

**Summary of Activities of Drs. G. Fred Lee and Anne Jones-Lee  
to Improve Protection of Public Health and Environmental Quality  
at Municipal Solid Waste Landfills**

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Dr. G. Fred Lee first became aware of environmental quality problems associated with municipal solid waste (MSW) landfills in 1953 while he was an undergraduate student majoring in public health protection at San Jose State University. His undergraduate education included work on public health aspects of landfilling of municipal solid wastes. He earned a Master of Science in Public Health degree from the University of North Carolina, Chapel Hill, NC in 1957, and a PhD degree in Environmental Engineering with minors in public health and aquatic chemistry from Harvard University in 1960. Both his masters and PhD degree work included studies on water quality, public health, and waste management. This academic background increased the depth and breadth of Dr. Lee's understanding of the public health and environmental quality issues associated with MSW landfilling.

For 30 years Dr. Lee held teaching and research positions in graduate-level environmental engineering/environmental science programs at several major US universities. During that time he conducted more than \$5 million in research and published more than 500 papers and reports on various aspects of water quality and impacts of chemical contaminants on public health and environmental quality. His work included investigating numerous municipal solid waste landfills and conducting research for the US EPA and others on landfill liner properties. In 1989 he retired from university teaching and research and expanded his part-time, private consulting activities into a full-time business. He was joined in this business by his wife, Dr. Anne Jones-Lee who, at that time, held an associate professorship in environmental engineering/science at New Jersey Institute of Technology in Newark, NJ. She had earned her bachelor of science degree in biology from Southern Methodist University and PhD degree from the University of Texas at Dallas in environmental science focusing on water quality. She and Dr. Lee have worked as a team on landfill-related and other water quality activities since the late 1970s. Since relocating to El Macero, CA in 1989 they have been active in investigating more than 85 municipal solid waste landfills located in various parts of the US and other countries. They have published more than 1100 additional papers and reports, approximately 120 of which are devoted to landfill pollution issues.

During the 1980s Dr. Lee was invited to present numerous lectures to various professional groups on public health and environmental quality aspects of and concerns with the newly enacted Resource Conservation and Recovery Act. In the late 1980s into the 1990s, as the elements and provisions of Subtitle D were being developed and discussed in the technical community, Dr. Lee was invited to address various professional groups on the emerging issues of Subtitle D landfilling and groundwater quality protection; these lectures included serving as an American Chemical Society (ACS) tour speaker addressing local ACS chapters around the US on aspects and issues of landfills and groundwater quality protection and problems with the regulatory approaches being advanced.

In 1991, at about the time Subtitle D was adopted, Dr. Lee was invited to present one-day short courses on groundwater quality protection from MSW landfills to numerous professional audiences which he did over the ensuing years. In 1992 Drs. Lee and Jones-Lee developed the short course material into a technical review report entitled "Municipal Solid Waste Management in Lined, 'Dry Tomb' Landfills: A Technologically Flawed Approach for Protection of Groundwater Quality," (Lee and Jones, 1992); in it they summarized significant potential problems with Subtitle D landfilling with respect to protecting public health and the environment for as long as the wastes in the landfill will be a threat. Since that time Drs. Lee and Jones-Lee have continued to develop professional papers and reports addressing emerging issues, technical information and findings concerning deficiencies in Subtitle D landfilling for protecting public health and environmental quality, as well as issues that need to be addressed to improve protection from landfilled wastes. They have periodically updated their review to incorporate discussion of these new issues and findings; the most recent version of this report, "Evaluating Potential Impacts of Landfills & Landfill Pollution: Flawed Technology of Subtitle D Landfilling of Municipal Solid Waste," (Lee and Jones-Lee, 2021a) is available on their website at [[http://www.gfredlee.com/Landfills/Landfill\\_Pollution\\_Impacts.pdf](http://www.gfredlee.com/Landfills/Landfill_Pollution_Impacts.pdf)].

A major focus of Drs. Lee and Jones-Lee's activities has been providing guidance on improving public health and environmental quality protection from landfilling of municipal and other solid wastes. They have worked with a number of citizens' groups, public agencies, and others over the years to try to improve the technical quality of MSW regulations as well as of specific MSW landfills. These issues are discussed in their paper entitled, "Review and Update - Developing More Environmentally Protective MSW Landfills," (Lee and Jones-Lee, 2021b) that is available on their website at [[http://www.gfredlee.com/Landfills/Status\\_Developing\\_Protective\\_MSW\\_Landfills.pdf](http://www.gfredlee.com/Landfills/Status_Developing_Protective_MSW_Landfills.pdf)].

Additional information on Drs. G. Fred Lee and Anne Jones-Lee's experience and expertise in evaluating public health and environmental quality impacts of Subtitle D landfills is available on their website [www.gfredlee.com](http://www.gfredlee.com), at [http://www.gfredlee.com/Landfill\\_Impacts.html](http://www.gfredlee.com/Landfill_Impacts.html).

## References

Lee, G. F. and Jones, R.A., "Municipal Solid Waste Management: Long-Term Public Health and Environmental Protection," University of California, Davis, Landfills and Groundwater Quality Short Course Materials, April (1991).  
<http://www.gfredlee.com/Landfills/MSWMANAGT.pdf>

Lee, G. F., and Jones-Lee, A., Lee, G. F. and Jones, R. A., "Municipal Solid Waste Management in Lined, 'Dry Tomb' Landfills: A Technologically Flawed Approach for Protection of Groundwater Quality," Report of G. Fred Lee & Associates, El Macero, CA, March (1992).

Lee, G. F., and Jones-Lee, A., "Evaluating Potential Impacts of Landfills & Landfill Pollution: Flawed Technology of Subtitle D Landfilling of Municipal Solid Waste," Report of G. Fred Lee & Associates, El Macero, CA, updated January (2021a).  
[http://www.gfredlee.com/Landfills/Landfill\\_Pollution\\_Impacts.pdf](http://www.gfredlee.com/Landfills/Landfill_Pollution_Impacts.pdf)

Lee, G. F. and Jones-Lee, A., "Review and Update: Developing More Environmentally Protective MSW Landfills," Report of G. Fred Lee & Associates, El Macero, CA, June (2021b).  
[http://www.gfredlee.com/Landfills>Status\\_Developing\\_Protective\\_MSW\\_Landfills.pdf](http://www.gfredlee.com/Landfills>Status_Developing_Protective_MSW_Landfills.pdf)