IMPRE		STATE ENT CATHOI	OF MIS	SISSIPF	YI ON SYSTEM E		ON			
This form must be utilized to evaluate underground storage tank (UST) cathodic protection systems in the State of Mississippi.										
Access to the soil directly over the cathodically protected structure that is being evaluated must be provided.										
A site drawing depict	ing the UST catho	dic protection syst	em and all reference electrode placements must be completed.							
I. US	ST OWNER		NAME.		II. UST FAC	CILITY	10 #			
			NAME:				U#			
ADDRESS:			ADDRESS							
CITY:		STATE:	CITY:		С	COUNTY:				
III. C	P TESTER			IV. CF	P TESTER'S QU	JALIFICAT	IONS			
TESTER'S NAME:			NACE INTE	RNATIONAL	CERTIFICATION NUMB	BER:				
COMPANY NAME:			MDEQ CER	RTIFICATION I	NUMBER:					
ADDRESS:			OTHER (E)	(PLAIN):						
CITY:		STATE:								
	V. REA	SON SURVEY	WAS C	ONDUCT	ED (mark only one)					
Routine - 3 year	Within 6 months of	installation	Re-survey	after repair/m	nodification Otl	her (specify):				
			N TESTE	R'S EVA		only one)				
PASS	All protected structures at this facility pass the cathodic protection survey and it is judged that adequate cathodic protection has been provided to the UST system (indicate all criteria applicable by completion of Section VIII).									
FAIL	One or more prote prote protection has not	cted structures at thi been provided to the	is facility fail e UST syster	the cathodic n (complete	protection survey and Section IX).	d it is judged tha	at adequate cathodic			
	The adequacy of the	ne impressed curren	t system mu	st be evaluat	ed by a qualified corr	osion expert (co	omplete Section VII).			
CP TESTER'S SIGNATURE:			-		DATE CP SURVEY PI	ERFORMED:	· · ·			
	VII. COF	ROSION EXP	ERT'S E	VALUAT	ION (mark only one)					
The survey must be conducted system are made; b) stray curr	and/or evaluated by ent may be affecting b	a corrosion expert who	en: a) supple res or c) an i	mental anode nconclusive re	s or other changes in the sult was indicated in S	he construction of ection VI.	of the impressed current			
	All protected struct has been provided	ures at this facility pa to the UST system	ass the cath (indicate all	odic protectio criteria appli	on survey and it is jud cable by completion o	ged that adequation of Section VIII).	ate cathodic protection			
	One or more prote prote protection has not	cted structures at thi been provided to the	is facility fail e UST syster	the cathodic n (indicate w	protection survey and hat action is necessal	d it is judged that ry by completion	at adequate cathodic n of Section IX).			
CORROSION EXPERT'S NAME	:			COMPANY	IAME:					
NACE INTERNATIONAL CERTI	FICATION:			NACE INTER	NATIONAL CERTIFICA	TION NUMBER:				
CORROSION EXPERT'S SIGNA	TURE:					DATE:				
	VIII. CRITI	ERIA APPLICAE	BLE TO E	VALUATI	ON (mark all that appl	y)				
	F Structu	re-to-soil potential n ive current temporari	nore negativ ily interrupte	re than –850 d (instant-off	mV with respect to a	a Cu/CuSO <sub>4</sub> re	ference electrode with			
100 mV POLARIZAT	<b>100 mV POLARIZATION</b> Structure(s) exhibit at least 100 mV of cathodic polarization.									
IX	. ACTION REQU	JIRED AS A RE	SULT OF	THIS EV	ALUATION (mark a	II that apply)				
REPAIR & RETEST	<b>REPAIR &amp; RETEST</b> Cathodic protection is not adequate. Repair as soon as practical but within the next 90 days and retest.									
Repair Needed	Cathodic protection is adequate and passes, however there are boots or sumps present that do NOT adequately protect the piping termination from corrosion. Repair as soon as practical but within the next 90 days.									
	Cathodic protection	n is adequate. Monite	or the rectifi	er every 60 d	ays to ensure adequa	ate operation.				
	If the rectifier ampe	erage falls below	amp	s during rout	ine monitoring contac	t a qualified per	son to investigate.			
MONITORING	The next "routine"	cathodic protection s	survey must	be conducte	d by no later than					
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X. DESCRIPTION OF UST SYSTEM								
TANK #	PRODUCT	CAPACITY	TANK	S MATERIAL	INSTALL	PIPING M	ATERIAL	INSTALL
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
				PIPING TERM	INATIONS			
LOCATION		TYPE OF CORROSION PROTECTION	LOCATION		TYPE OF CORROSION PROTECTION	LOCA	TION	TYPE OF CORROSION PROTECTION
REGULA	<sup>ample)</sup> R STP SUMP	(example) GALVANIC		(example) DISP 1/2	(example) BOOTED	(exan PREMIL	nple) JM STP	(example) I.C. SYSTEM
		Cathodic	Protect	tion Reference	Cell Calibration	Information		
Cell #	Dat	te last calibrat	ed		Calibrated by		Potential	Difference (mV)
1								
2								
3								
			Additi	onal Descriptio	n of UST System	n		
Commen	ts:							
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			XI. IN	<b>IPRES</b>	SED C	URR	ENT RI	ECTI	IFIER	DATA	(complete	all applicat	ole)		
	In order to conduct an effective evaluation of the cathodic protection system, a complete evaluation of rectifier operation is necessary.														
RECTIFIER MANUFACTURER:								RATED DC OUTPUT:VOLTS					AMPS		
RECTIFIER MODEL: RECTIFIER SERIAL NUMBER:															
RE		:		mV :	=		_ Amps	SHU	JNT FAC	TOR =			Am	ps / mV	
	TAP SETTIN	GS OR R	RHEOST	AT %					D	C OUTPU	IT		HOUR		
""	COARSE	FINE	RHE	OSTAT		TED IS	INDICA AMP	TED S	MEAS VO			MEASUR	ED AMPS		METER
AS F												_ (Shunt V	oltage = _	)	
NNO		POSIT	IVE AND	NEGAT				IENTS	ENTS (Amps)			Anode Shunt Size =			0.01 Ω
D"	CIRCUIT	1	2	3	4	5	6		7	8	9	10	11	12	TOTAL
	ANODE (+)														Amps
	STRUCTURE (-)														Amps
	Mark this b	ox if re	ctifier <b>v</b>	was no	t chang	ed fro	om the '	"AS I	FOUN	D" setti	ngs.				
	TAP SETTIN	GS OR R	RHEOST	AT %					D	C OUTPU	т				HOUR
	COARSE	FINE	RHE	OSTAT	INDICA VOL	TED TS	INDICA AMP	TED S	MEAS VO	MEASURED VOLTS		MEASUR	ED AMPS	i i	METER
"AS												_ (Shunt	Voltage =	)	
EF		POSIT	IVE AND	NEGAT			ASUREN	IENTS	6 (Amps	)	1	Anode Shunt Size =			0.01 Ω
Τ"	CIRCUIT	1	2	3	4	5	6		7	8	9	10	11	12	TOTAL
	ANODE (+)														Amps
	STRUCTURE (-)														Amps
	nplete if any repair EQ cathodic protect Additional anoce Repairs or replation Anode wires re Negative wires Other (explain it mments: Scription of F	s or modification guida les addece acement of paired an repaired in "Comm Repairs	ications to ance docu d or repla of rectifer ad/or repla and/or re nents" bel	b the cath iment are ced for a r (explain aced(exp iplaced(e ow)	odic protec required to n impresse in "Comm lain in "Co xplain in "C	ition sys be des ed curre ients" b mment Comme	stem are m signed and ent system pelow). (s" below). (s" below).	w).	R are ne aluated b ch corro	cessary. C y a corrosic sion exper	Certain rep on expert ( 't's design	airs/modific	cations as e of Section	explained in VII required	the text of the i).
P F	RODUCED BY <sup>-</sup> PO BOX <u>10385,</u>	THE MIS JAC <u>KSO</u>	SISSIPF N, MS <u>3</u>	91 DEPA 9289-03	RTMENT 85 PH0	OF EN DNE (6	VIRONN 601) <u>961-</u> 5	IENTA 5171	AL QUA FACS	LITY, OFI 61MIL <u>E (60</u>	FICE OF 01) 9 <u>61-5</u>	POLLUTI 093 wv	ON CON <sup>-</sup> vw.deq.st	TROL, US <sup>-</sup> ate.m <u>s.us</u>	F BRANCH 2/19

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## XIII. UST FACILITY SITE DRAWING

Attach detailed drawing of the UST and cathodic protection systems. Sufficient detail must be given in order to clearly indicate where the reference electrode was placed for each structure-to-soil potential that is recorded on the survey forms. Any pertinent data must also be included. At a minimum you should indicate the following: All tanks, piping and dispensers; All buildings and streets; All anodes and wires; Location of CP test stations; Each reference electrode placement must be indicated and correspond with the locations recorded in Section XIV of this form.

AN EVALUATION OF THE CATHODIC PROTECTION SYSTEM IS NOT COMPLETE WITHOUT AN ACCEPTABLE SITE DRAWING.

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## XIV. IMPRESSED CURRENT CATHODIC PROTECTION SYSTEM CONTINUITY SURVEY

This section may be utilized to conduct measurements of continuity on underground storage tank systems that are protected by cathodic protection systems.
When conducting a fixed cell - moving ground survey, the reference electrode must be placed in the soil at a remote location and left undisturbed.

~	Conduct point-to-point test between any two structures for which the fixed cell - moving ground s	survey is inconclusive or indicates possible	solation.
≻	For impressed current systems, the protected structure must be continuous with all other protected	ed structures in order to pass the continui	ty survey.

I	-			- ,			
I							
I							
I							

FACILITY ID NUMBER:

NOTE: The survey is not complete unless all applicable parts of Sections I-XIV are also completed

DESCRIBE LOCATION OF "FIXED REMOTE" REFERENCE ELECTRODE PLACEMENT:										
STRUCTURES	S TESTED	POINT - TO - POINT TEST METHOD	FIXED CELL	TEST RESU	LTS					
STRUCTURE "A" <sup>1</sup>	STRUCTURE "B" <sup>2</sup>	POINT-TO-POINT VOLTAGE DIFFERENCE <sup>3</sup>	STRUCTURE "A" FIXED REMOTE VOLTAGE <sup>4</sup>	STRUCTURE "B" FIXED REMOTE VOLTAGE ⁵	STRUCTURE "A" / <sup>6</sup> STRUCTURE "B" VOLTAGE DIFFERENCE	ISOLATED / CONTINUOUS / INCONCLUSIVE <sup>7</sup>	PASS / FAIL <sup>8</sup>			
(example) PLUS TANK BOTTOM	(example) PLUS PIPING AT STP		(example) -915 mV	(example) -908 mV	(example) 7 mV	(example) INCONCLUSIVE	FAIL			
(example) RECTIFIER NEGATIVE	(example) PLUS TANK BOTTOM	(example) 1 mV				(example) CONTINUOUS	PASS			
1   1										
C Depart the voltage diff	oronoo oboorvod botwo	on atructure "A" a	nd atructure "D" v	when conducting	"fixed cell moving a	round" tooting (o	a 7m\/)			

6 Record the voltage difference observed between structure "A" and structure "B" when conducting "fixed cell – moving ground" testing (e.g. 7mV) 7 Document whether the test (fixed cell and/or point to point) indicated the protected structure was isolated, continuous or inconclusive.

8 Indicate whether results of Pass or Fail the continuity survey.

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## XV. IMPRESSED CURRENT CATHODIC PROTECTION SYSTEM SURVEY

This section may be utilized to conduct a survey of an impressed current cathodic protection system by obtaining structure-to-soil potential measurements.

> The reference electrode must be placed in the soil directly above the structure that is being tested and as far away from any active anode as practical to obtain

- a valid structure-to-soil potential (refer to the MDEQ cathodic protection evaluation guidance document for detailed discussion of electrode placement).
- Both on and instant off potentials must be measured for each structure that is intended to be under cathodic protection.
- > Three on and instant off potentials must be measured for each tank that is intended to be under cathodic protection.

> The instant off potential must be -850 mV or more negative or the 100 mV polarization criterion must be satisfied in order to pass.

FACILITY ID NUMBER:		NOTE: Thi	NOTE: This survey is not complete unless all applicable parts of sections I – XIV are also							
STRUCTURE OR		ON <sup>4</sup>	<b>INSTANT⁵</b>	100 n	PASS /					
CONTACT POINT <sup>2</sup>	REFERENCE CELL PLACEMENT <sup>3</sup>	VOLTAGE	OFF VOLTAGE	ENDING <sup>6</sup> VOLTAGE	VOLTAGE 6 SHIFT	ELAPSED <sup>6</sup> TIME	FAIL / INCONCLUSIVE <sup>7</sup>			
(example) PLUS TANK BOTTOM	(example) SOIL @ REG. STP	(example) -1070mV	(example) -875 mV				(example) PASS			
(example) DIESEL PIPE DISPENSER 7/8	(example) SOIL @ Dispenser 7/8	(example) -854 mV	(example) -680 mV	(example) -575 mV	(example) 105 mV	(example) 24 hours	(example) PASS			
COMMENTS:		1								
-										
1 Designate on the site drawing ear 2 Describe the structure or contact 3 Describe the exact location where 4 {Applies to all tests} Record the s 5 {Applies to all tests} Record the s	ch structure tested and each local re point that is being tested (e.g. plus t e the reference electrode is placed f tructure-to-soil potential (voltage) of tructure to soil potential (voltage) of	eference electro ank @ test lead or each measur oserved with the oserved when th	de placement. l; Regular fill ris ement (e.g. soi current applied e current is inte	er; Diesel Tank I @ regular tan d (e.g. –1070 m errupted (e.g. 63	k bottom; diesel k STP manway IV). 80 mV).	piping; flex co ; soil @ dispen	nnector, etc.). ser 2, etc.)			

6 To meet 100 mV polarization criterion, record instant off voltage, ending voltage, voltage shift (instant off - ending voltage), and elapsed time.

7 Indicate if the tested structure passed or failed one of the two acceptable criteria (850 instant off or 100 mV polarization) based on your interpretation of data.

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