Virginia Department of Health Professions
Board of Funeral Directors and Embalmers

Final Minutes
Alkaline Hydrolysis Workgroup

August 12, 2022

The Virginia Board of Funeral Directors and Embalmers convened an Alkaline Hydrolysis Workgroup meeting on Friday, August 12, 2022, at the Department of Health Professions, Perimeter Center, 9960 Mayland Drive, 2nd Floor, Board Room #1, Henrico, Virginia.

WORKGROUP MEMBERS PRESENT:

Blair H. Nelsen, FSL, Board Member, Workgroup Chair
J. Michael Williams, FSL, Board Member
Ryder Bunce, PE, Virginia Department of Health
Marcia Degen, Ph.D., PE, Virginia Department of Health
William Gormley, MD, Ph.D., Virginia Department of Health
Mike Martin, Hampton Roads Sanitation District
Mike Nicodemus, FSL, National Funeral Directors' Association (NFDA)
Richard Sikon, FSL, MLA, Virginia Department of Health*

DHP STAFF PRESENT FOR ALL OR PART OF THE MEETING:

Erin Barrett, Senior Policy Analyst
Sarah Georgen, Licensing and Operations Manager
Kelley Palmatier, Deputy Executive Director
Corie Tillman Wolf, Executive Director

OTHER GUESTS PRESENT:

Angela Bezik, Principle Advantage
Eric Bliley, Association of Independent Funeral Homes of Virginia (IFHV)
Darrin Jones, Jones Funeral Home, Virginia Funeral Directors Association (VFDA)
Bo Keeney, Association of Independent Funeral Homes of Virginia (IFHV)
Allen Simpson, Simpson Funeral Home
Ben Traynham, Hancock, Daniel, & Johnson, P.C.

**participant indicates attendance to count toward continuing education requirements*

CALL TO ORDER

Mr. Nelsen called the meeting to order at 9:31 a.m. Mr. Nelsen asked the Workgroup members and Board staff to introduce themselves.

EMERGENCY EGRESS

Ms. Tillman Wolf then read the emergency egress instructions.

MINUTES FROM JULY 14, 2022 MEETING:

Mr. Nelsen requested proposed changes to the draft minutes of the July 14, 2022 Alkaline Hydrolysis Workgroup meeting. Hearing none, the minutes were approved.

AGENDA

Mr. Nelsen requested proposed changes to the ordering of the agenda. Hearing none, he proceeded with the meeting.

PUBLIC COMMENT

There was written public comment from Sandra Schlaudecker:

> *"I fully support Virginia offering alkaline hydrolysis (AH) as a mode of body disposition. Current cremation is not climate friendly, especially if using natual [sic] gas in the cremation chamber. Even if electricity is used, much electricity is still generated with fossil fuels. Many other states offer AH and I support Virginia offering the same. All the research I have done shows it to be a good alternative for the consumer."*

CHARGE OF THE WORKGROUP

Mr. Nelsen stated that the Alkaline Hydrolysis Workgroup was convened pursuant to SB 129, which directs the Board of Funeral Directors and Embalmers to "convene a Workgroup consisting of relevant stakeholders" to determine:

(i) regulatory and statutory changes needed to legalize, implement, and regulate the process of alkaline hydrolysis in the Commonwealth;
(ii) necessary qualifications to enable a person to engage in the practice of alkaline hydrolysis;
(iii) proper standards for the operation of a facility containing a pressure vessel for alkaline hydrolysis; and
(iv) proper requirements for licensure as an owner or operator of such a facility.

Mr. Nelsen stated that the Workgroup is further tasked with considering "any necessary environmental precautions and safety measures to ensure proper (a) regulation and implementation of the alkaline hydrolysis process and (b) regulation and inspection of facilities where alkaline hydrolysis is conducted in the Commonwealth."

Mr. Nelsen requested the Workgroup discuss the alkaline hydrolysis process, to address any unresolved issues and to fine tune the study recommendations.

Mr. Nelsen stated that with the previous discussion, the Workgroup had developed a consensus related to recommendations in a number of areas:

- Inclusion of alkaline hydrolysis as an accepted means of final disposition of human remains in the Code

- Definition of "alkaline hydrolysis" as a separate and distinct process within the Code, using broad terminology
- Creation of a regulatory structure for alkaline hydrolysis that appropriately reflects and accounts for both the differences and similarities in the processes for alkaline hydrolysis and cremation
- Inclusion of licensure/registration requirements for alkaline hydrolysis facilities or operators that include appropriate consultation, authorization, and/or permitting from state and local wastewater treatment authorities

Mr. Nelsen tasked the Workgroup to finalize recommendations related to:

- How to define alkaline hydrolysis
- What environmental concerns may exist related to alkaline hydrolysis in terms of effluent emissions, particularly with regard to septic-based systems
- Are there additional facility-based concerns for entities that wish to install AH units – in terms of both environmental safety and inspection-based concerns, particularly with regard to septic systems
- Any additional areas where separate statutory or regulatory provisions may be needed to address the specifics of the alkaline hydrolysis process

OVERVIEW OF JULY 14, 2022 MEETING

Ms. Tillman Wolf provided an overview of recommendations from the July 14, 2022 meeting and the areas where additional information was needed from the Workgroup including: reference to the Title 32.1 provisions for disposition of remains; the definition of "alkaline hydrolysis" and related terms; clarification of the areas where language may parallel the requirements for the cremation process and the areas where new language is needed for alkaline hydrolysis; and recommendations for licensure/registration application requirements specific to wastewater treatment and septic emissions.

CONSIDERATIONS SPECIFIC TO SEPTIC SYSTEM EMISSIONS AND PANEL DISCUSSION OF STUDY RECOMMENDATIONS

Final Disposition of Human Remains

Workgroup members indicated agreement that the relevant Title 32.1 provisions related to disposition of dead human bodies were covered by the first recommendation, including means of and authorization for disposition of human remains and the definition of "final disposition" for death certificate purposes.

Definition of Alkaline Hydrolysis

Workgroup members discussed the recommended definition for "alkaline hydrolysis," using the first part of the Minnesota definition as the base definition, to include reference to "and/or pressure" and "final disposition."

> "Alkaline hydrolysis" is a means of final disposition by reduction of a dead human body to essential elements through a water-based dissolution process using alkaline chemicals, heat, agitation and/or pressure to accelerate natural decomposition.

Workgroup members agreed that Board staff would develop recommendations for related definitions, as necessary.

Environmental Emissions and Wastewater Treatment

The Workgroup discussed septic-specific issues and questions related to wastewater treatment.

Dr. Marcia Degen, PE, PhD, and Ryder Bunce, PE, from the Virginia Department of Health provided an overview of concerns related to discharge of effluent into on-site septic systems, specifically the discharge of materials with a high organic content and nutrients that may impact the overall functioning of the system. While not necessarily prohibited by existing regulations, the emissions are not recommended for septic systems without additional feasibility studies to address advanced treatment and/or the use of a pump and haul mechanism to mitigate against high-impact discharges.

If facilities seek licensure or registration to implement an alkaline hydrolysis system and are on a septic system, those facilities should be directed to provide evidence during the application process that the septic emissions have been permitted or authorized by the Virginia Department of Health. During the alkaline hydrolysis inspection process, facilities should document ongoing compliance with VDH regulations for on-site sewage treatment and disposal and any additional permit requirements (pretreatment, monitoring, etc.). Dr. Degen noted that VDH relies on licensed private septic system operators to operate, maintain, and document septic field health on an ongoing basis for septic systems relying on advanced treatment and that documentation should be maintained on site and available for review.

Mike Martin, Hampton Roads Sanitation District, echoed that facilities on public wastewater system should provide evidence of current permitting/authorization from local wastewater utilities during the application process, as well as ongoing compliance with water regulations and requirements during the inspection process. Ultimately, the individual wastewater plants would determine compatibility of the alkaline hydrolysis process through their local permitting and authorization processes.

Workgroup members agreed to the following general rewording of Recommendation 4:

4. Include licensure/registration requirements for alkaline hydrolysis facilities or operators that include appropriate consultation, authorization, and/or permitting from state and local wastewater treatment authorities and/or health departments:
   (1) to minimize the potential for adverse environmental impact;
   (2) to ensure the use of appropriate equipment or units that discharge effluent into wastewater or septic systems; and
   (3) to ensure the proper and safe storage and handling of caustic chemicals that may impact water and storm systems if leaked or spilled.

Board Statutes and Regulations

Workgroup members indicated agreement to the recommendation that there were areas where mirroring the existing statutory or regulatory process for cremation was appropriate. Workgroup members discussed the addition of two additional areas: authorization of next of kin for the hydrolysis process and requiring a "Board-approved" training program specifically for operators of alkaline hydrolysis units.

Where new regulatory or statutory provisions may be needed to address alkaline hydrolysis as a different process, workgroup members agreed that the use of the term "unit" was more appropriate than "vessel" when referring to the apparatus or machinery used for the alkaline hydrolysis process. Members further agreed that the recommendation should reflect that the unit be "commercially manufactured" and subjected to professional engineering certification or testing as appropriate.

Members discussed the wording related to alkaline hydrolysis containers and expressed agreement that any recommended definition include reference to a container that encloses the human remains, that is easily destroyed during the hydrolysis process, and that is otherwise resistant to spillage and leakage.

Members agreed that the provisions specific to alkaline hydrolysis include language that reflects the cleaning and removal of residue within the unit after a process cycle to prevent commingling of human remains.

NEXT STEPS

The Board will draft the study document with the recommendations from the July 14th meeting, as well as the additional recommendations from the meeting (Attachment A). The Board will consider and approve the study document at its next scheduled meeting on October 21, 2022.

The results of the study will then be transmitted to the respective Chairs of the State Committee on Education and Health and House Committee on Health, Welfare, and Institutions by November 1, 2022.

ADJOURNMENT

With all business concluded, the meeting adjourned at 10:48 a.m.

Corie Tillman Wolf, J.D., Executive Director

October 24, 2022
Date

Alkaline Hydrolysis Workgroup Recommendations

1. Include alkaline hydrolysis as an accepted means of final disposition of human remains in the Code

2. Define "alkaline hydrolysis" as a separate and distinct process within the Code, using broad terminology that does not favor specific manufacturers or processes:

> *"Alkaline hydrolysis" is a means of final disposition by reduction of a dead human body to essential elements through a water-based dissolution process using alkaline chemicals, heat, agitation and/or pressure to accelerate natural decomposition.*

3. Create a regulatory structure for "alkaline hydrolysis" that appropriately reflects and accounts for both the differences and similarities in the processes for alkaline hydrolysis and cremation

3.A. Mirror cremation statutes and regulations related to the following:

- Disposition of remnants from process; also abandoned or unclaimed
- Identification of remains and authorization of next of kin prior to process
- ME authorization for process/method of disposition
- Refrigeration of remains pending process
- Documentation and record keeping
- No commingling of human and animal remains
- Safe, respectful handling of remains
- Casket not required for alkaline hydrolysis process
- Basic application requirements for registration of either facility
- Board-approved training program for operators of units

3.B. Include new statutory and regulatory provisions for the following:

- Definition of "alkaline hydrolysis" (See #2)
- Definitions, as appropriate, for related terms including alkaline hydrolysis container, alkaline hydrolysis unit, alkaline hydrolysis facility, hydrolyzed remains
- Board authority to inspect alkaline hydrolysis facilities
- Requirements for registration of alkaline hydrolysis facilities (see #4)
- Requirements for alkaline hydrolysis units – commercially manufactured and professional engineering certification/testing as appropriate
- Appropriate alkaline hydrolysis containers for transport/storage/process – to include containers that enclose the body, are easily hydrolysable, and are resistant to leakage or spillage
- Requirements for disposal of waste from alkaline hydrolysis process
  - Wastewater emissions of effluent
  - Undissolved tissue or residue in unit – cleaning after each process to prevent commingling of human remains
- Posting of relevant permits and approvals

4. Include licensure/registration requirements for alkaline hydrolysis facilities or operators that include appropriate consultation, authorization, and/or permitting from state and local wastewater treatment authorities and/or health departments:

(1) to minimize the potential for adverse environmental impact;

(2) to ensure the use of appropriate equipment or units that discharge effluent into wastewater or septic systems; and

(3) to ensure the proper and safe storage and handling of caustic chemicals and/or stored process effluent that may impact water or storm water systems if leaked or spilled