TABLE 5.3
PREFERRED REFINED AIR DISPERSION MODELS
AND THEIR USES

MODEL CHARACTERISTIC	REFINED MODELS								
	ISC3[1]	RAM[2]	CTDMPLUS[3]	INPUFF[4]	CALPUFF[5]	OBODM[6]	DEGADIS[7]	HGSYSTEM[7]	SLAB[9]
Source Types	Point, Area, Volume	Point, Area	Point	Point, Area	Point, Area, Volume, Line	Open burn, Open detonation	Point, Area	Point, Liquid Pool	Point, Liquid Pool, Volume
Terrain Types	Simple, Complex	Simple	Complex	Simple	Simple, Complex	Simple, Complex	Flat, Unobstructed	Flat, Unobstructed	Flat, Unobstructed
Release Mode	Continuous	Continuous	Continuous	Continuous, Instantaneous	Continuous, Instantaneous, Time Variant	Instantaneous, Short-duration, Continuous	Continuous, Instantaneous, Time Variant	Continuous, Instantaneous, Time Variant	Continuous, Instantaneous, Time Limited
Averaging Time	1 Hour to Annual	1 Hour to Annual	1 Hour to Annual	Minutes to a Few Hours	1 Hour to Annual	Unknown	1 Hour or less	1 Hour or less	1 Hour or less
Land Use	Rural or Urban	Urban	Rural or Urban	Rural or Urban	Rural or Urban	Unknown	Rural or Urban	Rural or Urban	Rural or Urban
Contaminant Type	Gas or Particulate	Gas or Particulate	Gas or Particulate	Gas or Particulate	Gas or Particulate	Gas or Particulate	Gas or Aerosol	Gas or Aerosol	Gas or Aerosol
Applicable Range	≤50 km	≤50 km	≤50 km	To 10s of Kilometers	To 100s of Kilometers	Unknown	Computed by Model	Computed by Model	Computed by Model
Generic or Real Meteorological Data?	Real	Real	Real	Real, with Gridded Wind Field	Real, Time and Space Variable	Real	Real, Limited	Real, Limited	Real, Limited
Model Chemical Reactions?	No (Except Exponential Decay)	No (Except Exponential Decay)	No	No	Yes, Common Chemical Reactions	No	No	No (Except for Hydrogen Fluoride)	No
Dry Deposition Calculations?	Yes	No	No	Yes	Yes	Gravitational Setting Only	No	No	No
Wet Deposition Calculations?	Yes	No	No	No	Yes	No	No	No	No

TABLE 5.3 (continued)
PREFERRED REFINED AIR DISPERSION MODELS
AND THEIR USES

MODEL CHARACTERISTIC	REFINED MODELS								
	ISC3[1]	RAM[2]	CTDMPLUS[3]	INPUFF[4]	CALPUFF[5]	OBODM[6]	DEGADIS[7]	HGSYSTEM[7]	SLAB[9]
Model Negatively Buoyant Gases?	No	No	No	No	No		Yes	Yes	Yes
Single or Multiple Sources per Simulation?	Multiple	Multiple	Multiple	Multiple	Multiple		Single	Single	Single

1 Industrial Source Complex 3 model
2 Gaussian-Plume Multiple Source Air Quality Algorithm
3 Complex Terrain Dispersion Model Plus Algorithms for Unstable Situations
4 Integrated Puff Model
5 CALPUFF Dispersion Model
6 Open Burn Open Detonation Model
7 Dense Gas Dispersion Model
8 Dispersion Models for Ideal Gases and Hydrogen Fluoride
9 SLAB Dispersion Model