

PREPROCESSOR INPUT FILE

Case #: 2
 Case Title: NDCT Preprocessor Model NRC Met Tape All Years (HAR2&3 + HNP1)

Card1:

ITITLE TITLE

Card 2:

ISTOP	Number of Records Read (0=ALL)	0
ISKIP	Skip Control (1=No Skip, 2=Every Other)	1
IOUT	Output Control (0=Full, 1=No Records)	0
IMIX	Mixing Height Switch (1=Ave., 2=Tape)	2
IUR	Mixing Height Type (1=Rural, 2=Urban)	1
IWIND	Stability Class Switch for NRC Tape (1=Sigma Theta, 2=Delta T)	2
NFOG	Fog Calculations (0=No, 1=Yes)	0
NDRIFT	Drift Calculations (0=No, 1=Yes)	1
ITOWER	Type of Tower (1=NDCT, 2=CMDCT, 3=LMDCT)	1
ITAPE	Type of Tape (1=CD-144, 2=NRC, 3=TDF-14)	2
IZONE	Time Zone (5=Eastern, 6=Central, 7=Mountain, 8-Pacific)	5

Card 3:

ALAT	Site Latitude in Degrees North Latitude	Source: HAR ER	35
ALONG	Site Longitude in Degrees West Longitude	Chapter 2.1, Table 2.1-1	78
ROUGHT	Roughness Height (cm)		1.0
HREF	Reference Height of Met Tape (m)		10.0

Card 4:

TWRHT	Tower Effective Height (m)	Source: HAR ER Chapter 5.3.3 BLN ER Chapter 5.3.3	183
TWRDM	Tower Effective Exit Diameter (m)		122
TWRHE	Tower Effective Heat Rejection (MW)		6,641
TWRAF	Tower Effective Air Flow (kg/s)		45,112.8

Card 5:

CKT(1)	January Clearness Index	Source: SACTI User Manual Appendix B	0.51
CKT(2)	February Clearness Index		0.52
CKT(3)	March Clearness Index		0.54
CKT(4)	April Clearness Index		0.57
CKT(5)	May Clearness Index		0.55
CKT(6)	June Clearness Index		0.54
CKT(7)	July Clearness Index		0.57
CKT(8)	August Clearness Index		0.55
CKT(9)	September Clearness Index		0.53
CKT(10)	October Clearness Index		0.54
CKT(11)	November Clearness Index		0.53
CKT(12)	December Clearness Index		0.50

Case #: 2
Case Title: NDCT Preprocessor Model NRC Met Tape All Years (HAR2&3 + HNP1)

Card 6:

HAVG(1)	January Daily Solar Insolation (mj/m ²)	Source: SACTI User Manual Appendix B	9.00
HAVG(2)	February Daily Solar Insolation (mj/m ²)		11.85
HAVG(3)	March Daily Solar Insolation (mj/m ²)		15.66
HAVG(4)	April Daily Solar Insolation (mj/m ²)		20.22
HAVG(5)	May Daily Solar Insolation (mj/m ²)		21.64
HAVG(6)	June Daily Solar Insolation (mj/m ²)		22.44
HAVG(7)	July Daily Solar Insolation (mj/m ²)		23.15
HAVG(8)	August Daily Solar Insolation (mj/m ²)		20.14
HAVG(9)	September Daily Solar Insolation (mj/m ²)		16.62
HAVG(10)	October Daily Solar Insolation (mj/m ²)		13.23
HAVG(11)	November Daily Solar Insolation (mj/m ²)		10.05
HAVG(12)	December Daily Solar Insolation (mj/m ²)		8.16

PLUME MODEL INPUT FILE

Case #: 2
Case Title: NDCT Preprocessor Model NRC Met Tape All Years (HAR2&3)

Card 1:

LLABEL TITLE

Card 2:

IOUT	Output Control Switch (0=plume variables only, 1=plume variables and tower conditions, 2=only label and input constants)	2
NFOG	Fogging/Icing Control Switch (0=No Fogging, 1=Run Fogging Cases)	0
NDRIFT	Drift Control Switch (0=No Drift, 1=Run Drift)	1
NFRAD	Number of Fogging/Icing Radials	Blank
SMAXP	Max. Distance for Plume Calculations (m)	16,000
SMAXF	Max. Distance for Fogging Calculations (m)	Blank
NPORTS	Number of Source Output Ports (Towers)	2
NUSER	Number of User Specified Plates for Wake Entrainment	0
NTWRS	Number of Tower Housings (Leave blank if NDCT)	Blank
ISOURC	Effective Source Mode Switch (0=Multiple Mode, 1=Effective Source)	0

Card 3: (Repeated to supply NFRAD values)

RAD(1)	First Radial Distance (km)	N/A
RAD(2)	Second Radial Distance (km)	N/A
RAD(3)	Third Radial Distance (km)	N/A
RAD(4)	Fourth Radial Distance (km)	N/A
RAD(5)	Fifth Radial Distance (km)	N/A
RAD(6)	Sixth Radial Distance (km)	N/A
RAD(7)	Seventh Radial Distance (km)	N/A
RAD(8)	Eighth Radial Distance (km)	N/A

Card 4: (Repeat for each tower) (See Figure 1)

Source: Figure 1

XC1	X-Coordinate of Tower (HAR 3)	-120
YC1	Y-Coordinate of Tower (HAR 3)	250
XC2	X-Coordinate of Tower (HAR 2)	0
YC2	Y-Coordinate of Tower (HAR 2)	0
XC3	X-Coordinate of Tower (HAR 2)	280
YC3	Y-Coordinate of Tower (HAR 2)	-550

Card 5:

Source: Figure 1

NWD		
USERWD(1)	First Wind Direction (degrees East of North)	18
USERWD(2)	Second Wind Direction (degrees East of North)	63
USERWD(3)	Third Wind Direction (degrees East of North)	108
USERWD(4)	Fourth Wind Direction (degrees East of North)	153

Case #: 2
 Case Title: NDCT Preprocessor Model NRC Met Tape All Years (HAR2&3)

Card 6:

IWEQN(1)	Wind Equivalence Number for Sector 1	Source: SACTI User Manual Appendix C	1
IWEQN(2)	Wind Equivalence Number for Sector 2		1
IWEQN(3)	Wind Equivalence Number for Sector 3		2
IWEQN(4)	Wind Equivalence Number for Sector 4		2
IWEQN(5)	Wind Equivalence Number for Sector 5		3
IWEQN(6)	Wind Equivalence Number for Sector 6		3
IWEQN(7)	Wind Equivalence Number for Sector 7		4
IWEQN(8)	Wind Equivalence Number for Sector 8		4
IWEQN(9)	Wind Equivalence Number for Sector 9		1
IWEQN(10)	Wind Equivalence Number for Sector 10		1
IWEQN(11)	Wind Equivalence Number for Sector 11		2
IWEQN(12)	Wind Equivalence Number for Sector 12		2
IWEQN(13)	Wind Equivalence Number for Sector 13		3
IWEQN(14)	Wind Equivalence Number for Sector 14		3
IWEQN(15)	Wind Equivalence Number for Sector 15		4
IWEQN(16)	Wind Equivalence Number for Sector 16		4

Card 7: (Omitted for NDCT)

Card 8: (Omitted for NDCT)

Card 1D:

DLABEL Drift Label

Source:
SACTI User Manual
Case Study 2: NDCT
HAR ER Chapter 2.3

Card 2D:

NDROPS	Number of Drop Sizes	30
DRIFTR	Drift Rate (g/s)	2,013.3
CWSC	Cooling Water Salt Concentration (g salt/g solution)	0.000195
SDENS	Salt Density (g/cm ³)	2.17

Card 3D: (one card for each drop bin)

DROPS	I'th Range in Drop Diameter (um)	SEE TABLE 2
MASFRAC	Fraction of Mass Emission Rate in that Range	
DRPCON	Fraction of Salt in I'th Drop (g salt/g solution) (0.0 Defaults to CWSC)	

Source:
SACTI User Manual
Case Study 2: NDCT

TABLE MODEL INPUT FILE

Case #: 2
 Case Title: NDCT Preprocessor Model NRC Met Tape All Years (HAR2&3 + HNP1)

Card1:

NSEASN Number of Seasons
 MM Number of Shadowing Sector Partitions

Card 2:

Season	Season Name	Source: SACTI User Manual Case Study 2: NDCT	Winter
Season	Season Name		Spring
Season	Season Name		Summer
Season	Season Name		Fall
Season	Season Name		Annual
Season	Season Name		

Card 3:

	Blank (for Defaults)	Source: SACTI User Manual Case Study 2: NDCT	
JD1	First Day in Winter		335
JD2	Last Day in Winter		59
JD1	First Day in Spring		60
JD2	Last Day in Spring		151
JD1	First Day in Summer		152
JD2	Last Day in Summer		243
JD1	First Day in Fall		244
JD2	Last Day in Fall		334
JD1	First Day in Annual		0
JD2	Last Day in Annual		0

Card 4:

RSTAR 1-1 Effective Radius of Combined Plume Sources (m) 0

Card 5:

NXL	Number of Length Divisions (Blank defaults to 100)	-
NXH	Number of Height Divisions (Blank defaults to 100)	-
NXR	Number of Radial Divisions (Blank defaults to 100)	-
NXS	Number of Shadowing Radials (Blank defaults to 40)	-
NXD	Number of Drift Radials (Blank defaults to 100)	-

Card 6: Not Required since defaults were used.