APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0721

HCAI Special Seismic Certification Preapproval (OSP)

Type: [X] New [ ] Renewal

Manufacturer Information

Manufacturer: Anord Mardix

Manufacturer's Technical Representative: Barry McCullough

Mailing Address: Northlink Business Park, Coes Road East, Dundalk, Co Louth, Ireland, A91 V9VX

Telephone: +353 87 7836904 Email: Barry.McCullough@anordmardix.com

Product Information

Product Name: Switchgear/Switchboards

Product Type: Switchgear - Low Voltage

Product Model Number: AMX 1558, AMX 891

General Description: Low Voltage Switchgear in NEMA 1 and NEMA 3R Enclosures

Mounting Description: Rigid, Floor Mounted

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Applicant Information

Applicant Company Name: Structural Integrity Associates, Inc.

Contact Person: Katie Braman

Mailing Address: 233 SW Wilson Suite 101, Bend, OR 92201

Telephone: (541) 526-1947 Email: kbraman@structint.com

Title: Program Manager, TRU Compliance

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: STRUCTURAL INTEGRITY ASSOCIATES, INC.

Name: Andrew Coughlin California License Number: S6082

Mailing Address: 5215 Hellyer Ave, Suite 101, San Jose, CA 95138-1025

Telephone: (415) 635-8461 Email: acoughlin@structint.com

Certification Method

☐ GR-63-Core ☒ ICC-ES AC156 ☐ IEEE 344 ☐ IEEE 693 ☐ NEBS 3

☐ Other (Please Specify):

Testing Laboratory

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)

Contact Person: Jeremy Lange

Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513

Telephone: (972) 247-9657 Email: jeremy@etldallas.com

Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.2 at SDS - 2.0 at z/h =1 and 1.13 at SDS = 2.5 g at z/h = 0

S_{DS} (Design spectral response acceleration at short period, g) = 1.60; z/h = 1; 2.00; z/h = 0

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1 and 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

HCAI Approval (For Office Use Only) - Approval Expires on 04/06/2028

Date: 4/6/2022

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: S_{DS} (g) = See Above z/h = See Above

Condition of Approval (if applicable):

SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 1800993

TRU COMPLIANCE

Manufacturer: Anord Mardix Inc.
Model Line: AMX 1558 Switchgear

TABLE 1

Certified Product Construction Summary:

Carbon Steel G90 NEMA 3R Enclosure 12GA. Seismic enhancements made to the test units and modifications required to address the anomalies observed during testing shall be incorporated into the production units. Seismic enhancements and modifications are detailed on the "Seismic Upgrades" pages at the end of this document.

Certified Options Summary:

3 Phase, main bus up to 5000A

Mounting Configuration:

Base mounted - rigid; standalone

Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2019 ***Seismic Certification Limits:*** S_{DS}= ***2.0 g*** ***z/h=1.0*** S_{DS}= ***2.5 g*** ***z/h=0.0*** I_P= ***1.5***

Model Line	Model	Dimensions (in)			Weight (lb)	Max CG [3] (in)	Max Tension [2]	Enclosure Type	UUT
		Depth	Width	Height					
AMX 1558 (Standalone)	36W-Type G	85.75	36	107	3645.5	49	4932	NEMA 3	2

1. Max. Tension Force = 4932 lbs. Tension force can not exceed the maximum value.
2. Max. CG height values calculated and provided by manufacturer.

SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 1800993

TRU COMPLIANCE

Manufacturer: Anord Mardix Inc.
Model Line: AMX 891 Switchgear

TABLE 2

Certified Product Construction Summary:
Carbon Steel G90 NEMA 1 and NEMA 3R Enclosures 12GA. Seismic enhancements made to the test units and modifications required to address the anomalies observed during testing shall be incorporated into the production units. Seismic enhancements and modifications are detailed on the "Seismic Upgrades" pages at the end of this document.

Certified Options Summary:
3 Phase, Main Bus up to 6000A & fault rating up to 100kA for 60 cycles

Mounting Configuration:
Base mounted - rigid; standalone
Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2019 ***Seismic Certification Limits:*** S_{DS}= ***2.0 g*** ***z/h=1.0*** S_{DS}= ***2.5 g*** ***z/h=0.0*** I_P= ***1.5***

Model Line	Model	Dimensions (in)			Weight (lb)	Max CG [3] (in)	Max Tension [2]	Enclosure Type	UUT
		Depth	Width	Height					
AMX 891 (Standalone)	Type Aux	24	15	91.5	275	51	935	NEMA 1	Extrap.
		…	…	…	…	…	…		Extrap.
		36	36	91.5	300	54	453		Extrap.
		28	15	91.5	340	51	1156	NEMA 3R	Extrap.
		…	…	…	…	…	…		Extrap.
		40	36	91.5	412	54	623		Extrap.
	Type CC	24	15	91.5	275	51	935	NEMA 1	Extrap.
		…	…	…	…	…	…		Extrap.
		36	36	91.5	300	54	453		Extrap.
		28	15	91.5	340	51	1156	NEMA 3R	Extrap.
		…	…	…	…	…	…		Extrap.
		40	36	91.5	412	54	623		Extrap.
	Type 1	24	15	91.5	360	55	1330	NEMA 1	Extrap.
		…	…	…	…	…	…		Extrap.
		36	18	91.5	400	55	1231		Extrap.
		28	15	91.5	424	56	1583	NEMA 3R	Extrap.
		…	…	…	…	…	…		Extrap.
		40	18	91.5	464	56	1444		Extrap.

1. The interpolated unit's CG's are limited such that the maximum tension in any section is no greater than the maximum tested tension.
2. Max. Tension Force = 4472lbs. Tension force can not exceed the maximum value.
3. Max. CG height values calculated and provided by manufacturer.

SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 1800993

TRU COMPLIANCE

Manufacturer: Anord Mardix Inc.
Model Line: AMX 891 Switchgear

TABLE 2

Certified Product Construction Summary:

Carbon Steel G90 NEMA 1 and NEMA 3R Enclosures 12GA. Seismic enhancements made to the test units and modifications required to address the anomalies observed during testing shall be incorporated into the production units. Seismic enhancements and modifications are detailed on the "Seismic Upgrades" pages at the end of this document.

Certified Options Summary:

3 Phase, Main Bus up to 6000A & fault rating up to 100kA for 60 cycles

Mounting Configuration:

Base mounted - rigid; standalone

Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2019 ***Seismic Certification Limits:*** S_{DS}= ***2.0 g z/h=1.0*** S_{DS}= ***2.5 g z/h=0.0*** I_P= ***1.5***

Model Line	Model	Dimensions (in)			Weight (lb)	Max CG [3] (in)	Max Tension [2]	Enclosure Type	UUT
		Depth	Width	Height					
AMX 891 (Standalone)	Type 2	24	22	91.5	750	58	1960	NEMA 1	Extrap.
		…	…	…	…	…	…		Extrap.
		36	27	91.5	800	60	1775		Extrap.
		36	22	91.5	790	58	2072	NEMA 3R	Extrap.
		…	…	…	…	…	…		Extrap.
		40	27	91.5	935	60	2078		Extrap.
	Type 3	36	36	91.5	950	59	1557	NEMA 1	Extrap.
		…	…	…	…	…	…		Extrap.
		36	45	91.5	1565	60	2087		Extrap.
		40	36	91.5	1176	59	1927	NEMA 3R	Extrap.
		…	…	…	…	…	…		Extrap.
		40	45	91.5	3354	60	4472		8
	Type 4	24	22	91.5	550	44	1100	NEMA 1	Interp.
		…	…	…	…	…	…		Interp.
		36	22	91.5	1377	54	3360		5
		…	…	…	…	…	…		Interp.
		36	27	91.5	1377	54	2739		Interp.
		40	22	91.5	614	44	1228	NEMA 3R	Interp.
		…	…	…	…	…	…		Interp.
		40	27	91.5	1377	54	2749		Interp.

1. The interpolated unit's CG's are limited such that the maximum tension in any section is no greater than the maximum tested tension.
2. Max. Tension Force = 4472lbs. Tension force can not exceed the maximum value.
3. Max. CG height values calculated and provided by manufacturer.

SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 1800993

TRU COMPLIANCE

Manufacturer: Anord Mardix Inc.
Model Line: AMX 891 Switchgear

TABLE 2

Certified Product Construction Summary:

Carbon Steel G90 NEMA 1 and NEMA 3R Enclosures 12GA. Seismic enhancements made to the test units and modifications required to address the anomalies observed during testing shall be incorporated into the production units. Seismic enhancements and modifications are detailed on the "Seismic Upgrades" pages at the end of this document.

Certified Options Summary:

3 Phase, Main Bus up to 6000A & fault rating up to 100kA for 60 cycles

Mounting Configuration:

Base mounted - rigid; standalone

Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2019 ***Seismic Certification Limits:*** S_{DS}= ***2.0 g*** ***z/h=1.0*** S_{DS}= ***2.5 g*** ***z/h=0.0*** I_P= ***1.5***

Model Line	Model	Dimensions (in)			Weight (lb)	Max CG [3] (in)	Max Tension [2]	Enclosure Type	UUT
		Depth	Width	Height					
AMX 891 (Standalone)	Type 5	24	16	91.5	350	44	958	NEMA 1	Interp.
		…	…	…	…	…	…		Interp.
		36	36	91.5	1130	44	1375		6
		28	16	91.5	515	49	1577	NEMA 3R	Interp.
		…	…	…	…	…	…		Interp.
		40	36	91.5	845	49	1150		Interp.

1. The interpolated unit's CG's are limited such that the maximum tension in any section is no greater than the maximum tested tension.
2. Max. Tension Force = 4472lbs. Tension force can not exceed the maximum value.
3. Max. CG height values calculated and provided by manufacturer.

SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 1800993

TRU COMPLIANCE

Manufacturer: Anord Mardix Inc. ***Table Description:*** Current Transformers

Model Line: AMX 1558/891 Low Voltage Switchgear

TABLE 3

Building Code: CBC 2019, ***Seismic Certification Limits:*** S_{DS} = 2.0 g z/h = 1.0 S_{DS} = 2.5 g z/h = 0.0 I_P = 1.5

Component Type	Manufacturer	Model	Description	Notes	UUT
Current Transformers	TTL	563-202	1° Current 2000A, mpc, Cu windings, 12 lbs.		2
		563-***	…		Interp.
		563-502	1° Current 5000A, mpc, Cu windings, 12lbs.		2

SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 1800993

TRU COMPLIANCE

Manufacturer:	Anord Mardix Inc.	***Table Description:*** Circuit Breakers	**TABLE 4**
Model Line:	AMX 1558/891 Low Voltage Switchgear		

Building Code: CBC 2019 ***Seismic Certification Limits:*** S_{DS} = 2.0 g z/h = 1.0; S_{DS} = 2.5 g z/h = 0.0 I_P = 1.5

Component Type	Manufacturer	Model	Description	Notes	UUT
Circuit Breaker	Schneider Electric (Square D)	HD Frame	15A, 2P, 14kA max, 3.95 lbs.		Extrap.
		…	…		Extrap.
		HR Frame	150A, 3P, 100kA max, 6.6 lbs.		6
		JD Frame	70A, 2P, 14kA max, 5.29 lbs.		Interp.
		…	…		Interp.
		JR Frame	250A, 3P, 100kA max, 7.09lbs.		6
		LD Frame	70A, 3P, 14kA max, 13.65 lbs.		Interp.
		…	…		Interp.
		LR Frame	600A, 4P 100kA max, 24.09 lbs.		6
		PG Frame	100A, 2P, 18kA max, 76 lbs.		Interp.
		…	…		Interp.
		PL Frame	1200A, 4P, 100kA max, 95 lbs.		6
		…	…		Interp.
		R Frame	3000A, 4P, 100kA max, 52 lbs.		Interp.
		RG Frame	600A, 3P, 18kA max, 52 lbs.		Interp.
		…	…		Interp.
		Rl Frame	3000A, 4P, 100kA max, 52 lbs.		Interp.
		NT-N Frame	100A, 3P, 35kA max, 76 lbs.		Interp.
		…	…		Interp.
		NT-H Frame	1200A, 4P, 100kA max, 95 lbs.		Interp.
		NW-N Frame	100A, 3P, 50kA max, 206 lbs.		Interp.
		…	…		Interp.
		NW-H Frame	6000A, 4P, 100kA max, 629 lbs.		Interp.

SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 1800993

TRU COMPLIANCE

Manufacturer:	Anord Mardix Inc.	***Table Description:*** Circuit Breakers	**TABLE 4**
Model Line:	AMX 1558/891 Low Voltage Switchgear		

Building Code: CBC 2019 ***Seismic Certification Limits:*** S_{DS} = 2.0 g z/h = 1.0; S_{DS} = 2.5 g z/h = 0.0 I_P = 1.5

Component Type	Manufacturer	Model	Description	Notes	UUT
Circuit Breaker	Schneider Electric (Square D)	MTZ1-N Frame	400A, 3P, 35kA max, 206 lbs.		Interp.
		…	…		Interp.
		MTZ2-H Frame	800A, 3P, 100kA max, 265 lbs.		2,5
		…	…		Interp.
		MTZ3-L Frame	6000A, 4P, 100kA max, 629 lbs.		8

SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 1800993

TRU COMPLIANCE

Manufacturer:	Anord Mardix Inc.	***Table Description:*** Relay, Controllers, & Accessories	**TABLE 5**
Model Line:	AMX 1558/891 Low Voltage Switchgear		

Building Code: CBC 2019 ***Seismic Certification Limits:*** S_{DS} = 2.0 g z/h = 1.0 I_P = 1.5; S_{DS} = 2.5 g z/h = 0.0

Component Type	Manufacturer	Model	Description	Notes	UUT
Temperature Monitoring Relay	Qualitrol	118L	85 to 265 VAC or 20 to 280 VDC, Switch rating: 5A @ 250 VAC or 30 VDC resistive load0.2A @ 300 VDC resistive load, 5 lbs.		2
Lifting Device	Anord Mardix Inc.	AU-AH-134	Lifting Device Rated @134kg, 31 lbs		2
Automation Controllers	Schneider Electric	Modicon M580- Architecture D	Main Rack, Renite Drop, Alvitar, Energy supervision, HMI, Tesys T, CibbeXium DRS, 25lbs.		2
Touch Screen	Schneider Electric	HMIDT732	15", 30A, 9.92 lbs.		2
Display Module	Eaton	266652	PXM 8000 Display Module		2
Surge Protection Device	Schneider Electric	TVS4IMA32B	320kA Peak Surge Current		8

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 1800993

Manufacturer: Anord Mardix Inc.

Model Line: AMX 1558/891 Low Voltage Switchgear

UUT	Unit Description	Report Number	Testing Lab	Year Tested	ISO 17025 Accredited?	S_{DS}	z/h	I_P
2	AMX 1558 - Type G Cabinet (Standalone)	1800993-TR-001	ETL - Environmental Testing Laboratory	2021	Yes	2.0 2.5	1.0 0.0	1.5
5	AMX 891 - NW08-16 Double Stack (Standalone)	1800993-TR-001	ETL - Environmental Testing Laboratory	2021	Yes	2.0 2.5	1.0 0.0	1.5
6	AMX 891 - P-Frame Single (Standalone)	1800993-TR-001	ETL - Environmental Testing Laboratory	2021	Yes	2.0 2.5	1.0 0.0	1.5
8	AMX 891 - NW50-5000A (Standalone)	1800993-TR-001	ETL - Environmental Testing Laboratory	2021	Yes	2.0 2.5	1.0 0.0	1.5

Notes:

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 1800993

UUT 2

Manufacturer: Anord Mardix Inc.
Model Line: AMX 1558
Model Number: Type G Cabinet (Standalone) ***Serial Number:*** N/A

Product Construction Summary:
2mm thick carbon steel enclosure. Single section. Front/back split at 41" from front. Crane / hoist assembly mounted to top-front of enclosure. NEMA 3R.

Options/Subcomponent Summary:
TTL model 563-502 current transformer, TTL model 563-202 current transformer, Qualitrol 118L temperature monitoring relay, Anord Mardix AU-AH-134 lifting device, Schneider Electric Modicon M580-Architecture D automation controller, Schneider Electric HMIDT732 15" touch screen.

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
3,645.5	85.75	36.0	107.0	4.10	4.00	12.86

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
Building Code: CBC 2019	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.67	0.67
		2.5	0.0	1.5				

Test Mounting Details:

UUT mounted to fixture using six (6) 1/2" grade 8 bolts with six (6) 1.75"x1.75"x3/16" square washers (974896-1) and two (2) 2"x3"x1/2" plate washers in front.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 1800993

UUT 5

Manufacturer: Anord Mardix Inc.
Model Line: AMX 891
Model Number: NW08-16 Double Stack (Standalone) ***Serial Number:*** N/A

Product Construction Summary:
2mm thick carbon steel enclosure. Single 22"W x 36"D x 91.5"H section with 22"W x 26"D x 20"H header box on top. NEMA 1.

Options/Subcomponent Summary:
Schneider Electric (Square D) MTZ2-H frame 800A circuit breaker.

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1,376.5	36.0	22.0	111.5	5.19	4.18	17.55

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
Building Code: CBC 2019	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.67	0.67
		2.5	0.0	1.5				

Test Mounting Details:

UUT mounted to fixture using four (4) 1/2" grade 8 bolts with 1.75"x1.75"x3/16" square washers (974896-1).
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 1800993

TRU COMPLIANCE

UUT 6

Manufacturer: Anord Mardix Inc.
Model Line: AMX 891
Model Number: P-Frame Single (Standalone)   ***Serial Number:*** N/A

Product Construction Summary:
2mm thick carbon steel enclosure. Single section. NEMA 1.

Options/Subcomponent Summary:
Schneider Electric (Square D) PL frame 1200A circuit breaker, Schneider Electric (Square D) LR frame 600A circuit breaker.

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1,130.0	36.0	36.0	91.5	8.47	8.36	17.31

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
Building Code: CBC 2019	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.67	0.67
		2.5	0.0	1.5				

Test Mounting Details:

UUT mounted to fixture using four (4) 1/2" grade 8 bolts with 1.75"x1.75"x3/16" square washers (974896-1).
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 1800993

UUT 8

Manufacturer: Anord Mardix Inc.
Model Line: AMX 891
Model Number: NW50 - 5000A (Standalone) ***Serial Number:*** N/A

Product Construction Summary:
2mm thick carbon steel enclosure. Single section. NEMA 3R.

Options/Subcomponent Summary:
Schneider Electric (Square D) MTZ3-L Frame 6000A circuit breaker, Surge Protection Device TVS4IMA32B

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
3,354.0	40.0	45.0	91.5	5.23	4.80	11.77

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
Building Code: CBC 2019	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.67	0.67
		2.5	0.0	1.5				

Test Mounting Details:

UUT mounted to fixture using four (4) 1/2" grade 8 bolts with 1.75"x1.75"x3/16" square washers (974896-1). Two (2) full length 2"x2"x1/4" steel angles welded to base rails (ends fully welded and three (3) 2" welds along top).
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

SEISMIC UPGRADES SUMMARY SHEET

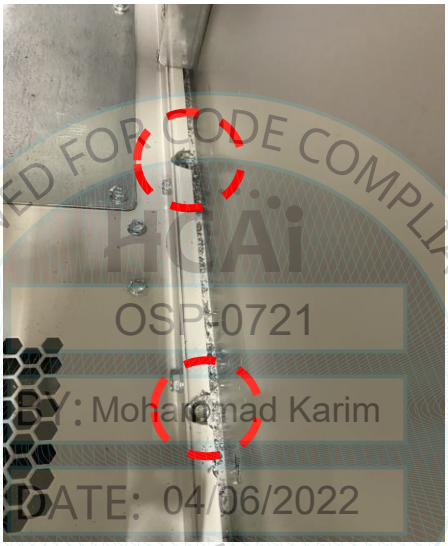
TRU PROJECT NO. 1800993

Manufacturer:	Anord Mardix Inc.	**ALL MODELS**	
Model Line:	AMX 1558/891 Low Voltage Switchgear		
Model Number:	All certified 1558 & 891 models	***Serial Number:***	N/A

Seismic Upgrades Summary:

The (4) existing bottom corner brackets were replaced with thicker brackets (3mm) to increase wall stability. 1/4-20 bolts/nuts were added to strengthen the wall to base connection. (2) 2mm top corner brackets were also added at the rear to increase wall stability. Photos of these modifications can be seen below.

3mm Bottom Corner Bracket



Added 1/4-20 Bolts

2mm Top Corner Bracket

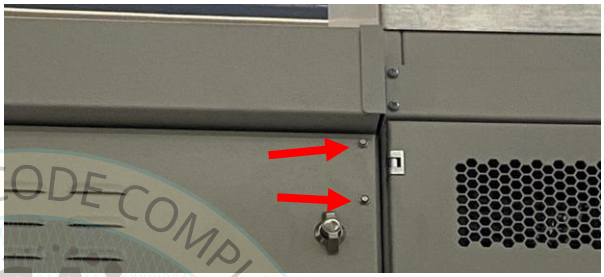
SEISMIC UPGRADES SUMMARY SHEET

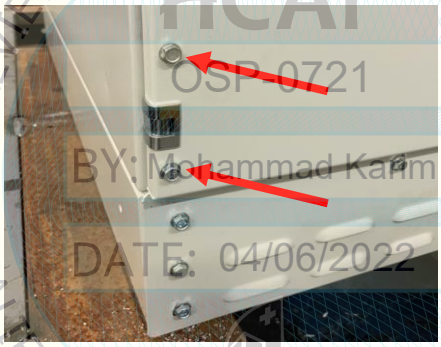
TRU PROJECT NO. 1800993

Manufacturer:	Anord Mardix Inc.	**AMX 891**	
Model Line:	AMX 891 Low Voltage Switchgear		
Model Number:	All certified 891 models	***Serial Number:***	N/A

Seismic Upgrades Summary:

Four thread cutting screws were added to the bottom of the door (two near the bottom hinge and two near the bottom latch). Four screws were also added to the top of the door (two near the top hinge and two near the top latch).





All deadfront bolts with slotted attachments were removed and replaced with thread cutting screws above or below. A screw was also added on each side of the deadfront in the middle, for a total of 6 screws per deadfront.

SEISMIC UPGRADES SUMMARY SHEET

TRU PROJECT NO. 1800993

Manufacturer:	Anord Mardix Inc.		**AMX 891**
Model Line:	AMX 891 Low Voltage Switchgear		
Model Number:	All certified 891 models	***Serial Number:***	N/A

Seismic Upgrades Summary (continued):

2”x2”x1/4” steel angles were added to each side of the base at the mounting locations. The angles ran the full depth of the cabinet. The angles were solid welded on the ends and stitch welded along the top leg with(3) 4” welds equally spaced. All welds were single pass fillet welds of approximately 1/4".

The (4) bottom corner brackets were modified to prevent the screws from pulling out. The screws that connected the brackets to the walls were replaced with nuts and bolts. Access holes were drilled in the wall panels to accommodate this modification (approximately 1/2" diameter holes).