

# **Appendix A**

## **Cross Check Tables**

## Table of Contents

	<u>Page</u>
Calibration Standard Code to Component Type .....	1
Certification Event Code to Test Type .....	1
Component Type and Basis to Sample Acquisition Method .....	1
Component Type and Span Scale to Span Method .....	3
Control to Unit Type Cross Check Table .....	4
Default Parameter to Purpose .....	5
Default Parameter to Source of Value .....	5
Default Parameter, Boiler Type, and Fuel Type to Default Value .....	7
Event Code to System or Component Type .....	8
Event Code to Test Type Codes .....	8
F-Factor Range Checks .....	10
Formula Code to F-Factor Parameter .....	10
Formula Parameter and Component Type and Basis to Formula Code .....	10
Fuel Code to Minimum and Maximum Moisture Default Value .....	14
Fuel Flow to Load Baseline UOM to Load UOM and System Type .....	14
Fuel Type Reality Checks for Density .....	14
Fuel Type Reality Checks for FC Factor .....	15
Fuel Type Reality Checks for GCV .....	15
Fuel Type Reality Checks for Sulfur .....	15
Fuel Type Warning Levels for Density.....	15
Fuel Type Warning Levels for GCV .....	16
Fuel Type Warning Levels for Sulfur .....	16
Hourly Emissions Tolerances .....	16
Method Parameter to Maximum Default Parameter to Component Type .....	17
Method Parameter to Method to System Type .....	17
Method to Substitute Data Code .....	19
NOX MPC to Fuel Category and Unit Type .....	20
Oil Volume UOM to Density UOM to GCV UOM .....	21
Operating Condition to Category .....	21
Parameter to Category .....	22
Quarterly Emissions Tolerances .....	23
Required Test Code to Required ID and System or Component Type .....	24
System Type to Component Type.....	25
System Type to Formula Parameter .....	26
System Type to Fuel Group .....	26
System Type to Optional Component Type.....	27
T-Values.....	28
Table D-6 Missing Data Values.....	29
Test Tolerances .....	29
Test Type to Parameter .....	30
Test Type to Required Test Code .....	31

**Calibration Standard Code to Component Type**

CalibrationStandardCode	ComponentTypeCode	
E	HG	
O	HG	
SBP	SO2	
SBP	NOX	
SBP	CO2	
BBP	SO2	
BBP	NOX	
MBP	SO2	
MBP	NOX	
MBP	CO2	
SRM		
PRM		
NTRM		
RGM		
GMIS		
ZAM	O2	
SBP	O2	
SIA	O2	

\*Appropriate Component Type for Calibration Standard Code

**Certification Event Code to Test Type**

EventCode	TestTypeCode	
250	RATA	
20		
25		
26		
40		
125		
305	RATA	

\*Identifies which events allow a 90/180 deadline to complete the required test type.

**Component Type and Basis to Sample Acquisition Method**

GenericComponentType	BasisCode	SampleAcquisitionMethodCode
FLOW		DP
FLOW		U
FLOW		T
FLOW		O
FUELFLOW		COR

**Component Type and Basis to Sample Acquisition Method**

<b>GenericComponentType</b>	<b>BasisCode</b>	<b>SampleAcquisitionMethodCode</b>
FUELFLOW		DP
FUELFLOW		NOZ
FUELFLOW		ORF
FUELFLOW		O
FUELFLOW		T
FUELFLOW		TUR
FUELFLOW		VEN
FUELFLOW		VTX
FUELFLOW		PDP
FUELFLOW		U
TANK		O
TANK		
CONC	W	DIL
CONC	W	DIN
CONC	W	DOU
CONC	W	IS
CONC	W	ISC
CONC	D	EXT
CONC	W	WXT
CONC	W	ISP
CONC	W	O
OP		O
OP		IS
OP		ISC
DAHS		
PLC		
DL		
PRB		
DP		
CALR		
FLC		
TEMP		
PRES		
GCH		
CONC	D	O
H2O		IS
H2O		ISC
H2O		ISP

**Component Type and Basis to Sample Acquisition Method**

GenericComponentType	BasisCode	SampleAcquisitionMethodCode
H2O		EXT
H2O		WXT
H2O		T
H2O		TUR
H2O		O
FUELFLOW		VCON
GFM	D	TRAP
TRAP		TRAP
CONC	D	DOD

\*Appropriate Sample Acquisition Method Codes for Component Type and Basis.

**Component Type and Span Scale to Span Method**

ComponentTypeCode	SpanScaleCode	SpanMethodCode
CO2	H	HD
CO2	H	TB
CO2	L	HD
CO2	L	TB
O2	H	
O2	L	
FLOW		F
FLOW		TR
FLOW		HD
NOX	H	TB
NOX	H	TR
NOX	H	OL
NOX	H	ME
NOX	H	HD
NOX	L	F
NOX	L	TR
NOX	L	HD
NOX	L	OL
NOX	L	PL
SO2	H	F
SO2	H	TR
SO2	H	HD
SO2	H	OL
SO2	L	F
SO2	L	OL

**Component Type and Span Scale to Span Method**

<b>ComponentTypeCode</b>	<b>SpanScaleCode</b>	<b>SpanMethodCode</b>
SO2	L	GS
SO2	L	HD
HG	H	TB
HG	H	TR
HG	H	HD
HG	L	F

\*Appropriate span method for component type and span scale.

**Control to Unit Type Cross Check Table**

<b>ControlCode</b>	<b>UnitTypeCode</b>
LNBO	AF
LNBO	DTF
H2O	CC
H2O	CT
H2O	OT
H2O	C
H2O	T
H2O	OB
H2O	IGC
LNB	DB
LNB	DTF
LNB	DVF
LNBO	DVF
LNB	OB
LNBO	OB
LNB	PRH
LNBO	PRH
LNC1	T
LNC2	T
LNC3	T
LNCB	CB
LNCB	DB
DLNB	CC
DLNB	CT
DLNB	OT
DLNB	IGC
LNBO	DB

**Control to Unit Type Cross Check Table**

<b>ControlCode</b>	<b>UnitTypeCode</b>	
LNBO	DFF	

\*Appropriate Unit Type for Control

**Default Parameter to Purpose**

<b>ParameterCode</b>	<b>DefaultPurposeCode</b>	
HGC	LM	
HGX	MD	
SORX	MD	
O2X	DC	
CO2X	MD	
BWA	PM	
MHHI	LM	
AKSF	AK	
H2O	PM	
CO2R	LM	
NOXR	LM	
SO2R	LM	
SO2R	F23	
MNGF	DM	
MNOF	DM	
CO2N	DC	
O2N	MD	
H2ON	MD	
H2OX	MD	
FLOX	MD	
MNHI	MD	
MNNX	MD	
SO2X	MD	
NOCX	MD	
NORX	MD	

\*Links ParameterCode to appropriate DefaultPurposeCode in Monitoring Default record.

**Default Parameter to Source of Value**

<b>ParameterCode</b>	<b>DefaultSourceCode</b>	
CO2R	DEF	
CO2N	DEF	
CO2X	DATA	
CO2R	SAMP	

**Default Parameter to Source of Value**

<b>ParameterCode</b>	<b>DefaultSourceCode</b>	
FLOX	DATA	
FLOX	TEST	
H2O	DEF	
H2O	APP	
H2ON	DATA	
H2ON	DEF	
H2OX	DATA	
H2OX	DEF	
MNGF	DATA	
MNOF	DATA	
MNHI	APP	
MNNX	APP	
NOCX	DATA	
NOCX	TEST	
NOCX	DEF	
NOXR	DEF	
NOXR	TEST	
NOXR	DATA	
NORX	DATA	
NORX	TEST	
NORX	DEF	
O2N	DATA	
O2X	DEF	
SO2R	CONT	
SO2R	SAMP	
SO2R	DEF	
SO2X	TEST	
SO2X	DEF	
SO2X	SAMP	
MHHI	MAXD	
MHHI	DATA	
MHHI	APP	
BWA	DATA	
SO2R	PERM	
CO2N	DATA	
O2X	DATA	
H2O	DATA	
SO2R	APP	

**Default Parameter to Source of Value**

<b>ParameterCode</b>	<b>DefaultSourceCode</b>	
SO2X	DATA	
SORX	DATA	
SORX	DEF	
SORX	SAMP	
SORX	TEST	
HGC	TEST	
HGX	TEST	
HGX	DATA	
HGX	DEF	
AKSF	DATA	
NOCX	PERM	
NORX	PERM	
NORX	MAXD	
NORX	MAXD	

\*Links ParameterCode to appropriate DefaultSourceCode in Monitoring Default record.

**Default Parameter, Boiler Type, and Fuel Type to Default Value**

<b>ParameterCodeAndBoilerType</b>	<b>FuelCode</b>	<b>DefaultValue</b>
SO2R	PNG	.0006
SO2R	NNG	.06
SO2R	OIL	2.1
SO2R	OOL	2.1
SO2R	DSL	.5
CO2R	NNG	.059
CO2R	PNG	.059
CO2R	OIL	.081
CO2R	OOL	.081
CO2R	DSL	.081
NOXR-BOILER	NNG	1.5
NOXR-BOILER	PNG	1.5
NOXR-BOILER	OOL	2
NOXR-BOILER	OIL	2
NOXR-BOILER	DSL	2
NOXR-TURBINE	NNG	.7
NOXR-TURBINE	PNG	.7
NOXR-TURBINE	OOL	1.2
NOXR-TURBINE	OIL	1.2

**Default Parameter, Boiler Type, and Fuel Type to Default Value**

<b>ParameterCodeAndBoilerType</b>	<b>FuelCode</b>	<b>DefaultValue</b>
NOXR-TURBINE	DSL	1.2

\*Links default parameter, boiler type, and fuel type to default value.

**Event Code to System or Component Type**

<b>EventCode1</b>	<b>EventCode2</b>	<b>SystemOrComponentType</b>
160		H2O
1	15	DAHS
170	195	CONC
20	26	CEMNOXP
30	35	CONC
100	108	CONC
109		H2O
110	151	CONC
200		CEM
300	312	FLOW
400	410	FFM
501	504	NOXE
600	630	OP
800		CEM
900		HGK
250	255	NOXP

\*Identifies which types of monitoring systems and components are appropriate for which types of QA certification events.

**Event Code to Test Type Codes**

<b>EventCode1</b>	<b>EventCode2</b>	<b>TestTypeCode</b>
1	3	DAHS
5	10	RATA
5		LINE
15		DAHS
30	51	LINE
20	26	RATA
40	51	RATA
40		7DAY
51		7DAY
100	101	RATA
100	102	LINE
100	101	7DAY
101		CYCLE

**Event Code to Test Type Codes**

<b>EventCode1</b>	<b>EventCode2</b>	<b>TestTypeCode</b>
105		RATA
106	107	LINE
108	130	RATA
108		7DAY
120	125	LINE
120	125	7DAY
120	125	CYCLE
140	151	LINE
160		RATA
170	185	LINE
185		CYCLE
185		RATA
185		7DAY
195		RATA
195		7DAY
200		RATA
300	301	RATA
300		7DAY
305		RATA
305		7DAY
311		RATA
400		FFACC
401		FFACCTT
402	403	PEI
405	410	FFACC
501	504	APPE
700		UNITDEF
800		LINE
800		RATA
900		RATA
950		HGLME
252		PEMSACC
250	251	RATA
254	255	RATA
191	195	LINE

\*Identifies which types of tests are required for which types of QA certification events.

### F-Factor Range Checks

Factor	Lower Value	Upper Value
FC	900	3000
FD	8000	12000
FW	9000	13000

### Formula Code to F-Factor Parameter

FormulaCode	ParameterCode	
19-1	FD	
F-5	FD	
19-2	FW	
19-3	FD	
19-3D	FD	
19-4	FD	
19-5	FD	
19-5D	FD	
19-6	FC	
19-7	FC	
F-6	FC	
19-8	FC	
19-9	FC	
F-14A	FC	
F-14A	FD	
F-14B	FC	
F-14B	FD	
G-4	FC	
F-15	FC	
F-16	FC	
F-17	FD	
F-18	FD	

\*Links formula code to f-factor parameters that are factors in the formula.

### Formula Parameter and Component Type and Basis to Formula Code

ParameterCode	ComponentTypeAndBasis	FormulaCode
HGC		K-5
HGM	HGW	F-28
HGM	HGD	F-29
CO2	OFFM	G-4
HI	BOFF	F-19V

**Formula Parameter and Component Type and Basis to Formula Code**

<b>ParameterCode</b>	<b>ComponentTypeAndBasis</b>	<b>FormulaCode</b>
HI	OFFM	F-19V
FLOW		T-FL
CO2		G-4A
CO2M		G-1
CO2M		G-2
CO2M		G-3
CO2M		G-5
CO2M		G-6
CO2M		G-8
FC		F-7B
FC		F-8
FD		F-7A
FD		F-8
FGAS		N-GAS
FLOW		X-FL
FOIL		N-OIL
FW		F-8
FW		19-14
HI		F-21A
HI		F-21B
HI		F-21C
HI		F-21D
HI		F-25
HI		D-15A
HI		SS-3A
HI		SS-3B
NOXR		E-2
NOX		F-24A
NOX		SS-2A
NOX		SS-2B
NOX		SS-2C
NOXR		NS-1
NOXR		NS-2
NOXR		19-3D
NOXR		19-5D
SO2		D-12
SO2		SS-1A
SO2		SS-1B

**Formula Parameter and Component Type and Basis to Formula Code**

<b>ParameterCode</b>	<b>ComponentTypeAndBasis</b>	<b>FormulaCode</b>
SO2		F-23
SO2R		D-1H
NOXR	O2B	19-1
NOXR	O2B	19-2
NOXR	O2B	19-3
NOXR	O2B	19-4
NOXR	O2B	19-5
NOXR	O2B	F-5
HIT	BGFF	D-15
HIT	BOFF	D-15
HIT	OFFM	D-15
HIT	GFFM	D-15
CO2	O2B	F-11
CO2	O2B	F-2
CO2C	O2B	F-14A
CO2C	O2B	F-14B
HI	O2B	F-17
HI	O2B	F-18
CO2	CO2W	F-11
CO2	CO2D	F-2
CO2C	O2W	F-14B
CO2C	O2D	F-14A
CO2	O2W	F-11
CO2	O2D	F-2
SO2	SO2W	F-1
SO2	SO2D	F-2
NOXR	CO2D	19-6
NOXR	CO2D	19-8
NOXR	CO2W	F-6
NOXR	CO2W	19-7
NOXR	CO2W	19-9
NOXR	O2D	F-5
NOXR	O2D	19-1
NOXR	O2D	19-4
NOXR	O2W	19-2
NOXR	O2W	19-5
NOXR	O2W	19-3
NOXR	NOXD	F-5

**Formula Parameter and Component Type and Basis to Formula Code**

<b>ParameterCode</b>	<b>ComponentTypeAndBasis</b>	<b>FormulaCode</b>
NOXR	NOXD	19-1
NOXR	NOXD	19-5
NOXR	NOXD	19-6
NOXR	NOXD	19-9
NOXR	NOXW	19-2
NOXR	NOXW	19-3
NOXR	NOXW	19-4
NOXR	NOXW	19-7
NOXR	NOXW	F-6
NOXR	NOXW	19-8
NOX	NOXD	F-26B
NOX	NOXW	F-26A
HI	O2D	F-18
HI	O2W	F-17
HI	CO2D	F-16
HI	CO2W	F-15
HI	OFFM	D-8
HI	OFFM	F-19
HI	GFFM	D-6
HI	GFFM	F-20
OILM	OFFM	D-3
SO2	OFFM	D-2
SO2	GFFM	D-4
SO2	GFFM	D-5
CO2	GFFM	G-4
H2O		F-31
H2O		M-1K
CO2	BOFF	G-4
CO2	BGFF	G-4
HI	BOFF	D-8
HI	BOFF	F-19
HI	BGFF	D-6
HI	BGFF	F-20
SO2	BOFF	D-2
SO2	BGFF	D-4
SO2	BGFF	D-5

\*Links formula parameter and component type and basis to the formula code.

**Fuel Code to Minimum and Maximum Moisture Default Value**

<b>FuelCode</b>	<b>MinimumValue</b>	<b>MaximumValue</b>
ANT	3	5
BT	6	8
SUB	8	12
LIG	11	13
W	13	15
NNG	14	18
PNG	14	18

\*Provides minimum and maximum values for moisture defaults.

**Fuel Flow to Load Baseline UOM to Load UOM and System Type**

<b>BaselineUOM</b>	<b>LoadUOM</b>	<b>SystemTypeList</b>
1	MW	GAS,LTGS
2	KLBHR	GAS,LTGS
3	MW	OILM,OILV,LTOL
4	KLBHR	OILM,OILV,LTOL
5	MW	OILV,LTOL
6	KLBHR	OILV,LTOL
7	MMBTUHR	GAS,LTGS
8	MMBTUHR	OILM,OILV,LTOL
9	MMBTUHR	OILV,LTOL
BTUKBTU	MMBTUHR	
BTUKWH	MW	
BTULB	KLBHR	

\*This table identifies appropriate combinations of fuel flow-to-load ratio and GHR units of measure to load and system type.

**Fuel Type Reality Checks for Density**

<b>Fuel Code - Units of Measure</b>	<b>Lower Value</b>	<b>Upper Value</b>
DSL - LBBBL	42	2100
DSL - LBGAL	1	50
DSL - LBM3	264	13209
DSL - LBSCF	7	374
OIL - LBBBL	42	2100
OIL - LBGAL	1	50
OIL - LBM3	264	13209
OIL - LBSCF	7	374

**Fuel Type Reality Checks for FC Factor**

<b>FuelType</b>	<b>Lower Value</b>	<b>Upper Value</b>
GAS	900	1550
OIL	1200	1800

**Fuel Type Reality Checks for GCV**

<b>Fuel Code - Units of Measure</b>	<b>Lower Value</b>	<b>Upper Value</b>
DSL - BTUBBL	420000	7560000
DSL - BTUGAL	10000	180000
DSL - BTUM3	2641729	47551117
DSL - BTUSCF	74806	1346499
OIL - BTUBBL	420000	8400000
OIL - BTUGAL	10000	200000
OIL - BTUM3	2641729	52834575
OIL - BTUSCF	74806	1496110
LPG - BTUHSCF	150000	475000
NNG - BTUHSCF	45000	350000
PNG - BTUHSCF	45000	235000
DSL - BTULB	200	177396
OIL - BTULB	200	177396

**Fuel Type Reality Checks for Sulfur**

<b>Fuel Code</b>	<b>Lower Value</b>	<b>Upper Value</b>
DSL	0	10
OIL	0	10
NNG	0	100
PNG	0	10

**Fuel Type Warning Levels for Density**

<b>Fuel Code - Units of Measure</b>	<b>Lower Value</b>	<b>Upper Value</b>
DSL - LBBBL	252	378
DSL - LBGAL	6	9
DSL - LBM3	1585	2378
DSL - LBSCF	45	67
OIL - LBBBL	294	420
OIL - LBGAL	7	10
OIL - LBM3	1849	2642

**Fuel Type Warning Levels for Density**

<b>Fuel Code - Units of Measure</b>	<b>Lower Value</b>	<b>Upper Value</b>
OIL - LBSCF	52	75

**Fuel Type Warning Levels for GCV**

<b>Fuel Code - Units of Measure</b>	<b>Lower Value</b>	<b>Upper Value</b>
DSL - BTUBBL	420000	6972000
DSL - BTUGAL	100000	166000
DSL - BTUM3	26417287	43852697
DSL - BTUSCF	748055	1241771
OIL - BTUBBL	420000	6972000
OIL - BTUGAL	100000	166000
OIL - BTUM3	26417287	43852697
OIL - BTUSCF	748055	1241771
LPG - BTUHSCF	235000	395000
NNG - BTUHSCF	90000	150000
PNG - BTUHSCF	90000	150000
DSL - BTULB	11000	30000
OIL - BTULB	9900	29000

**Fuel Type Warning Levels for Sulfur**

<b>Fuel Code</b>	<b>Lower Value</b>	<b>Upper Value</b>
DSL	0	2
OIL	0	5
NNG	0	50
PNG	0	1

**Hourly Emissions Tolerances**

<b>Parameter</b>	<b>UOM</b>	<b>Tolerance</b>
HIT	MMBTU	1
NOXM	LB	0.1
SO2M	LB	0.1
CO2M	TON	0.1
SO2C	PPM	0.1
NOXC	PPM	0.1
FLOW	SCFH	1000
NOXR	LBMGBTU	0.005

### Hourly Emissions Tolerances

Parameter	UOM	Tolerance
CO2C	PCT	0.1
H2O	PCT	0.1
HI	MMBTUHR	1
SO2	LBHR	0.1
NOX	LBHR	0.1
CO2	TNHR	0.1
OILM	LBHR	0.5
HI HPPF	MMBTUHR	0.1
SO2 Oil HPPF	LBHR	0.1
SO2 Gas HPPF	LBHR	0.0001
CARBON	LB	0.1
FOIL		0.1
CO2M DAILY	TON	0.1

\*A tolerance (allowable error) to use when comparing reported values for emissions data to results calculated using associated formulas and measured values.

### Method Parameter to Maximum Default Parameter to Component Type

MethodParameterCode	DefaultParameterCode	ComponentTypeCode
CO2	FLOX	FLOW
HI	FLOX	FLOW
SO2	FLOX	FLOW
NOXR	NORX	
NOX	NOCX	NOX
NOX	FLOX	FLOW
SO2	SO2X	SO2
SO2	SORX	

\*Links monitoring method parameter to the default value parameter for maximum substitute data values. Links to span component type that contains corresponding mpc/mer/mpf.

### Method Parameter to Method to System Type

MethodParameterCode	MethodCode	SystemTypeCode
CO2	AD	
HI	AD	
HI	ADCALC	
SO2	AD	
CO2M	FSA	
CO2	CEM	CO2
SO2	AMS	SO2
CO2M	LME	
CO2	AMS	CO2

**Method Parameter to Method to System Type**

<b>MethodParameterCode</b>	<b>MethodCode</b>	<b>SystemTypeCode</b>
H2O	MDF	
H2O	MTB	H2OT
H2O	MMS	H2OM
H2O	MWD	H2O
OP	EXP	
OP	COM	OP
HI	CEM	CO2
HI	CALC	
HIT	MHHI	
HI	AMS	CO2
HIT	LTFF	
NOXR	AE	NOXE
NOXR	CEM	NOX
NOXR	AMS	NOX
NOX	CEM	NOXC
NOX	NOXR	
NOX	CEMNOXR	NOXC
NOXM	LME	
NOX	AMS	NOXC
NOXR	PEM	NOXP
SO2	F23	
HIT	LTFCALC	
SO2	CEM	SO2
SO2	CEMF23	SO2
SO2M	LME	
HI	EXP	
HIT	CALC	
HI	AMS	O2
HI	CEM	O2
HGM	CEM	HG
HGM	CEMAK	HG
HGM	CEMAK	HGK
HGM	AK	HGK
HGM	AMS	
HGM	LME	

\*Cross check table linking method parameter codes to method method codes.

**Method to Substitute Data Code**

<b>MethodCode</b>	<b>SubstituteDataCode</b>	<b>ParameterCode</b>
LTFE	MHHI	
LTFCALC	MHHI	
MMS	SPTS	
MTB	SPTS	
MWD	SPTS	
AD	SPTS	
ADCALC	SPTS	
AE	SPTS	
CEMF23	SPTS	
CEMNOXR	SPTS	
CEM	SPTS	
CEM	FSP75	
CEM	FSP75C	
CEMF23	FSP75	
CEMF23	FSP75C	
CEMNOXR	FSP75	
CEMNOXR	FSP75C	
AMS	SPTS	
FSA	SPTS	
MMS	REV75	
MTB	REV75	
MWD	REV75	
PEM	SPTS	
PEM	FSP75	
PEM	FSP75C	
AMS	FSP75	
AMS	FSP75C	
AD	NLB	
ADCALC	NLB	
AD	NLBOP	
ADCALC	NLBOP	
AMS	NLB	
AMS	NLBOP	
CEM	NLB	
CEM	NLBOP	
CEMF23	NLB	
CEMF23	NLBOP	
CEMNOXR	NLB	

**Method to Substitute Data Code**

<b>MethodCode</b>	<b>SubstituteDataCode</b>	<b>ParameterCode</b>
CEMNOXR	NLBOP	
FSA	NLB	
FSA	NLBOP	
LTFCALC	SPTS	
LTFE	SPTS	
PEM	NLB	
PEM	NLBOP	
CEM	OZN75	NOX
CEMNOXR	OZN75	NOX
CEM	OZN75	NOXR
AMS	OZN75	NOX
AMS	OZN75	NOXR

\*Cross check table linking substitute data code to method parameter and method code.

**NOX MPC to Fuel Category and Unit Type**

<b>NOX MPC</b>	<b>FuelCategory</b>	<b>UnitTypeCode</b>
800	COAL	
1600	COAL	
400	GAS	
480	GAS	
400	OIL	
400	OIL/GAS	
480	OIL	
480	OIL/GAS	
2000		KLN
200	GAS	PRH
500	OIL	PRH
500	OIL/GAS	PRH
460	COAL	T
460	COAL	CFB
675	COAL	DB
675	COAL	DTF
675	COAL	S
975	COAL	DVF
975	COAL	CB
975	COAL	AF
1200	COAL	WBF
1200	COAL	WBT

**NOX MPC to Fuel Category and Unit Type**

NOXMPC	FuelCategory	UnitTypeCode
1200	COAL	C
380	GAS	T
380	OIL	T
380	OIL/GAS	T
600	GAS	DB
600	OIL	DB
600	OIL/GAS	DB
550	GAS	DVF
550	GAS	AF
550	OIL	DVF
550	OIL	AF
550	OIL/GAS	DVF
550	OIL/GAS	AF
200	OIL	CT
200	OIL/GAS	CT
150	NG	CT
200	GAS	CC
200	GAS	CT
150	NG	CC
200	OIL	CC
200	OIL/GAS	CC

\*Appropriate fuel category (and unit type) for the Part 75 default value for NOx maximum potential concentration.

**Oil Volume UOM to Density UOM to GCV UOM**

OilVolumeUOM	OilDensityUOM	OilGCVUOM
GAL	LBGAL	BTUGAL
M3	LBM3	BTUM3
SCF	LBSCF	BTUSCF
BBL	LBBBL	BTUBBL

\*Identifies valid relationships between UOM codes for Oil Volume, Density, and GCV for Appendix E test.

**Operating Condition to Category**

OperatingConditionCode	CategoryCode
A	DEFAULT
U	LME
C	LME
B	LME
P	LME

**Operating Condition to Category**

<b>OperatingConditionCode</b>	<b>CategoryCode</b>	
E	AE	
M	AE	
N	AE	
U	AE	
X	AE	
W	AE	
Y	AE	
Z	AE	
C	DEFAULT	
B	DEFAULT	
P	DEFAULT	
U	DEFAULT	

\*Links operation condition codes to the categories for which they are appropriate.

**Parameter to Category**

<b>ParameterCode</b>	<b>CategoryCode</b>	
HGC	FORMULA	
HGM	FORMULA	
HGM	METHOD	
HGC	DEFAULT	
HGX	DEFAULT	
AKSF	DEFAULT	
MHHI	DEFAULT	
BWA	DEFAULT	
CO2M	METHOD	
SO2M	METHOD	
NOXM	METHOD	
CO2	METHOD	
H2O	METHOD	
HI	METHOD	
NOXR	METHOD	
NOX	METHOD	
OP	METHOD	
SO2	METHOD	
HIT	METHOD	
CO2N	DEFAULT	
CO2R	DEFAULT	
CO2X	DEFAULT	

**Parameter to Category**

<b>ParameterCode</b>	<b>CategoryCode</b>	
FLOX	DEFAULT	
H2O	DEFAULT	
H2ON	DEFAULT	
H2OX	DEFAULT	
MNGF	DEFAULT	
MNHI	DEFAULT	
MNNX	DEFAULT	
MNOF	DEFAULT	
NOCX	DEFAULT	
NORX	DEFAULT	
NOXR	DEFAULT	
O2N	DEFAULT	
O2X	DEFAULT	
SO2R	DEFAULT	
SO2X	DEFAULT	
SORX	DEFAULT	
CO2	FORMULA	
CO2C	FORMULA	
CO2M	FORMULA	
FC	FORMULA	
FD	FORMULA	
FGAS	FORMULA	
FLOW	FORMULA	
FOIL	FORMULA	
FW	FORMULA	
H2O	FORMULA	
HI	FORMULA	
HIT	FORMULA	
NOX	FORMULA	
NOXR	FORMULA	
OILM	FORMULA	
SO2	FORMULA	
SO2R	FORMULA	

\*Links emission parameter codes to the categories (record types) for which they are appropriate.

**Quarterly Emissions Tolerances**

<b>Parameter</b>	<b>UOM</b>	<b>Tolerance</b>
HIT	MMBTU	50

**Quarterly Emissions Tolerances**

<b>Parameter</b>	<b>UOM</b>	<b>Tolerance</b>
SO2M	TON	0.1
NOXR	LBMMBTU	0.01
NOXM	TON	0.1
CO2M	TON	200
OPHOURS	HR	1
OPTIME	HR	0

\*A tolerance (allowable error) to use when comparing reported values for emissions quarterly summary values to results gained by summing calculations for each parameter across all hours in a quarter

**Required Test Code to Required ID and System or Component Type**

<b>RequiredTestCode</b>	<b>RequiredIDCode</b>	<b>SystemOrComponentType</b>
82	S	NOXP
80	S	NOXP
81	S	NOXP
1	B	FLOW
10	C	CONC
11	B	CONC
2	B	CONC
3	B	FLOW
4	B	CONC
5	S	RATA
6	S	FLOW
7	S	FLOW
8	B	CONC
9	C	CONC
12	B	CONC
13	B	CONC
14	C	CONC
15	B	CEM
16	B	CONC
17	C	CONC
18	C	CEM
19	C	CONC
20	C	DAHS
21	C	DAHS
22	C	DAHS
23	C	DAHS
24	C	CEM
25	C	CEM

**Required Test Code to Required ID and System or Component Type**

RequiredTestCode	RequiredIDCode	SystemOrComponentType
26	S	FLOW
27	B	FLOW
28	B	FLOW
51	C	FFM
52	C	FFM
53	C	FFM
54	C	FFM
55	S	FFM
56	C	FFM
57	C	FFM
75	S	NOXE
40	S	OP
42	S	OP

\*Indicates whether the System ID (S), Component ID (C), or both (B) are required in the event record based on the required test code. Also indicates valid system and/or component types for the required test code.

**System Type to Component Type**

SystemTypeCode	ComponentTypeCode	Mandatory
H2OM	H2O	Yes
H2O	O2	Yes
CO2	CO2	
CO2	O2	
FLOW	FLOW	Yes
GAS	BGFF	
GAS	GFFM	
NOX	NOX	Yes
NOX	CO2	
NOX	O2	
NOXC	NOX	Yes
O2	O2	Yes
OILM	BOFF	
OILM	OFFM	
OILV	OFFM	
OILV	BOFF	
OP	OP	Yes
SO2	SO2	Yes
HG	HG	Yes
HGK	TRAP	Yes
HGK	GFM	Yes

**System Type to Component Type**

SystemTypeCode	ComponentTypeCode	Mandatory
PM	PM	Yes

\*Required Non-DAHS Components in System

**System Type to Formula Parameter**

SystemTypeCode	ParameterCode	Optional
CO2	HI	
O2	HI	
OILM	HI	
GAS	HI	
OILV	HI	
OILV	OILM	SO2
OILM	SO2	SO2
OILV	SO2	SO2
GAS	SO2	SO2
OILM	CO2	CO2
OILV	CO2	CO2
GAS	CO2	CO2
NOX	NOXR	
NOXC	NOX	
SO2	SO2	
H2O	H2O	
HG	HGM	

\*Links system type to required formula parameter.

**System Type to Fuel Group**

SystemTypeCode	FuelGroupCode	
H2OM	NFS	
H2OT	NFS	
HG	NFS	
HGK	NFS	
PM	NFS	
GAS	GAS	
LTGS	GAS	
LTOL	OIL	
NOXE	OIL	
NOXE	GAS	
NOXE	MIX	
NOXP	NFS	

**System Type to Fuel Group**

<b>SystemTypeCode</b>	<b>FuelGroupCode</b>	
OILM	OIL	
OILV	OIL	
CO2	NFS	
FLOW	NFS	
H2O	NFS	
NOX	NFS	
NOXC	NFS	
O2	NFS	
OP	NFS	
SO2	NFS	

\*Links System Type to Fuel Group Codes

**System Type to Optional Component Type**

<b>SystemTypeCode</b>	<b>OptionalComponentTypeCode</b>	
HG	PRB	
PM	PRB	
LTGS	GFFM	
LTGS	BGFF	
LTOL	OFFM	
LTOL	BOFF	
LTOL	TANK	
H2OM	PRB	
OILM	TEMP	
OILV	TEMP	
LTOL	TEMP	
GAS	CALR	
GAS	DP	
GAS	FLC	
GAS	GCH	
GAS	PRES	
GAS	TEMP	
LTGS	CALR	
LTGS	DP	
LTGS	PRES	
LTGS	TEMP	
LTGS	FLC	
LTGS	GCH	
OILM	DP	

**System Type to Optional Component Type**

<b>SystemTypeCode</b>	<b>OptionalComponentTypeCode</b>	
OILM	PRES	
OILV	DP	
OILV	PRES	
LTOL	DP	
CO2	PRB	
H2O	PRB	
O2	PRB	
NOX	PRB	
NOXC	PRB	
SO2	PRB	

\*Optional Non-DAHS components in system.

**T-Values**

<b>NumberOfItems</b>	<b>T-Value</b>	
1	12.706	
2	4.303	
3	3.182	
4	2.776	
5	2.571	
6	2.447	
7	2.365	
8	2.306	
9	2.262	
10	2.228	
11	2.201	
12	2.179	
13	2.160	
14	2.145	
15	2.131	
16	2.120	
17	2.110	
18	2.101	
19	2.093	
20	2.086	
21	2.080	
22	2.074	
23	2.069	
24	2.064	

**T-Values**

NumberOfItems	T-Value
25	2.060
26	2.056
27	2.052
28	2.048
29	2.045
30	2.042

\*A table of t-values for use in calculating relative accuracy.

**Table D-6 Missing Data Values**

Parameter	FuelCode	MissingDataValue
SULFUR	DSL	1.0
SULFUR	OIL	3.5
DENSOIL - LBGAL	DSL	7.4
DENSOIL - LBGAL	OIL	8.5
GCV - BTULB	DSL	20000
GCV - BTULB	OIL	19500
GCV - BTUHSCF	PNG	110000
GCV - BTUHSCF	NNG	110000
GCV - BTUHSCF	BUT	150000
GCV - BTUHSCF	LFG	110000
GCV - BTUHSCF	RFG	150000
GCV - BTUHSCF		210000
GCV - BTUGAL	DSL	148000
GCV - BTUGAL	OIL	165750

\*Appendix D values used for missing data purposes from Table D-6 (Sample Type Code = 8).

**Test Tolerances**

TestTypeCode	FieldDescription	Tolerance
LINE	PercentError	0.1
LINE	MeanDifferencePCT	0.1
LINE	MeanDifferencePPM	1
RATA	RelativeAccuracy	0.01
RATA	BAF	0.001
RATA	AverageGrossUnitLoad	1
RATA	MeanDifferencePCT	0.01
RATA	MeanDifferencePPM	0.1
RATA	MeanDifferenceRATE	0.001
RATA	MeanDifferenceSCFH	1

**Test Tolerances**

<b>TestTypeCode</b>	<b>FieldDescription</b>	<b>Tolerance</b>
RATA	StackArea (PCT)	0.5
GFMCAL	CalibrationFactorY	0.001
LINE	MeanDifferenceUGSCM	0.1
RATA	MeanDifferenceUGSCM	0.1
7DAY	DifferenceUGSCM	0.1
GFMCAL	PercentCalibrationChange	0.1
APPE	OilMass	0.1
APPE	MeanReferenceValue	0.01
7DAY	DifferenceINH2O	0
RATA	MolecularWeight	0.01
RATA	Velocity (PCT)	0.5
RATA	WAF	0.001
RATA	StackFlow (PCT)	0.5
7DAY	CalibrationError	0.1
7DAY	DifferencePPM	1
7DAY	DifferencePCT	0.1
F2LREF	AverageGrossUnitLoad	1
F2LREF	AverageReferenceMethodFlow	1000
F2LREF	ReferenceFlowLoadRatio	0.01
F2LREF	ReferenceGHR	1
LINE	GasPercentOfSpan	5.0
7DAY	GasPercentOfSpan	5.0
CYCLE	GasPercentOfSpan	5.0
APPE	HeatInputRate	0.1

\*Acceptable tolerances between reported and recalculated values in test records.

**Test Type to Parameter**

<b>TestTypeCode</b>	<b>ComponentTypeCode</b>	<b>SystemTypeCode</b>
7DAY	CO2	
7DAY	NOX	
7DAY	O2	
7DAY	FLOW	
7DAY	SO2	
APPE		NOXE
CYCLE		SO2
CYCLE		NOX
CYCLE		NOXC
CYCLE		CO2

**Test Type to Parameter**

<b>TestTypeCode</b>	<b>ComponentTypeCode</b>	<b>SystemTypeCode</b>
CYCLE		O2
F2LCHK		FLOW
FF2LTST		OILM
FF2LTST		OILV
FF2LTST		GAS
FFACC	OFFM	
FFACC	BGFF	
FFACC	BOFF	
FFACC	GFFM	
FFACCTT	BGFF	
FFACCTT	BOFF	
FFACCTT	GFFM	
FFACCTT	OFFM	
LEAK	FLOW	
ONOFF	CO2	
ONOFF	NOX	
ONOFF	SO2	
ONOFF	FLOW	
ONOFF	O2	
RATA		SO2
RATA		NOX
RATA		NOXC
RATA		CO2
RATA		O2
RATA		H2O
RATA		FLOW
LINE	CO2	
LINE	NOX	
LINE	SO2	
LINE	O2	
RATA		NOXP

\*A list of appropriate system/component types for each test type.

**Test Type to Required Test Code**

<b>TestTypeCode</b>	<b>RequiredTestCode</b>	
RATA3	3	
RATA	80	
PEMSACC	81	

**Test Type to Required Test Code**

<b>TestTypeCode</b>	<b>RequiredTestCode</b>	
LINE	2	
LINE	4	
LINE	8	
LINE	11	
LINE	12	
LINE	17	
7DAY	1	
7DAY	2	
7DAY	3	
7DAY	4	
7DAY	10	
7DAY	11	
7DAY	13	
7DAY	14	
7DAY	15	
7DAY	18	
7DAY	25	
APPE	75	
CYCLE	2	
CYCLE	4	
CYCLE	12	
CYCLE	14	
CYCLE	16	
CYCLE	17	
CYCLE	19	
DAHS	20	
DAHS	22	
DAHS	21	
DAHS	23	
FFACC	51	
FFACCTT	52	
FFACCTT	53	
FFACCTT	56	
HGLME	77	
LINE	9	
LINE	10	
ONOFF	24	
ONOFF	25	

**Test Type to Required Test Code**

<b>TestTypeCode</b>	<b>RequiredTestCode</b>	
PEI	52	
PEI	54	
PEI	56	
PEI	57	
DAHS	4	
DAHS	3	
CYCLE	13	
UNITDEF	76	
RATA	2	
RATA	4	
RATA	5	
RATA	8	
RATA	11	
RATA	12	
RATA	13	
RATA	15	
RATA	16	
7DAY	27	
RATA2	7	
RATA3	1	
RATA3	6	
RATA3	27	
LEAK	28	

\*A list of QA Cert Event Required Test Codes which include each test type.