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# Aquamation: legal nail in burial and cremation's coffin?

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## SUMMARY

Respect for the dead defines a community. Burial of a corpse has for many years been the only way of disposing of a dead body. Land available for burial sites is limited. In the 1960s cremation became an acceptable alternative to burial. Recently a more environmentally friendly way of disposing of a corpse was introduced to South Africa. Alkaline Hydrolysis or aquamation is a chemical process dissolving a dead body. The wastewater can be disposed of in a sewage system. Legislation has not kept up with this new technology. A new set of regulations to the National Health Act 61 of 2003 is proposed.

## 1 Introduction

“[I]n this world nothing can be said to be certain, except death and taxes”<sup>1</sup>

Respect for the dead defines any community. But what does respect for the dead entail? Does it refer to giving the deceased a respectful burial or cremation or is it more than just the ritual<sup>2</sup> of disposing of the dead body, meaning remembering and respecting the legacy of the person who once lived? Is “dumping human remains down the drain” less dignified than sending bodies up in smoke or leaving it in the ground for worms, bacteria and larvae?<sup>3</sup> Ultimately, we believe, it is the congregation of the loved ones who stay behind and the rituals they perform, that determines the respectfulness and dignity of the greeting ritual. What

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1 Franklin *The writings of Benjamin Franklin* (1907) 69.

2 Smith *A literature review of the development, purposes and religious variations of the funeral ritual* (2017) 10. Smith defines ritual as “a device created by a culture that serves to preserve social order and provide a means of understanding during complicated times”. At 11-12 “rituals are performed for the purpose of aiding individuals in coping with a change while minimizing the disruption of their life”. At 16 “one of the key elements to a society's survival is its willingness to perform rituals that connect the living to the dead.”

3 Lasnoski “Are cremation and alkaline hydrolysis morally distinct?” 2016 *The National Catholic Bioethics Center* 235.

happens “behind the scenes” – the disposal of the corpse – should not influence the dignity for the dead.

The Catholic Church has consistently privileged burial as the most fitting disposition for a dead human body based on Genesis 3 verse 19 in the Bible which states “For you are dust, and to dust you shall return”.<sup>4</sup> Because of a lack of burial space,<sup>5</sup> as land is a limited commodity, another form of disposing of the dead human body became necessary in the 1960s and therefore cremation was accepted as an alternative. Unfortunately, cremation is being questioned, as it pollutes the air and is not always readily accessible.

The negative aspects of cremation are also the focus of a 1976 macabre play by the Swiss playwright, Friedrich Dürrenmatt, titled *Der Mitmacher* (English: *The Co-Creator*). In this satirical play, the main character, Doc, a biochemist who turned criminal, invents a chemical method, called “necrodialysis” to secretly dispose of human bodies in a chemical manner.<sup>6</sup> Unsurprisingly, recent times have seen the development of a similar, yet environmentally friendly option for the disposal of human bodies, known as alkaline hydrolysis (AH) or aquamation. The surviving family of a deceased now has a different option of disposing of a departed relative. Their choice, or the choice of the deceased expressed verbally or in a written document, while he or she was still alive, should be respected, whether the choice is to be buried, cremated or liquified. Unfortunately, the law in South Africa has not kept up with new advances and technology in mortuary science, thus leading to a *lacuna* in statutory law regarding the use or option of aquamation. Aquamation is not yet a generally accepted or well-known way of disposing of a corpse in South Africa. This dilemma is also one that confronts many other countries whose legal frameworks relating to the disposal of human remains do not provide for the AH (aquamation) process.

This note firstly explains the history and process of AH, followed with a comparison between burials, cremation and aquamation, where after we analyse the current Regulations relating to the management of human remains in terms of the National Health Act 61 of 2003 (NHA). The relevance of the National Environmental Management: Biodiversity Act 10 of 2004 (NEMA Biodiversity), as well as the Waste Act 59 of 2008, is also considered. In the final instance, the note concludes with recommendations on how the current regulatory gap may be addressed, specifically whether new regulations will be necessary, or whether aquamation as an alternative to cremation, may be accommodated in the existing legal framework, subject to the same requirements.

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4 Lasnoski 2016 *The National Catholic Bioethics Center* 233.

5 Slabbert “Burial or cremation – who decides?” 2016 *De Jure* 231. <http://dx.doi.org/10.17159/2225-7160/2016/v49n2a3>.

6 Dürrenmatt *Der Mitmacher. Eine Komödie*. (1976).

## 2 The history and process of aquamation

AH was patented in the United States Patent Office by Amos Herbert Hobson in 1888, Patent No. 394,982.<sup>7</sup> In 2003 Minnesota became the first state in the USA to approve the use of AH at the Minnesota's Mayo Clinic. The process was initiated for the disposal of bodies donated for medical research.<sup>8</sup> In 2005 the first single body human alkaline hydrolysis system for commercial operation was installed,<sup>9</sup> followed by other states in the USA. In 2020, South Africa installed its first aquamation facility in Cape Town.<sup>10</sup>

AH is a chemical process that uses a combination of hot water, lye, pressure and circulation to liquefy a corpse in a few hours.<sup>11</sup> It is in a sense the opposite of the burning of a body by fire. Burning is an oxidative process, whereas alkaline hydrolysis is a reductive process.<sup>12</sup> The process dissolves flesh to its liquid elements. What is left behind after the liquidation process, are brittle bones and metal implants.<sup>13</sup> These metal implants or artificial joints could be safely recovered, making these implants or artificial joints re-usable. The bones are after the liquidation process, reduced to ash in a cremulator and returned to a deceased's loved ones for final disposition. The liquid that remains is a sterile effluent which can be safely discharged into a city's sewerage system.<sup>14</sup> It is not harmful to the environment in any way and could also be used as fertilisation.<sup>15</sup>

As stated earlier, Minnesota became the first US state to use AH for the disposal of human remains. Minnesota's Statutes section 149A.02 (West 2011) is the only state statute that defines AH instead of placing it under the umbrella definition of cremation. AH is defined as:

"[T] reduction of a dead human body to essential elements through exposure to a combination of heat and alkaline hydrolysis and the repositioning or movement of the body during the process to facilitate reduction, the processing of the remains after removal from the

7 Wilson "The history of alkaline hydrolysis" 2021 [www.bioresponsessolution.com](http://www.bioresponsessolution.com) (accessed 2021-03-16) 1. See also Lasnoski 2016 *The National Catholic Bioethics Center* 234.

8 Hansen "Choosing to be flushed away: A national background on alkaline hydrolysis and what Texas should know about regulating 'liquid cremation'" 2012 *Estate Planning and Community Property Law Journal* 150.

9 Wilson 2021 [www.bioresponsessolution.com](http://www.bioresponsessolution.com) (accessed 2021-03-16) 3.

10 Anon "Aquamation: when you go, go green" January 28 2020 *The Village News* at <https://thevillagenews.co.za/aquamation-when-you-go-go-green>. According to the article "The introduction of aquamation to South Africa has been in the making for six years and involved intensive research, including visits to facilities in the United States, consultations with stakeholders and strategic planning." 2

11 Hansen 2012 *Estate Planning and Community Property Law Journal* 150.

12 Wilson 2021 [www.bioresponsessolution.com](http://www.bioresponsessolution.com) (accessed 2021-03-16) 5.

13 Hansen 2012 *Estate Planning and Community Property Law Journal* 150.

14 Hansen 2012 *Estate Planning and Community Property Law Journal* 150.

15 Wilson 2021 [www.bioresponsessolution.com](http://www.bioresponsessolution.com) (accessed 2021-03-16) 6.

alkaline hydrolysis chamber, placement of the processed remains in a remains container, and release of the remains to an appropriate party. Alkaline hydrolysis is a form of final disposition.”

The subsequent section, section 149A.025 states:

“[T]he disposal of a dead human body through the process of alkaline hydrolysis shall be subject to the same licensing requirements and regulations that apply to cremation, crematories and cremated remains as described in this chapter. The licensing requirements and regulations of this chapter shall also apply to the entities where the process of alkaline hydrolysis occurs and to the remains that result from the alkaline hydrolysis process.”

In 2009, Florida made a minor change to their existing statute so that AH could fit within the laws regulating cremation by adding the phrase “or consumable” to “combustible”.<sup>16</sup> In the same year, Maine’s regulations broaden the definition to encompass the use of AH.<sup>17</sup> Oregon changed the statutory definition for “final disposition” to “the burial, internment, cremation, dissolution or other disposition of human remains authorized by the board by rule.”<sup>18</sup> As a consequence, the Oregon Mortuary and Cemetery Board had to create regulations to govern AH.<sup>19</sup> In 2010, Kansas and Maryland amended their statutory definitions of cremation to permit the use of AH,<sup>20</sup> followed in 2011 by Colorado.<sup>21</sup>

These legislative changes in the United States are instructive for South Africa, particularly how the regulators in these states have approached the regulation of aquamation. Before we turn to the legal position in South Africa, it is necessary to distinguish between the current ways of disposing of a dead body.

### **3 Comparison between burials, cremation and aquamation**

#### **3 1 Burial**

As stated at the outset, burial is the preferred choice for most Christians due to the scripture relating to burial in the Bible. For years it has been the most common method for disposing of the dead.<sup>22</sup> When a corpse is buried, the object of the procedure is to place the body in a safe place away from contamination while allowing the ecological means of decay to occur naturally.<sup>23</sup> The biggest problem with this way of disposing of a corpse is the involvement of a fairly large plot of land which is not as

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16 Hansen 2012 *Estate Planning and Community Property Law Journal* 156.

17 Hansen 2012 *Estate Planning and Community Property Law Journal* 156.

18 Hansen 2012 *Estate Planning and Community Property Law Journal* 157; Section 692.010 (4) (West 2011).

19 Hansen 2012 *Estate Planning and Community Property Law Journal* 156.

20 Hansen 2012 *Estate Planning and Community Property Law Journal* 156.

21 Hansen 2012 *Estate Planning and Community Property Law Journal* 158.

readily available as it used to be due to population increase. Fluids may also find their way into the soil and the ecosystem via seepage.<sup>24</sup>

The burial of the dead, although the most conventional way of disposing of a corpse, is also the most expensive way of saying goodbye to a loved one. First, the body must be moved to the funeral undertaker where it is kept for a few days prior to being prepared for the funeral, that usually takes place a week or so later. A coffin must be bought for the corpse to be put in. The prices of coffins may vary according to the wood and the trimmings used. A piece of land (plot) at a cemetery is also necessary and usually it has been bought by the deceased him or herself before death. Cemetery costs normally include the “right of interment” or “interment rights”, which come into being when you purchase a burial plot or mausoleum space. Owning interment rights means that you have acquired the right to be buried in that specific place. Further items included in burial costs may include the opening and closing of the grave, necessary permits, the use of a casket-lowering service, burial vaults or grave liners, and even a perpetual care or endowment care fee, which is a once-off maintenance fee that may range from 5 to 15% of the plot price, as well as a headstone installation fee. In addition, as the coffin or casket may be at a religious place for the viewing of the dead, which may involve further costs.<sup>25</sup> To compound this, available cemetery space has diminished in recent years due to population growth and urban development. In some areas, cemeteries have become dangerous places where graves are mostly abandoned, vandalised or neglected.

Burial in the ground allows for the decomposition of the body whereas cremation or aquamation, discussed next, hastens decomposition through non-ecological means.<sup>26</sup> Burial ultimately results in thousands of slowly decaying coffins being submerged in the ground. Cremation burns these materials and consequently releases toxins into the atmosphere, these methods therefore face criticism from various sources specifically connected to environmental concerns.<sup>27</sup> In the final instance, burial can also be seen as “laying a person to rest”, whereas the other two processes are directed at the quick destruction of the body.<sup>28</sup>

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22 Hansen 2012 *Estate Planning and Community Property Law Journal* 148. For a historical perspective on burials see Morley “Returning to the earth” 2020 Graduate theses and dissertations 18074 <https://lib.dr.iastate.edu/etd/18074> (accessed on 2021-03-31). See also Robinson “Dying to go green: The introduction of resomation in the United kingdom” 2021 *Religions* <https://doi.org/10.3390/rel12020097> (accessed on 2021-04-25). The UK uses the term “resomation” for aquamation.

23 Lasnoski 2016 *The National Catholic Bioethics Center* 236.

24 Lasnoski 2016 *The National Catholic Bioethics Center* 238.

25 Morley 2020 Graduate theses and dissertations 18074 <https://lib.dr.iastate.edu/etd/18074> (accessed on 2021-03-31) 11-18.

26 Morley 2020 Graduate theses and dissertations 18074 <https://lib.dr.iastate.edu/etd/18074> (accessed on 2021-03-31) 11-18.

27 Robinson 2021 *Religions* <https://doi.org/10.3390/rel12020097> (accessed on 2021-04-25) 13.

28 Lasnoski 2016 *The National Catholic Bioethics Center* 238.

### 3 2 Cremation

The religious traditions of Buddhism, Hinduism, and Sikhism favors cremation over burial. The origin of cremation as a formal method of disposal can be traced back to Greece in around 1000BC. The Romans adopted cremation later. Over the first two “Christian centuries” cremation lost its place to burial.<sup>29</sup>

The Catholic Church lifted its ban on cremation in the 1960s.<sup>30</sup> Funeral directors were not in favour of cremation<sup>31</sup> and saw it as a financial threat, but they gradually found ways in which to accommodate it in the services they provide.<sup>32</sup> One of these ways is by insisting that a corpse be cremated in a coffin. This of course has a financial implication as people opting for cremation must buy a coffin first and then the corpse is cremated in the coffin. For someone not in the business, it is difficult to understand why a coffin must be bought only to discard of it in an incinerator. Incineration is a chemical reaction. It is the combustion (rapid oxidation) of organic compounds.<sup>33</sup> The oxygen combines with carbon to form carbon dioxide which together with fluorocarbons (harmful to the ozone layer), vaporised mercury (a toxic metal from dental fillings), and/or radioactive molecules (such as those remaining in the body after certain cancer treatments) are expelled into the atmosphere, contributing to air pollution.<sup>34</sup>

It is essential to determine in the case of cremation, that the dead body is not required for any medico-legal postmortem investigative process, as unlike burial, a body that has burned to ashes cannot be exhumed. After the burning process, it is impossible to remove all of the ashes of the dead person and the deceased’s remains the family will receive, is only a portion of all the remains mixed with the ashes of the coffin.

### 3 3 Aquamation (Alkaline hydrolysis)

AH is a dignified, respectful and a “green” alternative to cremation because the process merely accelerates the natural process of decomposition.<sup>35</sup> AH reduces greenhouse emissions by using less

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29 Robinson 2021 *Religions* <https://doi.org/10.3390/rel12020097> (accessed on 2021-04-25) 2.

30 Hansen 2012 *Estate Planning and Community Property Law Journal* 149.

31 “Cremo” is Latin for burn. For the history of cremation see Goetting & DelGuerra “Cremation: History, Process and Regulations” 2003 *The Forum for Family and Consumer Issues* available from <http://ncsu.edu/ffci/publications/2003/v8-n1-2003-january/fa-1-cremation.php> (accessed 2021-03-31).

32 Hansen 2012 *Estate Planning and Community Property Law Journal* 153.

33 Lasnoski 2016 *The National Catholic Bioethics Center* 236.

34 Lasnoski 2016 *The National Catholic Bioethics Center* 236. See also Robinson 2021 *Religions* <https://doi.org/10.3390/rel12020097> (accessed on 2021-04-25) 13-14.

35 Hansen 2012 *Estate Planning and Community Property Law Journal* 151. See also Robinson 2021 *Religions* <https://doi.org/10.3390/rel12020097> (accessed on 2021-04-25) 5-6.

electricity and gas and it does not produce airborne emissions of mercury.<sup>36</sup> It is a gentler process that uses water rather than flames. It saves a lot more energy compared to cremation and more residue is returned to the family to be kept in an urn or to be scattered in a special place.<sup>37</sup> Only AH allows for retaining the totality of the fragmented body through the keeping of both the aqueous and solid remains.<sup>38</sup> In addition, with AH no carbon dioxide or fluorocarbons are released in the air and mercury is left in the teeth in the chamber to be collected after the aqueous solution has been evacuated.<sup>39</sup> AH also destroys radioactive molecules and the sterile aqueous remains can be used as fertilizer making it from an environmental perspective a procedure that is preferred to incineration.<sup>40</sup>

Although aquamation is not a common form of disposing of a dead body yet, it should be a much cheaper option as no coffin will be required. The body will be placed in the metal cylinder which could be situated at the funeral undertaker's premises. No specific premises will be required in this process, nor will there be a need for the removal of the body.

Because this is a novel process, it is still met with negative reaction at first glance. People might find the thought of flushing human remains literally "down the drain" as macabre, undignified, cold or even unsanitary.<sup>41</sup> Only the future will show whether this is indeed the case.

## 4 Legal framework relevant to the disposal of human remains

### 4.1 The National Health Act 61 of 2003 and Regulations

The National Health Act (NHA)<sup>42</sup> does not address the disposal of human remains. However, the Minister of Health made Regulations in terms of section 68(1)(b) of the Act, read together with section 90(4)(c) concerning the management of human remains.<sup>43</sup> These Regulations make no mention of aquamation. This is understandable as the process of AH was commercially developed after the promulgation of the Regulations. The current Regulations are therefore only applicable to burials and cremations. As indicated above, seven states in the United States have

36 Hansen 2012 *Estate Planning and Community Property Law Journal* 151.

37 Anon *The Village News* at <https://thevillage news.co.za/aquamation-when-you-go-go-green> 3.

38 Lasnoski 2016 *The National Catholic Bioethics Center* 236.

39 Lasnoski 2016 *The National Catholic Bioethics Center* 237.

40 Lasnoski 2016 *The National Catholic Bioethics Center* 237.

41 Hansen 2012 *Estate Planning and Community Property Law Journal* 152. See also Robinson 2021 *Religions* <https://doi.org/10.3390/rel12020097> (accessed on 2021-04-25) 8.

42 GG No. 26595 of 23 July 2004.

43 Regulations Relating to the Management of Human Remains GN No. R. 363, GG No. 36473 of 22 May 2013.

amended their laws to provide for aquamation. By analysing the aforementioned South African regulations, it would be possible to determine whether the existing Regulations could be amended to include aquamation under the scope of cremation, or whether it is more advisable to recommend a complete overhaul of the Regulations to address aquamation.

The Regulations Relating to the Management of Human Remains in section 1, the definitions, do not define “disposal”, “cremation” or “burial”. If these Regulations were to remain as they are, and only be amended to accommodate aquamation, we suggest that these concepts be defined and a definition for aquamation be added. The definition of a “funeral undertaker’s premises”, should be extended by adding to the current reference in the definition of the “preparation and storage of human remains”, “the disposing by way of aquamation of the remains”. The definition of “preparation” should also be modified to include aquamation.

The Regulations list the requirements for a funeral undertaker’s premises, as well as mortuaries where a certificate of competence is needed.<sup>44</sup> The use of the premises of a funeral undertaker should be amended to not only include the preparation or storage of a corpse, but also the disposal thereof by means of AH. The process of aquamation can be done at the premises of the funeral undertaker and the body need not be taken to another premises, for example, a crematorium. It may be necessary to involve an environmentalist in this procedure of listing the requirements for a funeral undertaker’s premises.<sup>45</sup> The requirements relating to a funeral undertaker’s premises<sup>46</sup> will require revision to make provision for the inclusion of a separate room for the AH process to be carried out. Chapter 4 of the Regulations that addresses the transportation, importation and exportation of human remains need not be amended as there is no need to include the aquamation process, with the exception of sections 6(a) and 6(b) where aquamation should be added to the references of burial and cremation. Chapter 5 states the requirements for burial sites. Chapter 6 focuses on crematoria and cremations. We are of the opinion that to add aquamation under this heading would not be sensible. A better option would be to add a new chapter addressing aquamation specifically, as cremations take place at a crematorium and not at the premises of the undertaker where aquamations could be carried out. We hence recommend that the Regulations be amended as discussed in this section, by including a new chapter entitled “Alkaline Hydrolysis or Aquamation”.

In this proposed chapter, the process of aquamation should be detailed. It should provide that the aquamation process may take place at the premises of the funeral undertaker, but it should be authorised in

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44 Regulation s 3 – 11.

45 See the discussion on NEMA Biodiversity below.

46 Regulations s 10.

terms of the National Environmental Management Act 107 of 1998 as is the case with crematoria.<sup>47</sup> A aquamation permit issued by the local government should be a requirement as is the same with cremations.<sup>48</sup> There should also be minimum requirements for an aquamation facility<sup>49</sup> and a register of aquamations should be kept.<sup>50</sup> As indicated above, radioactivity in human remains has no bearing on the aquamation process and thus chapter 8 of the current Regulations will have no relevance to aquamation, except for stating that it is not applicable to aquamation.

Considering all the above, and considering the regulatory changes made by the legislators in some of the American states, merely adding the regulation of aquamation under the same headings or regulations pertaining to cremations would not make sense. Instead, the South African legislator should change the Regulations by including aquamation as a separate way of disposing of human remains. In the meantime, the *lacuna* in the South African legal framework remains, which means that the process is not legally regulated. If one considers the effect of the legal principle of *nullum crimen sine lege*, (no crime without a legislative prescript)<sup>51</sup> nothing prevents funeral undertakers from using aquamation, as long as it is not a nuisance to the public or threatens public health, or may offend the *boni mores* in South Africa.<sup>52</sup>

## 4 2 National Environmental Management: Biodiversity Act 10 of 2004

The NEMA Biodiversity Act was promulgated in terms of the National Environmental Act 107 of 1998 (NEMA). The purpose of the Biodiversity Act is to provide amongst others for the management and conservation of South Africa's biodiversity and ecosystems. The Act is in line with section 24 of the Constitution which states:

Everyone has the right

- a to an environment that is not harmful to their health or well-being; and
- b to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that
  - i prevent pollution and ecological degradation;
  - ii promote conservation; and
  - iii secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

47 Regulations s 16.

48 Regulations s 17.

49 Regulation s 18 concerning cremation facilities

50 Regulation s 19 concerning cremations.

51 See Snyman *Strafreg* (6<sup>th</sup> ed) 2012 37.

52 According to Robinson the UK has also no legally binding regulations specifically associated with resomation. "Alternative disposal techniques to the established practices of burial and cremation are technically legal providing they do not infringe sanitation laws or offend public decency" Robinson 2021 *Religions* <https://doi.org/10.3390/rel12020097> (accessed on 2021-04-25) 18. See also NEMA: Waste Act 59 of 2008 s 16(1)(d).

The NEMA Biodiversity Act does not address aquamation, burial or cremation, but it should give effect to the constitutional human rights referred to in s 24 of the Constitution.<sup>53</sup> The Minister may, by notice in a *Government Gazette*, issue norms and standards for the management and restriction of activities that could have an impact on South Africa's biodiversity.<sup>54</sup> When discussing the NHA and the Regulations above, we alluded to the fact that an environmentalist should be involved when determining the bio-dangers that may exist when the aquamation process is conducted at a funeral undertaker's premises and the liquid is disposed of on the premises. However, as we pointed out above, the liquid that remains following an aquamation process is a sterile effluent which can be safely discharged in any system.<sup>55</sup> It is thus not harmful to the environment in any way and could possibly be used as fertilisation.<sup>56</sup> AH also destroys radioactive molecules and all genetic recognisable material.<sup>57</sup> The NEMA Biodiversity Act is hence not relevant to the process of aquamation, but it will be in the interest of all parties concerned to obtain a certificate from the Minister in terms of the Act indicating that no biodiversity danger exists with the aquamation process.

### 4 3 National Environmental Management: Waste Act 59 of 2008

The residue of an aquamation process could be classified as "inert waste" according to the Waste Act. Inert waste means waste that:

- a does not undergo any significant physical, chemical or biological transformation after disposal;
- b does not burn, react physically or chemically biodegrade or otherwise adversely affect any other matter or environment with which it may come into contact; and
- c does not impact negatively on the environment, because of its pollutant 20 content and because the toxicity of its leachate is insignificant;<sup>58</sup>

We recommended earlier in this article that an environmentalist should oversee the process of establishing an AH facility at a funeral undertaker's premises. Once again, the Waste Act similarly does not address the aquamation process. In our view, a facility intending to make use of the AH process should be licensed in terms of section 20 of the Waste Act, read with Chapter 5 of the Act. Section 26 regulates the unauthorised disposal of waste, which in the context of AH, could be avoided by having a waste management plan in place, as described in section 30. Thus, although neither of the acts under NEMA specifically provides for the process of AH, it would be in the public's as well as the

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53 NEMA Biodiversity s 3.

54 NEMA Biodiversity s 9.

55 Hansen 2012 *Estate Planning and Community Property Law Journal* 150.

56 Wilson 2021 [www.bioresponsessolution.com](http://www.bioresponsessolution.com) (accessed 2021-03-16) 6.

57 Lasnoski 2016 *The National Catholic Bioethics Center* 237.

58 NEMA: Waste Act s 1 definitions.

funeral undertaker's interest to take cognisance of these statutes and to comply with their provisions as far as possible.

## 5 Conclusion

Aquamation is once again an example of technology developing faster than legislation. Burial and cremation are the conventional procedures for the lawful disposal of a dead body. Burials are gradually diminishing due to land shortages and high costs. Cremation has been accepted as an alternative, yet, is associated with the emission of greenhouse gasses and air pollution. With the emphasis on more environmentally friendly, cost effective practices, AH or aquamation seems the best solution.

Whilst cremation was a threat to funeral homes in the 1970s, AH is a threat today, but only to those that do not have the means or mindset to embrace a new scientific development. AH is gathering momentum and seems to be the best solution to dispose of a corpse in the future.<sup>59</sup> Before this becomes a reality, proper regulation must be in place to ensure the correct training of technicians, proper maintenance of units and strict wastewater guidelines.<sup>60</sup> Unfortunately, legislation is not in place to assist with the commercialisation of the process locally. We are of the view that aquamation should be regulated in the manner set out in this note, but pending any further legal development in this area, there is nothing preventing funeral undertakers to introduce aquamation to their clients. However, in the final instance, the choice remains that of every individual – “how would you like to go: down in flames, six feet under, or flushed away?”<sup>61</sup>

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59 Hansen 2012 *Estate Planning and Community Property Law Journal* 167.

60 Hansen 2012 *Estate Planning and Community Property Law Journal* 156.

61 Hansen 2012 *Estate Planning and Community Property Law Journal* 170.