

**Smart Grid Questionnaire
PJM TOA-AC
Smart Grid Working Group**

Use this form as a guide for completing your company's Smart Grid Questionnaire. The criteria listed below help you to identify the types of equipment and systems that should be part of your inventory.

1

Review Date:

2

Transmission Owner Name:

3

SGWG Member:



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**Smart Grid Questionnaire
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Smart Grid Working Group**

SCADA RTU's

4

Company Responder:

5

Type of "Smart" technology (brief description):

6

Installed today, or planned to be installed in the near future:

7

Does your company use microprocessor-based RTU's in your transmission stations? If yes, after submitting the answer, provide an approximate percentage on the next page



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8

You selected "YES", what is the approximate percentage?

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- 10
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- 90
- 95
- 100



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9

Do your microprocessor-based transmission system RTU's utilize open protocols for communication? If yes, after submitting the answer, provide an approximate percentage on the next page



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10

You selected "YES", what is the approximate percentage?

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- 85
- 90
- 95
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**Smart Grid Questionnaire
PJM TOA-AC
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11

Does your company use microprocessor-based RTU's in your subtransmission substations? If yes, after submitting the answer, provide an approximate percentage on the next page.



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12

You selected "YES", what is the approximate percentage?

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13

Do your microprocessor-based subtransmission system RTU's utilize open protocols for communication? If yes, after submitting the answer, provide an approximate percentage on the next page.

YES **NO**



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14

You selected "YES", what is the approximate percentage?

- 5
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15

Does your company use microprocessor-based RTU's in your distribution substations? If yes, after submitting the answer, provide an approximate percentage on the next page.



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16

You selected "YES", what is the approximate percentage?

- 5
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17

Do your microprocessor-based distribution system RTU's utilize open protocols for communication? If yes, after submitting the answer, provide an approximate percentage on the next page.



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PJM TOA-AC Smart Grid Working Group

18

You selected "YES", what is the approximate percentage?

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Protective Relays

19

Company Responder:

20

Type of "Smart" technology (brief description):

21

Installed today, or planned to be installed in the near future:

22

Does your company use microprocessor-based relays in your transmission system's stations?

YES

NO



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23

You selected "YES", what is the approximate percentage?

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24

Do your microprocessorbased relays in your transmission system's stations have remote communications capability?

YES NO



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25

You selected "YES", what is the approximate percentage?

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Smart Grid Working Group

26

Does your company use microprocessor-based relays in your subtransmission system's substations? If yes, after submitting the answer, provide an approximate percentage on the next page.



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27

You selected "YES", what is the approximate percentage?

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28

Do your microprocessorbased relays in your subtransmission system's substations have remote communications capability? If yes, after submitting the answer, provide an approximate percentage on the next page.



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29

You selected "YES", what is the approximate percentage?

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30

Does your company use microprocessor-based relays in your distribution system's substations? If yes, after submitting the answer, provide an approximate percentage on the next page.

YES **NO**



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31

You selected "YES", what is the approximate percentage?

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32

Do your microprocessorbased relays in your distribution substations have remote communications capability? If yes, after submitting the answer, provide an approximate percentage on the next page.



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33

You selected "YES", what is the approximate percentage?

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DFR/SOE/DDR

34

Company Responder:

35

Type of "Smart" technology (brief description):

36

Installed today, or planned to be installed in the near future:

37

Does this class of devices in your system have remote communication capability? If yes, after submitting the answer, provide an approximate percentage on the next page.

YES **NO**



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38

You selected "YES", what is the approximate percentage?

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39

Does this class of devices with remote communication capability have an auto polling feature? If yes, after submitting the answer, provide an approximate percentage on the next page.



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40

You selected "YES", what is the approximate percentage?

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Billing Metering

41

Company Responder:

42

Type of "Smart" technology (brief description):

43

Installed today, or planned to be installed in the near future:

44

Does your company have existing AMI and/or AMR

infrastructure? If yes, after submitting the answer, provide an approximate percentage on the next page.

YES **NO**



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45

You selected "YES", what is the approximate percentage?

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46

If AMI/AMR is employed, is it used in for company's industrial customer class? If yes, after submitting the answer, provide an approximate percentage on the next page.



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47

You selected "YES", what is the approximate percentage?

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48

If AMI/AMR is employed, is it used in for company's commercial customer class? If yes, after submitting the answer, provide an approximate percentage on the next page.



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49

You selected "YES", what is the approximate percentage?

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50

If AMI/AMR is employed, is it used in for company's residential customer class? If yes, after submitting the answer, provide an approximate percentage on the next page.



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51

You selected "YES", what is the approximate percentage?

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Distribution System Automation

52

Company Responder:

53

Type of "Smart" technology (brief description):

54

Installed today, or planned to be installed in the near future:

55

Does your company use microprocessor-based pole-top switches and/or reclosers? If yes, after submitting the answer, provide an approximate percentage on the next page.



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56

You selected "YES", what is the approximate percentage?

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Does your company use microprocessor-based pole-top capacitors? If yes, after submitting the answer, provide an approximate percentage on the next page.



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58

You selected "YES", what is the approximate percentage?

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Does your company employ some form of GIS/OMS/DMS management system? If yes, after submitting the answer, provide an approximate percentage on the next page.

YES **NO**



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60

You selected "YES", what is the approximate percentage?

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Equipment Monitoring

61

Company Responder:

62

Type of "Smart" technology (brief description):

63

Installed today, or planned to be installed in the near future:

64

Does your company remotely monitor its transmission system's breaker conditions? If yes, after submitting the answer, provide an approximate percentage on the next page.



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65

You selected "YES", what is the approximate percentage?

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Smart Grid Working Group

66

Does your company remotely monitor its subtransmission system's breaker conditions? If yes, after submitting the answer, provide an approximate percentage on the next page.



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67

You selected "YES", what is the approximate percentage?

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68

Does your company remotely monitor its distribution system's breaker conditions? If yes, after submitting the answer, provide an approximate percentage on the next page.



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69

You selected "YES", what is the approximate percentage?

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70

Does your company remotely monitor its transmission system's transformer conditions? If yes, after submitting the answer, provide an approximate percentage on the next page.



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71

You selected "YES", what is the approximate percentage?

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72

Does your company remotely monitor its subtransmission system's transformer conditions? If yes, after submitting the

answer, provide an approximate percentage on the next page.

YES **NO**



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73

You selected "YES", what is the approximate percentage?

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74

Does your company remotely monitor its distribution system's breaker conditions? If yes, after submitting the answer, provide an approximate percentage on the next page.



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75

You selected "YES", what is the approximate percentage?

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76

Does your company remotely monitor its transmission system's conductor conditions? If yes, after submitting the answer, provide an approximate percentage on the next page.



**Smart Grid Questionnaire
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77

You selected "YES", what is the approximate percentage?

- 5
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78

Does your company remotely monitor its subtransmission system's conductor conditions? If yes, after submitting the answer, provide an approximate percentage on the next page.



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79

You selected "YES", what is the approximate percentage?

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80

Does your company remotely monitor its distribution system's conductor conditions? If yes, after submitting the answer, provide an approximate percentage on the next page.

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81

You selected "YES", what is the approximate percentage?

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82

Does your company use infrared monitoring in its transmission system's stations? If yes, after submitting the answer, provide an approximate percentage on the next page.



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83

You selected "YES", what is the approximate percentage?

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84

Does your company use infrared monitoring in its subtransmission system's stations? If yes, after submitting the answer, provide an approximate percentage on the next page.

YES **NO**



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85

You selected "YES", what is the approximate percentage?

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86

Does your company use infrared monitoring in its distribution system's stations? If yes, after submitting the answer, provide an approximate percentage on the next page.



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87

You selected "YES", what is the approximate percentage?

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Power Quality Monitoring

88

Company Responder:

89

Type of "Smart" technology (brief description):

90

Installed today, or planned to be installed in the near future:

91

Does your company use power quality monitoring devices in its distribution system? If yes, after submitting the answer, provide an approximate percentage on the next page.



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92

You selected "YES", what is the approximate percentage?

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93

Does your company use power quality monitoring devices in its subtransmission system? If yes, after submitting the answer, provide an approximate percentage on the next page.



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94

You selected "YES", what is the approximate percentage?

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95

Does your company use power quality monitoring devices in its transmission system? If yes, after submitting the answer, provide an approximate percentage on the next page.



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96

You selected "YES", what is the approximate percentage?

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If your company is monitoring power quality measures, such as voltage conditions, is this information being used for event notification, in addition to data logging? If yes, after submitting the answer, provide an approximate percentage on the next page.



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98

You selected "YES", what is the approximate percentage?

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Does your company measure transient events in addition to monitoring steady-state conditions? If yes, after submitting the answer, provide an approximate percentage on the next page.



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You selected "YES", what is the approximate percentage?

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Substation Data Warehousing

101

Company Responder:

102

Type of "Smart" technology (brief description):

103

Installed today, or planned to be installed in the near future:

104

Does your company install data warehousing equipment in its distribution substations? If yes, after submitting the answer, provide an approximate percentage on the next page.

YES **NO**



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105

You selected "YES", what is the approximate percentage?

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Does your company install data warehousing equipment in its subtransmission substations? If yes, after submitting the answer, provide an approximate percentage on the next page.



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You selected "YES", what is the approximate percentage?

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Does your company install data warehousing equipment in its transmission stations? If yes, after submitting the answer, provide an approximate percentage on the next page.



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You selected "YES", what is the approximate percentage?

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Other Initiatives

110

Company Responder:

111

Type of "Smart" technology (brief description):

112

Installed today, or planned to be installed in the near future:

113

Does your company plan to use phasor monitoring for its key substations? If yes, after submitting the answer, provide an approximate percentage on the next page.

YES

NO



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114

You selected "YES", what is the approximate percentage?

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Does your company plan to use phasor monitoring on its transmission lines? If yes, after submitting the answer, provide an approximate percentage on the next page.



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You selected "YES", what is the approximate percentage?

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Does your company use FACTS devices in its transmission system? Yes or No. If yes, check-off all the types that are used.

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Smart Grid Working Group**

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You selected "YES", please check-off all the types that are used.

- SVC's
- TCSC's
- STATCOM's
- UPFC's

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**Smart Grid Questionnaire
PJM TOA-AC
Smart Grid Working Group**

119

Does your company use or plan to use superconducting cables or other devices in its system? If yes, check-off all the types that are/will be used.



**Smart Grid Questionnaire
PJM TOA-AC
Smart Grid Working Group**

120

You selected "YES", please check-off all the types that are/will be used.

- Cable
- Transformers
- Fault Current Limiters



**Smart Grid Questionnaire
PJM TOA-AC
Smart Grid Working Group**

121

Does your company use or plan to use any advanced storage devices in its system? Yes or No. If yes, check-off all the types that are/will be used.

- YES NO



**Smart Grid Questionnaire
PJM TOA-AC
Smart Grid Working Group**

122

You selected "YES", please check-off all the types that are/will be used.

- Flywheels
- Flow Batteries
- Super Capacitors
- Vehicle to Grid

