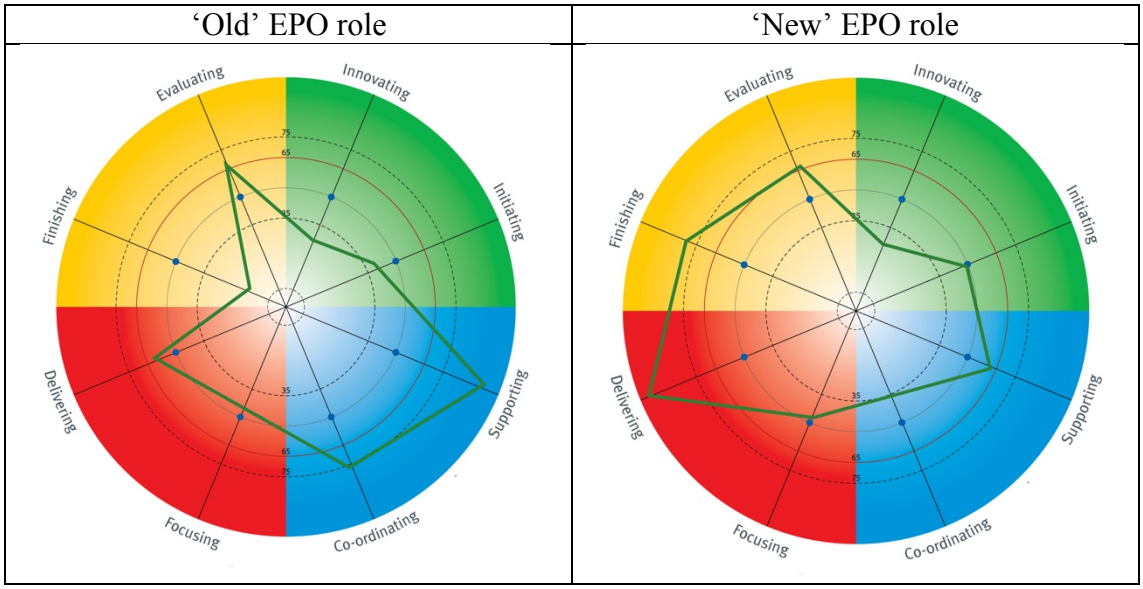

Figure 1: PRISM profiles: 'Old' EPO role vs. 'new' EPO role

In Figure 1, the 'new' EPO profile shows that to be successful in the role the incumbent should:

- enjoy working independently within a structured environment
- take responsibilities seriously
- be competent, industrious and reliable
- be good at initiating contact with strangers
- make evidence-based decisions
- be able to develop effective regulatory solutions
- work well under pressure
- work in hostile environments
- communicate complex information clearly and articulately
- share information and resources.

Training

Authorised Officer Induction Program. The Krpan Review (2011) was resolute on the importance of training, stating that '[i]n order to ensure a consistency of approaches to compliance monitoring and the role of authorised officer generally, a standard training program is required' (p.238). In this part, where reference is made to being 'authorised' it is taken to mean a person appointed, under the enabling legislation, as an 'environment protection officer' (EPO).

Historically, EPA Victoria's process for appointing an EPO was primarily done through on-the-job coaching and experience combined with attendance at four separate 3-day workshops (usually over a 6 to 18-month period). The decision to recommend appointment of the EPO as an authorised officer was made by the manager when they considered that the individual officer was 'ready'. In many ways this was a locally based decision, anecdotally reported as being done on 'gut feel' or heuristically. Furthermore, this process could take up to two years (Krpan, 2011, p. xi). Over time this approach has contributed to some significant challenges for EPA Victoria's regulatory role, most notably the challenge of inconsistent regulatory decision making. In fact, it could be argued that this was a key contributing factor, and catalyst for, the

Krpan Review (2011). Like many regulators, the systems, procedures and processes used by EPA Victoria were developed iteratively by the staff themselves. At times this occurred with limited (or in worst cases without) specialist knowledge, skill or training, and often in the absence of organisational mandate, support or oversight.

Traditional approaches to training staff can include formal and certified training, on-the-job training, various forms of work place experience and mentoring. Formal training for most ERAs is often understood to mean vocational training leading to a nationally accredited qualification, for example the Australian Certificate IV in Government Investigation (Regulatory Compliance). Whether the AOIP culminates in a formal qualification or not, it is the competency based focus, the application of learning, that is of most benefit for ERAs.

In 2014 EPA Victoria introduced a new Authorised Officer Induction Program (the AOIP), a structured program designed to prepare trainee EPOs for their role as statutory officials. The AOIP's purpose is 'to provide enough information, practice and on-the job experience so trainees are 'field ready' at the conclusion of the program and can demonstrate their competence to be appointed …under the EP Act' (EPA Victoria, 2015a, p.5).

The AOIP is a 6-month blended learning program which must be successfully completed in order to be appointed as an EPA Victoria EPO. It incorporates face-to-face training, coaching, self-directed learning, online learning, on-the-job learning and field placements. As a competency-based program the AOIP is concerned with applied skills and knowledge and therefore requires each trainee EPO to demonstrate that they have the *skills*, *knowledge* and *behaviours* to the required standard. This approach is distinct from what can pejoratively be referred to as 'learn and forget' where the focus is on learning (information and processes) by rote in order to pass an exam before moving on to the next topic or area of practice (Pink, 2016a). The AOIP also sought to support EPA Victoria's emergent culture as a modern regulator by developing the EPOs 'regulatory thinking' to exercise their judgment and discretion and utilise the full range of statutory tools available to them. Du Rées explains this as 'regulatory acumen' (2009, p. 641); Sparrow refers to this as 'regulatory craft' (2000; 2008).

To complement the development and consolidation of the EPOs 'regulatory thinking', the AOIP operates in two phases:

- Phase one: the trainee EPO works in their team for three months where they start to learn their role, become part of the team, attend corporate orientation programs, complete their probation and complete a series of prescribed learning tasks that prepares them for Phase two of the AOIP. These tasks include field visits with their mentor, a rotation into another team, first aid training, field safety e-learning and a day in Court observing a criminal matter.
- Phase two: 10-week formal learning component where the EPO spends two (2) days a week in formal classes and one (1) day a week in the office attending team meetings and doing self-directed learning. The remaining 2 days are dedicated to the trainee EPO developing their regulatory practice on-the-job with his/her mentor thereby encouraging immediate and ongoing application of their learning.

AOIP Learning Environments. The design of the AOIP has a strong cognitive constructive and socio/cultural foundation thereby recognising the subjectivity of the learners' experience along with the objective information that must be known. It is through the trainee EPOs 'lived

experience' that they develop the range of skills, knowledge and behaviours required to build their new regulatory identity.

Cognitive constructivism. Cognitive constructivism, with its recognition of an external, objective reality to the learners' internal subjective reality, is an important element in the AOIP. While the subjective nature of the EPOs learning experience is acknowledged, and designed for; there is also a recognition of the external objective constructs, that is the legal and regulatory disciplines, within which the EPO works. It is through the EPOs adaptive response to the objective external environment that their professional identity is located. This reinforces the pedagogical need for the AOIP to 'construct complete [learning] environments within which the students can learn' (Winn, 2004, p. 81) and develop their knowledge.

In cognitive constructionist terms, knowledge is viewed as the 'conceptual structures that epistemic agents, given the range of present experience within their tradition of thought and language, consider viable' (Von Glaserfeld, 1989, p. 3). Knowledge construction is viewed as a dynamic process situated in the interactions between the learners internal and external environments:

- the internal environment including the learners' cognitive abilities, values and beliefs, emotions, perceptual filters, personality, confidence and current state of knowledge.
- the external environment including the social and cultural structures and the traditions of thought and language where the learner resides. This external environment defines how knowledge is to be known, what knowledge is worth knowing and what is not.

The AOIP learning environment is designed to facilitate the trainee EPOs development of the necessary conceptual structures to be an effective field regulator; and to do this within the context of the EPA Victoria as the employing organisation, and as a regulator operating in its respective criminal jurisdiction. Marton (2006) suggests: 'if there is something you want to remember, want to be able to recall, rehearse it again and again and then you will be able to recollect, to say it, to say it again' (p. 382). The AOIP is also designed to facilitate the movement of learning from short term memory to long term memory using repetition and variation to develop the desired habits of thinking. The AOIP 'provides multiple opportunities for the trainee EPOs to put into practice what they learn in the training' (EPA Victoria, 2015a, p. 12). This is evident in the blend of structured class-based learning and on-the-job learning where trainee EPOs are exposed to a diverse range of environmental regulatory problems that enable them to develop their burgeoning regulatory craft.

Socio-cultural learning. Being situated in their communities of practice provides trainee EPOs with the opportunity to engage 'in a dual process of meaning making' (Wenger, 2012, p.1). By participating in the communities' activities and conversations they learn how to use the 'full range of physical and conceptual artefacts—words, tools, concepts, methods, stories, documents, links to resources, and other forms of reification—that reflect our shared experience and around which we organise our participation' (Wenger, 2012, p. 1).

This approach meant that the trainee EPO immediately commenced their legitimate peripheral participation in these communities, potentially reducing the disconnect between formal classroom education and 'the real world' on the job. Wenger (2012) suggests that 'a community of practice can be viewed as a social learning system [with] emergent structures, complex relationships, self-organisation, dynamic boundaries, ongoing negotiation of identity and cultural meaning' (p.1). In the AOIP, the trainee EPOs were immediately placed in the different

communities of practice that combine to shape their professional identity and agency. This included their substantive team, their fellow learners and the broader organisation. Taking this approach enabled the trainee EPOs to begin 'learning in the context of our lived experiences of participation in the world' (Wenger, 1998, p.3). Social learning also supports EPA Victoria's 'interconnected communities of practice through which an organisation knows what it knows and thus becomes effective and valuable as an organisation' (Wenger, 1998, p. 8).

The potential for transformation. A key challenge to becoming an EPO involves the need to develop a regulatory way of thinking, that is the schemas and mental models of a frontline regulatory official. This challenge offers the opportunity for transformative learning. On this, Pugh (2002) suggests that 'individuals undergo transformative experiences when they actively use a concept, find that it allows to see aspects of the world in a new way, and personally value this way of seeing' (p.1104 as cited in Taylor 2007, p. 180).

Transformative learning involves a change of perspective, a paradigm shift where the EPO critically examines their prior interpretations and assumptions to form new meaning and thereby alters their world view. Mezirow (1996) tells us that transformative learning is 'the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one's experience in order to guide future action' (p. 162, as cited in Taylor 2007, p. 173). Brookfield (2000) reminds us that learning can only be considered transformative if it involves a fundamental questioning or reordering of how one thinks or acts. While the opportunity for transformation is afforded to the trainee EPO, it is important to recognise that this cannot be assured. Mezirow & Associates (2000) remind us that we need to be sensitive to the potential for transformative learning by facilitating the kind of learning environment that makes it a possibility.

At the time of writing, the AOIP has been in place for two years and is embedded into EPA Victoria's organisational processes for appointing authorised officers. It is viewed as part of the robust process that EPA Victoria applies to recruiting, training and appointing EPOs (EPA Victoria, 2014, p.3). Its impact and influence is reflected in the following comments:

> "EPA was incredibly proud of its Authorised Officers and the hard work they performed. This significant investment in our people strengthens our ability to protect the environment for current and future generations," Cheryl Batagol, Chairman of EPA (EPA Victoria, 2015b)
>
> "… we now have more than 80 well trained authorised officers…they are competent, confident, and well equipped to exercise the powers we have conferred on them." John Merritt, CEO of EPA (AELERT 2015).
>
> "The training has provided me with a strong foundation for us to work with the community and businesses on important issues," Mr. Nicholls, Trainee EPO (EPA Victoria, 2015b)
>
> "Since joining EPA, I have been very impressed with talents and dedication of everyone here, as well as the investment the EPA makes through the Authorised Officer training to ensure its people are equipped with the right skills and understanding to do an effective job on behalf of the Victorian community," Mr. Poole, Trainee EPO (EPA Victoria, 2015c).

Continuing professional development

Continuing professional development (CPD) is the other key element used by ERAs to ensure the maintenance and ongoing development of their staff's regulatory capability. CPD both enables continuous improvement and helps preserve organisational knowledge.

Despite environmental regulators being cognisant of the benefits associated with having a highly trained workforce, Pink's (2016a) research has indicated that most environmental regulatory agencies focus more on the immediate needs of recruiting and training staff than they do on CPD. Further, the research finds that CPD in ERAs at best was occurring on an ad hoc basis[5], and at worst was largely non-existent. This is not surprising given the relatively recent emergence of ERAs when compared to other parts of the public service.

The Expertise Framework Program (The Expertise Framework). The Expertise Framework was established in 2011 in response to criticisms in the Compliance and Enforcement Review 2010 (Krpan, 2011), that EPA Victoria's technical experts had lost their visibility in the community and the organisation itself (Curtin, 2015b). Its focus was to recognise and reward 'experts in EPA's environmental areas that are critical to the organisation' (AELERT, n.d). This focus defined 'technical' knowledge as being scientific knowledge… [which is] embodied in key staff members 'in the areas of air quality, inland water, marine water, waste, landfill, land and groundwater and odour' (EPA Victoria, n.d.(a)). Accordingly, the aims of the Expertise Framework focused on 'recognising and rewarding experts in EPA's environmental areas considered critical to the organisation and appointing Principal Experts who:

1. provide advice on complex environmental issues to EPA's decision makers;
2. lead and an expertise community, in their area of expertise, within the organisation;
3. mentor the next generation of experts;
4. represent the EPA at community engagements and to the media (AELERT, n.d.).

A hierarchical structure (principal experts with associated communities of practice) and a comprehensive process for appointing those principal experts was developed to ensure that the right people with the right 'technical' (scientific) knowledge were selected (Curtin 2015a). While the Expertise Framework Program commenced as a response to the concerns noted above, it can also be considered a part of the EPA's CPD as it seeks 'to capture and make available, so it can be used by others in the organisation, the information and knowledge that is in people's heads as it were, and that has never been explicitly set down' (Koenig, 2012, para.7).

Knowledge management and learning are closely related disciplines and, despite their differing histories, share a common purpose to improve organisational performance through increasing capability (Moore, 2009). It is through learning that knowledge is shared (e.g. from expert to novice), acquired (e.g. novice from expert) and developed (e.g. through application in new/unique situations).

An important contribution of the Expertise Framework Program toward the development of EPA Victoria's regulatory capability can be seen in the transfer of the technical experts embodied, tacit knowledge to the EPOs (Curtin 2015a, p.53). Tacit knowledge, being non-declarative, can be difficult to share as it is 'embedded in the minds and bodies of its

[5] See Table 3 in Pink (2016b).

practitioners, and cannot be converted into prescription; (written, spoken, signed, and so on)' (Polanyi, 2002). Providing opportunities for coaching, mentoring and problem solving can be effective ways of releasing tacit knowledge. The Expertise Framework provides such opportunities and early indications have been that it has contributed to the dissemination of the designated expert's tacit knowledge as noted by Curtin above.

Discussion and analysis

The paper has demonstrated that the three standalone activities—recruiting, training and continuing professional development—overlap and inter-animate to a large extent. Each aspect is now considered briefly in turn.

Recruiting

The importance of recruiting the right people for the EPO role cannot be overstated. It is at this this first stage where the decisions ERAs make have a significant impact on the future success of the individual recruited to the role and the capability of the organisation more broadly. The significance of this point is reinforced by the Victorian Public Sector Commission who state that 'poor recruitment costs time, money and effort… The costs can be direct (for example, advertising, remuneration) or indirect (for example, performance problems, lower team morale, reduced productivity). Combined, they can add up to 2.5 times the salary of the role' (VPSC, n.d., para 2).

The use of behavioural assessment tools in recruitment is an avenue that the authors believe ERAs could usefully explore further. Where psychometric tools provide insight into personality traits and cognitive styles, behavioural assessment tools offer the ability to focus on observable behaviours, which can be adapted, as well as establish organisationally-based role benchmarks. This has the potential to significantly enhance the efficacy of ERAs intra- and inter-agency recruitment decisions.

This use of PRISM, in this case study, as a tool to measure the behavioural preferences of a successful EPO provided some useful insights into this complex role. The use of PRISM has not yet extended to become a mainstream consideration for recruitment and organisational development within EPA Victoria. In the opinion of the authors, the use of behavioural assessment tools can make a valuable contribution to environmental regulators in understanding and more clearly defining the role of the EPO and anticipate its use will increase over time.

Training

Having recruited staff, the focus then moved to training. The benefits of the AOIP include its capacity to integrate formal learning with on-the-job learning thereby enhancing learning transfer and the development of the desired regulatory thinking. Its flexible delivery model aims to have minimal disruption to EPAs 'business as usual' functions while also recognising the complexity of the EPOs role and the value of a formal competency based learning program.

The AOIP has made an important contribution to the EPA Victoria's knowledge management through capturing and sharing the tacit regulatory knowledge of its field force and has been embedded into the organisations processes for appointing authorised officers. The AOIP is seen as being part of the robust process that EPA Victoria applies to recruiting, training and appointing EPOs (EPA Victoria, 2014, p.3). Support for, and evidence of this, is reflected in

the fact that the 'EPA is proud to continue to support and value its authorised officers as our frontline regulators' (EPA Victoria, n.d.(b)).

Continuing professional development

The third stage, after training, relates to continuous professional development. The Expertise Framework has become a central and important element in EPA Victoria's continuing professional development and knowledge management strategies.

In the opinion of the authors, the Expertise Framework Program could be extended to include two categories for Regulatory Professionals. One for those staff engaged in operational work and another for those who provide support and capacity building for the former. Such an approach would clearly and demonstrably acknowledge the EPAs core regulatory purpose, and provides the potential for EPA Victoria to develop a more sophisticated understanding of the complex interplay between regulation and science.

It is expected that CPD activities will increase in coming years. This is based upon a number of recent publications which, when taken together, provide a clear sense that there are multiple and intersecting sub-national, national, regional and international drivers to advance the professionalism of environmental regulators (NZPC, 2014; OECD, 2014a; OECD, 2014b; IPAA, 2015; AELERT, 2015).

Conclusion and recommendations

EPA Victoria has initiated some ground-breaking approaches to the recruitment, training and continuing professional development of its regulatory and enforcement staff. The aim of this research was to examine these approaches in order to identify information, options and strategies that might assist other environmental protection agencies, other environmental regulatory agencies, and regulators more broadly, to increase their effectiveness.

In the recruitment phase we considered the potential value of behavioural assessments to both understand and define the role of the Environment Protection Officer; in the training phase we examined the Authorised Officer Induction Program and the value of its contribution to the initial development of EPOs; and in the continuing professional development phase we considered the Expertise Framework in terms of recognising, capturing and sharing expert knowledge.

We have seen there is much that environmental regulatory agencies, and regulatory agencies more broadly, can learn from EPA Victoria's experience as it transformed itself into a modern regulator. However, further research is required to understand the range of factors that affect the emerging professionalism of the EPO role. While this could be done by individual agencies, it is suggested that ERAs are well placed to be assisted by environmental enforcement networks and academic and research institutions so that practical and implementable solutions might be found to benefit the collective membership.

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Appendix 1: PRISM Brain Mapping: An overview of the quadrant model (PRISM Brain Mapping n.d.)

Quadrant	Behavioural dimension key points
Green (top right); expression and holistic thinking	Innovating, generates ideas and creates original solutions. Initiating, Articulate and persuasive, establishes rapport easily, good at achieving 'win-win' negotiations
Bottom right (Blue); harmony and personal relationships	Coordinating, makes good use of other peoples' skills, encourages participation, seeks consensus Supporting, Supportive of others, handles routine or repetitive work well
Bottom left (Red); achievement, order and control	Delivering. independent and self-motivated, works well under pressure, likes structure and organisation Focusing, copes well with adverse conditions, high pressure negotiating skills
Top left (Gold); accuracy and attention to detail	Finishing, attention to detail and accuracy, good at communicating complex data, follows tasks through to completion Evaluating, makes astute decisions based on facts, checks the pros and cons of all options