

ADDENDUM A – Midwest ISO

This section contains additional descriptions, conventions and field value tables that are client customized or configured specific to Midwest ISO's requirements.

A.1 Types

A.1.1 OutagePeriod

switchingStart

For the Midwest ISO implementation, this field displays as Planned Start on Fat and Web clients.

restorationComplete

For the Midwest ISO implementation, this field displays as Planned End on Fat and Web clients.

permitStart

For the Midwest ISO implementation, this field is not used and it is ignored as an input.

permitComplete

For the Midwest ISO implementation, this field is not used and it is ignored as an input.

A.1.2 OutageSchedule

primaryRequester

For the Midwest ISO implementation, this field is ignored.

reqRangeType

For the Midwest ISO implementation, this field is ignored.

switchingStart

For the Midwest ISO implementation, this field displays as Planned Start on Fat and Web clients.

restorationComplete

For the Midwest ISO implementation, this field displays as Planned End on Fat and Web clients.

requestLockedBy

For the Midwest ISO implementation, this field is not used and it will have blank/null value by default.

requestLockedWhen

For the Midwest ISO implementation, this field is not used and it will have blank value by default.

reasonPriority

For the Midwest ISO implementation, this is the Requester Notes field.

isolatingPointsFree

For the Midwest ISO implementation, this is the Clearing Location field.

riskAssessmentSCC

For the Midwest ISO implementation, this is the OASIS Posting field.

riskAssessmentField

For the Midwest ISO implementation, this is the Midwest ISO Comment 4 field.

A.1.3 PowerSystemEquipment, PowerSystemResource

Label

The EMS Name of the asset.

externalName

The Common Name of the asset.

assetLongName

The IDC Name of the asset.

A.1.4 ReturnedProfile

requestedEquipment

Depending on the equipment type, different data members of PowerSystemEquipment object will be populated.

A.1.5 RequestedEquipment

RequestedEquipment can be used to identify and add a group of equipment as well as individual Power System Resource objects into an Outage Schedule.

If the systemElement field is an equipment group, CROW adds items in that particular group as individual RequestedEquipment objects, all carrying the same constraint. Then the reference to the RequestedEquipment for the equipment group is removed.

The equipment group and its items are bound by CROW's user privileges.

A.2 Reference Tables

A.2.1 Event Numbering

Not used by Midwest ISO.

A.2.2 Event Types

Not used by Midwest ISO

A.2.3 Voltage Class

To be completed

A.2.4 Outage Numbering

The format of an outage number consists of

- Server ID
- Dash (-) character
- 8-digit Outage ID

E.g. "1-00000017"

A.2.5 Outage / Period Status

Status ID	Status
1	Proposed
2	Submitted
3	Withdrawn
5	Study
6	Pre-Approved
7	Approved
8	Denied
9	Cancelled
10	Implemented
11	Completed
12	Recalled
13	Active
14	Inactive
15	Revoked

A.2.6 Outage Priority

Priority ID	Priority
4	Forced
5	Opportunity
6	Emergency
7	Planned

14	Urgent
15	Future Equipment
16	Retired
17	Discretionary

A.2.7 Constraints

ID	Abbreviation	Constraint
0	OOS	Out of Service
3	Derated to	Derated to
5	Testing	Testing
6	HLW	Hot Line Work
7	GSP	General System Protection
8	MR	Must Run
10	TU	Transmission Constrained Up
11	TD	Transmission Constrained Down
12	SU	Storm Constrained Up
13	SD	Storm Constrained Down
14	SCR	Special Constrained Resource
15	VU	Voltage Support Up
16	VD	Voltage Support Down
17	RMR	Reliability Must Run
18	Econ	Economy
19	BTM-OOS	BTM-OOS
20	Info	Informational
21	InSvcNO	In Service Normally Open

A.2.8 Study

Not applicable to Midwest ISO.

A.2.9 Outage Period Numbering

The outage profile number is a hash value based on the outage request ID, planned start date, planned end date, equipment and constraint associated with the profile.

A.2.10 Power System Resource Types

CROW Name	EPRI Name
Circuit Breaker	Breaker
Capacitor	Capacitor
Unit	GeneratingUnit
Line	Line
Transformer	PowerTransformer
Load	Load
Station	Substation
Special Protection Scheme	SpecialProtectionScheme
Equipment Group	EquipmentGroup

A.2.11 Power System Equipment Types

CROW Name	EPRI Name
Circuit Breaker	Breaker
Capacitor	Capacitor
Unit	GeneratingUnit
Line	Line
Transformer	PowerTransformer
Load	Load
Switchgear	Switch

A.2.12 Instance Property Types

Property Type
Date/Time
Decimal
File
Instance
Integer
Text
True/False

A.2.13 Instance Property Quantity

Quantity
distance
area
volume (spatial)
mass
frequency

temperature
velocity
current
energy
power
voltage
resistance
reactance
time
money
strength
volume (sound)
value
pressure
inductance
inertia
power rate of change
flow rate (volume/time)
magnetic flux
distance

A.2.14 Instance Property Units

Instance Property Quantity	System	Unit
area	Imperial	inches squared
area	Imperial	feet squared
area	Imperial	yards squared
area	Imperial	acres
area	Imperial	miles squared
area	Metric	metres squared
area	Metric	nanometres squared
area	Metric	micrometres squared
area	Metric	millimetres squared
area	Metric	centimetres squared
area	Metric	decimetres squared
area	Metric	hectares
area	Metric	kilometres squared
current		amps
current		milliamps
current		kiloamps
distance	Imperial	inches
distance	Imperial	feet
distance	Imperial	yards
distance	Imperial	miles

distance	Metric	metres
distance	Metric	nanometres
distance	Metric	micrometres
distance	Metric	millimetres
distance	Metric	centimetres
distance	Metric	decimetres
distance	Metric	kilometres
energy		joules
energy		watt hours
energy		megajoules
energy		megawatt hours
flow rate (volume/time)	Metric	cubic metres per second
frequency		hertz
frequency		kilohertz
frequency		megahertz
frequency		/minute
frequency		revolutions per minute
frequency		/hour
frequency		/day
frequency		/week
frequency		/month
frequency		/year
magnetic flux		maxwells
mass	Imperial	ounces
mass	Imperial	pounds
mass	Imperial	tons
mass	Metric	kilograms
mass	Metric	milligrams
mass	Metric	grams
mass	Metric	tonnes
power		watts
power		kilowatts
power		megawatts
power	Imperial	horsepower
power	Metric	horsepower (metric)
pressure	Imperial	pounds/square inch
pressure	Metric	pascals
pressure	Metric	kilopascals
reactance		volt-amps
reactance		megavolt-amps
resistance		ohms
temperature	Imperial	degrees Fahrenheit
temperature	Metric	degrees Celsius
time		seconds
time		milliseconds

time		minutes
time		hours
time		days
time		weeks
value		percent
value		cycles
value		degrees
value		mils
value		psi/second
value		kilopascals/second
velocity	Metric	metres/second
velocity	Metric	kilometres/hour
velocity	Metric	centimetres/second
voltage		volts
voltage		kilovolts
voltage		kV Root Mean Square
volume (sound)		decibels
volume (spatial)	Imperial	inches cubed
volume (spatial)	Imperial	ounces
volume (spatial)	Imperial	quarts
volume (spatial)	Imperial	gallons
volume (spatial)	Imperial	feet cubed
volume (spatial)	Imperial	yards cubed
volume (spatial)	Metric	litres
volume (spatial)	Metric	cubic centimetres
volume (spatial)	Metric	millilitres
volume (spatial)	Metric	centilitres
volume (spatial)	Metric	decilitres
volume (spatial)	Metric	cubic metres
volume (spatial)	Metric	kilolitres
volume (spatial)	Metric	million cubic metres

A.3 Methods

A.3.1 Service.SystemEvent_UpdateEstRetDateTimeComments

Not used by Midwest ISO.

A.3.2 Service.OutageSchedule_ConfirmRequest

Moves the outage request to the Approved status.

A.3.3 Service.OutageSchedule_ApproveRequest

Moves the outage request to the Pre-Approved status.

A.3.4 Service.OutageSchedule_SaveChanges

Allows users with sufficient permissions to make changes to an outage request.

A.3.5 Service.OutageSchedule_SaveProposal

For the Midwest ISO implementation, this method saves the outage request with “Proposed” status.

A.3.6 Service.OutageSchedule_AddCancellationRequest

For the Midwest ISO implementation, this method is restricted by application settings and configuration.

A.3.7 Service.OutageSchedule_AddChangeRequest

For the Midwest ISO implementation, this method is restricted by application settings and configuration.

A.3.8 Service.OutageSchedule_UnConfirmRequest

For the Midwest ISO implementation, this method is restricted by application settings and configuration.

A.3.9 Service.OutageSchedule_DeleteItem

For the Midwest ISO implementation, this method is restricted by application settings and configuration.