

## Steven E. Zell, P.E.

Expert Witness: Toxic Air Releases (Accidental or Continuous), Air Dispersion Modeling

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### Summary of Qualifications

Steven E. Zell has 16 years' experience in providing expert analysis and testimony in toxic tort litigation involving accidental or continuous releases of toxic chemicals to the air due to fires, explosions, runaway reactions, or pipe or vessel ruptures in chemical processing facilities, or accidental releases from railcars or trucks transporting toxic chemicals. He has calculated transient release rates of vapor, liquid, or two-phase fluids or mixtures to the air using approved methods, and modeled atmospheric dispersion of releases using EPA- and OSHA-approved dispersion models, including AERMOD, CALPUFF, SCIPUFF, and specialized dense-gas dispersion models such as ALOHA, HGSYSTEM, and SLAB.

Mr. Zell has also provided Air Quality consulting, air permitting, and Risk Management services to many clients in the power-generation, oil and gas, and chemical industries, and was a Safety and Environmental consultant for a major international chemical manufacturer. He also has 10 years' experience as a Process Engineer in the refining, petrochemical, and specialty chemicals industries, and has developed numerous software applications for the modeling and optimization of chemical process facilities and transient fluid flow calculations.

Mr. Zell is a licensed Professional Engineer in Connecticut and New Jersey, and holds a Bachelor of Chemical Engineering with High Honor from Stevens Institute of Technology (1978).

### Litigation Support Experience:

Mr. Zell has provided air emissions calculations, air dispersion analysis, expert analysis of witness depositions, expert rebuttal to opposing expert reports, and expert reports and testimony for 27 toxic tort cases over the past 16 years.

This experience includes:

Accidental releases of toxic chemicals due to runaway chemical reactions (3 cases);

Accidental releases of toxic chemicals and combustion products due to fires and/or explosions in chemical facilities (4 cases);

Accidental releases of toxic chemicals due to railway accidents (5 cases) or truck accidents (3 cases) carrying toxic chemicals;

Accidental releases of toxic chemicals due to pipe or vessel rupture in chemical plants (6 cases);

Litigation involving controlled and fugitive operating releases of toxic pollutants from chemical manufacturing facilities, lead smelters, power plants, PCB manufacturing facilities, and wood-treatment facilities using creosote (6 cases).

### Other Professional Experience:

1996 – 2013: **TRC Environmental Corporation:** Principal Air Quality Engineer: Provided Air Quality consulting services (emissions inventory, permitting, Risk Management analysis, Air Dispersion Modeling, Process Safety Analysis) for many power plants, refineries, and chemical facilities nationwide.

1986 – 1995: **Rhône-Poulenc Industrialisation:** Safety / Environmental Engineer:

Air Emissions measurement and mitigation, Fugitive Emissions measurement, Air Dispersion modeling, Meteorological and Air Dispersion research, Tracer Gas Studies.

Senior Process Engineer: Process simulation and optimization, PFD and P&ID development and review, equipment specification, process safety review, writing operating manuals for the specialty-chemicals industry.

1984 – 1986: **Scientific Software Intercomp:** Software Development Engineer: Development of software application for real-time simulation and optimization of Trans-Siberian natural gas pipeline.

1980 – 1984: **Foster Wheeler Energy Corporation:** Senior Process Engineer: Process simulation and optimization, PFD and P&ID development and review, equipment specification, for refinery process units, including FCCU, hydrocrackers, hydro-desulfurization, delayed coking, alkylation, and gas desulfurization.

1978 – 1980: **C-E Lummus Corporation:** Process Engineer: Process simulation and optimization, PFD and P&ID development and review, equipment specification for olefins production plants, including charge gas compression, process refrigeration, and cryogenic fractionation columns.

## Professional Affiliations:

Air and Waste Management Association

American Institute of Chemical Engineers

American Petroleum Institute

Northeast Power and Energy Association

Stevens Institute of Technology Alumni Association

Industrial Air Pollution Expert Witness

Toxic Tort Strategy for Plaintiff or Defense/Environmental Air Pollution

Insurance Industry Services including Meteorological Re-Construction of Weather Events

Expert Witness Testimony/Litigation Consulting/Air Pollution Meteorology

Air Quality Computer Modeling/Air Dispersion Analysis/Hazardous Plume Releases

Meteorological Data Acquisition, Processing and Analysis (Domestic and International)

Aviation Meteorology/Visibility Studies/Wind Analysis

Observational Field Programs/Air Sampling/Air Quality

### Expert Witness Experience:

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