



**IMU BOARD OF TRUSTEES OF THE ELECTRIC,
WATER AND COMMUNICATIONS UTILITIES**

January 9, 2023

5:30 PM

City Hall Council Chambers

Agenda

- 1. Call to Order**
- 2. Roll Call**
- 3. Public Comment**
- 4. Consent Agenda:**
 - A. Approval of Claims for December 30, 2022
 - B. Approval of the November 2022 Financial Report
 - C. Approval of Minutes of the December 12, 2022 Board of Trustees meeting
- 5. Electric Utility Action Items**
 - A. Resolution approving a contract and bond for the Turbine 8 Control Replacement Project.
- 6. Electric Utility Informational Items**
- 7. Water Utility Informational Items**
- 8. Communications Utility Informational Items**
- 9. Combined Electric, Water and Communications Action Items**
 - A. Discussion and direction regarding the Fiscal Year 24 operations and management budget.
- 10. Combined Electric, Water and Communications Informational Items**
- 11. Other Business**
 - A. Selection of officers for 2023
- 12. Adjourn**
- 13. Study Session Regarding the Fiscal Year 24 Budget**
 - A. To begin immediately following the regular meeting.

MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities
From:
Date: January 9, 2023
Subject: Approval of Claims for December 30, 2022

Recommendation: Simple motion is in order.

Attachments: 1. 123022 Elation Claims List

AP Check Register - Board

Date Range: 12/30/2022 to 12/30/2022

Indianola Municipal Utilities

Friday, December 30, 2022

4:48:19 PM

Check Number	Date		Payment	Method	Status	Description
0000-10120-999 - Cash - IMU Checking						
1077	12/30/2022	Bally Sports Midwest - VEND-1222 (ACH)	4,549.36	EFT	Outstanding	EXP Basic
1078	12/30/2022	Border States Industries Inc - VEND-1070 (ACH)	1,161.59	EFT	Outstanding	#12 Green Wire VT Pack Ratchet cutters
1079	12/30/2022	Calix Inc - VEND-1028 (ACH)	8,551.31	EFT	Outstanding	E7-2 Field install package ONT - 803G
1080	12/30/2022	City Of Indianola - VEND-1008 - BL-9944 (ACH)	9,992.27	EFT	Outstanding	1122 Caselle Claims
1081	12/30/2022	Consortia Consulting - VEND-1009 (ACH)	1,125.00	EFT	Outstanding	Consulting
1082	12/30/2022	Dust Pros Janitorial - VEND-1011 (ACH)	2,937.69	EFT	Outstanding	Cleaning supplies - Fiber 1222 Cleaning - Util Svcs Cleaning supplies - Util Svcs 1222 Cleaning - EL Cleaning supplies - EL 1222 Cleaning - Fiber
1083	12/30/2022	Internal Revenue Service - VEND-1307 (ACH)	57,056.92	EFT	Outstanding	941 Income tax payable
1084	12/30/2022	Iowa Department Of Human Services - VEND-1310 (ACH	2,081.98	EFT	Outstanding	Garnishment payable
1085	12/30/2022	Iowa Dept Of Revenue - VEND-1117 (ACH)	9,840.81	EFT	Outstanding	IA Income tax payable
1086	12/30/2022	Iowa One Call - VEND-1015 (ACH)	557.10	EFT	Outstanding	Locates
1087	12/30/2022	IPERS - VEND-1309 (ACH)	35,759.49	EFT	Outstanding	IPERS payable
1088	12/30/2022	Irby - VEND-1259 (ACH)	311.05	EFT	Outstanding	Transformer Secondary Connectors
1089	12/30/2022	KEYSTONE LABORATORIES INC - VEND-29056 (ACH)	707.25	EFT	Outstanding	Regulated volatile organics and SOC's
1090	12/30/2022	LONGER, CHRIS - VEND-34025 (ACH)	300.00	EFT	Outstanding	2022 Wellness Reimbursement
1091	12/30/2022	Mission Square - VEND-1303 (ACH)	11,635.61	EFT	Outstanding	457 Payable
1092	12/30/2022	MUNICIPAL ENERGY AGENCY OF NEBRASKA - VEND-35805 (	633,571.82	EFT	Outstanding	Purchased Power - Nov 22
1093	12/30/2022	Power & Tel - VEND-1037 (ACH)	22,682.48	EFT	Outstanding	10" GREY OUTDOOR NID SCOTCHLOCK Fiber drops
1094	12/30/2022	STATE HYGIENIC LABORATORY - VEND-23245 (ACH)	202.50	EFT	Outstanding	Testing
1095	12/30/2022	Teklink - VEND-1262 (ACH)	1,803.00	EFT	Outstanding	Bore and drop
1096	12/30/2022	The Extinguisher Company - VEND-1071 (ACH)	161.25	EFT	Outstanding	Service call
1097	12/30/2022	TrueNorth Companies LC - VEND-1100 (ACH)	125.00	EFT	Outstanding	November Safety Meeting
1098	12/30/2022	Virtualsets.com, Inc - VEND-1355 (ACH)	21,675.80	EFT	Outstanding	Cameras and equipment Camera mounts
1099	12/30/2022	WESCO - VEND-60220 (ACH)	854.85	EFT	Outstanding	#2 Stranded Copper Wire FR Glove Liners
213786	12/30/2022	ACCO UNLIMITED CORP. - VEND-2810	2,195.75	Check	Outstanding	Liquid chlorinating

AP Check Register - Board

Date Range: 12/30/2022 to 12/30/2022

Indianola Municipal Utilities

Friday, December 30, 2022

4:48:19 PM

Check Number	Date		Payment	Method	Status	Description
213787	12/30/2022	Cappel's Ace Hardware - VEND-1204	33.54	Check	Outstanding	Concrete mix
213788	12/30/2022	Cedar Falls Utilities - VEND-1045	45,764.81	Check	Outstanding	1122 Broadband & 5g Shared IPTV costs 0622-1122
213789	12/30/2022	Cintas Corporation - VEND-1007	403.38	Check	Outstanding	First aid supplies
213790	12/30/2022	Consuela Fox - VEND-1141 - BL-10031	150.00	Check	Outstanding	Credit Refund
213791	12/30/2022	CORE & MAIN - VEND-102636	637.70	Check	Outstanding	REPAIR CLAMP - 6x30 REPAIR CLAMP - VENTED - 8X12X3/4"
213792	12/30/2022	DICKINSON LAW - VEND-101709	1,940.50	Check	Outstanding	Legal services
213793	12/30/2022	EDWARDS, NATHAN - VEND-13339	63.27	Check	Outstanding	OSI Certification transportation
213794	12/30/2022	Etzen, Angel - VEND-1141 - BL-10028	6.67	Check	Outstanding	Credit Refund
213795	12/30/2022	Independent Advocate - VEND-1136	848.13	Check	Outstanding	Print and digital advertising bundle BOT minutes and publication report
213796	12/30/2022	Indianola Chamber Of Commerce - VEND-1073	750.00	Check	Outstanding	Brand builder
213797	12/30/2022	Infomax Office Systems Inc - VEND-1013	727.22	Check	Outstanding	Copier contract
213798	12/30/2022	Iowa Radio Plus - VEND-1223	57.12	Check	Outstanding	:30 Web ads :30 Web ad
213799	12/30/2022	John Deere Financial - VEND-1106	99.47	Check	Outstanding	Gloves - Multii use acct #0385 Heater - Multii use acct #0385
213800	12/30/2022	JV TRUCKING LLC - VEND-102429	721.56	Check	Outstanding	3/8" Pea gravel
213801	12/30/2022	KELLER'S GARAGE - VEND-102525	429.43	Check	Outstanding	Brakes, rotors and oil change on 2018 Ram 1500
213802	12/30/2022	KNIA/KRLS - VEND-1090	634.32	Check	Outstanding	:30 Spot
213803	12/30/2022	Mid American Energy Co - VEND-1018	578.20	Check	Outstanding	EL - Muni plt substation Gas - 210 W 2nd Gas - 110 S B
213804	12/30/2022	Midwest Alarm Services - VEND-1116	495.11	Check	Outstanding	Fire alarm monitoring-Building A
213805	12/30/2022	MSC - VEND-1250	146.03	Check	Outstanding	Cable Clean
213806	12/30/2022	MUNICIPAL SUPPLY INC - VEND-35810	3,172.25	Check	Outstanding	Valves, PVC and pipe Mueller break flg kit
213807	12/30/2022	Mutual Of Omaha - VEND-1107	10,361.50	Check	Outstanding	1222 Premiums 1122 Premiums
213808	12/30/2022	Nolasoft Development - VEND-1021	120.00	Check	Outstanding	Quarterly website hosting
213809	12/30/2022	Norwalk Ready Mix Concrete, Inc. - VEND-1119	633.25	Check	Outstanding	M-4 Limestone
213810	12/30/2022	POWER LINE SUPPLY - VEND-103039	503.97	Check	Outstanding	Elbow Seal Kits
213811	12/30/2022	STERNQUIST CONST. INC. - VEND-50360	1,587.70	Check	Outstanding	Crushed concrete
213812	12/30/2022	T3 Wireless, Inc - VEND-1346	27,141.03	Check	Outstanding	Coriant 88 Channel OADM-LR
213813	12/30/2022	Terry-Durin Co - VEND-1038	7,700.74	Check	Outstanding	LED Fixtures 70 Watt LED Lights TRACER WIRE

AP Check Register - Board

Date Range: 12/30/2022 to 12/30/2022

Indianola Municipal Utilities

Friday, December 30, 2022

4:48:19 PM

Check Number	Date		Payment	Method	Status	Description
213814	12/30/2022	US Cellular - VEND-1104	989.73	Check	Outstanding	1222 Cel Phone
213815	12/30/2022	VAN WERT INC - VEND-101069	1,187.00	Check	Outstanding	NEPTUNE MACH 2"
213816	12/30/2022	VEENSTRA & KIMM - VEND-57600	720.00	Check	Outstanding	Engineer X
213817	12/30/2022	VERIZON WIRELESS - VEND-3535	560.14	Check	Outstanding	1122 Hot spots
213818	12/30/2022	VESSCO INC - VEND-57620	2,586.00	Check	Outstanding	Integrity paddles and seal
213819	12/30/2022	Warren County Engineer - VEND-1102	2,909.53	Check	Outstanding	1122 Fuel Distribution
213820	12/30/2022	Waste Management - VEND-1086	239.14	Check	Outstanding	4 Yard dumpster 2 Yard dumpster 0122 Trash

Total Payments made from	Cash - IMU Checking	944,738.32	Count from	Cash - IMU Checking	58
--------------------------	---------------------	------------	------------	---------------------	----

Total All Payments	<u>\$944,738.32</u>
--------------------	---------------------

MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: January 9, 2023

Subject: Approval of the November 2022 Financial Report

Recommendation: Simple motion is in order.

Attachments: 1. 1122 Financials Summary

Water Utility Financial Summary
November 30, 2022

600 WATER OPERATING FUND

	FY22		
	Budget	YTD Actual	% of Budget
Water Service Sales	2,537,500	1,125,935	44.37%
Other Water Revenue	289,100	111,030	38.41%
Total Revenue:	2,826,600	1,236,965	43.76%
Water O&M Expense	2,381,557	1,220,784	
Total Expense:	2,381,557	1,220,784	51.26%
Beginning Net Position		13,348,270	
Net Surplus (Deficit)		16,181	
Ending Net Position		13,364,451	

700 WATER CAPITAL FUND

From Water Operations	424,900	366,583	
Total Transfers In:	424,900	366,583	86.28%
Water Capital Expense	849,800	239,111	
Total Expense:	849,800	239,111	28.14%
Beginning Net Position		2,611,158	
Net Surplus (Deficit)		127,472	
Ending Net Position		2,738,630	

780 WATER IMPROVE FUND

Beginning Net Position	75,000	
Net Surplus (Deficit)	0	
Ending Net Position	75,000	

WATER CASH ON HAND	O&M	\$	261,347
(110 days or greater)	Capital	\$	2,724,475
	Reserves	\$	75,000
		\$	3,060,822

244 days

FY23		
Budget	YTD Actual	% of Budget
2,941,250	1,238,646	42.11%
310,700	124,312	40.01%
3,251,950	1,362,959	41.91%
3,292,411	1,427,493	
3,292,411	1,427,493	43.36%
	13,956,134	
	(64,534)	
	13,891,600	

1,174,000	489,167	
1,174,000	489,167	41.67%
1,174,000	125,724	
1,174,000	125,724	10.71%
	2,470,342	
	363,443	
	2,833,784	

	75,000	
	0	
	75,000	

Gallons Billed

	FY22-23	FY21-22	YOY Increase %
July	31,583,030	35,679,910	-11%
August	37,092,320	33,673,809	10%
September	43,870,320	34,099,809	29%
October	36,165,050	37,829,440	-4%
November	30,973,650	31,689,630	-2%
December	29,089,970	31,140,650	-7%
January			
February			
March			
April			
May			
June			
YTD TOTAL	208,774,340	204,113,248	2.3%

Inventory on Hand

	FY22-23	FY21-22	YOY Increase %
July	\$ 112,249	\$ 70,025	60%
August	\$ 110,331	\$ 86,918	27%
September	\$ 104,559	\$ 86,965	20%
October	\$ 108,675	\$ 81,330	34%
November	\$ 109,309	\$ 114,388	-4%
December	\$ 108,859	\$ 114,500	-5%
January			
February			
March			
April			
May			
June			
YTD AVG	\$ 108,997	\$ 92,354	18.0%

IMU Admin/US Financial Summary
November 30, 2022

620 ADMIN & UTILITY SERVICES

FY22		
Budget	YTD Actual	% of Budget
Admin/US Revenue	1,251,911	522,926
Total Revenue:	1,251,911	522,926 41.77%
Admin/US O&M Expense	1,283,000	489,968
Total Expense:	1,283,000	489,968 38.19%
Beginning Net Position	304,684	
Net Surplus (Deficit)	32,958	
Ending Net Position	337,642	

FY23		
Budget	YTD Actual	% of Budget
1,342,700	559,934	41.70%
1,342,700	559,934	41.70%
1,342,700	568,361	
1,342,700	568,361	42.33%
	35,687	
	(8,427)	
	27,260	

855 LIABILITY INS FUND

Beginning Net Position	14,099
Net Surplus (Deficit)	0
Ending Net Position	14,099

9,099
0
9,099

US/ADMIN CASH ON HAND O&M \$ 300,388

Electric Utility Financial Summary
November 30, 2022

630 ELECTRIC OPERATING FUND

	FY22			FY23		
	Budget	YTD Actual	% of Budget	Budget	YTD Actual	% of Budget
Electric Service Sales	15,439,900	7,508,484	48.63%	16,520,384	8,135,683	49.25%
Other Electric Revenue	1,147,978	489,200	42.61%	1,133,472	628,219	55.42%
Total Revenue:	16,587,878	7,997,683	48.21%	17,653,856	8,763,902	49.64%
Electric O&M Expense	15,564,255	6,434,070		16,204,529	6,568,561	
Total Expense:	15,564,255	6,434,070	41.34%	16,204,529	6,568,561	40.54%
Beginning Net Position		31,495,131			33,191,504	
Net Surplus (Deficit)		1,563,613			2,195,341	
Ending Net Position		33,058,744			35,386,845	

730 ELECTRIC CAPITAL FUND

Electric Capital Revenue	1,173,600	548,447		1,021,600	662,947	
Total Revenue:	1,173,600	548,447	46.73%	1,021,600	662,947	64.89%
Electric Capital Expense	2,348,000	138,892		2,477,500	337,485	
Total Expense:	2,348,000	138,892	5.92%	2,477,500	337,485	13.62%
Beginning Net Position		5,801,373			6,564,867	
Net Surplus (Deficit)		409,556			325,462	
Ending Net Position		6,210,928			6,890,329	

793 ELECTRIC DEBT SERVICE

From Electric Operations	1,133,450	472,271		1,133,750	480,708	
Total Transfers In:	1,133,450	472,271	41.67%	1,133,750	480,708	42.40%
Electric Debt Service	1,133,450	168,250		1,133,750	176,961	
Total Payments:	1,133,450	168,250	14.84%	1,133,750	176,961	15.61%
Beginning Net Position		1,368,248			1,368,750	
Net Surplus (Deficit)		304,021			303,746	
Ending Net Position		1,672,269			1,672,496	

ELECTRIC CASH ON HAND	O&M	\$	9,646,687
(110 days or greater)	Capital	\$	5,445,400
	Reserves	\$	1,672,496
295 days		\$	16,764,583

Kwhs Billed			
	FY22-23	FY21-22	YOY Increase %
July	10,121,595	11,445,992	-12%
August	12,793,186	12,112,667	6%
September	14,210,937	13,038,750	9%
October	11,648,038	13,556,254	-14%
November	8,657,190	9,944,562	-13%
December	8,920,703	8,421,475	6%
January			
February			
March			
April			
May			
June			
YTD TOTAL	66,351,649	68,519,700	-3.2%

Inventory on Hand			
	FY22-23	FY21-22	YOY Increase %
July	\$ 1,165,007	\$ 989,343	18%
August	\$ 1,208,115	\$ 992,348	22%
September	\$ 1,251,752	\$ 997,025	26%
October	\$ 1,211,972	\$ 1,020,121	19%
November	\$ 1,164,591	\$ 1,057,167	10%
December	\$ 1,170,525	\$ 1,020,372	15%
January			
February			
March			
April			
May			
June			
YTD AVG	\$ 1,195,327	\$ 1,012,729	18.0%

Fiber Utility Financial Summary
November 30, 2022

640 FIBER OPERATING FUND

	FY22			FY23		
	Budget	YTD Actual	% of Budget	Budget	YTD Actual	% of Budget
Fiber Service Sales	3,915,000	1,618,122	41.33%	4,133,970	1,814,820	43.90%
Other Fiber Revenue	517,300	198,830	38.44%	773,350	186,481	24.11%
Total Revenue:	4,432,300	1,816,952	40.99%	4,907,320	2,001,300	40.78%
Fiber O&M Expense	4,510,689	1,604,600		4,900,617	2,037,891	
Total Expense:	4,510,689	1,604,600	35.57%	4,900,617	2,037,891	41.58%
Beginning Net Position		(4,472,660)			(4,908,922)	
Net Surplus (Deficit)		212,352			(36,591)	
Ending Net Position		(4,260,308)			(4,945,514)	

740 FIBER CAPITAL FUND

From Fiber Operations	450,000	114,799		578,400	241,824	
Total Transfers In:	450,000	114,799	25.51%	578,400	241,824	41.81%
Fiber Capital Expense	450,000	124,483		2,178,000	371,180	
Total Expense:	450,000	124,483	27.66%	2,178,000	371,180	17.04%
Beginning Net Position		667,071			1,566,044	
Net Surplus (Deficit)		(9,685)			(129,356)	
Ending Net Position		657,387			1,436,688	

795 FIBER DEBT SERVICE

From Fiber Operations				245,751		
Total Transfers In:				0	245,751	
Fiber Debt Service					0	
Total Payments:				0	0	
Beginning Net Position					0	
Net Surplus (Deficit)					245,751	
Ending Net Position					245,751	

*Fund 640 Ending Fund Balance		(4,260,308)		(4,699,763)		
*Fund 740 Ending Fund Balance		657,387		1,436,688		
		(3,602,921)		(3,263,075)		

FIBER CASH ON HAND	O&M	\$	(63,465)			
(110 days or greater)	Capital	\$	1,566,328			
	Reserves	\$	245,751			
77 days		\$	1,748,614			

Subscriptions			
	FY22-23	FY21-22	YOY Increase %
July	3,513	2,995	17%
August	3,560	3,039	17%
September	3,581	3,087	16%
October	3,624	3,136	16%
November	3,648	3,173	15%
December	3,668	3,214	14%
January			
February			
March			
April			
May			
June			
YTD TOTAL	21,594	18,644	
	15.8%		

Inventory on Hand			
	FY22-23	FY21-22	YOY Increase %
July	\$ 1,523,440	\$ 1,379,250	10%
August	\$ 1,596,300	\$ 1,381,182	16%
September	\$ 1,624,706	\$ 1,391,655	17%
October	\$ 1,693,450	\$ 1,403,383	21%
November	\$ 1,706,328	\$ 1,395,733	22%
December	\$ 1,742,135	\$ 1,513,915	15%
January			
February			
March			
April			
May			
June			
YTD AVG	\$ 1,647,726	\$ 1,410,853	
	16.8%		

The Fiber Utility fund has a deficit fund balance of (\$3,263,075).
The deficit fund balance is the result of start-up costs incurred to initiate the utility service.
The deficit will be eliminated in future periods through net customer charges.

November 2022

You should expect to see YTD revenue and expenses for November to be 5/12 (or 42%) of Budget.

Water and Electric service revenue may fall ahead or behind budget due to seasonal fluctuations.

We are now reporting each departments net position, which is cash and all other assets
(such as billing receivables and capital assets) less accumulated depreciation and liabilities.

Cash on Hand - 110 days or more of cash on hand based on the recommended 90-120 days to maintain our bond rating (A-).

Water Notes: Capital expenses below budget due to timing of project completion and payments.

US/Admin Notes: The 620 fund is intended to be a zero balance fund and doesn't have any significant stand alone obligations. Any balance or deficit here is timing related or is city services collected from the current month to be transferred in the following month.

Electric Notes: Capital expenses below budget due to timing of project completion and payments.
Debt service payments below budget due to timing of principal and interest payments.

Fiber Notes: Capital expenses below budget due to timing of project completion and payments.
Debt Service transfers are based on a 9 month (2/9) catch-up calculation.

MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities
From:
Date: January 9, 2023
Subject: Approval of Minutes of the December 12, 2022 Board of Trustees meeting

Recommendation: Simple motion is in order.

Attachments: 1. 12122022 BOT Minutes



**IMU BOARD OF TRUSTEES OF THE ELECTRIC,
WATER AND COMMUNICATIONS UTILITIES**

December 12, 2022

5:30 PM

City Hall Council Chambers

Minutes

Call to Order

The Indianola Board of Trustees met in regular session at 5:30 PM on December 12, 2022 in the City Hall Council Chambers. Chairperson Lori Smith called the meeting to order and on roll call the following members were present: Dom Selgrade, Deb White, Lori Smith, Mike Rozga and Adam Voigts. Absent: None.

Public Comment

There were no comments offered.

Consent Agenda:

Doug Shull, Treasurer, presented the October 2022 Financial Report.

White moved to approve the Consent Agenda and Selgrade seconded it. Question was called for and on voice vote the Chairperson declared the motion carried unanimously. The consent agenda was as follows:

- Approval of Claims
- Approval of the October 2022 Financial Report
- Approval of Minutes of the November 28, 2022 Board of Trustees meeting

Electric Utility Action Items

Jerad Kline, P&E Engineering Company, reviewed the Turbine 8 Control Replacement Project bids and recommended awarding the contract to Petrotech.

Chairperson Smith opened the public hearing regarding the Turbine 8 Control Replacement Project. No public comments were offered. Smith closed the public hearing.

Rozga moved to approve Resolution 2022-057 adopting the plans, specifications, form of contract and estimate of costs for the Turbine 8 Control Replacement Project and White seconded it. On roll call, the vote was AYES: Selgrade, White, Smith, Rozga, Voigts. NAYS: None. Whereas the Chairperson declared the motion carried unanimously.

Voigts moved to approve Resolution 2022-058 making award of construction contract for the Turbine 8 Control Replacement Project and White seconded it. On roll call, the vote was AYES: Selgrade, White, Smith, Rozga, Voigts. NAYS: None. Whereas the Chairperson declared the motion carried unanimously.

Rozga moved to approve Resolution 2022-059 approving a marketing agent agreement between Indianola Municipal Utilities and the Municipal Energy Agency of Nebraska (MEAN). Selgrade seconded it. On roll call, the vote was AYES: Selgrade, White, Smith, Rozga, Voigts. NAYS: None. Whereas the Chairperson declared the motion carried unanimously.

Electric Utility Informational Items

Electric Department Director Mike Metcalf provided an update on projects and repairs.

Water Utility Informational Items

Water Department Superintendent Lou Elbert stated that Well 12 is being inspected and repaired.

Communications Utility Informational Items

Telecommunications Director Kurt Ripperger reported they will be performing upgrades on equipment.

Combined Electric, Water and Communications Action Items

White moved to approve the utility accounts to be written off and to use any customary collection method, including submission to the state offset program, and to charge any applicable collection fees and Voigts seconded it. Question was called for and on voice vote the Chairperson declared the motion carried unanimously.

Each department presented their Capital Improvement Plan for the Fiscal Year 24 budget. The operational budget will be presented at the January 9, 2023 meeting.

Combined Electric, Water and Communications Informational Items

General Manager Chris DesPlanques discussed the agenda for the upcoming MEAN meeting.

Other Business

White moved to enter into closed session at 6:50 p.m. in accordance with Iowa Code Section 388.9(1) to discuss marketing and pricing strategies and proprietary information of the telecommunications division whose competitive position will be harmed by public disclosure that is not required of potential or actual competitors and no public purpose is served by such disclosure. Selgrade seconded it. On roll call, the vote was AYES: Selgrade, White, Smith, Rozga, Voigts. NAYS: None Whereas the Chairperson declared the motion carried unanimously.

Voigts moved to exit the closed session at 7:05 p.m. and Selgrade seconded it. On roll call, the vote was AYES: Selgrade, White, Smith, Rozga, Voigts. NAYS: None. Whereas the Chairperson declared the motion carried unanimously.

Selgrade moved to approve the purchase of CISCO equipment in the amount of \$177,116.96 and the purchase of CGNAT in the amount of \$25,940.72 for the Communications Department and White seconded it. Question was called for and on voice vote the Chairperson declared the motion carried unanimously.

Adjourn

The meeting was adjourned at 7:08 p.m. on a motion by Rozga and seconded by Voigts. Question was called for and on voice vote the Chairperson declared the motion carried unanimously.

Lori Smith, Chairperson

ATTEST:

Jackie Raffety, City Clerk

MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: January 9, 2023

Subject: Resolution approving a contract and bond for the Turbine 8 Control Replacement Project.

Recommendation: Roll call is in order.

Attachments:

1. Resolution approving contract and bond for Turbine 8 control repl. project
2. Petrotech Contract
3. Turbine 8 Sign Contract Bond Insurance

Indianola Municipal Utilities
RESOLUTION NO 2023-_____

RESOLUTION APPROVING CONSTRUCTION CONTRACT AND BOND

BE IT RESOLVED by the Board of Trustees of the Indianola Municipal Utilities that:

The construction contract and bond executed by Petrotech dated the 19th day of December 2022, for the Turbine 8 Replacement Project for the Indianola Municipal Utilities, described in the Plans and Specifications previously adopted by the Board of Trustees on December 12, 2022, be approved.

BE IT FURTHER RESOLVED that upon receipt of the fully executed contract and required bond, a Notice to Proceed with the public improvements shall be issued.

Passed and approved this 9th day of January 2023.

Lori Smith, Chairperson

ATTEST:

Jackie Raffety, City Clerk

**INDIANOLA MUNICIPAL UTILITIES
 TURBINE 8 CONTROL REPLACEMENT PROJECT**

INDEX

VOLUME 1 CONTRACT DOCUMENTS (COVERED BY SEAL ON COVER PAGE)

SECTION	TITLE
00000	Index (This Page)
00005	Appendix Index
00010	Location Maps
00050	Notice of Hearing and Letting
00200	Instructions to Bidders
00410	Bid
00430	Bid Bond
00520	Agreement
00610	Performance Bond Form
00615	Payment Bond Form
00700	Standard General Conditions of the Contract {This is the Standard General Conditions of the Construction Contract published by the Engineers Joint Contract documents Committee (EJCDC) as Document No. C-700 (2018 Edition)}
00800	Supplementary Conditions
13300	Controls - General Provisions
13305	Controls - Testing
13310	Controls Specific Provisions
Appendix A	Device List
Appendix B	Existing SCADA Points List
Appendix C	Communications Diagram
Appendix D	Nameplate Data

VOLUME 2 TURBINE DATA (NOT SEALED)

SECTION	TITLE
Appendix E	Turbine Field Devices
Appendix F	Performance Data
Appendix G	Mark V I/O and Alarm Lists

VOLUME 3 Original Installation Drawings (NOT SEALED)

Appendix H	P & E Turbine Electrical Installation Drawings
Appendix I	East Iowa Substation Single Line Diagrams
Appendix J	Not Used
Appendix K	Original Alstom Mechanical Drawings
Appendix L	Control Cab Diagrams
Appendix M	Exciter Drawings
Appendix N	Generator Protection and Turbine Auxiliary; Schematic Drawings
Appendix O	Control Cab MCC, Connection and Elementary Drawings
Appendix P	Misc Schematics
Appendix Q	Generator Protection Cabinet Terminal Blocks
Appendix R	Control Cab and GAC Interconnection Drawings
Appendix S	Control Cab and GAC Physical Layout Drawings
Appendix T	Generator Switchgear Drawings
Appendix U	Mk V Input/Output Interface Drawings
Appendix V	Turbine Connection and Wiring Diagrams
Appendix W	Generator Connection and Wiring Diagrams
Appendix X	Station Power Fused Switch Drawings
Appendix Y	Water Injection Skid Drawings
Appendix Z	Fire Alarm System Drawings
Appendix ZZ	Water Cooling Skid Drawings

Indianola Municipal Utilities

Turbine 8 Controls

00005 - Appendix Index

Volume 1 - Contract Documents and Specifications		
Appendix A - Device List		
Drawing No.	Description	Elect. Copy
	Device List	E
Appendix B - Existing SCADA Points List		
Drawing No.	Description	Elect. Copy
	Existing SCADA Points List	E
Appendix C - Communications Diagram		
Drawing No.	Description	Elect. Copy
E-78	Communications Diagram	A
Appendix D - Nameplate Data		
Drawing No.	Description	Elect. Copy
	Generator Nameplate	P
	Turbine Fuel Oil Nameplate	P
Volume 2 - Turbine Data		
Appendix E - Turbine Field Devices		
Drawing No.	Description	Elect. Copy
368A6177	Turbine Devices, Identifications and Settings	P
Appendix F - Performance Data		
Drawing No.	Description	Elect. Copy
543HA338	Compressor Inlet Temperature Effects, Base Load, Methane Fuel	E
543HA339	Estimated Performance, at 85 Deg F, 1 atm., Base Load, Methane Fuel	E
543HA340	Compressor Inlet Temperature Effects, Base Load, Distillate Fuel	E
543HA341	Estimated Performance, at 85 Deg F, 1 atm., Base Load, Distillate Fuel	E
543HA360	Compressor Inlet Temperature Effects, Peak Load, Methane Fuel	E
543HA361	Estimated Performance, at 85 Deg F, 1 atm., Peak Load, Methane Fuel	E
543HA362	Compressor Inlet Temperature Effects, Peak Load, Distillate Fuel	E
543HA363	Estimated Performance, at 85 Deg F, 1 atm., Peak Load, Distillate Fuel	E
	Original Generator Test Data	P
	Generator Reactive Capability Curves	P
	Generator No-load and Short-circuit Characteristics	P
	Generator Efficiency vs. Power Factor	P
	Generator Capability vs. Ambient Air	P
	Generator Nameplate Data	P

Elect. Copy Legend:

A = AutoCad; E = Excel; M = MicroStation; N = None; P = PDF; T = .tif file; W = Word

Page 1 of 9

Revised 9/30/2022

Indianola Municipal Utilities

Turbine 8 Controls

00005 - Appendix Index

Appendix G - Mark V I/O and Alarm Lists		
Drawing No.	Description	Elect. Copy
	Mark V I/O List	P
	Mark V Alarm List	W
Volume 3 - Original Installation Drawings		
Appendix H - P & E Turbine Electrical Installation Drawings		
Drawing No.	Description	Elect. Copy
E-1	Turbine Generator #8, Conduit Schematic	M
E-11	Turbine Generator No. 8, Electrical Details	M
E-12	Turbine Generator No. 8, Electrical Details	M
E-13	Turbine Generator No. 8, Electrical Details	M
E-14	Turbine Generator No. 8, Electrical Details	M
E-15	Turbine Generator No. 8, Electrical Details, Cntrl Bldg & Switchgear	M
E-16	Turbine Generator No. 8, Electrical Details, Manhole	M
E-17	Turbine Generator No. 8, Station Power Transformer, Installation & Wiring Diagrams	M
E-18	Turbine Generator No. 8, Fuel Forwarding Bldg., Fuel Heater Wiring	M
E-19	Turbine Generator No. 8, Fuel Oil Heater, Schematic	M
E-20	Turbine Generator No. 8, Diesel Start Engine, Day Tank Schematic	M
E-21	Turbine Generator Control Bldg., Physical Layout	M
E-22	Turbine Generator Control Bldg., Physical Elevation & Details	M
E-23	Turbine Generator No. 8, Control Bldg Equipment Plan	M
E-24	Turbine Generator Control Bldg., Equipment Elevations	M
E-30	Turbine Generator No. 8, Station Power One-Line	M
E-35	Turbine Generator Control Bldg., Underground Electrical & Control Conduit Layout	M
E-40	Turbine Generator No. 8, Skid & Control Grounding	M
E-51	Turbine Generator No. 8, Generation Control House, Interconnection Wiring Diagram	M
E-51A	Turbine Generator No. 8, Waste Oil Tank Panel, Interconnection Wiring Diagram	M
E-52	Turbine Generator No. 8, Generation Control House - Panel AC2, Interconnection Wiring Diagram	M
E-53	Turbine Generator No. 8, Generation Control House - Panel DC1, Interconnection Wiring Diagram	M
E-54	Turbine Generator No. 8, Water Cooling Skid, Interconnection Wiring	A
E-55	Turbine Generator No. 8, Fuel Forwarding Building, Interconnection Wiring Diagram	M
E-56	Turbine Generator No. 8, Water Injection Skid, Interconnection Wiring Diagram	M
E-57	Turbine Generator No. 8, Misc. On-Skid Wiring	M
E-58	Turbine Generator No. 8, Generator Aux. Compartment (GAC), Interconnection Wiring	M
E-59	Turbine Generator No. 8, 125VDC MCC/Panel, Interconnection Wiring	M
E-60	Turbine Generator No. 8, 480VAC, 120/240 VAC Panel, Interconnection Wiring	M
E-62	Turbine Generator No. 8, Mark V Control, Interconnection Wiring	M

Elect. Copy Legend:

A = AutoCad; E = Excel; M = MicroStation; N = None; P = PDF; T = .tif file; W = Word

Page 2 of 9

Revised 9/30/2022

Indianola Municipal Utilities

Turbine 8 Controls
00005 - Appendix Index

Appendix H - P & E Turbine Electrical Installation Drawings cont.		
E-63A	Turbine Generator No. 8, Mark V Control Cabinet, Interconnection Wiring	M
E-63B	Turbine Generator No. 8, Mark V Control Cabinet, Interconnection Wiring	M
E-64A	Turbine Generator No. 8, Mark V Control Cabinet, Interconnection Wiring	M
E-64B	Turbine Generator No. 8, Mark V Control Cabinet, Interconnection Wiring	M
E-66	Turbine Generator No. 8, Generation Control House - Panel AC1, Interconnection Wiring	M
E-67	Turbine Generator No. 8, Generation Control Panel, Interconnection Wiring	M
E-68	Turbine Generator No. 8, GAC- 13kV Switchgear, Interconnection Wiring	M
E-69	Turbine Generator No. 8, Misc. On-Skid Wiring	M
E-69A	Turbine Generator No. 8, Misc. On-Skid Wiring	M
E-70	Turbine Generator No. 8, Fire Alarm Panel Wiring	M
E-71	Turbine Generator No. 8, Fuel Forwarding Bldg., Jockey Pump Control	M
Appendix I - East Iowa Substation Single Line Diagrams		
Drawing No.	Description	Elect. Copy
R-600A	East Iowa Substation, Functional One-Line Diagram, Sheet 1 of 3	M
R-600B	East Iowa Substation, Functional One-Line Diagram, Sheet 2 of 3	M
R-600C	East Iowa Substation, Functional One-Line Diagram, Sheet 3 of 3	M
Appendix J - GE System One-Line Drawings		
Drawing No.	Description	Elect. Copy
	Not Available	
Appendix K - Original Alstom Mechanical Drawings		
Drawing No.	Description	Elect. Copy
91-050-112	Mechanical Outline Drawing	P
91-160-167	Foundation Bolting Details	P
Appendix L - Control Cab Diagrams		
Drawing No.	Description	Elect. Copy
352B9334	Index	P
352B9334 Sect 1-1	Control Cab plan drawing	P
352B9334 Sect 1-2	MK V Layout	P
352B9334 Sect 1-3	MK V Protective Interface Module Layout	P
352B9334 Sect 1-4	GCP Terminal Block Layout	P
352B9334 Sect 1-5	Ex2000 Layout	P
352B9334 Sect 1-6	MCC Layout	P
352B9334 Sect 1-7	MCC Terminal Block Layout	P
352B9334 Sect 1-8	MCC Terminal Block Layout (88QE)	P

Elect. Copy Legend:

A = AutoCad; E = Excel; M = MicroStation; N = None; P = PDF; T = .tif file; W = Word

Page 3 of 9

Revised 9/30/2022

Indianola Municipal Utilities

Turbine 8 Controls

00005 - Appendix Index

Appendix M - Exciter Drawings

Drawing No.	Description	Elect. Copy
259B5992AA-0A	GE Exciter Drawings, Title Sheet	A
259B5992AA-0B	GE Exciter Drawings, Symbols	A
259B5992AA-0C	GE Exciter Drawings, Grounding	A
259B5992AA-0D	GE Exciter Drawings, PMG PWB Card Connections	A
259B5992AA-1A	GE Exciter Drawings, Interconnection Terminal Board	A
259B5992AA-1BC	GE Exciter Drawings, Exciter Field Ground Detector	A
259B5992AA-2A	GE Exciter Drawings, Feedback Sensing	A
259B5992AA-3A	GE Exciter Drawings, Power Input, Bridge & Exciter Field Details	A
259B5992AA-4A	GE Exciter Drawings, Power Supply & Contactor Driver	A
259B5992AA-4B	GE Exciter Drawings, Gate Drive & Dynamic Discharge	A
259B5992AA-5A	GE Exciter Drawings, 3TB/NTB Connections	A
259B5992AA-5B	GE Exciter Drawings, 3TB/NTB Input & Output Connections	A
259B5992AA-6A	GE Exciter Drawings, LTB Input & Output Connections	A
259B5992AA-7A	GE Exciter Drawings, RTBA Input & Output Connections	A
259B5992AA-8A	GE Exciter Drawings, Transducer (TCCB)	A
259B5992AA-9A	GE Exciter Drawings, Exciter Control & Communication (LDCC)	A
259B5992AA-10A	GE Exciter Drawings, Software Regulators	A
259B5992AA-11A	GE Exciter Drawings, Software Alarms & Trips	A
259B5992AA-12A	GE Exciter Drawings, Interconnection Overview	A
259B5992AJ-1	GE Exciter Drawings, Physical Outlines	A
259B5992AJ-2	GE Exciter Drawings, Regulator Frame Details	A
259B5992AP-1	GE Exciter Drawings, Panel Layout Diagram	A

Appendix N - Generator Protection and Turbine Auxiliary; Schematic Drawings

Drawing No.	Description	Elect. Copy
304D-01B-0495	GE Protection & Turbine Aux. Drawings, Title Sheet	A
304D-01B-0495-A	GE Protection & Turbine Aux. Drawings, Drawing Index	A
304D-01B-0495-B	GE Protection & Turbine Aux. Drawings, Equipment Location Key	A
304D-01B-0495-C	GE Protection & Turbine Aux. Drawings, Customer Notes	A
304D-01B-0495-1	GE Protection & Turbine Aux. Drawings, Contact Assignments	A
304D-01B-0495-2	GE Protection & Turbine Aux. Drawings, Contact Assignments	A
304D-01B-0495-3	GE Protection & Turbine Aux. Drawings, Switches & Relays	A
304D-01B-0495-4	GE Protection & Turbine Aux. Drawings, Switches & Relays	A
304D-01B-0495-5	GE Protection & Turbine Aux. Drawings, SR489	A
304D-01B-0495-6	GE Protection & Turbine Aux. Drawings, SEL-300G	A
304D-01B-0495-200	GE Protection & Turbine Aux. Drawings, Metering & Protection	A
304D-01B-0495-201	GE Protection & Turbine Aux. Drawings, Generator Power Circuit, Metering & Protection	A
304D-01B-0495-202	GE Protection & Turbine Aux. Drawings, Metering & Protection	A
304D-01B-0495-203	GE Protection & Turbine Aux. Drawings, Metering & Protection	A
304D-01B-0495-204	GE Protection & Turbine Aux. Drawings, Metering & Protection	A
304D-01B-0495-205	GE Protection & Turbine Aux. Drawings, Metering & Protection	A
304D-01B-0495-206	GE Protection & Turbine Aux. Drawings, Metering & Protection	A
304D-01B-0495-207	GE Protection & Turbine Aux. Drawings, Metering & Protection	A
304D-01B-0495-300	GE Protection & Turbine Aux. Drawings, 52G Close Circuit	A
304D-01B-0495-301	GE Protection & Turbine Aux. Drawings, 52G Trip Circuit	A
304D-01B-0495-302	GE Protection & Turbine Aux. Drawings, 86G1 Trip Circuit	A

Elect. Copy Legend:

A = AutoCad; E = Excel; M = MicroStation; N = None; P = PDF; T = .tif file; W = Word

Page 4 of 9

Revised 9/30/2022

Indianola Municipal Utilities

Turbine 8 Controls

00005 - Appendix Index

Appendix N - Generator Protection and Turbine Auxiliary; Schematic Drawings cont		
304D-01B-0495-303	GE Protection & Turbine Aux. Drawings, Excitation Regulator Control Circuits	A
304D-01B-0495-304	GE Protection & Turbine Aux. Drawings, Synchronizing	A
304D-01B-0495-305	GE Protection & Turbine Aux. Drawings, Mark V Synchronize	A
304D-01B-0495-306	GE Protection & Turbine Aux. Drawings, Turbine & Control Panel Interlocks	A
304D-01B-0495-307	GE Protection & Turbine Aux. Drawings, Customer & Control Panel Interlocks	A
304D-01B-0495-308	GE Protection & Turbine Aux. Drawings, Customer & Control Panel Interlocks	A
304D-01B-0495-309	GE Protection & Turbine Aux. Drawings, 125VDC Control Circuits & Indicators	A
304D-01B-0495-310	GE Protection & Turbine Aux. Drawings, Power Distribution	A
304D-01B-0495-311	GE Protection & Turbine Aux. Drawings, Transducers & Power Supplies	A
304D-01B-0495-312	GE Protection & Turbine Aux. Drawings, 240/120VAC 1 Ph. MCC Panel Board	A
304D-01B-0495-313	GE Protection & Turbine Aux. Drawings, 125VDC Panelboard	A
304D-01B-0495-314	GE Protection & Turbine Aux. Drawings, 240/120VAC 1 Ph. GAC Panel Board	A
304D-01B-0495-315	GE Protection & Turbine Aux. Drawings, 480V 3 Ph. MCC Feeders	A
304D-01B-0495-316	GE Protection & Turbine Aux. Drawings, Emergency DC Lighting	A
304D-01B-0495-317	GE Protection & Turbine Aux. Drawings, GAC Generator Louver Drive Motor	A
Appendix O - Control Cab MCC, Connection and Elementary Drawings		
Drawing No.	Description	Elect. Copy
304D-01B-0495-318A	Turbine generator No. 8, MCC Index	A
304D-01B-0495-318B	Turbine generator No. 8, MCC Index	A
304D-01B-0495-318	GE MCC Drawings, Hydraulic Ratchet Pump/88HR	A
304D-01B-0495-319	GE MCC Drawings, Emergency Lube Oil Pump 88QE-1	A
304D-01B-0495-320	GE MCC Drawings, Diesel Engine Starter Motor 88DS-1	A
304D-01B-0495-321	GE MCC Drawings, 23HG Generator Compartment Heater	A
304D-01B-0495-322	GE MCC Drawings, 23QT Lube Oil Immersion Heater	A
304D-01B-0495-323	GE MCC Drawings, 88QC Cooldown Lube Oil Pump	A
304D-01B-0495-324	GE MCC Drawings, 88VG Load Gear Compartment Cooling Fan	A
304D-01B-0495-325	GE MCC Drawings, 23HA-1 Accessory Compartment Heater	A
304D-01B-0495-326	GE MCC Drawings, 23HT-1, 2 Turbine Compartment Space Heaters	A
304D-01B-0495-327	GE MCC Drawings, 88FD-1 Fuel Forwarding Pump #1	A
304D-01B-0495-328	GE MCC Drawings, 88FD-2 Fuel Forwarding Pump #2	A
304D-01B-0495-329	GE MCC Drawings, 88BA Cooling Air Fan Acc.	A
304D-01B-0495-330	GE MCC Drawings, Spare Size 2 Starter	A
304D-01B-0495-331	GE MCC Drawings, 88FC-1 Turbine Cooling Water Fan #1	A
304D-01B-0495-332	GE MCC Drawings, 88FC-2 Turbine Cooling Water Fan #2	A
304D-01B-0495-333	GE MCC Drawings, 88WC-1 Turbine Cooling Water Pump #1	A
304D-01B-0495-334	GE MCC Drawings, 88WC-2 Turbine Cooling Water Pump #2	A

Elect. Copy Legend:

A = AutoCad; E = Excel; M = MicroStation; N = None; P = PDF; T = .tif file; W = Word

Page 5 of 9

Revised 9/30/2022

Indianola Municipal Utilities

Turbine 8 Controls

00005 - Appendix Index

Appendix P - Misc. Schematics		
Drawing No.	Description	Elect. Copy
304D-01B-0495-335	GE Misc. Drawings, Diesel Tach	A
304D-01B-0495-336	GE Misc. Drawings, Field Ground Detector	A
Appendix Q - Generator Protection Cabinet Terminal Blocks		
Drawing No.	Description	Elect. Copy
304D-01B-0495-400	GE Protection Cabinet Drawings, GPP Left Sub Panel	A
304D-01B-0495-401	GE Protection Cabinet Drawings, GPP Right Sub Panel	A
304D-01B-0495-402	GE Protection Cabinet Drawings, GPP Back Panel	A
Appendix R - Control Cab and GAC Interconnection Drawings		
Drawing No.	Description	Elect. Copy
304D-01B-0495-403	GE Connection Drawings, Field Ground Detector	A
304D-01B-0495-500	GE Connection Drawings, Ground Detection & EX2000	A
304D-01B-0495-501	GE Connection Drawings, Power VAC	A
304D-01B-0495-502	GE Connection Drawings, Power VAC	A
304D-01B-0495-503	GE Connection Drawings, Power VAC	A
304D-01B-0495-504	GE Connection Drawings, MCC	A
304D-01B-0495-505	GE Connection Drawings, MCC	A
304D-01B-0495-506	GE Connection Drawings, MCC	A
304D-01B-0495-507	GE Connection Drawings, MCC	A
304D-01B-0495-508	GE Connection Drawings, MCC	A
304D-01B-0495-509	GE Connection Drawings, Miscellaneous	A
Appendix S - Control Cab and GAC Physical Layout Drawings		
Drawing No.	Description	Elect. Copy
304D-01B-0495-600	GE Enclosure/Panel Layouts, Gen. Panel Exterior Views	A
304D-01B-0495-601	GE Enclosure/Panel Layouts, Gen. Panel Interior Views	A
304D-01B-0495-602	GE Enclosure/Panel Layouts, Field Ground Fault Detector	A
304D-01B-0495-800	GE Enclosure/Panel Layouts, GAC Plan View, Miscellaneous	A
304D-01B-0495-801	GE Enclosure/Panel Layouts, GAC Plan View, Miscellaneous	A
304D-01B-0495-802	GE Enclosure/Panel Layouts, GAC Elevation View, Miscellaneous	A
304D-01B-0495-803	GE Enclosure/Panel Layouts, GAC Elevation View, Miscellaneous	A
304D-01B-0495-804	GE Enclosure/Panel Layouts, Elevation View, Miscellaneous	A
304D-01B-0495-805	GE Enclosure/Panel Layouts, Control Cabinet Plan View, Miscellaneous	A
304D-01B-0495-806	GE Enclosure/Panel Layouts, AC & DC Elevations, Miscellaneous	A
304D-01B-0495-807	GE Enclosure/Panel Layouts, Control Cabinet Elevations, Miscellaneous	A
304D-01B-0495-808	GE Enclosure/Panel Layouts, Control Cabinet Elevation, Miscellaneous	A

Elect. Copy Legend:

A = AutoCad; E = Excel; M = MicroStation; N = None; P = PDF; T = .tif file; W = Word

Page 6 of 9

Revised 9/30/2022

Indianola Municipal Utilities

Turbine 8 Controls
00005 - Appendix Index

Appendix T - Generator Switchgear Drawings		
Drawing No.	Description	Elect. Copy
304D-01B-0495-900	GE Power/VAC Switchgear, Front View	A
304D-01B-0495-901	GE Power/VAC Switchgear, Floor Plan	A
304D-01B-0495-902	GE Power/VAC Switchgear, Side View	A
304D-01B-0495-903	GE Power/VAC Switchgear, Device Internals	A
304D-01B-0495-904	GE Power/VAC Switchgear, Side View	A
304D-01B-0495-905	GE Power/VAC Switchgear, Control Circuits	A
304D-01B-0495-906	GE Power/VAC Switchgear, Breaker Control Circuit	A
304D-01B-0495-907	GE Power/VAC Switchgear, Unit 101A	A
304D-01B-0495-908	GE Power/VAC Switchgear, Unit 101B	A
304D-01B-0495-909	GE Power/VAC Switchgear, Unit 102A	A
304D-01B-0495-910	GE Power/VAC Switchgear, Unit 102B	A
Appendix U - MK V Input/Output Interface Drawings		
Drawing No.	Description	Elect. Copy
247B1619PI-000	GE Mark V Control Interface, Title Sheet	A
247B1619PI-04A	GE Mark V Control Interface, Master Protective	A
247B1619PI-16A	GE Mark V Control Interface, Fire Detection & Protection	A
247B1619PI-16B	GE Mark V Control Interface, Aux. Relay	A
247B1619PI-16C	GE Mark V Control Interface, Fire Detection & Protection	A
247B1619PI-16D	GE Mark V Control Interface, Fire Detection & Protection	A
247B1619PI-19A	GE Mark V Control Interface, Schematic	A
247B1619PI-19B	GE Mark V Control Interface, Schematic	A
247B1619PI-19C	GE Mark V Control Interface, Schematic	A
247B1619PI-19D	GE Mark V Control Interface, Schematic	A
247B1619PI-19E	GE Mark V Control Interface, Schematic	A
247B1619PI-19F	GE Mark V Control Interface, Schematic	A
247B1619PI-44A	GE Mark V Control Interface, AC & DC Panel Power	A
247B1619PI-44D	GE Mark V Control Interface, Case Wiring	A
247B1619PI-100	GE Mark V Control Interface, High Level Terminal Boards	A
247B1619PI-101	GE Mark V Control Interface, Low Level Terminal Boards	A
247B1619PI-A01	GE Mark V Control Interface, Fire Detection & Protection	A
247B1619PI-A02	GE Mark V Control Interface, Protective Interface Module	A
247B1619PI-A03	GE Mark V Control Interface, Case Wiring	A
Appendix V - Turbine Connection and Wiring Diagrams		
Drawing No.	Description	Elect. Copy
352B9322	Turbine Connection Diagrams, Index	P
352B9322-SECT1-1	Turbine Connection Diagrams, Device Index	P
352B9322-SECT1-2	Turbine Connection Diagrams, Device Index	P
352B9322-SECT1-3	Turbine Connection Diagrams, Device Index	P
352B9322-SECT1-4	Turbine Connection Diagrams, Device Index	P
352B9322-SECT1-5	Turbine Connection Diagrams, Device Index	P
352B9322-SECT2-1	Turbine Connection Diagrams, Motor Connections	P
352B9322-SECT2-2	Turbine Connection Diagrams, Motor Connections	P
352B9322-SECT2-3	Turbine Connection Diagrams, Motor Connections	P

Elect. Copy Legend:

A = AutoCad; E = Excel; M = MicroStation; N = None; P = PDF; T = .tif file; W = Word

Page 7 of 9
Revised 9/30/2022

Indianola Municipal Utilities

Turbine 8 Controls

00005 - Appendix Index

Appendix V - Turbine Connection and Wiring Diagrams cont		
352B9322-SECT2-4	Turbine Connection Diagrams, Motor Connections	P
352B9322-SECT3-1	Turbine Connection Diagrams, Junction Box #1	P
352B9322-SECT3-2	Turbine Connection Diagrams, Junction Box #2	P
352B9322-SECT3-3	Turbine Connection Diagrams, Junction Box #2	P
352B9322-SECT3-4	Turbine Connection Diagrams, Junction Box #2	P
352B9322-SECT3-5	Turbine Connection Diagrams, Junction Box #3	P
352B9322-SECT3-6	Turbine Connection Diagrams, Junction Box #18	P
352B9322-SECT3-7	Turbine Connection Diagrams, CT-DA-2 & 3	P
352B9322-SECT3-8	Turbine Connection Diagrams, Motor Connections	P
352B9322-SECT3-9	Turbine Connection Diagrams, 52FC-1, 2, 3	P
352B9322-SECT3-10	Turbine Connection Diagrams, Junction Box #129	P
352B9322-SECT3-11	Turbine Connection Diagrams, Junction Box #135	P
352B9322-SECT3-12	Turbine Connection Diagrams, 33xx Switches	P
352B9322-SECT3-13	Turbine Connection Diagrams, 63xx Switches	P
352B9322-SECT3-14	Turbine Connection Diagrams	P
352B9322-SECT3-15	Turbine Connection Diagrams	P
352B9322-SECT3-16	Turbine Connection Diagrams	P
352B9322-SECT3-17	Turbine Connection Diagrams	P
352B9322-SECT3-18	Turbine Connection Diagrams	P
352B9322-SECT3-19	Turbine Connection Diagrams	P
352B9322-SECT3-20	Turbine Connection Diagrams, Junction Box #25	P
352B9322-SECT3-21	Turbine Connection Diagrams, Heaters	P
352B9322-SECT3-22	Turbine Connection Diagrams, Junction Box #67 & 68	P
352B9322-SECT3-23	Turbine Connection Diagrams, Junction Box #69 & 70	P
352B9322-SECT3-24	Turbine Connection Diagrams, Junction Box #207	P
352B9322-SECT3-25	Turbine Connection Diagrams	P
Appendix W - Generator Connection and Wiring Diagrams		
Drawing No.	Description	Elect. Copy
352B9397-INDEX	Generator Connection Diagrams, Index	P
352B9397-SECT1-1	Generator Connection Diagrams, Device Index	P
352B9397-SECT1-2	Generator Connection Diagrams, Junction Box #5B	P
352B9397-SECT1-3	Generator Connection Diagrams, Junction Box #5A	P
352B9397-SECT1-4	Generator Connection Diagrams	P
352B9397-SECT1-5	Generator Connection Diagrams	P
352B9397-SECT1-6	Generator Connection Diagrams	P
352B9397-SECT1-7	Generator Connection Diagrams	P
352B9397-SECT1-8	Generator Connection Diagrams, Thermocouples	P
352B9397-SECT1-9	Generator Connection Diagrams, Thermocouples	P
SK-11	Generator Connection Diagrams, Thermocouple Locations	P
Appendix X - Station Power Fused Switch Drawings		
Drawing No.	Description	Elect. Copy
C-12526	Station Power Switch, Physical Drawing	A
W-3352	Station Power Switch, Three-Line Drawing	A

Elect. Copy Legend:

A = AutoCad; E = Excel; M = MicroStation; N = None; P = PDF; T = .tif file; W = Word

Page 8 of 9

Revised 9/30/2022

Indianola Municipal Utilities

Turbine 8 Controls

00005 - Appendix Index

Appendix Y - Water Injection Skid Drawings		
Drawing No.	Description	Elect. Copy
P-22739-01	Water Injection Skid, Piping & Instrumentation Diagram	A
JB64B-BHL	Water Injection Skid, Flow Control Valve	A
SK-10	Water Injection Skid, Tank Water Heater	A
E-22739-01	Water Injection Skid, Space Heater Control	A
E-22739-02	Water Injection Skid, Connection Diagram, Water Forwarding Unit	A
Appendix Z - Fire Alarm System Drawings		
Drawing No.	Description	Elect. Copy
D53576	Fire Alarm System, Electrical Control Drawing	T
Appendix ZZ - Water Cooling Skid Drawings		
Drawing No.	Description	Elect. Copy
C17618	Water Cooling Skid, Wiring Schematic	A
D16012	Water Cooling Skid, Main Junction Box	A
D16013	Water Cooling Skid, Heat Exchanger Box #2	A
D17745	Water Cooling Skid, Anchor Bolt Plans	A
D17765	Water Cooling Skid, Structural Parts List	A
E5893	Water Cooling Skid, Outline Drawing	A
E5907	Water Cooling Skid, Customer Piping Details	A

Elect. Copy Legend:

A = AutoCad; E = Excel; M = MicroStation; N = None; P = PDF; T = .tif file; W = Word

Page 9 of 9

Revised 9/30/2022

THIS PAGE INTENTIONALLY LEFT BLANK

INDIANOLA MUNICIPAL UTILITIES

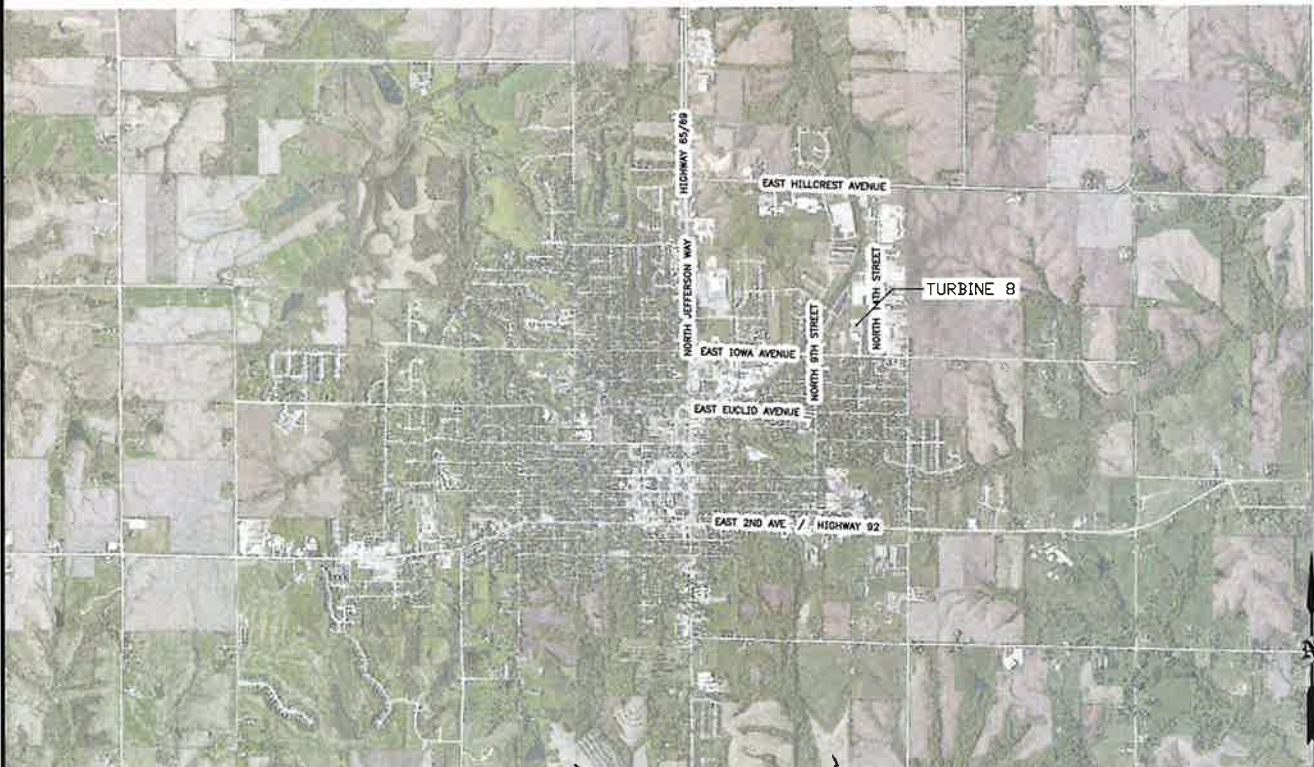


Electric • Network Services • Water

INDIANOLA MUNICIPAL UTILITIES TURBINE 8 CONTROL REPLACEMENT PROJECT PROJECT VICINITY MAP



PROJECT LOCATION
INDIANOLA IOWA



CITY OF INDIANOLA



P & E ENGINEERING CO.
POWER SYSTEM ANALYSIS AND DESIGN

500 SW 7th Street
Suite 100
Des Moines, IA 50309

Office: 515-989-3083
pe@peengr.com

REV
A
DWG NO
00010-1

INDIANOLA MUNICIPAL UTILITIES



INDIANOLA MUNICIPAL UTILITIES
TURBINE 8 CONTROL REPLACEMENT PROJECT
SITE VICINITY MAP



P & E ENGINEERING CO.
POWER SYSTEM ANALYSIS AND DESIGN

500 SW 7th Street
Suite 100
Des Moines, IA 50309

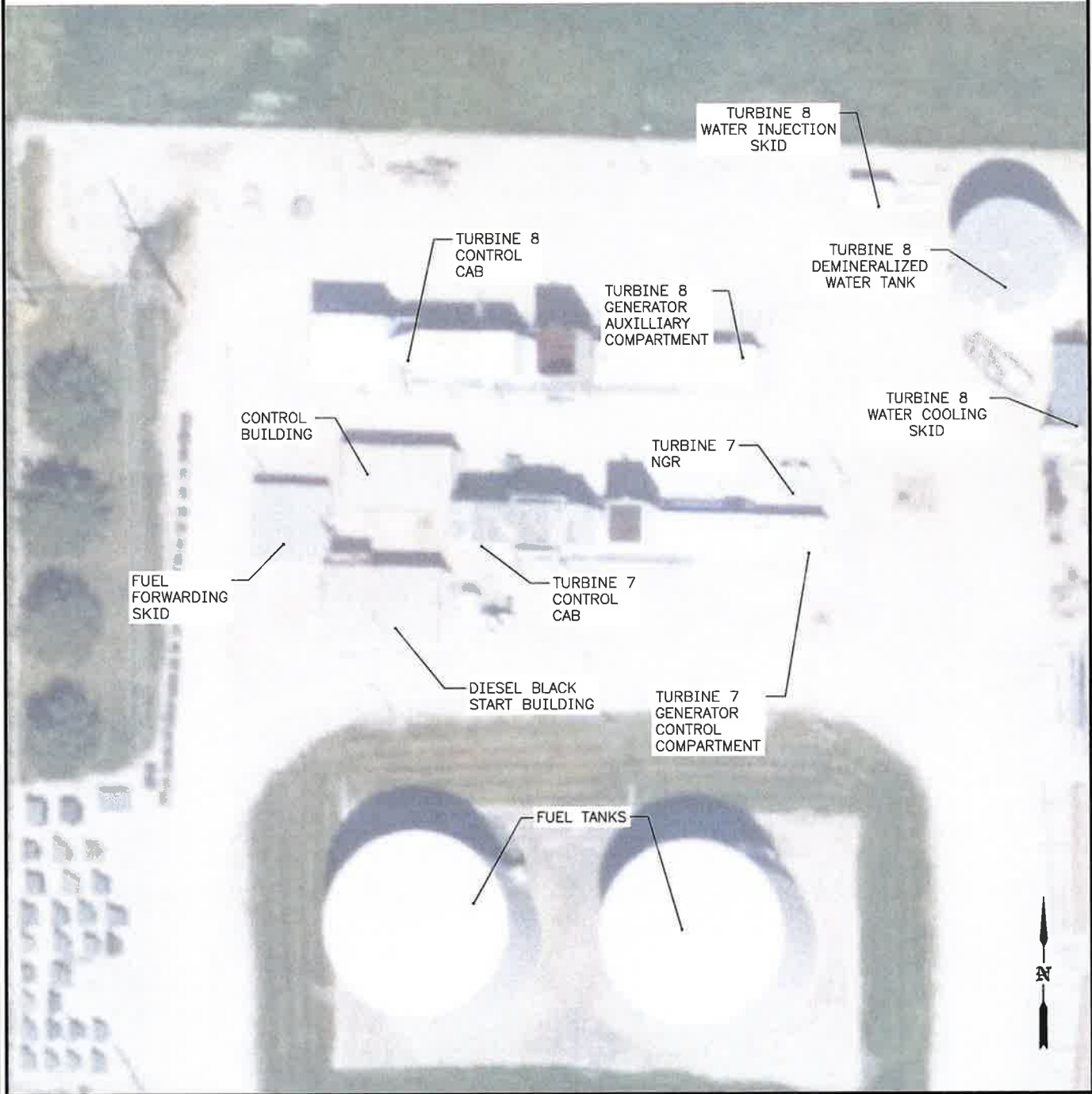
Office: 515-989-3083
pe@peengr.com

REV
A
DWG NO
00010-2

INDIANOLA MUNICIPAL UTILITIES



INDIANOLA MUNICIPAL UTILITIES TURBINE 8 CONTROL REPLACEMENT PROJECT SITE MAP



P & E ENGINEERING CO.
POWER SYSTEM ANALYSIS AND DESIGN

500 SW 7th Street
Suite 100
Des Moines, IA 50309

Office: 515-989-3083
pe@paenr.com

REV
A
DWG NO
00010-3

THIS PAGE INTENTIONALLY LEFT BLANK

NOTICE OF HEARING AND LETTING TURBINE 8 CONTROL REPLACEMENT PROJECT

Sealed proposals will be received by the Board of Trustees of Indianola Municipal Utilities (IMU), Indianola, Iowa, (Owner) at the Indianola City Hall at 110 N. First St., Indianola, Iowa until 2:00 P.M. local time on December 1, 2022 for a project identified as the TURBINE 8 CONTROL REPLACEMENT PROJECT, and as described in detail in the specifications for the project now on file in the office of the City Clerk/CFO. Proposals will be opened in public session at that time. Proposals will be acted upon by the Board of Trustees at a meeting to be held in the Council Chambers of the Indianola City Hall at 110 N. First St, Indianola, Iowa at 5:30 P.M. local time on December 12, 2022 or at such later time and place as may then be fixed. At that time and place a hearing will be held on the proposed plans, specifications, form of contract and estimate of cost for the improvements, and at the hearing any interested person may appear and file objections to the project or to the cost of the improvements.

The Work includes providing and installing a control system, generator excitation system, protective relaying, and SCADA equipment to replace the existing GE SpeedTronic Mark V turbine controls. The equipment will be installed on and adjacent to the turbine skid located at 1300 E. Iowa Ave., Indianola, Iowa.

Each proposal shall be sealed in an envelope marked "BIDS FOR TURBINE 8 CONTROL REPLACEMENT PROJECT". Each bid must be accompanied in a separate envelope by a bid bond, certified check or cashier's check drawn on a State of Iowa or federally chartered bank, or a certified share draft on a State of Iowa or federally chartered credit union, in an amount not less than five per cent (5%) of the total value of the Proposal, and made payable to the Owner as a security that the bidder will enter into a contract for the Work within ten (10) days after the award of the contract to such bidder.

Bidders shall not be permitted to withdraw their bids for a period of sixty (60) days after they are opened.

Payment will be made to the contractor in an amount of 95% of the completed contract value, upon acceptance of the improvements by IMU. The balance of the amount due the successful bidder will be paid not earlier than 31 days from the final acceptance of the improvements by IMU, subject to the conditions and in accordance with the provisions of Chapter 384 and 573 of the Code of Iowa

Payment to the Contractor for completion of the improvements will be made in cash derived from available cash on hand from revenue and such other sources as may be available to IMU. The City of Indianola shall not incur any general obligation for the Improvements. The contract for the furnishing of the improvements shall not constitute a general obligation of the City of Indianola nor be payable in any manner by taxation.

The successful bidder will be required to furnish a performance bond and a payment bond in an amount equal to 100% of the contract price, the bonds to be issued by a responsible surety approved by IMU, and shall guarantee the faithful performance of the contract and the terms and conditions contained in it, and save harmless IMU from claims and damages of any kind caused by the operations of the Contractor.

If the successful bidder fails to enter into a contract with IMU for the Improvements or furnish bonds as required by law, then the certified check or cashier's check deposited by the Contractor shall be cashed, or the bid bond declared forfeited, and proceeds retained by IMU as agreed liquidated damages.

Bidders will be required to complete a Bidder Status Form from the Iowa Department of Labor regarding Bidder's resident status within the State of Iowa and to submit that form with the bid. Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

Work is to commence on or about January 15, 2023 and shall be substantially complete not later than 35 calendar days after the start of the construction outage. The construction outage shall commence not earlier than October 1, 2023 and not later than February 15, 2024. Work shall be completed and ready for final payment not later than 30 days after substantial completion.

Plans and specifications governing the proposed improvements have been prepared by P&E Engineering Co., 500 SW 7th Street, Suite 100, Des Moines, Iowa 50309. The plans and specifications, prior proceedings of IMU referring to and defining the improvements and a proposed contract are hereby made a part of this notice by reference. The proposed contracts shall be executed in accordance with them. Copies of the plans and specifications may be obtained from P & E Engineering Co.

By virtue of statutory authority a preference will be given to products and provisions grown and produced within the State of Iowa and Iowa domestic labor.

IMU reserves the right to reject any or all proposals and to waive informalities. Published upon order of the Board of Trustees Indianola Municipal Utilities, Indianola, Iowa.

JACKIE RAFFETY
City Clerk

TABLE OF CONTENTS

	Page
Article 1— Defined Terms	2
Article 2— Bidding Documents	2
Article 3— Qualifications of Bidders	3
Article 4— Pre-Bid Conference	4
Article 5— Site and Other Areas; Existing Site Conditions; Examination of Site; Owner’s Safety Program; Other Work at the Site	4
Article 6— Bidder’s Representations and Certifications	6
Article 7— Interpretations and Addenda	6
Article 8— Bid Security	6
Article 9— Contract Times	7
Article 10— Substitute and “Or Equal” Items	7
Article 11— Subcontractors, Suppliers, and Others	7
Article 12— Preparation of Bid	8
Article 13— Basis of Bid	9
Article 14— Submittal of Bid	9
Article 15— Modification and Withdrawal of Bid	10
Article 16— Opening of Bids	10
Article 17— Bids to Remain Subject to Acceptance	10
Article 18— Evaluation of Bids and Award of Contract	11
Article 19— Bonds and Insurance	13
Article 20— Signing of Agreement	13
Article 21— Sales and Use Taxes	13
Article 22— Contracts to Be Assigned	13

This document is a MODIFIED version of EJCDC® C-200, Copyright © 2018 by the National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers, or is based in part on excerpts from copyrighted EJCDC documents. Those portions of the text that originated in copyrighted EJCDC documents remain subject to the copyright.

ARTICLE 1—DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office*—The office from which the Bidding Documents are to be issued, and which registers plan holders. The Issuing Office for this project will be P & E Engineering Co., 500 SW 7th Street, Suite 100, Des Moines, IA 50309.

ARTICLE 2—BIDDING DOCUMENTS

- 2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder's responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.
- 2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.
- 2.03 Bidder may register as a plan holder and obtain complete sets of Bidding Documents in printed or electronic (digital) format (compact disk, USB, or direct transmittal) from the Issuing Office. A single copy of the bidding documents may also be obtained at no cost from the Engineer. Bidders may rely that sets of Bidding Documents obtained from the Issuing Office are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.
- 2.04 Plan rooms (including construction information subscription services, and electronic and virtual plan rooms) may distribute the Bidding Documents, or make them available for examination. Those prospective bidders that obtain an electronic (digital) copy of the Bidding Documents from a plan room are encouraged to register as plan holders from the Issuing Office. Owner is not responsible for omissions in Bidding Documents or other documents obtained from plan rooms, or for a Bidder's failure to obtain Addenda from a plan room.
- 2.05 *Electronic Documents*
- A. Bidding Documents will be made available as Electronic Documents in the following manner.
1. Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf). It is the intent of the Engineer and Owner that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Owner and Engineer cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of reproduction of such documents, the Owner and Engineer cannot and do not guarantee that Electronic Documents and

reproductions prepared from those versions are identical in every manner to the paper copies.

- B. The Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in Paragraph 2.06.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and reproductions prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.
- C. After the Contract is awarded, the Owner will provide or direct the Engineer to provide for the use of the Contractor documents that were developed by Engineer as part of the Project design process, as Electronic Documents in native file formats.
 - 1. Electronic Documents that are available in native file format include:
 - a. See documents marked "A", "E" or "M" in 00005 - Appendix Index.
 - 2. Release of such documents will be solely for the convenience of the Contractor. No such document is a Contract Document.
 - 3. The Contractor shall take appropriate measures to verify that any electronic/digital information provided in Electronic Documents is appropriate and adequate for the Contractor's specific purposes.
 - 4. In no case will the Contractor be entitled to additional compensation or time for completion due to any differences between the actual Contract Documents and any related document in native file format.

ARTICLE 3—QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within five (5) days of Owner's request, Bidder must submit the following information:
 - A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments.
 - B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.
 - C. Bidder's state or other contractor license number, if applicable.
 - D. Subcontractor and Supplier qualification information.
 - E. Other required information regarding qualifications.

- 3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

ARTICLE 4—PRE-BID CONFERENCE

- 4.01 Each prospective bidder must schedule a mandatory pre-bid conference with the Owner. Prospective bidders must contact Mike Metcalf at 515-961-2-5305 to make arrangements to visit the project site. Bidders may direct questions to Jared Kline, P & E Engineering Co. at 515-989-3083.
- 4.02 Information presented at the pre-Bid conference does not alter the Contract Documents. Owner will issue Addenda to make any changes to the Contract Documents that result from discussions at the pre-Bid conference. Information presented, and statements made at the pre-bid conference will not be binding or legally effective unless incorporated in an Addendum.

ARTICLE 5—SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

5.01 *Site and Other Areas*

- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

5.02 *Existing Site Conditions*

A. *Subsurface and Physical Conditions; Hazardous Environmental Conditions*

- 1. The Supplementary Conditions identify the following regarding existing conditions at or adjacent to the Site:
 - a. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data.
 - b. Those drawings known to Owner of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data.
 - c. Reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
 - d. Technical Data contained in such reports and drawings.
- 2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely,

as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05 of the General Conditions, and not in the drawings referred to in Paragraph 5.02.A of these Instructions to Bidders. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

5.03 *Other Site-related Documents*

- A. No other Site-related documents are available.

5.04 *Site Visit and Testing by Bidders*

- A. Bidder is required to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. During the visit the Bidder must not disturb any ongoing operations at the Site. Reference is made to Paragraph 4.01.
- B. Bidders visiting the Site are required to arrange their own transportation to the Site.
- C. All access to the Site other than during a regularly scheduled Site visit must be coordinated through Mike Metcalf at 515-961-5305. Bidder must conduct the required Site visit during normal working hours.
- D. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- E. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder general access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site. Bidder is responsible for establishing access needed to reach specific selected test sites.
- F. Bidder must comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- G. Bidder must fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

5.05 *Owner's Safety Program*

- A. Site visits and work at the Site may be governed by an Owner safety program. If an Owner safety program exists, it will be noted in the Supplementary Conditions.

5.06 *Other Work at the Site*

- A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 6—BIDDER’S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Express Representations and Certifications in Bid Form, Agreement*

- A. The Bid Form that each Bidder will submit contains express representations regarding the Bidder’s examination of Project documentation, Site visit, and preparation of the Bid, and certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications, and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.
- B. If Bidder is awarded the Contract, Bidder (as Contractor) will make similar express representations and certifications when it executes the Agreement.

ARTICLE 7—INTERPRETATIONS AND ADDENDA

- 7.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.
- 7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents via email to jakline@peengr.com and must include “Question related to IMU Turbine 8 Controls Replacement” in the subject line. Confirm the email has been received by calling Jared Kline at 515-989-3083.
- 7.03 Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven days prior to the date for opening of Bids may not be answered.
- 7.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

ARTICLE 8—BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder’s maximum Bid price (determined by adding the base bid and all alternates) and in the form prescribed in the NOTICE TO BIDDERS AND NOTICE OF PUBLIC HEARING.
- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid

security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture will be Owner's exclusive remedy if Bidder defaults.

- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within 7 days after the Bid opening.

ARTICLE 9—CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be (a) substantially completed and (b) ready for final payment, and (c) Milestones (if any) are to be achieved, are set forth in the Agreement.

ARTICLE 10—SUBSTITUTE AND "OR EQUAL" ITEMS

- 10.01 The Contract for the Work, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.
- 10.02 All prices that Bidder sets forth in its Bid will be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

ARTICLE 11—SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 11.01 The apparent Successful Bidder, and any other Bidder so requested, must submit to Owner a list of the Subcontractors or Suppliers proposed for any portion of the Work within five days after Bid opening:
- 11.02 If requested by Owner, such list must be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor or Supplier, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder will submit a substitute.
- 11.03 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors and Suppliers. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid

security of any Bidder. Any Subcontractor or Supplier, so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.07 of the General Conditions.

ARTICLE 12—PREPARATION OF BID

12.01 The Bid Form is included with the Bidding Documents.

- A. All blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
- B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words “No Bid” or “Not Applicable.”

12.02 If Bidder has obtained the Bidding Documents as Electronic Documents, then Bidder shall prepare its Bid on a paper copy of the Bid Form printed from the Electronic Documents version of the Bidding Documents. The printed copy of the Bid Form must be clearly legible, printed on 8½ inch by 11-inch paper and as closely identical in appearance to the Electronic Document version of the Bid Form as may be practical. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.

12.03 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown.

12.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.

12.05 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.

12.06 A Bid by an individual must show the Bidder’s name and official address.

12.07 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.

12.08 All names must be printed in ink below the signatures.

12.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.

12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.

- 12.11 The Bid must contain evidence of Bidder's authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority ~~within the time for acceptance of Bids~~ within 21 days of receiving a Notice of Award and attach such certification to the Bid. The worksheet "Worksheet: Authorization to Transact Business" attached to the Iowa Department of Labor Bidder status form referenced in Paragraph 12.13 can be used to aid Bidder in determining if Bidder has authority to transact business in Iowa.
- 12.12 If Bidder is required to be licensed to ~~submit a Bid or~~ perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure ~~within the time for acceptance of Bids~~ within 21 days of receiving a Notice of Award and attach such certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.
- 12.13 Bidder shall submit a completed copy of the Bidder Status form from the Iowa Department of labor with the bid. A copy of the form can be obtained at https://www.iowadivisionoflabor.gov/sites/default/files/2021-11/BP.status.form_1.pdf

ARTICLE 13—BASIS OF BID

13.01 *Base Bid with Alternates*

- A. Bidders must submit a Bid on a lump sum basis for the base Bid and include a separate price for each alternate described in the Bidding Documents and as provided for in the Bid Form. The price for each alternate will be the amount added to or deleted from the base Bid if Owner selects the alternate.
- B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form.

ARTICLE 14—SUBMITTAL OF BID

- 14.01 Paper copies of the Bidding Documents include one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 2 of the Bid Form. See Paragraph 12.02 for Bid Documents that are received as Electronic Documents
- 14.02 A Bid must be received no later than the date and time prescribed and at the place indicated in the Advertisement or invitation to bid and must be enclosed in a plainly marked package with the Project title, and, if applicable, the designated portion of the Project for which the Bid is submitted, and the name and address of Bidder. This package shall be plainly labeled "BID ENCLOSED." The package must contain two sealed opaque envelopes, one for the Bid and other required documents and one for the Bid Security.
- 14.03 The sealed envelope containing the Bid and all required documents (except for the bid security) must be plainly marked with the notation "BID ENCLOSED".
- 14.04 The sealed envelope containing the bid security must be plainly marked with the notation "BID SECURITY ENCLOSED".

14.05 A Bid sent by mail shall be addressed to:

Jackie Raffety
City of Indianola
110 N. 1st Street
PO Box 299
Indianola, IA 50125

14.06 A bid sent by delivery service or hand delivered shall be delivered to:

City of Indianola
110 N. 1st Street
Indianola, IA 50125
Attention: Jackie Raffety
Phone: 515-961-9410

14.07 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 15—MODIFICATION AND WITHDRAWAL OF BID

- 15.01 An unopened Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 15.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 15.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 15.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, the Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, the Bidder will be disqualified from further bidding on the Work.

ARTICLE 16—OPENING OF BIDS

- 16.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 17—BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 17.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 18—EVALUATION OF BIDS AND AWARD OF CONTRACT

- 18.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.
- 18.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.
- 18.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner ~~will~~ may reject the Bid as nonresponsive.
- 18.04 Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder.
- 18.05 If Owner awards the contract for the Work, such award will be to the responsible Bidder whose bid is considered to be in the best interest of the Owner.
- 18.06 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 18.07 *Evaluation of Bids*
- A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - B. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
 - C. The written Bid will be evaluated by Owner through analysis of information derived from the proposals, Owner's records, and other relevant sources and information, all to determine which Proposal is most beneficial to the Owner. If deemed necessary by Owner, written

and/or oral discussions may be conducted with those Bidders whose Bids are found to be potentially acceptable.

- D. Owner will consider all materials submitted by Bidder to determine whether the Bid is responsive to the requirements of this RFP.
- E. The following considerations may impact Owner's determination of the responsiveness of a Bid or fitness of a Bidder to undertake the Work:
 - 1. Experience of the Bidder and successful completion of similar control project on GE Frame 5 turbines using SpeedTronic Mark V control systems.
 - 2. Ability, capacity, and skill of Bidder to complete the work.
 - 3. Quality and timeliness of performance by the Bidder on previous contracts with other municipal utilities or local governments, including, but not limited to, the relative costs, burdens, time and effort expended by such entities in securing satisfactory performance and resolving claims;.
 - 4. Previous and existing compliance by the Bidder with laws relating to public bidding, contracts, and services.
 - 5. History of the Bidder in filing claims and litigation on prior public projects.
 - 6. Such other information as may be secured having bearing on the decision to award the Contract, including but not limited to, prior safety violations and lawsuits.
- 18.08 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 18.09 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.
- 18.10 If requested by Owner, Bidders shall furnish evidence of the Bidder's ability to perform, such as commitments by Subcontractors, equipment, supplies and facilities, and Bidders ability to marshal the necessary personnel. Refusal to provide such information may cause the Bid to be deemed nonresponsive and rejected.
- 18.11 Bidders may be invited to make presentations in Indianola, IA. Bidders will be asked to present their qualifications, personnel and implementation approach to Owner. In addition, Owner may interview references and review other materials to evaluate Bidder's capability to deliver the control system.
- 18.12 Due to the confidential nature of the information and materials which will be accessible to the successful bidder, Owner may conduct a reference check on the proposed Subcontractors, Partners, and Proposers staff to be used to provide the Work. Owner reserves the right in its sole

discretion to reject any proposed Subcontractor, Partner, or Bidder's Staff as a result of information produced by such reference check.

ARTICLE 19—BONDS AND INSURANCE

- 19.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds, other required bonds (if any), and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by required bonds and insurance documentation.
- 19.02 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

ARTICLE 20—SIGNING OF AGREEMENT

- 20.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within ~~15~~ **10** days thereafter, Successful Bidder must execute and deliver the required number of counterparts of the Agreement and any bonds and insurance documentation required to be delivered by the Contract Documents to Owner. ~~Within 10 days thereafter,~~ Owner will deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and/or electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions within 5 days after the next regularly scheduled board meeting.

ARTICLE 21—SALES AND USE TAXES

- 21.01 Owner is subject to state and local sales and use taxes on materials and equipment to be incorporated in the Work. Said taxes shall be included in the Bid. Refer to Paragraph SC-7.10 of the Supplementary Conditions for additional information.

ARTICLE 22—CONTRACTS TO BE ASSIGNED

- 22.01 This Article is not used.

THIS PAGE INTENTIONALLY LEFT BLANK



This document is a MODIFIED version of EJCDC® C-410, Copyright © 2018 by the National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers, or is based in part on excerpts from copyrighted EJCDC documents. Those portions of the text that originated in copyrighted EJCDC documents remain subject to the copyright.

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to:

Indianola Municipal Utilities
110 North 1st Street
Indianola, Iowa, 50125

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

2.01 The following documents are submitted with and made a condition of this Bid:

- A. Required Bid security;
- B. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids;
- C. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;
- D. A completed Iowa Department of Labor Bidder Status Form (309-6001) regarding the Contractor's resident status within the State of Iowa.
- E. Bidder shall provide an Executive Summary with the bid that concisely summarizes, in two double-spaced pages or less, the qualifications of the Bidder and the functionality, key benefits, and capability to be provided by the Bidder. Include a history of the Bidder's organization and the number of years of involvement with turbine controls. Provide a list of recent projects involving control work or mechanical upgrades or modifications on GE Frame 5 turbines, including references. Pricing shall NOT be included in the Executive Summary.

Name of Bidder Petrotech, Inc.



ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES

3.01 Lump Sum Bids

A. Bidder (Petrotech, Inc.) will complete the Work in accordance with the Contract Documents for the following lump sum (stipulated) price(s),

1. Lump Sum Price (Base Bid and Alternates)

Lump Sum Bid Price for Base Bid	\$ 581,757
Alternate 1- Replace and upgrade flame sensors in accordance with Section 13310 Part 7 [Add]	\$ 0
Alternate 2- Provide NOx control algorithm in accordance with Section 13310 Part 7 [Add]	\$ 13,140
Alternate 3- Retain third party testing contractor to perform stack testing in accordance with Section 13310 Part 7 [Add]	\$ 18,157

ARTICLE 4—TIME OF COMPLETION

4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

4.02 The Contract includes Liquidated Damages in accordance with Part 1, Paragraph 1.2A of Section 13300.

ARTICLE 5—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

5.01 Bid Acceptance Period

A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

5.02 Instructions to Bidders

A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

5.03 Receipt of Addenda

A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date
1	11/17/2022
2	11/22/2022



ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Bidder's Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site, if any, that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the---- Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.



11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

6.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
 - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
 - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
 - c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
 - d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

Name of Bidder Petrotech, Inc.



BIDDER hereby submits this Bid as set forth above:

Bidder:

Petrotech, Inc.

By:

(signature)
(typed or printed name of organization)
(individual's signature)

Name: David Lavie

(typed or printed)

Title: Executive Vice President

(typed or printed)

Date: 11/29/2022

(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest:

(signature)
(individual's signature)

Name: Mark Welch

(typed or printed)

Title: Applications Engineering Manager

(typed or printed)

Date: 11/29/2022

(typed or printed)

Address for giving notices:

151 Brookhollow Esplanade
New Orleans, LA 70123

Bidder's Contact:

Name: Mark Welch

(typed or printed)

Title: Applications Engineering Manager

(typed or printed)

Phone: 504-620-5335

Email: mwelch@petrotechinc.com

Address:

151 Brookhollow Esplanade
New Orleans, LA 70123

Bidder's Contractor License No.: (if applicable) C122776

LIMITED WARRANTY

MAY 2012

LIMITED WARRANTY

Petrotech, Inc. warrants to its original Buyer only that goods sold by Petrotech, Inc. are free from defects in material and workmanship, under normal conditions of use and service for the lesser of twelve (12) months from date of startup or eighteen (18) months from the date of shipment. If the Buyer discovers a defect in materials or workmanship within the warranty period the Buyer must promptly notify Petrotech, Inc. in writing at the below address. Within a reasonable time after notification, Petrotech, Inc. will repair or replace any component found defective, upon its return, all transportation charges prepaid by Buyer.

LIMITATION OF REMEDY AND LIABILITY

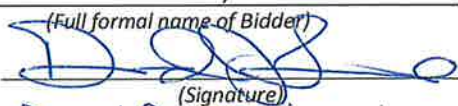
The foregoing limited warranties and remedies are in lieu of all other warranties and remedies available by law or by agreement, expressed or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. The Buyer waives all other causes of action and any entitlement to special, incidental, or consequential damages based upon any legal theory including, but not limited to, property damage, loss of profits, loss of savings or revenue, loss of use of the product or any associated equipment, or cost of capital.

Petrotech, Inc.
151 Brookhollow Esplanade
New Orleans, Louisiana 70123
USA

Phone: (504) 620-6600
Fax: (504) 620-6601
Email: info@petrotechinc.com
Website: www.petrotechinc.com

This document is a Petrotech, Inc. copyrighted intellectual property and may be changed at any time without notice.

BID BOND (PENAL SUM FORM)

Bidder Name: Petrotech, Inc. Address (principal place of business): 151 Brookhollow Esplanade New Orleans, LA 70123	Surety Name: Atlantic Specialty Insurance Company Address (principal place of business): 605 Highway 169 North, Suite 800 Plymouth, MN 55441
Owner Name: INDIANOLA MUNICIPAL UTILITIES Address (principal place of business): 210 WEST 2ND AVE INDIANOLA, IA 50125	Bid Project (name and location): INDIANOLA MUNICIPAL UTILITIES TURBINE 8 CONTROL REPLACEMENT PROJECT Bid Due Date: DECEMBER 1, 2022
Bond Penal Sum: Five Percent (5%) of the Amount Bid Date of Bond: December 1, 2022	
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	
Bidder PetroTech, Inc. (Full formal name of Bidder) By:  (Signature) Name: <u>David J. Larive</u> (Printed or typed) Title: <u>Executive V.P.</u> Attest:  (Signature) Name: <u>Mark Welch</u> (Printed or typed) Title: <u>Applications Engineering Manager</u>	Surety Atlantic Specialty Insurance Company (Full formal name of Surety) (corporate seal) By:  (Signature) (Attach Power of Attorney) Name: <u>George V. Baus, Jr.</u> (Printed or typed) Title: <u>Attorney-In-Fact</u> Attest:  (Signature) Name: <u>Jean Viola</u> (Printed or typed) Title: <u>Account Manager</u>
Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.	

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond will be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder occurs upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation will be null and void if:
 - 3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2. All Bids are rejected by Owner, or
 - 3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions does not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action will be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety, and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond will be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder must be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Postal Service registered or certified mail, return receipt requested, postage pre-paid, and will be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond will be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute governs and the remainder of this Bond that is not in conflict therewith continues in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.



Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: **George V. Baus, Jr, Kathleen L. Berni, Gregory R. Weston, Edward J. Murphy, III, John W. Watson, Elizabeth Hamrick, Jean Viola**, each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: **unlimited** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the President, any Senior Vice President or Vice-President (each an "Authorized Officer") may execute for and in behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and affix the seal of the Company thereto; and that the Authorized Officer may appoint and authorize an Attorney-in-Fact to execute on behalf of the Company any and all such instruments and to affix the Company seal thereto; and that the Authorized Officer may at any time remove any such Attorney-in-Fact and revoke all power and authority given to any such Attorney-in-Fact.

Resolved: That the Attorney-in-Fact may be given full power and authority to execute for and in the name and on behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed and sealed by an Authorized Officer and, further, the Attorney-in-Fact is hereby authorized to verify any affidavit required to be attached to bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof.

This power of attorney is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the signature of an Authorized Officer, the signature of the Secretary or the Assistant Secretary, and the Company seal may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing an Attorney-in-Fact for purposes only of executing and sealing any bond, undertaking, recognizance or other written obligation in the nature thereof, and any such signature and seal where so used, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this twenty-seventh day of April, 2020.

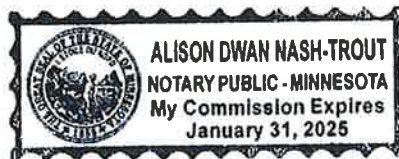
STATE OF MINNESOTA
HENNEPIN COUNTY



By

Paul J. Brehm, Senior Vice President

On this twenty-seventh day of April, 2020, before me personally came Paul J. Brehm, Senior Vice President of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.



Notary Public

I, the undersigned, Secretary of ATLANTIC SPECIALTY INSURANCE COMPANY, a New York Corporation, do hereby certify that the foregoing power of attorney is in full force and has not been revoked, and the resolutions set forth above are now in force.

Signed and sealed. Dated 1st day of December, 2022.

This Power of Attorney expires
January 31, 2025



Kara Barrow, Secretary

THIS PAGE INTENTIONALLY LEFT BLANK

This document is a MODIFIED version of EJCDC® C-520, Copyright © 2018 by the National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers, or is based in part on excerpts from copyrighted EJCDC documents. Those portions of the text that originated in copyrighted EJCDC documents remain subject to the copyright.

This Agreement is by and between Indianola Municipal Utilities ("Owner") and

Petrotech, Inc. ("Contractor").

Terms used in this Agreement have the meanings stated in the General Conditions and the Supplementary Conditions.

Owner and Contractor hereby agree as follows:

ARTICLE 1—WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

Provide and install turbine control system, including control hardware and software, HMI, exciter system, protective relays, operator console, and associated equipment.

ARTICLE 2—THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows:

INDIANOLA MUNICIPAL UTILITIES TURBINE 8 CONTROL REPLACEMENT PROJECT

ARTICLE 3—ENGINEER

3.01 The Owner has retained P & E Engineering Co. ("Engineer") to act as Owner's representative, assume all duties and responsibilities of Engineer, and have the rights and authority assigned to Engineer in the Contract.

3.02 The part of the Project that pertains to the Work has been designed by Engineer.

ARTICLE 4—CONTRACT TIMES

4.01 *Time is of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Contract Times: Dates*

- A. The Work will be substantially completed no later than 35 calendar days after the start of the outage as provided in Paragraph 15.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions no later than 30 calendar days after substantial completion.

4.04 *Milestones*

- A. Parts of the Work must be substantially completed on or before the following Milestone(s):
 - 1. The outage to install the controls shall begin no earlier than October 1, 2023 and not later than February 15, 2024. The outage shall last no longer than 35 calendar days at which point the unit shall be fully commissioned and ready for stack testing, if necessary, or normal service.

4.05 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):
 - 1. *Substantial Completion:* Contractor shall pay Owner \$1200 for each day that expires after May 30, 2024 (without adjustment unless Owner furnished speed switches arrive after February 28, 2024), until the Work is substantially complete.
- B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

ARTICLE 5—CONTRACT PRICE

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents, the amounts that follow, subject to adjustment under the Contract:
 - A. For all Work, a lump sum of \$ 599,914.00.

ARTICLE 6—PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 Progress Payments; Retainage

- A. Owner shall make progress payments on the basis of Contractor's Applications for Payment, which is to be submitted on or about the 1st day of each month during performance of the Work, as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold in accordance with the Contract.
 - a. 95 percent of the value of the Work completed (with the balance being retainage).
 - b. 95 percent of cost of materials and equipment stored on site but not yet incorporated in the Work (with the balance being retainage).
- B. Following Substantial Completion, partial payment of retainage may be made in accordance with the Contract Documents and applicable State Law.

6.03 Final Payment

- A. Upon final completion and acceptance of the Work, Owner shall pay the remainder of the Contract Price in accordance with Paragraph 15.06 of the General Conditions.

6.04 Consent of Surety

- A. Owner will not make final payment, or return or release retainage at Substantial Completion or any other time, unless Contractor submits written consent of the surety to such payment, return, or release.

6.05 Interest

- A. All amounts not paid when due will bear interest at the rate of 6% percent per annum.

ARTICLE 7—CONTRACT DOCUMENTS

7.01 Contents

- A. The Contract Documents consist of all of the following:
1. This Agreement.
 2. Bonds:
 - a. Performance bond (together with power of attorney).
 - b. Payment bond (together with power of attorney).
 3. General Conditions, Section 00700.

4. Supplementary Conditions, Section 00800.
5. General Requirements, section 13300.
6. Specifications as listed in the table of contents of the project manual.
7. Drawings as listed in the table of contents of the project manual.
8. Addenda (numbers 1 to 2, inclusive).
9. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid
10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.
- B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 7.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

ARTICLE 8—REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS

8.01 Contractor's Representations

- A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:
 1. Contractor has examined and carefully studied the Contract Documents, including Addenda.
 2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 3. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
 4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions (if any), with respect to the Technical Data in such reports and drawings.

5. Contractor has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (c) Contractor's safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
9. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

8.02 Contractor's Certifications

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:
 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

8.03 *Standard General Conditions*

- A. Owner stipulates the General Conditions that are made a part of this Contract are EJCDC® C-700, Standard General Conditions for the Construction Contract (2018), published by the Engineers Joint Contract Documents Committee (Section 00700 of the Contract), and that all modifications to the standard wording of such published document are shown in the Supplementary Conditions.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on _____, _____ (which is the Effective Date of the Contract).

Owner:

Indianola Municipal Utilities

(typed or printed name of organization)

By:

(individual's signature)

Date:

(date signed)

Name:

(typed or printed)

Title:

(typed or printed)

Attest:

(individual's signature)

Title:

(typed or printed)

Address for giving notices:

210 West 2nd Avenue

Indianola, IA 50125

Designated Representative:

Name: Mike Metcalf

(typed or printed)

Title: Electric Superintendent

(typed or printed)

Address:

210 West 2nd Avenue

Indianola, IA 50125

Phone: (515) 962-5305

Email: mmetcalf@indianolaiowa.gov

Contractor:

Petrotech, Inc.

(typed or printed name of organization)

By:

(individual's signature)

Date:

(date signed)

Name:

(typed or printed)

Title:

(typed or printed)

(If [Type of Entity] is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

(individual's signature)

Title:

(typed or printed)

Address for giving notices:

151 Brookhollow Esplanade

New Orleans, LA 70123

Designated Representative:

Name: Mark Welch

(typed or printed)

Title:

(typed or printed)

Address:

151 Brookhollow Esplanade

New Orleans, LA 70123

Phone:

504-620-5335

Email:

mwelch@petrotechinc.com



THIS PAGE INTENTIONALLY LEFT BLANK

PERFORMANCE BOND

Contractor Name: _____ Address (principal place of business): _____ 	Surety Name: _____ Address (principal place of business): _____
Owner Name: INDIANOLA MUNICIPAL UTILITIES Mailing address (principal place of business): 210 WEST 2ND AVE INDIANOLA, IA 50125	Contract Description (name and location): INDIANOLA MUNICIPAL UTILITIES TURBINE 8 CONTROL REPLACEMENT PROJECT Contract Price: _____ Effective Date of Contract: _____
Bond Bond Amount: _____ Date of Bond: _____ <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: ☒ None ☐ See Paragraph 16	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal	Surety
_____ <i>(Full formal name of Contractor)</i>	_____ <i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature)(Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
<i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i>	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:
 - 3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner's right, if any, subsequently to declare a Contractor Default;
 - 3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
 - 3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
 - 5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
 - 5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
 - 5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

- 5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- 5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Owner shall be entitled to enforce any remedy available to the Owner.
7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
- 7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- 7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
- 7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.
12. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such

statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

14. Definitions

- 14.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
 - 14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
 - 14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
 - 14.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
 - 14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
16. Modifications to this Bond are as follows: **NONE**

PAYMENT BOND

Contractor Name: _____ Address (principal place of business): _____ 	Surety Name: _____ Address (principal place of business): _____
Owner Name: INDIANOLA MUNICIPAL UTILITIES Mailing address (principal place of business): 210 WEST 2ND AVE INDIANOLA, IA 50125	Contract Description (name and location): INDIANOLA MUNICIPAL UTILITIES TURBINE 8 CONTROL REPLACEMENT PROJECT Contract Price: _____ Effective Date of Contract: _____
Bond Bond Amount: _____ Date of Bond: _____ <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: ☒ None ☐ See Paragraph 18	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal	Surety
_____ <i>(Full formal name of Contractor)</i>	_____ <i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature)(Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond will arise after the following:
 - 5.1. Claimants who do not have a direct contract with the Contractor
 - 5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2. Pay or arrange for payment of any undisputed amounts.
 - 7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit will be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted here from and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. Definitions
 - 16.1. *Claim*—A written statement by the Claimant including at a minimum:
 - 16.1.1. The name of the Claimant;
 - 16.1.2. The name of the person for whom the labor was done, or materials or equipment furnished;
 - 16.1.3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
 - 16.1.4. A brief description of the labor, materials, or equipment furnished;

- 16.1.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
 - 16.1.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
 - 16.1.7. The total amount of previous payments received by the Claimant; and
 - 16.1.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
- 16.2. *Claimant*—An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
- 16.3. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
- 16.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 16.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
18. Modifications to this Bond are as follows: **NONE**

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By



Endorsed By



Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies,
and American Society of Civil Engineers. All rights reserved.

Copyright® 2018

National Society of Professional Engineers
1420 King Street, Alexandria, VA 22314-2794
(703) 684-2882
www.nspe.org

American Council of Engineering Companies
1015 15th Street N.W., Washington, DC 20005
(202) 347-7474
www.acec.org

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400
(800) 548-2723
www.asce.org

The copyright for this EJCDC document is owned jointly by the three sponsoring organizations listed above. The National Society of Professional Engineers is the Copyright Administrator for the EJCDC documents; please direct all inquiries regarding EJCDC copyrights to NSPE.

NOTE: EJCDC publications may be purchased at www.ejcdc.org, or from any of the sponsoring organizations above.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1—Definitions and Terminology.....	1
1.01 Defined Terms.....	1
1.02 Terminology.....	6
Article 2—Preliminary Matters.....	7
2.01 Delivery of Performance and Payment Bonds; Evidence of Insurance.....	7
2.02 Copies of Documents.....	8
2.03 Before Starting Construction.....	8
2.04 Preconstruction Conference; Designation of Authorized Representatives.....	8
2.05 Acceptance of Schedules.....	8
2.06 Electronic Transmittals.....	9
Article 3—Contract Documents: Intent, Requirements, Reuse.....	9
3.01 Intent.....	9
3.02 Reference Standards.....	10
3.03 Reporting and Resolving Discrepancies.....	10
3.04 Requirements of the Contract Documents.....	11
3.05 Reuse of Documents.....	11
Article 4—Commencement and Progress of the Work.....	12
4.01 Commencement of Contract Times; Notice to Proceed.....	12
4.02 Starting the Work.....	12
4.03 Reference Points.....	12
4.04 Progress Schedule.....	12
4.05 Delays in Contractor’s Progress.....	13
Article 5—Site; Subsurface and Physical Conditions; Hazardous Environmental Conditions.....	14
5.01 Availability of Lands.....	14
5.02 Use of Site and Other Areas.....	14
5.03 Subsurface and Physical Conditions.....	16

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies,
and American Society of Civil Engineers. All rights reserved.

5.04	Differing Subsurface or Physical Conditions	16
5.05	Underground Facilities	18
5.06	Hazardous Environmental Conditions at Site	20
Article 6—Bonds and Insurance		22
6.01	Performance, Payment, and Other Bonds	22
6.02	Insurance—General Provisions	23
6.03	Contractor’s Insurance	25
6.04	Builder’s Risk and Other Property Insurance	26
6.05	Property Losses; Subrogation	27
6.06	Receipt and Application of Property Insurance Proceeds	28
Article 7—Contractor’s Responsibilities		28
7.01	Contractor’s Means and Methods of Construction	28
7.02	Supervision and Superintendence	29
7.03	Labor; Working Hours	29
7.04	Services, Materials, and Equipment	29
7.05	“Or Equals”	30
7.06	Substitutes	31
7.07	Concerning Subcontractors and Suppliers	32
7.08	Patent Fees and Royalties	34
7.09	Permits	34
7.10	Taxes	34
7.11	Laws and Regulations	35
7.12	Record Documents	35
7.13	Safety and Protection	35
7.14	Hazard Communication Programs	37
7.15	Emergencies	37
7.16	Submittals	37
7.17	Contractor’s General Warranty and Guarantee	40
7.18	Indemnification	41
7.19	Delegation of Professional Design Services	41
Article 8—Other Work at the Site		42
8.01	Other Work	42

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies,
and American Society of Civil Engineers. All rights reserved.

8.02	Coordination	43
8.03	Legal Relationships.....	43
Article 9—Owner’s Responsibilities		44
9.01	Communications to Contractor	44
9.02	Replacement of Engineer.....	44
9.03	Furnish Data	45
9.04	Pay When Due.....	45
9.05	Lands and Easements; Reports, Tests, and Drawings.....	45
9.06	Insurance.....	45
9.07	Change Orders	45
9.08	Inspections, Tests, and Approvals.....	45
9.09	Limitations on Owner’s Responsibilities	45
9.10	Undisclosed Hazardous Environmental Condition.....	45
9.11	Evidence of Financial Arrangements.....	45
9.12	Safety Programs	45
Article 10—Engineer’s Status During Construction		46
10.01	Owner’s Representative.....	46
10.02	Visits to Site.....	46
10.03	Resident Project Representative.....	46
10.04	Engineer’s Authority	46
10.05	Determinations for Unit Price Work	47
10.06	Decisions on Requirements of Contract Documents and Acceptability of Work	47
10.07	Limitations on Engineer’s Authority and Responsibilities	47
10.08	Compliance with Safety Program.....	48
Article 11—Changes to the Contract		48
11.01	Amending and Supplementing the Contract	48
11.02	Change Orders	48
11.03	Work Change Directives.....	49
11.04	Field Orders.....	49
11.05	Owner-Authorized Changes in the Work.....	49
11.06	Unauthorized Changes in the Work.....	50
11.07	Change of Contract Price	50

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies,
and American Society of Civil Engineers. All rights reserved.

11.08	Change of Contract Times	51
11.09	Change Proposals	51
11.10	Notification to Surety	52
Article 12—Claims		53
12.01	Claims	53
Article 13—Cost of the Work; Allowances; Unit Price Work		54
13.01	Cost of the Work	54
13.02	Allowances	58
13.03	Unit Price Work	58
Article 14—Tests and Inspections; Correction, Removal, or Acceptance of Defective Work		59
14.01	Access to Work	59
14.02	Tests, Inspections, and Approvals	59
14.03	Defective Work	60
14.04	Acceptance of Defective Work	61
14.05	Uncovering Work	61
14.06	Owner May Stop the Work	62
14.07	Owner May Correct Defective Work	62
Article 15—Payments to Contractor; Set-Offs; Completion; Correction Period		62
15.01	Progress Payments	62
15.02	Contractor’s Warranty of Title	66
15.03	Substantial Completion	66
15.04	Partial Use or Occupancy	67
15.05	Final Inspection	67
15.06	Final Payment	68
15.07	Waiver of Claims	69
15.08	Correction Period	69
Article 16—Suspension of Work and Termination		70
16.01	Owner May Suspend Work	70
16.02	Owner May Terminate for Cause	70
16.03	Owner May Terminate for Convenience	72
16.04	Contractor May Stop Work or Terminate	72
Article 17—Final Resolution of Disputes		72

Copyright® 2018 National Society of Professional Engineers, American Council of Engineering Companies,
and American Society of Civil Engineers. All rights reserved.

17.01	Methods and Procedures.....	72
Article 18—Miscellaneous		73
18.01	Giving Notice	73
18.02	Computation of Times.....	73
18.03	Cumulative Remedies	73
18.04	Limitation of Damages	73
18.05	No Waiver	74
18.06	Survival of Obligations	74
18.07	Controlling Law	74
18.08	Assignment of Contract.....	74
18.09	Successors and Assigns	74
18.10	Headings.....	74

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.

10. *Claim*

- a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.
 - b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.
 - c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
 - d. A demand for money or services by a third party is not a Claim.
11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.

20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.
22. *Engineer*—The individual or entity named as such in the Agreement.
23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
- a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
 - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
 - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.

30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals.
36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers'

instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.

42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion of such Work.
43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
46. *Technical Data*
- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
 - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
 - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water,

other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.

48. *Unit Price Work*—Work to be paid for on the basis of unit prices.

49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives*: The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day*: The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective*: The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - 1. does not conform to the Contract Documents;
 - 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - 3. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).

E. *Furnish, Install, Perform, Provide*

1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. *Contract Price or Contract Times*:** References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G.** Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance*

- A. *Performance and Payment Bonds*:** When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor’s Insurance*:** When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. *Evidence of Owner’s Insurance*:** After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or

progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

G. Nothing in the Contract Documents creates:

1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 *Reference Standards*

A. *Standards Specifications, Codes, Laws and Regulations*

1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error,

ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings,

Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or

2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work may be done at the Site prior to such date.

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.

- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 - 2. Abnormal weather conditions;
 - 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
 - 4. Acts of war or terrorism.
- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
 - 1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
 - 2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
 - 3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.

- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
1. The circumstances that form the basis for the requested adjustment;
 2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
 3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
 4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
 5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.
- Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.
- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

- A. *Limitation on Use of Site and Other Areas*
 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent

areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
3. Technical Data contained in such reports and drawings.

B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

C. *Reliance by Contractor on Technical Data:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

D. *Limitations of Other Data and Documents:* Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:

1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
2. is of such a nature as to require a change in the Drawings or Specifications;

3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
 1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

- c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
- 2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
 - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
- 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
- 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions:* Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
 - 1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - 2. complying with applicable state and local utility damage prevention Laws and Regulations;
 - 3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
 - 4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and

5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review:* Engineer will:
1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
 2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
 3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
 4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in

Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
 - c. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
 4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 Hazardous Environmental Conditions at Site

A. Reports and Drawings: The Supplementary Conditions identify:

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
3. Technical Data contained in such reports and drawings.

B. Reliance by Contractor on Technical Data Authorized: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures

- of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.

- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.

- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or Regulations, and must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and "Occupational Accident and Excess Employer's Indemnity Policies," are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.

- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.
- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
- F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- H. Contractor shall require:
1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
- I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.

- J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.
- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 *Contractor's Insurance*

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions:* The policies of insurance required by this Paragraph 6.03 as supplemented must:
 - 1. include at least the specific coverages required;
 - 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
 - 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
 - 4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and

5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds*: The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
 1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);
 4. not seek contribution from insurance maintained by the additional insured; and
 5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will

provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.

- E. *Insurance of Other Property; Additional Insurance:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.
1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
 2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out

of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.

- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.01 *Contractor's Means and Methods of Construction*

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to

(1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.
- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.05 "Or Equals"

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
 - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) has a proven record of performance and availability of responsive service; and
 - 4) is not objectionable to Owner.
 - b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.

- E. *Treatment as a Substitution Request:* If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 *Substitutes*

- A. *Contractor's Request; Governing Criteria:* Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.

1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
 - a. will certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design;
 - 2) be similar in substance to the item specified; and
 - 3) be suited to the same use as the item specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from the item specified; and
 - 2) available engineering, sales, maintenance, repair, and replacement services.

- d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 Concerning Subcontractors and Suppliers

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.

- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.

- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by an emergency, or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

1. Before submitting a Shop Drawing or Sample, Contractor shall:
 - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determine and verify:
 - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
 - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.
3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.

B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.

1. *Shop Drawings*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.

2. *Samples*

- a. Contractor shall submit the number of Samples required in the Specifications.
- b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Engineer's Review of Shop Drawings and Samples*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.
5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.

6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. *Resubmittal Procedures for Shop Drawings and Samples*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

E. *Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs*

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
 - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
 - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
 - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.
 - d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.
2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.

- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 Contractor's General Warranty and Guarantee

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
1. Observations by Engineer;
 2. Recommendation by Engineer or payment by Owner of any progress or final payment;
 3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. Use or occupancy of the Work or any part thereof by Owner;
 5. Any review and approval of a Shop Drawing or Sample submittal;
 6. The issuance of a notice of acceptability by Engineer;
 7. The end of the correction period established in Paragraph 15.08;
 8. Any inspection, test, or approval by others; or
 9. Any correction of defective Work by Owner.

- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 *Delegation of Professional Design Services*

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.

- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this Paragraph 7.19;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or

- alter others' work with the written consent of Engineer and the others whose work will be affected.
- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.
 - F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price

- will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.

9.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.

B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.

C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.

- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Resident Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 *Engineer's Authority*

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.

- C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.
- E. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.05 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.06 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 *Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
 - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 *Work Change Directives*

- A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.
- B. If Owner has issued a Work Change Directive and:
 - 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
 - 2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 *Field Orders*

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
 - 1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
 - 2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
 - 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit will be determined as follows:
 - 1. A mutually acceptable fixed fee; or
 - 2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
 - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;
 - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;

- d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
- e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
- f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 *Change Proposals*

- A. *Purpose and Content:* Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.
- B. *Change Proposal Procedures*
 - 1. *Submittal:* Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
 - 2. *Supporting Data:* The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
 - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.

- b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

- 3. *Engineer's Initial Review:* Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
- 4. *Engineer's Full Review and Action on the Change Proposal:* Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
- 5. *Binding Decision:* Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion:* Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 Notification to Surety

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12—CLAIMS

12.01 *Claims*

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
 4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation*
1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.

- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 - 2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
 - 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers'

compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
5. Other costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.
 - c. *Construction Equipment Rental*
 - 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment,

machinery, or parts must cease when the use thereof is no longer necessary for the Work.

- 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
- 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.

- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded:* The term Cost of the Work does not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered

by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.

2. The cost of purchasing, renting, or furnishing small tools and hand tools.
3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
6. Expenses incurred in preparing and advancing Claims.
7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. Contractor's Fee

1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
 - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
 - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
 - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
 - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

- E. Documentation and Audit:** Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:* Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance:* Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
 - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:

1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
3. by manufacturers of equipment furnished under the Contract Documents;
4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.

F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 Defective Work

A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.

B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.

C. *Notice of Defects:* Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.

D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.

E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the

costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 *Progress Payments*

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work

completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.

2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. Review of Applications

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work;
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner*

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. The Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. The Contract Price has been reduced by Change Orders;
 - i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
 - j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or
 - l. Other items entitle Owner to a set-off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the

amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work,

property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
 - 2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all duly pending Change Proposals and Claims; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

- B. *Engineer's Review of Final Application and Recommendation of Payment:* If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

- C. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 *Waiver of Claims*

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim, appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such adjacent areas;
 - 2. correct such defective Work;
 - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.

- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or

4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
 1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate for Convenience*

- A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and

2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this article, Owner or Contractor may:
1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
 2. agree with the other party to submit the dispute to another dispute resolution process; or
 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to

Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

THIS PAGE INTENTIONALLY LEFT BLANK

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT



Endorsed By



Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies,
and American Society of Civil Engineers. All rights reserved.

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1— Definitions and Terminology	1
Article 2— Preliminary Matters	1
Article 3— Contract Documents: Intent, Requirements, Reuse	4
Article 4— COMMENCEMENT AND PROGRESS OF THE WORK	4
Article 5— Site, Subsurface and Physical Conditions, Hazardous Environmental Conditions.....	5
Article 6— Bonds and Insurance	5
Article 7— Contractor’s Responsibilities	10
Article 8— Other Work at the Site	13
Article 9— Owner’s Responsibilities	14
Article 10— ENGINEER’S STATUS DURING CONSTRUCTION.....	15
There are no Supplementary Conditions referring to this Article.....	15
Article 11— Changes to the Contract.....	15
Article 12— Claims	15
Article 13— Cost of Work; Allowances, Unit Price Work	15
Article 14— Tests and Inspections; Correction, Removal, or Acceptance of Defective Work	15
Article 15— Payments to Contractor, Set Offs; Completions; Correction Period.....	15
Article 16— Suspension of Work and Termination	17
Article 17— Final Resolutions of Disputes.....	17
Article 18— Miscellaneous	18
Exhibit A— Software Requirements for Electronic Document Exchange.....	1

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

These Supplementary Conditions amend or supplement EJCDC® C-700, Standard General Conditions of the Construction Contract (2018), Section 00700 of this Contract. The General Conditions remain in full force and effect except as amended.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added—for example, "Paragraph SC-4.05."

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

SC-1.01 Add the following

Owner: Indianola Municipal Utilities, Indianola, Iowa

Engineer: P & E Engineering Co., Des Moines, Iowa

ARTICLE 2—PRELIMINARY MATTERS

SC-2.02 *Copies of Documents*

SC-2.02 Revise Paragraph 2.02.A to read as follows:

- A. Owner shall furnish to Contractor one printed copy of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.

SC-2.06 *Electronic Transmittals*

SC-2.06 Delete Paragraphs 2.06.B and 2.06.C in their entirety and insert the following in their place:

- B. *Electronic Documents Protocol:* The parties shall conform to the following provisions in Paragraphs 2.06.B and 2.06.C, together referred to as the Electronic Documents Protocol ("EDP" or "Protocol") for exchange of electronic transmittals.

1. *Basic Requirements*

- a. To the fullest extent practical, the parties agree to and will transmit and accept Electronic Documents in an electronic or digital format using the procedures described in this Protocol. Use of the Electronic Documents and any information contained therein is subject to the requirements of this Protocol and other provisions of the Contract.
- b. The contents of the information in any Electronic Document will be the responsibility of the transmitting party.

Copyright® 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

- c. Electronic Documents as exchanged by this Protocol may be used in the same manner as the printed versions of the same documents that are exchanged using non-electronic format and methods, subject to the same governing requirements, limitations, and restrictions, set forth in the Contract Documents.
- d. Except as otherwise explicitly stated herein, the terms of this Protocol will be incorporated into any other agreement or subcontract between a party and any third party for any portion of the Work on the Project, or any Project-related services, where that third party is, either directly or indirectly, required to exchange Electronic Documents with a party or with Engineer. Nothing herein will modify the requirements of the Contract regarding communications between and among the parties and their subcontractors and consultants.
- e. When transmitting Electronic Documents, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the receiving party's use of software application packages, operating systems, or computer hardware differing from those established in this Protocol.
- f. Nothing herein negates any obligation 1) in the Contract to create, provide, or maintain an original printed record version of Drawings and Specifications, signed and sealed according to applicable Laws and Regulations; 2) to comply with any applicable Law or Regulation governing the signing and sealing of design documents or the signing and electronic transmission of any other documents; or 3) to comply with the notice requirements of Paragraph 18.01 of the General Conditions.

2. *System Infrastructure for Electronic Document Exchange*

- a. Each party will provide hardware, operating system(s) software, internet, e-mail, and large file transfer functions ("System Infrastructure") at its own cost and sufficient for complying with the EDP requirements. With the exception of minimum standards set forth in this EDP, and any explicit system requirements specified by attachment to this EDP, it is the obligation of each party to determine, for itself, its own System Infrastructure.
 - 1) The maximum size of an email attachment for exchange of Electronic Documents under this EDP is 10.0 MB. Attachments larger than that may be exchanged using large file transfer functions or physical media.
 - 2) Each Party assumes full and complete responsibility for any and all of its own costs, delays, deficiencies, and errors associated with converting, translating, updating, verifying, licensing, or otherwise enabling its System Infrastructure, including operating systems and software, for use with respect to this EDP.
- b. Each party is responsible for its own system operations, security, back-up, archiving, audits, printing resources, and other Information Technology ("IT") for maintaining operations of its System Infrastructure during the Project, including coordination with the party's individual(s) or entity responsible for managing its

System Infrastructure and capable of addressing routine communications and other IT issues affecting the exchange of Electronic Documents.

- c. Each party will operate and maintain industry-standard, industry-accepted, ISO-standard, commercial-grade security software and systems that are intended to protect the other party from: software viruses and other malicious software like worms, trojans, adware; data breaches; loss of confidentiality; and other threats in the transmission to or storage of information from the other parties, including transmission of Electronic Documents by physical media such as CD/DVD/flash drive/hard drive. To the extent that a party maintains and operates such security software and systems, it shall not be liable to the other party for any breach of system security.
- d. In the case of disputes, conflicts, or modifications to the EDP required to address issues affecting System Infrastructure, the parties shall cooperatively resolve the issues; but, failing resolution, the Owner is authorized to make and require reasonable and necessary changes to the EDP to effectuate its original intent. If the changes cause additional cost or time to Contractor, not reasonably anticipated under the original EDP, Contractor may seek an adjustment in price or time under the appropriate process in the Contract.
- e. Each party is responsible for its own back-up and archive of documents sent and received during the term of the contract under this EDP, unless this EDP establishes a Project document archive, either as part of a mandatory Project website or other communications protocol, upon which the parties may rely for document archiving during the specified term of operation of such Project document archive. Further, each party remains solely responsible for its own post-Project back-up and archive of Project documents after the term of the Contract, or after termination of the Project document archive, if one is established, for as long as required by the Contract and as each party deems necessary for its own purposes.
- f. If a receiving party receives an obviously corrupted, damaged, or unreadable Electronic Document, the receiving party will advise the sending party of the incomplete transmission.
- g. The parties will bring any non-conforming Electronic Documents into compliance with the EDP. The parties will attempt to complete a successful transmission of the Electronic Document or use an alternative delivery method to complete the communication.

C. *Software Requirements for Electronic Document Exchange; Limitations*

- 1. Each party will acquire the software and software licenses necessary to create and transmit Electronic Documents and to read and to use any Electronic Documents received from the other party (and if relevant from third parties), using the software formats required in this section of the EDP.
 - a. Prior to using any updated version of the software required in this section for sending Electronic Documents to the other party, the originating party will first

notify and receive concurrence from the other party for use of the updated version or adjust its transmission to comply with this EDP.

2. The parties agree not to intentionally edit, reverse engineer, decrypt, remove security or encryption features, or convert to another format for modification purposes any Electronic Document or information contained therein that was transmitted in a software data format, including Portable Document Format (PDF), intended by sender not to be modified, unless the receiving party obtains the permission of the sending party or is citing or quoting excerpts of the Electronic Document for Project purposes.
3. Software and data formats for exchange of Electronic Documents will conform to the requirements set forth in Exhibit A to this EDP, including software versions, if listed.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.06 Drawings

SC-3.06 Add the following new paragraph immediately after Paragraph 3.05:

3.06 Drawings

- A. Drawings or data may hereafter be furnished and issued by Engineer to explain portions of the work covered by these Specifications in more detail.
- B. The Drawings, in general, are to scale, but figured dimensions shall always be followed and Drawings shall not be scaled.
- C. Engineer will give Contractor reasonable assistance in interpreting the Drawings and Specifications, but such assistance shall not relieve Contractor from any responsibility for his work.
- D. Drawings for all equipment to be installed by Contractor in the progress of the Work shall be provided by Contractor.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.02 Starting the Work

SC-4.02 Add the following paragraphs immediately after Paragraph 4.02.A.

- B. The Contractor shall notify Owner and Engineer 24 hours before starting operations under this Contract, both initially and after any lapse of work lasting more than seven (7) consecutive calendar days.
- C. Contractor shall notify Owner each day in a manner set by Owner regarding when and where Contractor is working on Owner's properties. At no time shall Contractor be on Owner's property or working on or around Owner's system without Owner's knowledge of said fact.
- D. Construction outage shall be scheduled a minimum sixty (60) calendar days in advance.

ARTICLE 5—SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS

5.03 *Subsurface and Physical Conditions*

SC-5.03 Delete Paragraphs 5.03.A, 5.03.B, 5.03C, and 5.03D and insert the following:

- A. No reports of explorations or tests of subsurface conditions at or contiguous to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site are known to Owner.**

5.05 *Underground Facilities*

SC-5.05.A Delete Paragraph 5.05.A.3 and insert the following in its place:

- 3. verifying the actual location of those Underground Facilities that are shown or indicated in the Contract Documents and other such facilities that are identified by the utility locates required by Paragraph 5.05.G as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction.**

5.06 *Hazardous Environmental Conditions*

SC-5.06 Delete Paragraphs 5.06.A and 5.06.B and insert the following in its place:

- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.**
- B. Not Used.**

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.A:

- 1. Contractor shall provide performance and payment bonds. Bonds may be submitted on the forms provided with this Contract or may be provided on the standard forms utilized by the Surety.**

6.02 *Insurance—General Provisions*

SC-6.02 Add the following paragraph immediately after Paragraph 6.02.B:

- 1. Contractor may obtain worker's compensation insurance from an insurance company that has not been rated by A.M. Best, provided that such company (a) is domiciled in the state in which the Project is located, (b) is certified or authorized as a worker's compensation insurance provider by the appropriate state agency, and (c) has been accepted to provide worker's compensation insurance for similar projects by the state within the last 12 months.**

6.03 *Contractor's Insurance*

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

SC-6.03 Supplement Paragraph 6.03 with the following provisions after Paragraph 6.03.C:

D. Not Used

E. *Workers' Compensation and Employer's Liability*: Contractor shall purchase and maintain workers' compensation and employer's liability insurance, including, as applicable, United States Longshoreman and Harbor Workers' Compensation Act, Jones Act, stop-gap employer's liability coverage for monopolistic states, and foreign voluntary workers' compensation (from available sources, notwithstanding the jurisdictional requirement of Paragraph 6.02.B of the General Conditions).

Workers' Compensation and Related Policies	Policy limits of not less than:
Workers' Compensation	
State	Statutory
Applicable Federal (e.g., Longshoreman's)	Statutory
Foreign voluntary workers' compensation (employer's responsibility coverage), if applicable	Statutory
Employer's Liability	
Each accident	\$1,000,000
Each employee	\$1,000,000
Policy limit	\$1,000,000

F. *Commercial General Liability—Claims Covered*: Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against claims for:

1. damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees,
2. damages insured by reasonably available personal injury liability coverage, and
3. damages because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.

G. *Commercial General Liability—Form and Content*: Contractor's commercial liability policy must be written on a 1996 (or later) Insurance Services Organization, Inc. (ISO) commercial general liability form (occurrence form) and include the following coverages and endorsements:

1. Products and completed operations coverage.
 - a. Such insurance must be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
2. Blanket contractual liability coverage, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.

3. Severability of interests and no insured-versus-insured or cross-liability exclusions.
 4. Underground, explosion, and collapse coverage.
 5. Personal injury coverage.
 6. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 2010 and CG 20 37 (together), editions 10/01, 07/04, or 04/13.
 7. For design professional additional insureds, ISO Endorsement CG 20 32 07 04 "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- H. *Commercial General Liability—Excluded Content:* The commercial general liability insurance policy, including its coverages, endorsements, and incorporated provisions, must not include any of the following:
1. Any modification of the standard definition of "insured contract" (except to delete the railroad protective liability exclusion if Contractor is required to indemnify a railroad or others with respect to Work within 50 feet of railroad property).
 2. Any exclusion for water intrusion or water damage.
 3. Any provisions resulting in the erosion of insurance limits by defense costs other than those already incorporated in ISO form CG 00 01.
 4. Any exclusion of coverage relating to earth subsidence or movement.
 5. Any exclusion for the insured's vicarious liability, strict liability, or statutory liability (other than worker's compensation).
 6. Any limitation or exclusion based on the nature of Contractor's work.
 7. Any professional liability exclusion broader in effect than the most recent edition of ISO form CG 22 79.
- I. *Commercial General Liability—Minimum Policy Limits*

Commercial General Liability	Policy limits of not less than:
General Aggregate	\$2,000,000
Products—Completed Operations Aggregate	\$2,000,000
Personal and Advertising Injury	\$1,000,000
Bodily Injury and Property Damage—Each Occurrence	\$1,000,000

- J. *Automobile Liability:* Contractor shall purchase and maintain automobile liability insurance for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy must be written on an occurrence basis.

Automobile Liability	Policy limits of not less than:
Bodily Injury	
Each Person	\$500,000
Each Accident	\$1,000,000
Property Damage	
Each Accident	\$1,000,000
Or	
Combined Single Limit	
Combined Single Limit (Bodily Injury and Property Damage)	\$2,000,000

- K. ***Umbrella or Excess Liability:*** Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the Paragraphs above. The coverage afforded must be at least as broad as that of each and every one of the underlying policies.

Excess or Umbrella Liability	Policy limits of not less than:
Each Occurrence	\$4,000,000
General Aggregate	\$4,000,000

- L. ***Using Umbrella or Excess Liability Insurance to Meet CGL and Other Policy Limit Requirements:*** Contractor may meet the policy limits specified for employer's liability, commercial general liability, and automobile liability through the primary policies alone, or through combinations of the primary insurance policy's policy limits and partial attribution of the policy limits of an umbrella or excess liability policy that is at least as broad in coverage as that of the underlying policy, as specified herein. If such umbrella or excess liability policy was required under this Contract, at a specified minimum policy limit, such umbrella or excess policy must retain a minimum limit of \$3,000,000 after accounting for partial attribution of its limits to underlying policies, as allowed above.
- M. ***Contractor's Pollution Liability Insurance:*** Contractor shall purchase and maintain a policy covering third-party injury and property damage, including cleanup costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance must be maintained for no less than three years after final completion.

Contractor's Pollution Liability	Policy limits of not less than:
Each Occurrence/Claim	\$1,000,000
General Aggregate	\$1,000,000

- N. ***Unmanned Aerial Vehicle Liability Insurance:*** If Contractor uses unmanned aerial vehicles (UAV—commonly referred to as drones) at the Site or in support of any aspect of the Work, Contractor shall obtain UAV liability insurance in the amounts stated; name Owner, and Engineer as additional insureds; and provide a certificate to Owner confirming Contractor's

compliance with this requirement. Such insurance will provide coverage for property damage, bodily injury or death, and invasion of privacy.

Unmanned Aerial Vehicle Liability Insurance	Policy limits of not less than:
Each Claim	\$1,000,000
General Aggregate	\$1,000,000

- P. All policies must name the following as additional insured, in accordance with Paragraph 6.03.C of the General Conditions
- Indianola Municipal Utilities (Owner)
 - P & E Engineering Co. (Engineer)

6.04 *Builder's Risk and Other Property Insurance*

SC-6.04.D Delete Paragraph 6.04.D and insert the following in its place:

D. All portions of the Work are subject to Partial Use or Utilization as soon as the wires, cable, equipment, and other materials are installed and commissioned by the Contractor to the extent that Contractor agrees that any such use will not be detrimental to the Work.

SC-6.04.F Supplement Paragraph 6.04 of the General Conditions with the following provisions:

- F. *Builder's Risk Requirements:* The builder's risk insurance must:
- be written on a builder's risk "all risk" policy form that at a minimum includes insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment stored and in transit, and must not exclude the coverage of the following risks: fire; windstorm; hail; flood; earthquake, volcanic activity, and other earth movement; lightning; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; and water damage (other than that caused by flood).
 - Such policy will include an exception that results in coverage for ensuing losses from physical damage or loss with respect to any defective workmanship, methods, design, or materials exclusions.
 - If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake, volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance will be provided through other insurance policies acceptable to Owner and Contractor.
 - cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar

nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.

3. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of contractors, engineers, and architects).
4. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
5. extend to cover damage or loss to insured property while in transit.
6. allow for the waiver of the insurer's subrogation rights, as set forth in this Contract.
7. allow for partial use by Owner by endorsement, and without cancellation or lapse of coverage.
8. include performance/hot testing and start-up, if applicable.
9. be maintained in effect until the Work is complete, as set forth in Paragraph 15.06.D of the General Conditions, or until written confirmation of Owner's procurement of property insurance following Substantial Completion, whichever occurs first.
10. include as named insureds the Owner, Contractor, Subcontractors (of every tier), and any other individuals or entities required by this Contract to be insured under such builder's risk policy. For purposes of Paragraphs 6.04, 6.05, and 6.06 of the General Conditions, and this and all other corresponding Supplementary Conditions, the parties required to be insured will be referred to collectively as "insureds."
11. include, in addition to the Contract Price amount, the value of the following equipment and materials to be installed by the Contractor but furnished by the Owner or third parties:
 - a. Items identified in Bill of Material as being supplied by Owner \$2200.

SC-6.04 Supplement Paragraph 6.04 of the General Conditions with the following provisions:

- G. *Builder's Risk and Other Property Insurance Deductibles:* The purchaser of any required builder's risk, installation floater, or other property insurance will be responsible for costs not covered because of the application of a policy deductible.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.03 Labor; Working Hours

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

SC-7.03 Add the following new subparagraphs immediately after Paragraph 7.03.C:

1. Regular working hours will be 6:30 AM to 3:30 PM, Monday through Friday. Owner will provide Contractor with a key to access the site 7 days per week during the construction outage. Contractor shall keep the gate closed at all times. Contractor shall limit work that may subject neighboring properties to objectionable noise levels to between the hours of 6:30AM and 9:00PM.

SC-7.03 Add the following new paragraph immediately after Paragraph 7.03.C:

- D. Owner shall be responsible for the cost of any overtime pay or other expense incurred by the Owner, Engineer, Owner's representative, and construction observation services, occasioned by the performance of Work on Saturday, Sunday, any legal holiday, or as overtime on any regular work day.

7.10 *Taxes*

SC-7.10 Add a new paragraph immediately after Paragraph 7.10.A:

- B. The Owner is not exempt from State of Iowa Sales and Use tax for materials that are incorporated into an electric utility project. Contractor shall include all applicable taxes in the bid amount.

7.16 *Submittals*

SC-7.16 Add the following new paragraphs immediately after Paragraph 7.16F:

- G. Contractor shall furnish required submittals with sufficient information and accuracy in order to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing subsequent submittals of Shop Drawings, samples, or other items requiring approval and Contractor shall reimburse Owner for Engineer's charges for such time.
- H. In the event that Contractor requests a change of a previously approved item, Contractor shall reimburse Owner for Engineer's charges for its review time unless the need for such change is beyond the control of Contractor.

7.17 *Warranty*

SC-7.17 Add the following new paragraphs immediately after Paragraph 7.17F

- G. Contractor will be responsible for (1) the implementation and customization of all Software and Custom Software, (2) the integration of the hardware and Software, and (3) guaranteed functionality of the integrated System. This provision will constitute an express warranty on the part of the Contractor pursuant to the Specifications set forth in the Sections 13300, 13305, and 13310.
- H. Functionality shall mean that the System configuration and implementation as specified Sections 13300, 13305 and 13310 shall operate together efficiently in light of industry standards, so long as the System is maintained in accordance with the manufacturer's Specifications.

- I. System integration means the installation and operation of all hardware, Custom Software and Software so that they function in an operational environment and in conjunction with each other. By executing this Contract, the Contractor acknowledges its commitment to successful integration of hardware and Software and warrants successful integration.
- J. The Contractor shall coordinate the resolution of integration problems with any hardware, Custom Software or Software supplied under this Contract, which may arise upon delivery or at any time during the warranty or support periods contained in this Contract or other agreements between the parties. Problems shall be resolved by the Contractor to Owner's satisfaction and in accordance with the Specifications.
- K. Other Warranties:
 - 1. Contractor represents and warrants to Owner that it has full power and authority to grant to Owner the rights described in this Contract without violating any rights of any third party and that there is currently no actual or threatened suit by any such third party based on an alleged violation of such rights by the Contractor. Contractor further represents and warrants that the person executing this Contract for the Contractor has actual authority to bind the Contractor to each and every term, condition and obligation to this Contract, and that all requirements of the Contractor have been fulfilled to provide such actual authority.
 - 2. Contractor warrants to Owner that use of the hardware, Software, Custom Software and services, will not in any way constitute an infringement, misappropriation or other violation of any copyright, trade secret, trademark, patent, invention, proprietary information, nondisclosure or other right of any third party.
 - 3. Contractor warrants to Owner that the integrated System will be free of defects in materials and workmanship under normal use for one (1) year (Warranty Period) from the date of completion and approval by Owner of the Availability Test. During the one (1) year period, Contractor will correct any defects without charge to Owner.
 - 4. Contractor warrants to Owner that any Software or Custom Software provided by the Contractor to Owner under this Contract shall contain no Harmful Code. Contractor shall, at its sole expense, immediately repair or replace any such Harmful Code upon recognition by the Contractor of its existence or receipt of notice from Owner and repair any damage to the System, in whole or in part, from such Harmful Code. Contractor shall indemnify, defend and hold Owner harmless against any loss, liability, cost, expense, or damages arising out of any breach of this warranty.
 - 5. The Contractor warrants functionality and represents that the configuration identified in the Contract has been specifically selected and designed for Owner as being an operationally efficient integration of hardware, Software, Custom Software and services.

I. Warranty Service

During the Warranty Period, Contractor shall provide services as described in Sections 13300, 13305, and 13310 and in this Section to correct Deficiencies in the System and

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

maintain the System in accordance with the Specifications, and to transition control over the System to Owner and the Support Services Agreement. Contractor's Warranty service responsibilities shall include but not be limited to the following while assisting the Owner in maintaining the System:

1. Promptly repair or replace the System or any portion thereof, that has Deficiencies;
2. Maintain the System in accordance with the Specifications and terms of this Contract;
3. Respond to questions relating to the System hardware, Software and any Custom Software, including without limitation isolating problems to the System hardware, Software and Custom Software;
4. Develop, on a best efforts basis, of a temporary solution to or an emergency bypass of a Deficiency;
5. Correct and repair errors, problems or Deficiencies with the Hardware, System hardware, Software and Custom Software, to the extent technically feasible; and
6. Contractor shall dispatch trained and qualified Staff to Owner's work site in the event that; previous efforts as described above do not resolve Deficiencies or problems related to Owner's inquiries; the System is non-operational; and Owner requests additional assistance. If the System is non-operational, such Contractor Staff shall remain at the site on a 24-hour, seven-days-a-week basis repairing the System until it operates in accordance with its Specifications.

7. Deficiency Incident Report

Contractor shall furnish Owner with a Deficiency incident report upon completion of each visit by such Staff and upon resolution of each inquiry. Owner will maintain a log at the Owner facility as a place for these reports to reside. The report shall include, as a minimum, the following:

- Date and time notified;
- Date and time of arrival or inquiry response;
- Time spent for resolution of Deficiencies;
- Description of Deficiency;
- and Description of Deficiency resolution.

J. Service After Warranty Period

Following the Warranty Period, Contractor shall provide Support Services under terms of a Support Agreement to be negotiated between Owner and Contractor.

ARTICLE 8—OTHER WORK AT THE SITE

8.02 Coordination

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

SC-8.02 Add the following new Paragraph 8.02.C immediately after Paragraph 8.02.B:

- C. Owner intends to contract with others for the performance of other work at or adjacent to the Site.
 - 1. As detailed in Section 13300, Owner will retain the services of contractors to test the protective relays and RTU equipment. Owner will coordinate these activities; however, Contractor shall provide reasonable assistance in scheduling these activities.

ARTICLE 9—OWNER’S RESPONSIBILITIES

9.13 *Owner’s Site Representative*

SC-9.13 Add the following new paragraph immediately after Paragraph 9.12 of the General Conditions:

9.13 *Owner’s Site Representative*

- A. The Owner’s Site Representative will be an employee of the Owner and will be identified prior to the start of construction. The Owner’s Site Representative is not Engineer’s consultant, agent, or employee. The Owner’s Site Representative will:
 - 1. Be the primary day to day contact for the Contractor’s on-site project manager
 - 2. Coordinate the interaction between Contractor’s work and the Owner’s system
 - 3. Review and approve all proposed switching operations on the Owner’s system
 - 4. Review Contractor’s Work and notify Engineer of any concerns regarding the acceptability of the Work.
 - 5. Provide information to Engineer on the progress of the work as needed for Engineer to review Applications for Payment
 - 6. Authorize minor deviations from the Contract Documents or substitution of materials or equipment (including “or-equal” items) that will not change the Contract Price or Contract Times.
- D. The Owner’s Site Representative will not:
 - 1. Authorize any deviation from the Contract Documents.
 - 3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers; nor of Engineer (except as specifically listed above).
 - 4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction.
 - 5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
 - 6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies,
and American Society of Civil Engineers. All rights reserved.

7. Provide any tools, equipment, or labor that is included in the Contractor's scope of responsibility.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

There are no Supplementary Conditions referring to this Article.

ARTICLE 11—CHANGES TO THE CONTRACT

There are no Supplementary Conditions referring to this Article.

ARTICLE 12—CLAIMS

There are no Supplementary Conditions referring to this Article.

ARTICLE 13—COST OF WORK; ALLOWANCES, UNIT PRICE WORK

13.01 *Cost of the Work*

SC-13.01 Supplement Paragraph 13.01.B.5.c.(2) by adding the following sentence:

When Contractor's compensation (including the value of Extra Work) is determined in whole or in part by the hourly cost of equipment, the hourly rate shall not exceed the greater of the rate shown in the most current edition of the Rental Rate Blue Book for Construction Equipment, and the AED Green Book: Rental Rates & Specifications for Construction Equipment.

SC-13.01 Supplement Paragraph 13.01.C.2 by adding the following definition of small tools and hand tools:

- a. For purposes of this paragraph, "small tools and hand tools" means any tool or equipment whose current price if it were purchased new at retail would be less than \$500.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

There are no Supplementary Conditions referring to this Article.

ARTICLE 15—PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD

15.01 *Progress Payments*

SC-15.01 Amend Paragraph 15.01.D.1 to read as follows:

Thirty days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

15.04 *Partial Use or Occupancy*

SC-15.04 Delete Paragraph 15.04 and insert the following in its place:

15.04 *Partial Use or Occupancy*

A. The Contractor acknowledges the intent of the Owner that all portions of the system are subject to partial use as soon as they are fully commissioned by the Contractor and the construction outage has ended, so long as such partial utilization will not damage or hinder the Contractor's Work.

B. Contractor is fully responsible for protecting the integrity of the portion of the system that is being modified by this Contract, including damage from any cause commencing when on-site work begins on the project and continuing until substantial completion for each section of the project.

C. The Contractor's responsibility for protecting the integrity of that specific portion of the system will cease immediately upon approval by the Owner of the Certificate of Substantial Completion. This does not relieve the Contractor of other obligations related to final completion or warranty of Work. Contractor is responsible for coordinating insurance coverage in accordance with Paragraph 6.04 of the General Conditions.

15.06 *Final Payment*

SC-15.06.A Add the following new Paragraph 15.06.A.2.f:

f. A list of any and all third party claims that the Contractor has received or is otherwise aware of that relate in any manner to the work performed under the Contract (including claims described in Paragraph 5.02.A.2 or 7.13.D of the General Conditions), the status of each claim, and the potential liability related to any claims that have not been settled. Documentation must be provided to verify the resolution of each claim that has been settled.

SC-15.06.E Delete Paragraph 15.06.E and insert the following in its place:

E. The balance of the amount due, less any sum to which Owner is entitled, including but not limited to set-offs allowed under the provisions of this Contract, and less the potential liability associated with any unresolved third party claims as described in Paragraph SC-15.06.A.2.f, will be paid no earlier than 31 days from final acceptance of the improvements by Owner, subject to the conditions and in accordance with the provisions of Chapter 384 and 573 of the Code of Iowa.

F. If an amount is withheld from the final payment to cover the potential liability associated with third party claims as described in Paragraph SC-15.06.A.2.f, this amount will be paid

within 30 days of Contractor providing evidence satisfactory to Owner and Engineer that all of the claim(s) have been resolved.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

There are no Supplementary Conditions referring to this Article.

ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES

17.02 Arbitration

SC-17.02 Add the following new paragraph immediately after Paragraph 17.01.

17.02 Arbitration

- A. All matters subject to final resolution under this Article will be settled by arbitration administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules (subject to the conditions and limitations of this Paragraph SC-17.02). Any controversy or claim in the amount of \$100,000 or less will be settled in accordance with the American Arbitration Association's supplemental rules for Fixed Time and Cost Construction Arbitration. This agreement to arbitrate will be specifically enforceable under the prevailing law of any court having jurisdiction.
- B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitration administrator, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the specific time required in Article 17, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event will any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations.
- C. The arbitrator(s) must be licensed engineers, contractors, attorneys, or construction managers. Hearings will take place pursuant to the standard procedures of the Construction Arbitration Rules that contemplate in-person hearings. The arbitrators will have no authority to award punitive or other damages not measured by the prevailing party's actual damages, except as may be required by statute or the Contract. Any award in an arbitration initiated under this clause will be limited to monetary damages and include no injunction or direction to any party other than the direction to pay a monetary amount.
- D. The Arbitrators will have the authority to allocate the costs of the arbitration process among the parties, but will only have the authority to allocate attorneys' fees if a specific Law or Regulation or this Contract permits them to do so.
- E. The award of the arbitrators must be accompanied by a reasoned written opinion and a concise breakdown of the award. The written opinion will cite the Contract provisions deemed applicable and relied on in making the award.
- F. The parties agree that failure or refusal of a party to pay its required share of the deposits for arbitrator compensation or administrative charges will constitute a waiver by that party

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies,
and American Society of Civil Engineers. All rights reserved.

to present evidence or cross-examine witness. In such event, the other party shall be required to present evidence and legal argument as the arbitrator(s) may require for the making of an award. Such waiver will not allow for a default judgment against the non-paying party in the absence of evidence presented as provided for above.

- G. No arbitration arising out of or relating to the Contract will include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:
 - 1. the inclusion of such other individual or entity will allow complete relief to be afforded among those who are already parties to the arbitration;
 - 2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration, and which will arise in such proceedings;
 - 3. such other individual or entity is subject to arbitration under a contract with either Owner or Contractor, or consents to being joined in the arbitration; and
 - 4. the consolidation or joinder is in compliance with the arbitration administrator's procedural rules.
- H. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.
- I. Except as may be required by Laws or Regulations, neither party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of both parties, with the exception of any disclosure required by Laws and Regulations or the Contract. To the extent any disclosure is allowed pursuant to the exception, the disclosure must be strictly and narrowly limited to maintain confidentiality to the extent possible.

17.03 Attorneys' Fees

SC-17.03 Add the following new paragraph immediately after Paragraph 17.02.

17.03 Attorneys' Fees

- A. For any matter subject to final resolution under this Article, the prevailing party shall be entitled to an award of its attorneys' fees incurred in the final resolution proceedings, in an equitable amount to be determined in the discretion of the court, arbitrator, arbitration panel, or other arbiter of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

ARTICLE 18—MISCELLANEOUS

There are no Supplementary Conditions referring to this Article.

EXHIBIT A—SOFTWARE REQUIREMENTS FOR ELECTRONIC DOCUMENT EXCHANGE

Item	Electronic Documents	Transmittal Means	Data Format	Note (1)
a.1	General communications, transmittal covers, meeting notices and responses to general information requests for which there is no specific prescribed form.	Email	Email	
a.2	Meeting agendas, meeting minutes, RFI's and responses to RFI's, and Contract forms.	Email w/ Attachment	PDF	(2)
a.3	Contractors Submittals (Shop Drawings, "or equal" requests, substitution requests, documentation accompanying Sample submittals and other submittals) to Owner and Engineer, and Owner's and Engineer's responses to Contractor's Submittals, Shop Drawings, correspondence, and Applications for Payment.	Email w/ Attachment	PDF	
a.4	Correspondence; milestone and final version Submittals of reports, layouts, Drawings, maps, calculations and spreadsheets, Specifications, Drawings and other Submittals from Contractor to Owner or Engineer and for responses from Engineer and Owner to Contractor regarding Submittals.	Email w/ Attachment or LFE	PDF	
a.5	Correspondence, reports and Specifications to be submitted to Owner for future word processing use and modification.	Email w/ Attachment or LFE	DOC	
a.6	Spreadsheets and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	EXC	
Notes				
(1)	All exchanges and uses of transmitted data are subject to the appropriate provisions of Contract Documents.			
(2)	Transmittal of written notices is governed by Paragraph 18.01 of the General Conditions.			
Key				
Email	Standard Email formats (.htm, .rtf, or .txt). Do not use stationery formatting or other features that impair legibility of content on screen or in printed copies			
LFE	Agreed upon Large File Exchange method (FTP, CD, DVD, hard drive)			
PDF	Portable Document Format Version 2.0			
DOC	Microsoft® Word .docx format Version 2021			
EXC	Microsoft® Excel .xls or .xml format Version 2021			

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 13300 TURBINE 8 CONTROLS - GENERAL PROVISIONS

PART 1 - GENERAL

1.0 GENERAL INFORMATION

- A. Indianola Municipal Utilities (IMU or Owner) serves approximately 7200 customers in and around the City of Indianola, Iowa. System peak load is approximately 35MW. Owner is governed by a Board of Trustees consisting of five members appointed by the Mayor of Indianola.
- B. Owner's electric system includes 69kV transmission and 13.2kV and 4.16kV distribution. IMU owns and operates four substations, one engine-generator, and two combustion turbine generators (Turbines 7 and 8 and Generator 9, all located adjacent to the East Iowa Substation).
- C. Turbine 8 is a Alsthom/GE Frame 5 unit (Model MS-5001P, Type PG5341). The unit is equipped for dual fuel operation but currently operates on fuel oil only. No natural gas fuel source is currently available. The turbine was originally manufactured in 1977 and sold to the Kingdom of Saudi Arabia. It was rebuilt by General Electric and sold to Indianola in 2000. The turbine nameplate rating is 19.88 MW at 85 Deg. F and 955 ft ASL, with an exhaust temperature of 913 deg F (base). The turbine currently carries serial number 00T143. The fuel oil nameplate is included in Appendix D. Additional data and performance curves are included in Appendix F.
- D. The generator is rated at 27.471 MVA continuous. The generator nameplate is included in Appendix D.
- E. The turbine/generator control system is the SpeedTronic Mark V that was installed when the unit was rebuilt by General Electric prior to sale to Indianola. The governor control, excitation system, and protective relays were also replaced by General Electric prior to sale to Indianola. All of the existing protective relaying and controls (except for the field ground relay) are located on the turbine skid in the Control Cab.
- F. The generator is equipped with a brushless exciter located between the generator compartment and generator auxiliary (GAC) compartment. The excitation power for the brushless exciter is supplied by a GE DS200AXC exciter with EX2000BR voltage regulator. Power supply for the DS200AXC is supplied by a small dry type PPT located in the exciter cabinet in the turbine control cab. The PPT is supplied by a circuit from the turbine 480V MCC. A 125VDC supply is also provided by the turbine MCC. See drawings in the Appendices.
- G. The existing protective relays are digital and electromechanical and consist of individual and multifunction panel mounted relays as shown in the drawings in the Appendices.
- H. The existing metering consists of digital meters as shown in the drawings in the Appendices.

- I. Remote metering and control is currently accomplished through hard wired digital and analog connections to a SCADA RTU that is located in a control building adjacent to the turbine.
- J. The generator is connected by a approximately 700 ft long underground cable to a 69/43.8 **13.2** kV transformer (CK6T3) located in the East Iowa Substation located south of the turbine site. CK6T3 is dedicated to Turbine 8. The generator circuit breaker is located in a GE PowerVac switchgear located in the GAC compartment on the turbine skid. CK6T3 is normally energized continuously. The turbine is normally operated in parallel with the utility source as a base loaded unit with power factor control, but may also be operated as an isolated unit to directly serve distribution system load in isochronous mode with voltage control or in droop mode while sharing load with Turbine 7.
- K. The turbine is started using a Detroit Diesel engine that operates on fuel oil. The diesel engine is started using a DC motor supplied by the turbine DC MCC. The turbine is capable of starting under blackstart conditions.

1.1 Contract Times

- A. The times for Substantial Completion and readiness for final payment are identified in this Article and will be an integral part of the Agreement. It will be necessary for the apparent Successful Bidder to satisfy Owner that it will be able to achieve Substantial Completion by the specified date.
- B. All time limits for Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.
- C. The outage to install the controls shall begin no earlier than October 1, 2023 and not later than February 15, 2024. The outage shall last no longer than 35 calendar days at which point the unit shall be fully commissioned and ready for stack testing, if necessary, or normal service. The Work will be substantially completed no later than 35 calendar days after the start of the outage as provided in Paragraph 15.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions no later than 30 calendar days after substantial completion. Owner prefers, but does not require, that the construction outage take place in 2023 due to the likelihood of warmer temperatures during commissioning.
- D. Note that Owner may restrict operation of the turbine if temperatures are below or are forecasted to fall below 15 degrees F within the next 8 hours. Contractor's sole remedy shall be a day for day contract extension.
- E. Outage schedule must be confirmed with Owner a minimum of 10 days in advance.
- F. Owner has ordered two Dynalco SST7004D speed switches that will be provided to Contractor for incorporation into the project. They are currently expected to ship on February 12, 2024.

1.2 Liquidated Damages

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 1.1.B above and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 1.1.C above, plus any extensions thereof allowed in accordance with Article 11 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner \$1200 for each day that expires after May 30, 2024 (without adjustment unless Owner furnished speed switches arrive after February 28, 2024) until the Work is substantially complete. In no event shall liquidated damages exceed 10% of the total contract value. Delays due solely to non-performance by a vendor specified or required by Owner will not be cause for liquidated damages to be assessed provided orders for such materials are placed in a timely manner and Owner is apprised of procurement status.
- B. The parties anticipate and acknowledge that delays may be caused by or arise from any number of events during the course of the Contract. Such delays or events and their potential impacts on performance by the Contractor are specifically contemplated and acknowledged by the parties in entering into this Contract, and shall not extend the time specified in Paragraph 1.1.C above for Substantial Completion, except and unless the time for Substantial Completion is changed in accordance with Article 11 of the General Conditions

1.3 Incentive Payments

- A. Incentive payments will not be made for early completion of the Work.

1.4 SCOPE OF WORK

- A. A single Control System Vendor (Contractor) shall furnish all materials, equipment, labor and services, except for those services and materials specifically noted, that are required to achieve a fully integrated and operational replacement control system per the project requirements. The Scope of Work includes, but is not limited to, the following:
1. Complete design including selection of all equipment and materials; preparation of mechanical, installation, schematic, and wiring diagrams (for both removal and new installation); complete bills of material, development of operator screens, and construction specifications.
 2. Provide all hardware and software necessary to complete the installation as designed.
 3. Perform factory and field testing, startup and commissioning, and training of IMU staff as defined herein.
 4. Provide full and complete documentation covering all operations and maintenance functions.
 5. Provide project management, quality assurance and other labor functions associated with the design and delivering of the control system defined herein.

6. Furnish a one year system warranty as defined herein. Warranty period will begin when final payment for the control system is issued to Contractor.
- B. The specific requirements for the replacement control system are described in Section 13310.
- C. Project Requirements is used throughout the documents to mean the furnishing of all labor, materials, and specialty services necessary for the Contractor to install a complete and operable control system. Requirements are specified herein, in other Specification Sections, detailed in the Request for Proposal (RFP), and/or defined in the Technical Memoranda associated with this project.
- D. The Contractor shall arrange their project schedule to accommodate the requirements of the Owner. The exact timing of the project will be determined jointly by the Owner and Contractor. The Contractor shall include all necessary costs to accommodate the following minimum time slots in their overall project schedule. All time allotments shall exclude any legal holidays, or days lost due to delays caused by the Contractor.
 1. Meeting attendance: Meetings shall be arranged by the Contractor to cover initial project kick-off, review of design documents, construction coordination, and final inspections.
 2. Submittal reviews: The Contractor will allot a minimum of two weeks review time by the Owner for each submittal or resubmittal. The review time will start upon receipt of the submittal by the Owner.
 3. Factory Testing: Contractor will provide a minimum of three weeks notice prior to any factory testing activity that requires or anticipates Owner participation.
- E. All equipment shall satisfy applicable Federal, State and local codes.
- F. The Contractor shall use the tagging scheme and device numbering associated with the existing equipment, except as modified during the design review meetings. The Contractor shall not deviate from or modify the agreed upon numbering scheme without the Owner's approval.

1.5 RELATED WORK

- A. Testing requirements are specified in Section 13305.
- B. Specific hardware and software requirements are included in Section 13310

1.6 SUBMITTALS

- A. General submittal requirements include:

1. Shop drawings shall demonstrate that the equipment and services to be furnished comply with the provisions of these specifications and shall provide a complete record of the equipment as manufactured and delivered.
2. Submittals shall be in electronic Adobe PDF format with an index and sectional dividers, with all drawings at B size (11 inch by 17 inch) or D size (22 inch by 34 inch). Hardcopy submittals will not be allowed unless specifically agreed to by the Owner. All drawings shall use fonts of sufficient size to be easily legible in hardcopy form when the drawing is printed on 11x17 paper.
3. The submittal drawing title blocks shall include, at minimum, the Contractor's registered business name and address, project name, drawing name and number, revision level, and personnel responsible for the content of the drawing. All drawing shall be numbered in a logical pattern with sequential numbers within each group or category. The drawing numbering scheme must be part of the initial Project Plan and Schedule submittal.
4. Exceptions to the Specifications or Drawings shall be clearly defined by the Contractor in a separate section of each submittal package. The submittal shall contain the reason for exception, the exact nature of the exception and the proposed substitution so that the Owner may make a proper evaluation. The acceptability of any device or methodology submitted as an "or equal" or "exception" to the specifications shall be at the sole discretion of the Owner.
5. The Contractor shall submit all submittals in accordance with this Section. Incomplete or partial submittals not complying with the submittal arrangements outlined in this Section will not be reviewed.
6. Separate submittals shall be made as follows:
 - a. Project Plan and Schedule Submittal
 - b. Hardware BOM, Plan, and Panel Drawings
 - c. Exciter one line and control schematic drawings
 - d. Control schematic drawings and PLC I/O list
 - e. Wiring diagrams with complete panel and component layouts and complete BOM
 - f. Operator display screens
 - g. Testing Plans
 - 1) Preliminary Test Procedure Submittal
 - 2) Final Test Procedure Submittal
 - 3) Test Documentation Submittal.
 - h. Final System Documentation
 - 1) Final As-Built versions of all previously submitted drawings

2) Operations and Maintenance Manual Submittal

B. Project Plan and Schedule

1. The Project Plan and Schedule shall be submitted and favorably reviewed before any further submittals will be accepted. The Project Plan shall, at minimum, include the following:
 - a. Overview of the proposed control system in clear text format describing the Contractor understanding of the project work, proposed system architecture (hardware and software), general description of interfaces to other systems, schedule, startup, and coordination.
 - b. A clear description of the redundant control functions that are being proposed, including a description of how the redundant hardware will be integrated with the automatic control equipment.
 - c. Approach to work in clear text format describing how the Contractor intends to execute the work, including investigation and confirmation of all existing conditions, design and equipment fabrication, factory testing, field installation, and commissioning.
 - d. Preliminary software and hardware submittal information solely to determine compliance with the project requirements prior to the Contractor development of control programs and full system layouts. Favorable review of software and hardware systems as part of this Project Plan stage shall not relieve the Contractor of meeting all the functional and performance requirements of the system as defined in the project requirements.
 - e. Project personnel and organization including the Contractor project manager and lead project engineers and technicians. Include resumes and project experience of key individuals and specify in writing their commitment to this project. Project experience of on-site personnel must be included.
 - f. Drawing numbering plan, including a general description of the groups or categories of drawings to be prepared and the information to be presented. Sample drawings from a similar project should be included to illustrate the proposed approach and presentation.
 - g. Preliminary coordination meeting schedule and agendas.
 - h. Preliminary testing plan.
 - i. Preliminary training plan.
 - j. Procurement plan listing major or long lead time materials, quoted lead time, delivery date required to maintain schedule, and date ordered.

C. Hardware BOM, Plan, and Panel Drawings

1. Shop drawings shall be submitted to identify all major hardware components, including but not limited to all PLC components and accessories, HMI, protective relays, SCADA equipment, exciter system, control switches and meters.
 2. Preliminary plan drawings showing the proposed location of all major equipment, including but not limited to PLC hardware, control panels, and exciter components.
 3. Preliminary control panel layout drawings showing control switches, meters, HMI panel, protective relays, and SCADA equipment.
- D. Exciter one line and control schematic drawings
1. Shop drawings shall be submitted to fully describe the proposed exciter and voltage regulator installation, including placement and installation of all components.
 2. Complete exciter control schematics including the interface to control switches and displays, and to the control PLC.
 3. Complete power schematic and wiring diagram.
 4. Outline drawing and installation requirements for the new PPT.
- E. Control schematic drawings and PLC I/O list
1. Complete AC and DC schematic drawings showing all control and power supply wiring with interface to all existing turbine components and equipment, generator circuit breaker trip and close circuits, protective relaying equipment, and exciter equipment.
 2. Where the proposed control circuits interface with existing turbine equipment and circuits, the schematic drawings must show the complete configuration of the existing equipment using the existing GE designations for components, contacts, devices, wiring, connectors, and terminals.
 3. Complete I/O list for the PLC
 - a. The GE designation for each turbine device being connected to.
 - b. A plain text description of each I/O function
 - c. A description of the interface (digital input, digital output, analog, etc.)
 - d. Voltage level of the interface (dry contact, voltage sensing level, analog voltage or current range, excitation requirements, etc).
 - e. State definition for digital points.
 - f. Scaling factor for analog points.
- F. Wiring diagrams with complete panel and component layouts and complete BOM
1. Complete wiring diagrams showing all equipment, components, and terminals, including all new panels and equipment and all connections to existing GE equipment and terminals. Existing GE drawings can be referenced where

appropriate, but any drawings so referenced must be modified to show the final configuration and included in the submittal and final drawing sets.

2. Complete equipment layout and installation drawings, including plan, elevation, and panel layout drawings.
3. Complete Bill of Material for the entire project.

G. Operator display screens

1. Sample of each proposed operator screen, with complete plain text description of the proposed purpose, function, displayed data, and control actions.
2. Plain text overall description of the organization of the screens and the operator interactions.

H. Testing Plan

1. Test Procedure Submittals: Submit the procedures proposed to be followed for each test. Procedures shall include test descriptions, forms, and checklists to be used to control and document the required tests. Include sign-off forms for each testing phase with sign-off areas for the Contractor and Owner.
2. Test Documentation: Upon completion of each required test, document the test by submitting a copy of the signed off test procedures. Testing shall not be considered complete until the signed-off test procedures have been submitted and favorably reviewed by Owner.
3. Refer to Section 13305 for specific testing requirements.

I. Final System Documentation

1. Final as-built copies of all drawings and installation documentation shall be prepared and presented to the Owner.
 - a. All documentation shall be supplied in both native and PDF format.
 - b. Three full sets of all drawings shall be provided in full size bound sets, in addition to the copies included in the maintenance manuals.
 - c. All drawings shall be transmitted in the latest version of AutoCad. Text and tabular data shall be in the latest version of Microsoft Office.
2. All wiring connections and schematic drawings shall be confirmed during final check-out of the controls. This shall be an independent review after all final wiring changes and check-outs have been completed.
3. Contractor shall annotate provide an annotated copy of Section 00005 - Appendix List clearly noting which drawings are now obsolete, superseded by a new drawing, modified to show the new configuration, or still applicable without modification.

4. The operations and maintenance manuals shall be provided in electronic and hardcopy form.
 - a. Electronic form shall use Adobe PDF searchable format. Supplied files shall be indexed in a Table of Contents and shall permit key-word searches. Each section shall have a uniquely identified binder tab divider.
 - b. Two (2) sets of printed hardcopies of each manual shall be provided. Manuals shall be bound in Heavy Duty ring binders, maximum 3 inch. Manuals shall each have a Table of Contents identical to the electronic files. Each section shall have a uniquely identified binder tab divider.
5. The maintenance manuals shall, at a minimum, include the following:
 - a. A Table of Contents for the entire manual with the specific contents of each volume clearly listed.
 - b. Manufacturer's literature and complete documentation of all PLC, protective relays, meters, control switches, and other components utilized in the system.
 - c. All mechanical, layout, schematic, and wiring diagrams. Drawings shall depict all components and electrical connections.
 - d. Complete software documentation.
 - e. Special maintenance requirements particular to this system shall be clearly defined, along with special calibration and test procedures.
 - f. Original software flash drives, portable hard drives, CD-ROMs or DVDs of all software provided under this Contract. Submit license agreement information including serial numbers, license agreements, User Registration Numbers, etc. All software provided under this Contract shall be licensed to the Owner.
6. The Operator's Manuals for the system operators shall be separately bound and shall contain all information necessary for the operation of the system. The manuals shall be written in non-technical terms and shall be organized for quick access to each detailed description of the operator's procedure. Manuals shall contain, but not be limited to, the following information:
 - a. A simple overview of the entire system indicating the function and purpose of each piece of equipment.
 - b. A detailed description of the operation of the HMIs including all appropriate displays.
 - c. Step-by-step procedures for starting up and shutting down the turbine.
 - d. Operational description for operating HMI computer equipment and peripherals including printers, removable bulk storage devices, etc. Description shall include procedures for typical maintenance and troubleshooting tasks.

- e. A listing of all data base point names with their respective English language point descriptions and HMI graphic screen cross reference where the points can be found.
 - f. A complete glossary of terms.
 - g. Complete, step-by-step procedures for performing complete system or selected file backup and restoration.
7. The Contractor's final documentation shall be new documentation written specifically for this project, but may include standard and modified standard documentation.
 8. The manuals shall contain all illustrations, detailed drawings, wiring diagrams and instructions necessary for installing, operating and maintaining the equipment. The illustrated parts shall be numbered for identification. All information shall apply specifically to the equipment furnished and shall only include instructions that are applicable.
 9. If the Contractor transmits any documentation or other technical information which is considered proprietary, such information shall be designated. Documentation or technical information which is designated as being proprietary will be used only for the design, construction, operation, or maintenance of the system and, to the extent permitted by law, will not be published or otherwise disclosed.
 10. Retrofit Documentation: The Contractor shall investigate, diagnose, repair, update and distribute all pertaining documentation of deficiencies that become evident during the warranty period. All such documentation shall be submitted to the Owner within 30 days of resolving the problem or issue.

1.7 COORDINATION MEETINGS

- A. The Contractor shall schedule a kickoff meeting at a time and date agreed upon by Owner and Contractor, a second meeting during the factory test, project review and construction coordination, and final inspection meetings as described herein.
 1. A project kickoff meeting shall be held within one week after submitting the Project Plan and Schedule. The kickoff meeting will cover topics related to project management and system development, including discussion of the Contractor's Project Plan and Schedule Submittal; summarize the Contractor's understanding of the project; discuss any proposed substitutions or alternatives; schedule testing and delivery deadline dates; provide a forum to coordinate hardware and software related issues; and request any additional information required from the Owner. The Contractor shall prepare and distribute an agenda for this meeting a minimum of two days before the scheduled meeting date. The meeting will be held at the Owner's facilities and will last no longer than one (1) business day.
 2. A meeting shall be held following the factory test to discuss project status, schedule for on-site work, factory test results, Owner activities to support Project Schedule, and other topics as necessary. The Contractor shall prepare and

distribute an agenda for this meeting a minimum of two days before the scheduled meeting date.

3. Regular project review and coordination meetings will be held during the period of construction and testing. These will generally be held at the project site.
4. A final inspection meeting will be held prior to issuing a Certificate of Substantial Completion.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Contractor will be responsible for shipping or delivering all components to the turbine site. Contractor shall coordinate delivery and unloading with Owner.
- B. Contractor is responsible for any shipping damage.
- C. Outdoor storage space is available near the turbine site and limited indoor storage is available in the IMU warehouse adjacent to the turbine site and in the control and blackstart buildings located at the turbine site. Contractor shall keep storage areas clean, organized, and free of rubbish.

1.9 NOMENCLATURE AND IDENTIFICATION

A. Panel Nameplates

1. All panels shall be supplied with suitable nameplates that identify the panel and individual devices as required.
2. Nameplates shall be a 3/32-inch thick, black and white, laminated Bakelite or Lamicoid with engraved inscriptions. The letters shall be white against a black background. Edges of the nameplates shall be beveled and smooth. Nameplates with chipped or rough edges will not be acceptable.
3. Orient nameplates to facilitate reading the device identifier from a cursory inspection. Do not mount nameplates behind or under equipment.

1.10 WARRANTY AND MAINTENANCE

- A. Contractor shall provide a one year warranty of all hardware and software products furnished on this project. The cost of warranty and maintenance will be included in the contract price.
- B. Contractor will provide software updates throughout the 1-year warranty period. Contractor shall provide latest official released version for all software provided under this Contract. Owner shall have the latest software releases at the end of the one-year warranty period.
- C. The Contractor shall provide the capability of delivering extended warranty and maintenance support, as well as after-hours support. The Contractor shall identify the length of the available warranty, availability and cost of extended support, and type of

customer support provided (dedicated department or handled by programming staff or distributor, telephone hours, Email & Web support, FTP download area, Knowledge Base, bulletin board service, field service, etc.) with the Proposal.

D. Twenty-four (24) hour, seven (7) day a week support must be available from the Contractor..

E. Software Improvements and "Bug" Fixes

1. The Contractor shall provide software patch management in accordance with NERC CIP standards. All Contractor software patches will be tested against all software applications provided in this proposal, on a comparable hardware platform, and the results of those test made available to the Owner within 30 days of patch release. The Contractor shall provide a mechanism to install software improvements and bug fixes without the need for uninstalling or reinstalling the software application – only the changed components need to be replaced or upgraded. The Contractor shall also provide an easy mechanism for upgrading and installing software improvements and for allowing a user to quickly ascertain what improvements have been installed

1.11 PROJECT/SITE REQUIREMENTS

A. Temperature

1. All equipment shall be suitable for operation in a 0 to 104 deg F ambient.
2. Storage temperatures may range from 0 to 120 deg F ambient.

B. Relative Humidity

1. All equipment shall be suitable for 0 to 100 percent relative, condensing humidity. Cabinet heaters shall be provided as needed for humidity control.

PART 2 - EXECUTION

3.0 GENERAL INSTALLATION

- A. Equipment shall be installed in accordance with the manufacturer's instructions, the project design drawings, and generally accepted good practices.

3.1 TESTING

- A. Refer to Section 13305.

3.2 TRAINING

- A. The cost of training programs to be conducted with Owner employees shall be included in the Contract price. The training and instruction shall be directly related to the system

being supplied. The Contractor is responsible for training associated with all hardware, and software. Contractor shall recommend class topics and durations.

- B. The following concepts must be addressed by training classes. Contractor shall cover any other topics that pertain to successful continued operation and maintenance of the System by Owner.
 - 1. HMI software configuration including displays, reports, logging, alarms, and trending.
 - 2. HMI hardware and networks including operating system administration requirements, new users, security levels, virus protection, backups, archives, and routine maintenance.
- C. The Contractor shall provide detailed manuals to supplement the training courses. The manuals shall include specific details of equipment supplied and operations specific to the project.
- D. The Contractor shall make use of teaching aids, manuals, slide/video presentations, etc. After the training services, such materials shall be delivered to Owner.
- E. The training program shall represent a comprehensive program covering all aspects of the operation and maintenance of the system.
- F. All training schedules shall be coordinated with, and at the convenience of the Owner.
- G. All training will take place on Owner's premises. Contractor should plan for five to seven participants.
- H. Classes shall stress operations and maintenance, including routine operations, use of the HMI display screens, troubleshooting, repair, calibration, and other technical aspects of the system.
- I. Training classes may be filmed or otherwise recorded by Owner for future employee training.
- J. The training classes shall be scheduled a minimum of 2 weeks in advance of when they are to be given. Proposed training material, including a detailed outline of each lesson, shall be submitted to the Owner at least 30 days in advance of when the lesson is to be given. The Owner shall review the submitted data for suitability and provide comments that shall be incorporated into the course.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 13305 TURBINE 8 CONTROLS – TESTING

1.0 TESTING

A. General

1. It is the responsibility of the Contractor to provide confirmation of a fully operational system by satisfactorily completing test procedures as specified in this Section. The Contractor shall provide factory testing prior to shipment of the equipment and also testing of the equipment after it is installed.
2. All tests shall be conducted in accordance with prior Owner-approved procedures, forms and checklists, as submitted by the Contractor.
3. Copies of the signed test procedures, forms and checklists will constitute the required test documentation. The test result forms shall be submitted to the Owner for approval at the completion of each test.
4. Provide all special testing materials and equipment. Wherever possible, perform tests using actual process variables, equipment, and data. Where it is not practical to test with real process variables, equipment and data, the Contractor will provide suitable means of simulation subject to Owner's approval. The simulation techniques and procedures must be included in the test procedures.
5. The Contractor shall coordinate all required testing with the Owner.
6. The Contractor shall furnish the services of Field Service Engineers, all special calibration and test equipment, and all labor to perform the field tests.
7. The Owner reserves the right to test or retest all specified functions, whether or not explicitly stated on the Test Procedures, as required to determine compliance with the functional requirements of the overall system. Such testing required to demonstrate compliance with the specified requirements shall be performed at no additional cost to the Owner. The Owner's decision shall be final regarding the acceptability and completeness of all testing.
8. No equipment shall be shipped until the Owner has received and approved all test results and agrees the system is ready for shipment.

B. Factory Testing

1. The entire system must be tested prior to shipment (except for field devices), with the complete system interconnected and tested to ensure the system will operate as specified. Field devices may be simulated in software or hardware.
2. Tests to be performed shall include but not be limited to the following. Each of these tests shall be specifically addressed in the Test Procedure submittal.
 - a. Test and verification of all I/O points and functions.

- b. Demonstrate functionality of all control sequences. Simulate operating conditions to verify the performance of the monitoring and control functions.
 - c. Demonstrate all graphical user interfaces (hardware and software, monitoring and control functions).
 - d. Demonstrate system recovery from failure scenarios including power loss, cold boot, warm boot, and communication loss.
 - e. Demonstrate emergency trip functions, including failure of the PLC.
3. Owner will witness the final factory acceptance tests. Owner will be responsible for all expenses incurred by the Owner to witness the tests.
 4. The Contractor shall notify the Owner in writing that the system is ready for the Factory Acceptance Test and allow the Owner to schedule a test date

C. Field Testing

1. All equipment, connections, functions, and field devices must be thoroughly tested and confirmed prior to initial start-up of the turbine. Special attention must be given to confirmation that all protective circuits and interlocks are properly wired and functional.
2. Protective relays (including circuit breaker trip and close circuits), panel meters, and SCADA components will be tested by the Owner after installation is completed by Contractor.
3. Contractor will be responsible for the initial start-up of the turbine in cooperation with IMU operating personnel. IMU personnel will be responsible for all general turbine equipment and functions, except for those components and systems that are modified or replaced by Contractor.
4. Contractor shall present a commissioning plan that completes all commissioning activities in 15 or fewer starts, excluding starts required for emissions compliance (stack) testing. The diesel starting engine may not be started more frequently than once per hour. No fewer than 30 minutes must elapse between engine shutdown and engine start commands.
5. Initial testing must demonstrate and confirm proper response to all protective circuit operations, critical alarms and other conditions that initiate an emergency stop.
6. Initial testing must demonstrate and confirm the proper operation of all redundant safety systems, including failure of the PLC.
7. Contractor will be required to demonstrate satisfactory operation of all control functions and sequences.
8. Contractor will be required to demonstrate satisfactory operation of all data logging and alarm functions, including simulation of all alarm conditions during normal operation of the turbine.

9. Tests shall be implemented using Owner-approved forms and checklists. These form shall include detailed procedures and performance criteria, and spaces for sign off by Owner and Contractor
10. Certification of Installation: Following successful completion of the field test, the Contractor shall provide a Certification of Installation to the Owner. The Certification shall be on Contractor corporate letterhead and signed by an officer of the firm. The Certification shall state that the control system has been completed in conformance with project requirements.

D. Stack Testing

1. If required, Contractor shall retain a third-party testing contractor with relevant experience to confirm correct operation of the NOx control system and compliance with the permit from the Iowa Department of Natural Resources by measuring emissions at the turbine stack. Testing contractor must submit a testing plan to the Iowa Department of Natural Resources prior to beginning testing. Pollutants tested shall include NOx and particulate matter. (See Bid Alternate 3.)

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 13310 TURBINE 8 CONTROLS – SPECIFIC PROVISIONS

PART 1 - GENERAL

1.0 SCOPE OF WORK

- A. Equipment, materials, and services shall be supplied in accordance with the general requirements defined in Section 13300.
- B. The Control Package shall be assembled and supported by a single entity regularly engaged in the design, supply, configuration, customization, installation, and maintenance of combustion turbine control systems for the electric power industry.
- C. The Contractor shall furnish a complete installed system as described by these specifications.
- D. The Contractor shall furnish startup, commissioning, and training services.
- E. Omission of a specific item from these specifications that is obviously necessary for the proper functioning of the system shall not relieve the Contractor of the responsibility of furnishing and installing the item at no additional cost to the Owner.
- F. All equipment and installations shall satisfy applicable Federal, State, and local codes.
- G. Each server, workstation, and programmable device furnished under this agreement shall be backed up after completion of the final acceptance tests. These backups shall be turned over to the Owner.
- H. All software packages provided shall be licensed under the Owner's name and address. The Contractor shall coordinate licensing with the Owner.
- I. Unless specifically noted otherwise, all new required below grade control and communications cables shall be provided and installed by Contractor in Owner supplied conduits. Contractor shall communicate below grade conduit requirements to Owner by June 1, 2023 so that they can be installed between June 15, 2023 and September 15, 2023.
- J. Owner will supply required below grade conduits including penetrations into buildings or enclosures. New conduits required within the control building, fuel forwarding building, water injection skid, or turbine skid shall be supplied by Contractor.

1.2 SPARE PARTS

- A. The Contractor shall provide a recommendation to the Owner of spare parts to be kept available for system maintenance and repairs, prior to scheduling of the final acceptance test.
- B. The acquisition of spare parts may be added to the Contract by Change Order.

- C. All spare parts provided by the Contractor shall be packaged so as to prevent damage during long term storage. All packages shall be legibly and properly identified with indelible markings on the exterior as to contents.
- D. Complete ordering information including manufacturer, part number, part name, and equipment for which the part is to be used shall be provided in the project documentation.

PART 2 - PRODUCTS

2.0 GENERAL

- A. Materials and equipment used shall be UL listed or recognized wherever such equipment and materials are available.
- B. The System shall be designed and constructed to withstand the demands of real time turbine operation and control.
- C. All equipment furnished shall be designed and constructed so that in the event of power interruption the equipment will execute an orderly shutdown with no loss of memory and will resume normal operation without manually resetting when power is restored.
- D. The new control system shall perform the same or similar monitoring and control functions as the current system and in accordance with these specifications. Monitoring and control functions are generally defined in the project requirements; however, the Contractor is required to fully investigate the existing system and confirm with the Owner all necessary requirements.
- E. All software licenses required to achieve the functionality described in the Specifications shall be provided.

2.1 COMPUTER SYSTEM HARDWARE

- A. The control computer (PLC) shall be standard Allen Bradley Rockwell Automation ControlLogix processor with associated I/O and accessories.
- B. All control computer equipment shall be powered from the turbine 125 Volt battery.
- C. The control computer is to be installed in the turbine control cab utilizing the existing relay and control cabinets. Detailed plans must be developed by the Contractor and included in the drawing submittals to identify those terminal blocks, relays, fuses, and other components that will be removed and those that will be re-used. Emphasis will be placed on creating a 'clean' system that will be convenient to trouble shoot and maintain.
- D. The Contractor is fully responsible for selecting the required hardware and software for implementing the control computer, following the manufacturer's recommendations for equipment selection. No systems or components shall be used that have been identified by the manufacturer as being or are projected to become obsolete.

- E. A fully redundant system is not required, but specific critical functions must be duplicated in redundant hardware that is independent of the main control computer, including at a minimum the following functions.
- Failure of primary control computer
 - Excessive exhaust temperature
 - Overspeed
 - Unit trip for critical faults
 - Fuel shut-off
 - Emergency Stop
 - Fire alarm shut-down
 - Alarm if water injection system is out of compliance with permit requirements

2.2 COMPUTER SYSTEM SOFTWARE

- A. The control software must fully replicate all existing control, sequencing, monitoring, alarm, and protective functions currently embedded in the SpeedTronics Mark V control. The specifications in this section should be considered as general guidelines, but the Contractor is required to thoroughly analyze the existing system and carefully consider all aspects of the turbine and the control system in designing the new system. Each specific item listed below must be considered and the recommendation (either to implement as described or some alternate arrangement) explained with the initial control description submittal.
- B. All program must be created using Allen Bradley Rockwell Automation development software.

2.3 HMI REQUIREMENTS

- A. Two operator stations shall be provided. Each station must provide full monitoring and control capability through identical display and control screens.
1. One operator station shall be located in the turbine control cab, utilizing an Allen Bradley Rockwell PanelView display mounted in the front panel of either the relay or control cabinet, and powered from the turbine 125 volt battery.
 2. One operator station shall be located in the SCADA room in the IMU office building located to the south of the turbine site. The following are minimum requirements for this station but the Contractor shall provide equipment that is best suited for the application. This will be connected to the turbine controls using Owner's ethernet network.
 - a. Processor: 11th or 12th generation Intel® Core™ i7 or i9 processor with sufficient power to support all client software
 - b. Memory: Sufficient quantity to support Operating System and client software (16 GB minimum)
 - c. Operating System: To meet Contractor's requirements
 - d. Hard Drive: 500GB minimum

- e. Video: Must support 2x DisplayPort monitors with a minimum output resolution of 1920x1080 each
- f. Internal Optical Drive: DVD+/-RW, SATA, Internal (only required if Contractor provides project documentation, deliverables, or backups on DVDs)
- g. Power Supply: Sufficient power to support system plus one additional hard drive
- h. Monitor: Two, minimum 24", each with minimum 1920x1080 resolution
- i. Keyboard
- j. Mouse
- k. Form Factor: Mini tower, micro tower, mini desktop, or micro desktop
- l. System Documentation: Electronic System Documentation
- m. Hardware Support Services: 3 Year On-site Service
- n. Station operator console PC will be supplied from an existing 120 VAC receptacle, with existing UPS backup.
- o. Provide one fiber SFP module for Owner's existing network switch in the generator control building.

B. Logging and Alarm Functions

- 1. The System shall collect, store, and display data on electrical and mechanical operating parameters, control operations, and alarm conditions. All data shall be readily accessible to enhance system functionality and must include both tabular and graphical presentation. Details of the functions, capability, and displays will be developed during the initial project reviews. Sufficient memory and capability must be provided to log all functions at one minute intervals for a 24 hour period.
- 2. The System will support multiple levels of Alarm priorities.
- 3. The System will log all Setpoint changes and Control operations, including the operator interface from which the operation originated.
- 4. The System must log and make available in a separate display screen and report all status changes for all turbine sensors and auxiliary contacts monitored by the controls.
- 5. Logged data shall include user definable point list and logging interval (with option to log on status change or data value).
- 6. The System shall utilize a Select Before Operate (SBO) procedure that is fully compliant with IEEE Standard C37.1-2007, Annex D.1 "Select before operate". Any failure to properly execute a command shall set an alarm point.
- 7. The System shall be capable of detecting alarm conditions based on the states and values of the various sensed variables. Alarms must be capable of being filtered based upon priority and other user-selectable criteria. When a new alarm is detected, all operator control stations must immediately see the new alarm. If the alarm is acknowledged on one station then all station displays must show that it was acknowledged.

8. The System shall provide counters to document and display the number, type, and priority of alarms. The System shall also provide Alarm Occurrence Counters to determine transitions in alarms between Acknowledgements.
9. A time stamp shall be included with every alarm or message. Time stamping shall be supported from the local computer time or process hardware's clock.
10. Alarm Summary Display
 - a. The System must include an alarm summary display showing a list of the active alarms in the System. As new alarms are detected, entries are made to the list. As the alarm conditions clear, the entries are removed from the list.
 - b. Alarms can be acknowledged from the alarm summary display either individually (by clicking on an alarm acknowledgment field) or for all alarms in the queue.
 - c. The alarm summary display must provide sorting and filtering capabilities. The user shall be able to filter on acknowledge status, node name, alarm area(s), alarm status and alarm priority. The user shall be able to sort on time, point, alarm area, alarm priority and alarm status.

C. DOCUMENTATION

1. The System shall provide complete user documentation for use of the operator stations, including examples of how to operate the various screens and functions within the System. Refer to Section 13300 for addition information and requirements.

D. DATA INTEGRITY

1. The System shall provide pre-emptive multitasking to ensure that common operating system actions do not interfere with I/O communications, processing of data, alarming, and the integrity of the real-time and historical data. These common operating system actions include moving a window with a mouse, opening a file, accessing the hard disk, or printing a graphic display.

E. GRAPHIC CAPABILITIES

1. Contractor shall create display screens as required to fully describe and control the turbine operation, including all devices monitored and controlled by the system. Screens shall include, but not be limited to, the following:
 - a. Unit start and stop sequences
 - b. Generator sequences.
 - c. Start permissives
 - d. Normal operation.
 - e. Fuel flow and speed governor functions
 - f. Exciter data and operation
 - g. Exhaust temperature
 - h. Vibration sensors
 - i. Turbine overview showing critical sensor and operational data

- j. Ratchet status, operation, pending operations, and historical data
- k. System 24 hour log including selectable monitor points.
- l. Summary page showing alarm status in annunciator panel arrangement, MW, MVAR, generator volts, bus volts, and turbine control parameters.
- m. Protective relay status
- n. Turbine sensor status showing all sensors and auxiliary contacts monitored by the control
- o. Water injection system operation including fuel consumption rate, water injection rate and water/fuel ratios.

2. Tile & Cascade

- a. Graphic screens must support tiling and cascading. Tiling shall have horizontal and vertical support and no overlapping when the graphic screens are viewed in this manner. The only limit on the number of graphic screens opened at one time is by the amount of RAM in the PC. Cascading is defined as a method to stagger screens so each can be selected from its title bar.

3. Graphic Sizing

- a. Size will be based on logical units; not pixels and any logical unit may be used. Graphic screen design at one resolution shall be able to run at a different resolution. A full screen option as well as the ability to add sizing borders to any graphic screen shall be supported. Also graphic screens shall have an option to enable the screen to always be on top and a title bar enabled / disabled option.

F. SECURITY MANAGEMENT

- 1. The System shall provide a user-based security system. The security system must allow for the creation of users with certain rights and/or privileges. These rights must include the ability to run any combination or all of the applications in the system. The ability to allow or disallow user's access to change values, such as set points on an individual point basis shall be supported.
- 2. The ability to prevent non-authorized users from modifying the value or set point of a data point shall be part of the database design and shall not require any scripting.
- 3. Groups of users, such as Operators or Supervisors, can be created and granted rights. All users assigned to a group obtain the rights of the group, although they are still tracked by the System by their individual ID. Individual members of a group may also be assigned additional rights.
- 4. Limiting Login Time
 - a. The System shall allow for a login timeout setting for each user account. This setting will logout an operator when the time interval expires.

G. ARCHIVING

1. Provide capability to acquire, store, retrieve, and archive data as defined by this section. This must include provisions for automatically collecting, storing and recalling data. Recalled data must be made available to both a trend display program and a report generation program.
2. Data Configuration
 - a. The data to be collected and stored will be identified through an interactive, menu-based configurator. The user will enter the point name, collection rate. Collection Rates shall be adjustable from 1 second to 30 minutes.
 - b. The task will allow the collection of groups of points to be turned on and off automatically based on a defined alarm condition.
3. Displaying Stored Data
 - a. The operator shall be able to recall stored digital and analog data for display in tabular and graphic trending format.
 - b. The display of stored data shall be user-configurable.
 - c. The trend object must allow for bi-directional trending and scrolling.
 - d. A movable, vertical line will act as a time cursor on the display. This cursor can be moved by dragging it with the mouse. The date, time, and values of the trends corresponding to that time will be displayed in the bottom portion of the screen.
 - e. The grid of the trend object shall be scrollable.
 - f. The user shall be able to "zoom" in on any section of the trend display by "cutting" that section with a mouse. The software will automatically re-scale both the y-axis and time axis and will fetch the appropriate data for the time period selected.
 - g. The trend object shall have a refresh rate for current data selectable in 0.1 second increments from a minimum of 0.10 seconds to a maximum of 1800 seconds.
4. Reports
 - a. Provide 15 minute, hourly, daily, monthly, and annual reports in Microsoft Excel format showing run time, maximum generation level, station power energy consumption, fuel consumed, total energy generated, fuel consumption rate, water injection rate, fuel/water ratio, NOx produced and other data to be specified by Owner. Provide 3 automated reports in a format to be specified by Owner.

H. DATA ARCHIVE

1. General Requirements
 - a. The System shall store historical data according to the information in this Specification.
 - b. The System shall provide a user-executable function to create an annual archive of historical data. Data from the current calendar year and the prior calendar year will reside on the System. At the end of each calendar year, data from the year prior to the year coming to an end will be archived.

- c. Contractor shall include storage medium with sufficient capacity to store five archive files with full data from 12 months including 240 hours of run time in each file.
- d. Contractor shall provide a user-executable function to access any archive file.
- e. Provide the capability to vary the rate at which data is saved. It shall be possible to save some parameters at a more frequent intervals while the unit is running.

I. REMOTE SUPPORT

- 1. Provide necessary software and, if necessary, hardware to provide remote support for the control PLC and operator console. Provide information on remote support plans and single use costs with the bid.

PART 3 SPECIFIC HARDWARE REQUIREMENTS

1.0 Control Cab Equipment

- A. Except as specifically identified below (or as determined during initial system design and shown on approved drawings), all existing SpeedTronic Mark V control components, protective relays, control switches, meters, static exciter components, load regulator components, annunciator, and SCADA interface components shall be removed from the existing control cabinets. The two existing relay and control cabinets shall be utilized for the new control equipment. New doors or new full face panels on the existing door shall be installed on each cabinet. Each specific item listed below must be considered and the recommendation (either to implement as described or some alternate arrangement) explained with the control description submittal. Layout shall match the existing Turbine 7 panels as closely as practicable.
- B. The following must be installed in the outer door of the control and/or relay cabinets.
 - 1. New generator protection relays (SEL-700G1+)
 - 2. New lockout relays
 - 3. SCADA gateway (SEL-3620)
 - 4. SCADA I/O (SEL-2440 DPAC)
 - 5. SEL-735 meter
 - 6. Other related control switches
 - 7. Control operator station (HMI)
 - 8. Emergency stop push button
 - 9. 50BF/52G relay (SEL-751)
 - 10. Test switches for all AC potential and current connections and for all inputs and outputs and trip contacts associated with all protective relays, lockout relays, exciter controls, and generator control devices. Test switches shall be ABB style FT-1. Test switch functions, configuration, mounting position, and labels will be finalized during the design reviews. Provide an engraved black lamicoid nameplate, 3/32-inch thick, with white letters and smooth beveled edges above each test switch. Each test switch blade shall be labeled with function. Test switches shall be numbered and labeled on drawings so that the appropriate test switch blade can be readily identified.

- C. The following must be installed in the existing control and/or relay cabinets.
 - 1. The new PLC hardware, including processor, I/O, power supply, and all related equipment
 - 2. All new relays or other devices required to interface between the new control equipment and turbine sensors, hardware, and devices.
 - 3. Suitable terminal blocks for all wiring interfaces between the control equipment and the turbine sensors and hardware. Existing terminal blocks may be reused if included in the approved drawings.
 - 4. New generator and exciter field ground detection relays (these may also be installed in the existing cabinet in the generator auxiliary compartment).
- D. The following must be installed in new or existing enclosures external to the control and/or generator cabinets.
 - 1. New water flow preamplifiers (transducers) shall be located in the existing enclosures in the water injection skid or, if the existing enclosures are too small, in a new enclosure supplied by Contractor. Alternatively, Contractor may propose alternative locations or components to replicate the existing functionality.

2.0 Control Wiring

- A. Wherever practical, wiring shall be terminated with ring lug compression terminals. Suitable ferrules shall be used when stranded wire must be terminated in mechanical lug connectors or terminals.
- B. All wire ends shall be marked with printed sleeves. The wire numbering and marking scheme shall be included in the initial design submittal.
- C. All existing wiring between the control cabinet terminal blocks and turbine sensors and hardware must be checked and tested in conjunction with the initial control set-up and check out.
- D. Proposed wire size, stranding, and insulation type shall be included in the initial design submittal.

3.0 Control Inputs

- A. All existing inputs to the SpeedTronic Mark V control must be reconnected to the new controls and utilized in conjunction with new inputs as required to implement existing and enhanced control and alarm functions. Specific requirements follow, but this is not intended to be a complete and exhaustive list.
 - 1. All inputs to the SpeedTronics Mark V interface cards shown on GE drawings 304D-01B-0495, Sheets 500 through 509.
 - 2. All inputs to the SpeedTronics Mark V interface cards shown on the GE I/O Report.
 - 3. All devices listed in Appendix A: Device List. Note: Appendix A should not be considered a complete list of all devices that interface with the existing control system. Contractor shall be responsible for verifying the accuracy and completeness of this list and incorporating all required control inputs regardless

of whether it appears in Appendix A. Contractor shall be responsible for replacing or incorporating into the new control system any devices marked as "replace" unless specifically noted that the device is to be replaced by others.

4. Control inputs to the turbine control system shall be provided for all RTDs and thermocouples.
5. Contractor shall replace the 24VDC power supply and water flow meter preamplifiers labeled 77WN-1A and 77WN-1B show on FlowTronex drawing E-22739-02. Contractor shall confirm correct operation of the meter and magnetic pickup coils. Provided operation of the meter and magnetic pickup coils is correct, only power supply and preamplifiers need to be replaced. Contractor may also present options that incorporate the function of the preamplifiers into the new turbine control system. Replacement of the water flow meter or magnetic pickups, if necessary, will be considered extra work.
6. Vibration sensors 39V-1, 39V-2 and 39V-3 shown on GE drawing 352B9322 section 3 sheet 19 and 352B9397 Section 1 Sheet 9 shall be replaced with new units with equivalent functionality.
7. The existing diesel starting engine tachometer 65DE shall be replaced. If a separate power supply is required for the new tachometer, the existing power supply shall be replaced as well.
8. All control circuits shall be monitored for loss of voltage using control inputs or auxiliary relays. Alarms shall be provided in the control system.
9. Compressor discharge pressure transducer 96CD shall be replaced.
10. Diesel engine water temperature, oil pressure, and accumulated hour gauge located in the existing enclosure on top of the turbine gauge panel shall be replaced in a new enclosure. New gauges shall provide input to the PLC. Options will be reviewed during the design reviews.

B. A connection to the Turbine 8 RTU may be used to provide limited non-critical data such as alarms and relay targets to the turbine control system. Available protocols are DNP and SEL. No data critical to the operation of the turbine shall be obtained using this connection. Contractor shall provide a list of required points for Owner's review.

C. If the SEL-700G generator relays are used to provide auto-synchronizing, all inputs from the autosynchronizer shall be provided by discrete connections. Serial or ethernet connections or connections to the turbine 8 RTU shall not be used for commands to or from the autosynchronizer.

4.0 Control outputs

A. All existing output contacts, relay drivers, and analog outputs provided from the SpeedTronics Mark V control must be duplicated in the new control, except for functions that are replaced with logical signals. Specific requirements follow, but this is not intended to be a complete and exhaustive list of required functions.

1. All generator exciter functions shall be replaced with logic interfaces to the new excitation system.
2. Suitable output must be provided to drive the existing water control valve (96WN) shown on Flowtronex drawing P-22739-01.
3. Outputs must be provided to operate all retained control relays, solenoids, valves, contactors, etc.

4. All devices listed in Appendix A: Device List. Note: Appendix A should not be considered a complete list of all devices that interface with the existing control system. Contractor shall be responsible for verifying the accuracy and completeness of this list and incorporating all required control inputs regardless of whether it appears in Appendix A. Contractor shall be responsible for replacing or incorporating into the new control system any devices marked as "replace" unless specifically noted that the device is to be replaced by others.
5. All existing stop valves shall be controlled by the PLC.

- B. If the SEL-700G generator relays are used to provide auto-synchronizing, all outputs to the autosynchronizer shall be provided by discrete connections. Serial or ethernet connections or connections to the turbine 8 RTU shall not be used for commands to or from the autosynchronizer.

5.0 Control relays

- A. Except for specific functions identified in these specifications, existing control relays shall be replaced to the greatest extent possible. The redundant trip functions described in Paragraph 2.1.E may be implemented using existing or new relays and other components.
- B. Where control relays are used to multiply contacts (for example relays 52GX-1 shown on GE drawing 304D-01B-0495 sheet 303) the functions shall be incorporated into the control logic to the extent possible to eliminate the need for the multiple relays.
- C. The following relays are expected to be replaced with control outputs or, if necessary, relays, and controlled by the control PLC The Contractor is to thoroughly investigate all options and provide appropriate recommendations.
 1. Master control-turbine and accessory compartment cooling fan 4BTZ
 2. Master control-diesel engine starter 4DS
 3. Master control-turbine cooling water fan #1 4FCZ1
 4. Master control-turbine cooling water fan #2 4FCZ2
 5. Master control-fuel forwarding pump #1 4FD-1
 6. Master control-fuel forwarding pump #2 4FD-2
 7. Master control-hydraulic ratchet pump motor 4HR
 8. Master control-cooling lube oil pump 4QC
 9. Master control-emergency lube oil pump 4QEZ
 10. Master control-load gear compartment cooling fan 4VG
 11. Master control-turbine cooling water pump #1 4WCZ1
 12. Master control-turbine cooling water pump #2 4WCZ2
 13. Turbine overspeed trip 12HA-1 (Note: Owner has ordered two Dynalco SST7400D speed switches that will be provided to Contractor for incorporation into control system.)
 14. Protective interface module R3-Load gear compartment cooling fan shutdown 45PRX-1
 15. All devices listed in Appendix A: Device List. Note: Appendix A should not be considered a complete list of all devices that interface with the existing control system. Contractor shall be responsible for verifying the accuracy and completeness of this list and incorporating all required control inputs regardless of whether it appears in Appendix A. Contractor shall be responsible for

replacing or incorporating into the new control system any devices marked as "replace" unless specifically noted that the device is to be replaced by others.

- D. No control outputs shall utilize the connection to the turbine 8 RTU.
- E. Use of discrete timer relays shall be minimized to the extent practical. All timer relays shall be incorporated into PLC logic to the greatest extent practical.

6.0 Ignitors

- A. The existing ignitors and ignition transformers shall be retained.

7.0 Annunciator functions

- A. A separate annunciator is not required. Displays shall be provided that display alarms in a tiled fashion similar to an annunciator.

8.0 Power Supply

- A. A new power supply shall be provided to supply power to the new control system.

9.0 Generator Exciter and Voltage Regulator

- A. Except as specifically identified, all existing exciter and voltage regulator hardware must be replaced.
 - 1. A new Basler DECS-250 Digital Exciter and automatic voltage regulating system shall be installed as an integral part of the new control system, including the following components.
 - a. Excitation control and rectifying assembly ~~mounted in a new NEMA 1 cabinet, provided by Basler,~~ to replace the existing static (pilot) exciter for the brushless exciter. The existing brushless exciter will remain in service.
 - b. Power Potential Transformer (PPT), 6.8 kVA, 480V input, ~~240~~120 volt output, mounted in the same cabinet as the exciter cabinet. Primary connections to the PPT will be supplied and installed by Contractor.
 - c. A separate exciter HMI is not required, however; the DECS-250 must be mounted in the door of the control cab, exciter or relay cabinet such that the LCD display is visible without opening the cabinet door.
 - d. The voltage regulator shall be fully integrated into the control software and display screens to allow manual and automatic voltage, var, and power factor control, with all monitoring and alarm functions accessed and displayed through the turbine control system.
 - e. Provide hardware and controls necessary to supply excitation current during black start conditions and during faults when turbine terminal voltage is depressed.
 - f. Excitation system shall utilize the existing 480VAC and the existing 125VDC power sources. Separate circuit breakers shall be provided for each source.
 - g. The excitation system shall be installed in a new NEMA 1 cabinet. Alternatively, the excitation system can be mounted in the generator or turbine control panel if Contractor prefers and if space is available. If the

excitation system is installed in the existing generator or turbine control panel, it must be mounted on sub panels supplied and wired by Basler and connections between sub panels must be made using Basler supplied umbilicals.

- h. Exciter shall be supplied as a complete system with all necessary components to replace the existing GE EX2000BR excitation control and GE DS200AXC pilot exciter.
- i. If the exciter is incorporated into the existing turbine or generator control cabinet, all 480VAC terminals shall be guarded such that workers are not exposed to 480VAC live parts. 480VAC circuits shall be separated from control circuits of all voltages.
- j. If the exciter is incorporated into the existing turbine or generator control cabinet, the existing exciter cabinet shall be removed and existing holes and cutouts in the control cab floor shall be repaired.

10.0 SCADA monitor and control

- A. The existing SCADA cabinet located in the control building adjacent to the turbine skid shall be retained.
- B. Furnish and install the following. No substitutions will be allowed for the equipment listed below. Catalog numbers provided below are general. Detailed catalog numbers shall be determined by Contractor and submitted to Owner for approval. See block diagram of the required SCADA and metering equipment in Appendix C.
 - 1. Provide one SEL-3620 Ethernet Security Gateway to provide an interface between the existing SEL-2240 for interface to existing SEL-2240 (Axion) in the Turbine 8 RTU. Provide a minimum of one spare copper Ethernet port and two spare RS232 serial ports for future connections. Provide RS232 to turbine control system, and generator voltage regulator. Provide RS232 copper or fiber serial connections to each SEL-700G1+ generator relay, SEL-2440, SEL-751 generator breaker failure relay, and generator SEL-735 meter. Any serial connection to a device in a different building or requiring a cable more than 60 ft in length shall be made via fiber optic cable using SEL fiber transceivers.
 - 2. Provide one SEL-2440 (DPAC) for collection of digital inputs and to provide remote control from the Owner's SCADA. Provide a minimum of 16 spare inputs and 8 spare outputs for Owner's use, over and above whatever I/O (if any) that is utilized for the control system SCADA interface. Provide RS232 or fiber serial connection to SEL-3620. Connect a relay failure alarm contact to the Axion.
 - 3. Owner will provide and install all cables, connectors, and interface hardware required to connect the Axion to the Owner's SCADA system.
 - 4. Provide one SEL-2243 power coupler module with two 100BASE-FX multimode fiber ports for the existing SEL-2240 (Axion) in the existing Turbine 8 RTU.
- C. Owner will be responsible for programming the Axion, SEL-3620 and DPAC units, and for integrating these units into the Owner's existing SCADA master station. All information needed to access data from the control system will be provided by Contractor.

- D. The existing SCADA point list included in Appendix B shall be used as a guide for the initial design. This list will be revised, developed, and finalized during the initial design phase of the project. All alarms that are displayed on the control screens are to be included in the final SCADA point list.
- E. All indication and control points must be verified as part of the final system testing.
- F. Contractor shall supply and install a multimode fiber cable between the control building and the turbine control panel in the control cab in Owner supplied conduits. Contractor shall supply two fiber patch panels, one each in the control building and the turbine control panel in the control cab. Fiber cable shall have minimum of 6 spare fibers beyond what is required for the relay, control, and SCADA systems. Contractor shall terminate fiber cable and provide necessary patch cables and splicing materials.

11.0 Protective relaying and metering

- A. All existing electromechanical and digital relays, meters and transducers shall be removed and replaced.
- B. Furnish and install the following. No substitutions will be allowed for the equipment listed below. Catalog numbers provided below are general. Detailed catalog numbers shall be determined by Contractor and submitted to Owner for approval.
 - 1. Provide two SEL-700G1+ relays (11GP and 11GS) to provide primary and secondary generator protection including but not limited to, overexcitation, sync check, reverse power, loss of excitation, negative phase sequence, neutral overcurrent, voltage controlled overcurrent, step distance, over/under voltage, zero sequence overvoltage, over/under frequency, and differential protection. Provide an RS232 copper or fiber serial connection between each relay and the SEL-3620. Connect a normally closed relay failure alarm contact from each relay to an input on the SEL-2440 DPAC. Connect one output contact from each relay to SEL-751 (50BFG) to serve as a breaker failure initiate.
 - 2. Provide two generator lockout relays, Electroschwitch series 24 manual reset LOR with lighted nameplates. Provide a minimum of one complete spare contact deck beyond what is necessary for tripping the generator, trip coil monitoring, and status inputs to the generator control system, Owner's SCADA system (one trip contact), excitation system, and protective relays (one trip contact). Provide one white (trip coil intact) and one red (trip present) LED. Connect trip coil monitor alarm in series with a reset contact to an input on the SEL-2440 DPAC.
 - 3. Provide one SEL-751 relay to replace the existing 59BN relay and provide breaker failure protection for breaker 52G.
 - 4. Provide one generator breaker failure lockout relay, Electroschwitch series 24 manual reset LOR with lighted nameplates. Provide a minimum of one complete spare contact deck beyond what is necessary for tripping breaker CK613, trip coil monitoring, and status inputs to the generator control system, Owner's SCADA system (one trip contact), and protective relays (one trip contact). Provide one white (trip coil intact) and one red (trip present) LED. Connect trip coil monitor alarm in series with a reset contact to an input on the SEL-2440 DPAC.
 - 5. Provide two SEL-2664 field ground modules. One each for the brushless exciter field winding and one for the generator field winding.

- C. All protective relay settings will be determined, applied, and tested by Owner.
- D. Drawings showing modifications to the CK613 trip and close circuit, wiring between terminal blocks located in the generator control panel in the turbine control cab and the East Iowa substation control building, and associated testing will be performed by Owner.

12.0 Control building equipment

- A. A wall or floor mounted control panel shall be provided and installed in the control building adjacent to the turbine skid including the following equipment and functions. Control cables shall be installed in Owner provided conduits between the skid and the control building to implement all required functions on the control panel, including potential, current, and control circuits. In so far as practical, layout, functionality, and devices used shall follow the existing Turbine 7 control panel.
 - 1. Manual control switches as follows
 - a. Provide breaker control switch for generator breaker. Breaker control switch shall be Electroschick series 74 with lighted nameplate. Provide one red (breaker closed) and one green (breaker open) LED (52CS).
 - b. The following shall be Electroschick control switches series 24 (non-lighted nameplate), series 74 (lighted nameplate), or push button as applicable. Status of discrete control switches shall be provided to an input on the SEL-2440 DPAC.
 - 1) Turbine manual start/stop (1, Master Control)
 - 2) Turbine operation selector (off, crank, fire, panel, rem) (43)
 - 3) Load raise/lower (90GL/90GR)
 - 4) Voltage raise/lower (90RL/90RR)
 - 5) Voltage regulator mode (Volt, droop, react) (43R)
 - 6) Governor mode (Isochronous, droop, power) (43G)
 - 7) Synchronizing (man, off/rem, auto) (43S)
 - c. Provide an emergency stop switch for the turbine
 - 2. Meters
 - a. Bitronics M350 digital voltmeters for generator and bus voltages
 - b. Bitronics M350 digital ammeter
 - c. Bitronics digital 2 ½ or 3 element MW/MVAR meter
 - d. Weschler Crompton Model 007 analog switchboard sync scope
 - e. Weschler Crompton Model 007 analog switchboard frequency meter
 - f. Sync indicating lamps.

13.0 Synchronizing

- A. Automatic synchronizing may be provided in the SEL-700G, the turbine control PLC, or another discrete device. Options will be reviewed during design. Provide all necessary control interfaces.
- B. Provisions for manual synchronization shall be provided using the control switches located on the operator control panel in paragraph 12.0A

14.0 Fuel system

- A. Contractor shall replace the existing **Turbine 8** fuel meter located in the fuel forwarding building with a meter capable of reporting fuel consumption to the turbine control system. Meter readings shall be reported to the turbine control system and displayed. Contractor shall evaluate options and present a recommendation to Owner. This meter measures fuel consumed (not rate of fuel consumption). Fuel consumed is to be incorporated into an automated hourly report that will be provided to Owner's power pool for fuel reimbursement. Accuracy shall be the same as or better than the existing meter (GPI GM Series model MS517GU). A weights and measures approved meter is not required. The meter measures fuel consumed by Turbine 8 only. Replacement of the Turbine 7 meter is not a part of this contract.
- B. The unit is currently equipped for dual fuel operation; however, a natural gas fuel source is not available. Contractor shall reconnect the existing natural gas fuel equipment; however, control logic and screens do not need to be provided for natural gas operation and the natural gas fuel system cannot be commissioned at this time.

PART 4 FIRE SUPPRESSION EQUIPMENT

- 1.0 Existing fire suppression equipment will be retained.

PART 5 EMISSIONS CONTROL EQUIPMENT (WATER INJECTION)

- 1.0 The turbine is equipped with a demineralized water injection system for NOx control. Contractor shall implement the existing control strategy in the new PLC control. See Bid alternates 3 and 4.

PART 6 WATER COOLING SKID JUCTION BOX

- 1.0 Contractor shall provide labor and materials to replace the water cooling skid main junction box with a new junction box identical in size and layout to the existing junction box. New enclosure shall be NEMA 4X, designed for installation outdoors. Enclosure shall be stainless steel or aluminum. Cabinet shall be 42" tall, 36" wide, and 8" deep. Door shall have a continuous hinge and screw clamps. Supply stainless steel or aluminum removable back panel and divider. Provide eight 8 pole control terminal blocks, 30A with washer head screws for use with ring lugs. Provide six three pole power terminal blocks with sufficient ampacity for existing power circuits. Layout and wiring shall match the existing enclosure.

PART 7 BID ALTERNATES

- 1.0 Bid Alternate 1
 - A. Replace and upgrade the existing UV Flame sensors. Bidder shall recommend an appropriate replacement for the existing sensors. Options may include replacing the sensors with a current product or eliminating the sensors and utilizing thermocouple data or other software options to sense and confirm flame status.
- 1.1 Bid Alternate 2

- A. Retain the services of a qualified engineer to provide a new NOx control algorithm utilizing the existing water injection equipment and provide Owner with data required to file the required Iowa Department of Natural Resources permits. Algorithm shall be compliant with Iowa DNR and EPA regulations and applicable industry standards.

1.2 Bid Alternate 3

- A. Retain a third-party testing contractor with relevant experience to confirm correct operation of the NOx control system and compliance with the permit from the Iowa Department of Natural Resources by measuring emissions at the turbine stack. Testing contractor must submit a testing plan to the Iowa Department of Natural Resources prior to beginning testing.

1.3 Bid Form

- A. Include the total cost adder to implement each Bid Alternate on the Bid Form. If more than one implementation of a Bid Alternate item is suggested for Owner consideration, provide a separate sheet with the Bid Form that includes a description and the total cost to implement each of the suggested implementations.

PART 6 REFERENCE DRAWINGS

- 1.0 The following drawings and documents are included for reference. A detailed list of all appendices appears immediately after the table of contents in Volume 1.
 - A. A list of devices that interface with the Mark V control is provided in Appendix A. This list should not be considered exhaustive. Contractor shall accommodate all existing and required devices regardless of whether they appear in Appendix A. Contractor shall be responsible for replacing or incorporating into the new control system any devices marked as “replace” unless specifically noted that the device is to be replaced by others.
 - B. The existing SCADA point list is included in Appendix B.
 - C. The turbine fuel oil and generator nameplates are included in Appendix D.
 - D. Turbine data and operating parameters is included in Appendix F
 - E. The existing Mark V I/O report and alarm lists are included in Appendix G.
 - F. Appendices H through ZZ are original installation drawings from GE, vendors, and P&E. Note that the RTU has been replaced. Drawings for the new RTU are not available. Accuracy of existing drawings cannot be guaranteed. Contractor shall be responsible for confirming the accuracy of any drawings, details, or data that are incorporated into the new control system or any drawings generated by Contractor for the new control system.
 - G. The existing Mark V logic is available and will be provided to the successful bidder if needed.

Appendix	Description
A	Device list
B	Existing SCADA points list
C	Communications diagram
D	Nameplate data
E	Turbine Field Devices
F	Performance data

G	Mark V I/O and alarm lists
H	P & E turbine electrical installation drawings
I	East Iowa Substation single line diagrams
J	GE System one-line drawings
K	Original Alstom mechanical drawings
L	Control cab diagrams
M	Exciter drawings
N	Generator protection and turbine auxiliary; schematic drawings
O	Control cab MCC, connection and elementary drawings
P	Misc schematics
Q	Generator protection cabinet terminal blocks
R	SCADA and Metering Diagram
S	Control cab and GAC physical layout drawings
T	Generator switchgear drawings
U	Mark V input/output interface drawings
V	Turbine connection and wiring diagrams
W	Generator connection and wiring diagrams
X	Station power fused switch drawings
Y	Water injection skid drawings
Z	Fire alarm system drawings
ZZ	Water cooling skid drawings

END OF SECTION

December 14, 2022

Mr. Mark Welch
Petrotech, Inc.
151 Brookhollow Esplanade
New Orleans, LA 70123

Re: Contracts for Turbine 8 Controls Replacement

Dear Mark,

I have enclosed two copies of the contract documents for the Turbine 8 Controls Replacement Project for Indianola Municipal Utilities. Please execute both copies and forward them to IMU along with the bonds and insurance certificates required by the contract documents at the address below. IMU will return one signed copy for your records.

Indianola Municipal Utilities
Attn: Ms. Chris Longer
210 West 2nd Ave.
Indianola, Iowa 50125

As discussed previously, we expect IMU's board to approve the contract at their next meeting on January 9th, 2023. We will schedule a kickoff meeting shortly after the contract is approved. Please let me know if you have any questions in the meantime. We look forward to working with you on this project.

Sincerely,


Jared Kline, P.E.

Bond No. 800030214

Document A312™ – 2010

Conforms with The American Institute of Architects AIA Document 312

Performance Bond

CONTRACTOR:

(Name, legal status and address)

Petrotech, Inc.
151 Brookhollow Esplanade
New Orleans, LA 70123

SURETY:

(Name, legal status and principal place of business)

Atlantic Specialty Insurance Company
605 Highway 169 North, Suite 800
Plymouth, MN 55441
Mailing Address for Notices

111 Veterans Blvd., Suite 1130
Metairie, LA 70005

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

OWNER:

(Name, legal status and address)

Indianola Municipal Utilities (IMU)
210 West 2nd Avenue
Indianola, IA 50125

CONSTRUCTION CONTRACT

Date:

Amount: \$ 599,914.00 Five Hundred Ninety Nine Thousand Nine Hundred Fourteen Dollars and 00/100

Description:

(Name and location)

Turbine 8 Control Replacement Project

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$ 599,914.00 Five Hundred Ninety Nine Thousand Nine Hundred Fourteen Dollars and 00/100

Modifications to this Bond:

☒ None

☐ See Section 16

CONTRACTOR AS PRINCIPAL

Company:

(Corporate Seal)

PetroTech, Inc.

Signature:

Name
and Title:


David J. Lavie
Executive V.P.

SURETY

Company:

(Corporate Seal)

Atlantic Specialty Insurance Company

Signature:

Name
and Title:


George V. Baus, Jr.
Attorney-in-Fact

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

Arthur J. Gallagher Risk Management Services, Inc.
111 Veterans Blvd., Suite 1130
Metairie, LA 70005-3039
504-888-1100

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

S-1852/AS 8/10

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____
(Corporate Seal)

SURETY

Company: _____
(Corporate Seal)

Signature: _____
Name and Title: _____
Address _____

Signature: _____
Name and Title: _____
Address _____



Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: **George V. Baus, Jr, Kathleen L. Berni, Gregory R. Weston, Edward J. Murphy, III, John W. Watson, Elizabeth Hamrick, Jean Viola**, each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: **unlimited** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the President, any Senior Vice President or Vice-President (each an "Authorized Officer") may execute for and in behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and affix the seal of the Company thereto; and that the Authorized Officer may appoint and authorize an Attorney-in-Fact to execute on behalf of the Company any and all such instruments and to affix the Company seal thereto; and that the Authorized Officer may at any time remove any such Attorney-in-Fact and revoke all power and authority given to any such Attorney-in-Fact.

Resolved: That the Attorney-in-Fact may be given full power and authority to execute for and in the name and on behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed and sealed by an Authorized Officer and, further, the Attorney-in-Fact is hereby authorized to verify any affidavit required to be attached to bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof.

This power of attorney is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the signature of an Authorized Officer, the signature of the Secretary or the Assistant Secretary, and the Company seal may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing an Attorney-in-Fact for purposes only of executing and sealing any bond, undertaking, recognizance or other written obligation in the nature thereof, and any such signature and seal where so used, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this twenty-seventh day of April, 2020.

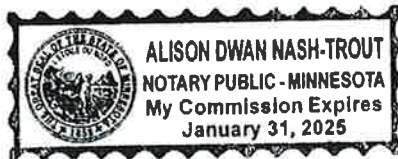
STATE OF MINNESOTA
HENNEPIN COUNTY



By

Paul J. Brehm, Senior Vice President

On this twenty-seventh day of April, 2020, before me personally came Paul J. Brehm, Senior Vice President of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.



Notary Public

I, the undersigned, Secretary of ATLANTIC SPECIALTY INSURANCE COMPANY, a New York Corporation, do hereby certify that the foregoing power of attorney is in full force and has not been revoked, and the resolutions set forth above are now in force.

Signed and sealed. Dated _____ day of _____, ____.

This Power of Attorney expires
January 31, 2025



Kara Barrow, Secretary

Bond No. 800030214

Document A312™ – 2010

Conforms with The American Institute of Architects AIA Document 312

Payment Bond

CONTRACTOR:

(Name, legal status and address)

Petrotech, Inc.
151 Brookhollow Esplanade
New Orleans, LA 70123

OWNER:

(Name, legal status and address)

Indianola Municipal Utilities (IMU)
210 West 2nd Avenue
Indianola, IA 50125

SURETY:

(Name, legal status and principal place of business)

Atlantic Specialty Insurance Company
605 Highway 169 North, Suite 800
Plymouth, MN 55441
Mailing Address for Notices

111 Veterans Blvd., Suite 1130

Metairie, LA 70005

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONSTRUCTION CONTRACT

Date:

Amount: \$ 599,914.00 Five Hundred Ninety Nine Thousand Nine Hundred Fourteen Dollars and 00/100

Description:

(Name and location)

Turbine 8 Control Replacement Project

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$ 599,914.00 Five Hundred Ninety Nine Thousand Nine Hundred Fourteen Dollars and 00/100

Modifications to this Bond:

☒ None

☐ See Section 18

CONTRACTOR AS PRINCIPAL

Company:

(Corporate Seal)

PetroTech, Inc.

Signature:

Name
and Title:


David J. Lavie
Executive V.P.

SURETY

Company:

(Corporate Seal)

Atlantic Specialty Insurance Company

Signature:

Name
and Title:


George V. Baus, Jr.
Attorney-in-Fact

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

Arthur J. Gallagher Risk Management Services, Inc.
111 Veterans Blvd., Suite 1130
Metairie, LA 70005-3039
504-888-1100

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

S-2149/AS 8/10

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____
(Corporate Seal)

SURETY

Company: _____
(Corporate Seal)

Signature: _____
Name and Title;
Address

Signature: _____
Name and Title;
Address



Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: **George V. Baus, Jr, Kathleen L. Berni, Gregory R. Weston, Edward J. Murphy, III, John W. Watson, Elizabeth Hamrick, Jean Viola**, each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: **unlimited** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the President, any Senior Vice President or Vice-President (each an "Authorized Officer") may execute for and in behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and affix the seal of the Company thereto; and that the Authorized Officer may appoint and authorize an Attorney-in-Fact to execute on behalf of the Company any and all such instruments and to affix the Company seal thereto; and that the Authorized Officer may at any time remove any such Attorney-in-Fact and revoke all power and authority given to any such Attorney-in-Fact.

Resolved: That the Attorney-in-Fact may be given full power and authority to execute for and in the name and on behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed and sealed by an Authorized Officer and, further, the Attorney-in-Fact is hereby authorized to verify any affidavit required to be attached to bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof.

This power of attorney is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the signature of an Authorized Officer, the signature of the Secretary or the Assistant Secretary, and the Company seal may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing an Attorney-in-Fact for purposes only of executing and sealing any bond, undertaking, recognizance or other written obligation in the nature thereof, and any such signature and seal where so used, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this twenty-seventh day of April, 2020.

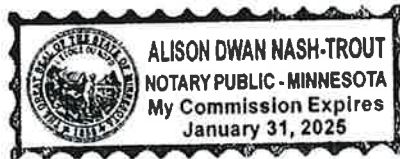
STATE OF MINNESOTA
HENNEPIN COUNTY



By

Paul J. Brehm, Senior Vice President

On this twenty-seventh day of April, 2020, before me personally came Paul J. Brehm, Senior Vice President of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.



Notary Public

I, the undersigned, Secretary of ATLANTIC SPECIALTY INSURANCE COMPANY, a New York Corporation, do hereby certify that the foregoing power of attorney is in full force and has not been revoked, and the resolutions set forth above are now in force.

Signed and sealed. Dated _____ day of _____, ____.

This Power of Attorney expires
January 31, 2025



Kara Barrow, Secretary



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

12/19/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Arthur J. Gallagher Risk Management Services, Inc. 1615 Poydras St., Suite 700 New Orleans LA 70112		CONTACT NAME: PHONE (A/C, No, Ext): 504-581-3334 FAX (A/C, No): 504-587-0766 E-MAIL ADDRESS:													
		<table border="1"> <thead> <tr> <th>INSURER(S) AFFORDING COVERAGE</th> <th>NAIC #</th> </tr> </thead> <tbody> <tr> <td>INSURER A : AIG Specialty Insurance Company</td> <td>26883</td> </tr> <tr> <td>INSURER B : National Union Fire Insurance Company of Pittsburg</td> <td>19445</td> </tr> <tr> <td>INSURER C : Granite State Insurance Company</td> <td>23809</td> </tr> <tr> <td>INSURER D : New Hampshire Insurance Company</td> <td>23841</td> </tr> <tr> <td>INSURER E :</td> <td></td> </tr> <tr> <td>INSURER F :</td> <td></td> </tr> </tbody> </table>		INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A : AIG Specialty Insurance Company	26883	INSURER B : National Union Fire Insurance Company of Pittsburg	19445	INSURER C : Granite State Insurance Company	23809	INSURER D : New Hampshire Insurance Company	23841	INSURER E :	
INSURER(S) AFFORDING COVERAGE	NAIC #														
INSURER A : AIG Specialty Insurance Company	26883														
INSURER B : National Union Fire Insurance Company of Pittsburg	19445														
INSURER C : Granite State Insurance Company	23809														
INSURER D : New Hampshire Insurance Company	23841														
INSURER E :															
INSURER F :															
INSURED Petrotech, Inc. 151 Brookhollow Esplanade New Orleans LA 70123		PETRINC-08													

COVERAGES

CERTIFICATE NUMBER: 1887003140

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PROJECT ☒ LOC ☐ OTHER		EG18173040	9/1/2022	9/1/2023	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 25,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
B	AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ OWNED AUTOS ONLY ☒ HIRED AUTOS ONLY ☐ SCHEDULED AUTOS ☒ NON-OWNED AUTOS ONLY		8901355	9/1/2022	9/1/2023	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	☐ UMBRELLA LIAB ☒ OCCUR ☒ EXCESS LIAB ☐ CLAIMS-MADE DED RETENTION \$		EGU17172714	9/1/2022	9/1/2023	EACH OCCURRENCE \$ 9,000,000 AGGREGATE \$ 9,000,000 \$
C D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N ☒ N ☐ Y N/A	15203083 15203084	9/1/2022 9/1/2022	9/1/2023 9/1/2023	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
A	Pollution Legal Liability		EG18173040	9/1/2022	9/1/2023	Each Loss Limit 1,000,000 Additional Limit 2,000,000-25,000 Deductible

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

GENERAL LIABILITY
 Includes: Contractual Liability, Explosion Collapse and Underground (XCU) not specifically excluded. The General Liability policy is Primary and Non-contributory as required by written contract.

BUSINESS AUTO
 Hired Car Physical Damage Deductible: \$1,000 Comprehensive/\$1,000 Collision
 Coverage: Hired, Non-Owned

WORKERS COMPENSATION AND EMPLOYERS LIABILITY
 Includes: Designated Insured Endorsement
 Includes: Alternate Employers and Waiver of Subrogation as required by written contract, United States Longshore and Harbor Workers Act Coverage
 See Attached...

CERTIFICATE HOLDER

Indianola Municipal Utilities 210 West 2nd Ave. Indianola IA 50125	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE

© 1988-2015 ACORD CORPORATION. All rights reserved.

**ADDITIONAL REMARKS SCHEDULE**Page 1 of 1

AGENCY Arthur J. Gallagher Risk Management Services, Inc.		NAMED INSURED Petrotech, Inc. 151 Brookhollow Esplanade New Orleans LA 70123
POLICY NUMBER		
CARRIER	NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS**THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,****FORM NUMBER:** 25 **FORM TITLE:** CERTIFICATE OF LIABILITY INSURANCE

(USL&H), Outer Continental Shelf Lands Act Endorsement, Maritime Employers Liability Coverage (including Transportation, Wages, Maintenance & Cure), In Rem (included in MEL endorsement), Death on the High Seas (included in MEL endorsement)

Certificate holder is included as additional insured if and to the extent required by written contract with you prior to any loss under the General Liability and Automobile Liability policies only. Certificate holder is issued a waiver of subrogation under the Workers' Compensation, General Liability and Automobile Liability policies if and to the extent required by written contract with you prior to any loss.

Project: Indianola Municipal Utilities Turbine 8 Control replacement Project

Additional Certificate Holder: P&E Engineering Co., P.O. Box 620, Carlisle, IA 50047

MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: January 9, 2023

Subject: Discussion and direction regarding the Fiscal Year 24 operations and management budget.

Recommendation:

Attachments:

1. FY23 O&M ReEstimate Summary
2. FY24 O&M DRAFT Summary

INDIANOLA MUNICIPAL UTILITIES

FY23 O&M RE-ESTIMATE SUMMARY

1/9/23

REVENUE	WATER		ELECTRIC		FIBER	
Sale of Services	2,823,500	89%	16,189,977	91%	4,410,000	84%
Other	348,300	11%	1,562,672	9%	841,950	16%
	\$ 3,171,800	100%	\$ 17,752,649	100%	\$ 5,251,950	100%

EXPENSES	WATER		ELECTRIC		FIBER	
Salaries & Benefits	827,700	24%	1,712,400	10%	805,000	15%
Overhead/Admin	249,000	7%	687,872	4%	191,800	4%
Shared Services	470,430	14%	609,117	4%	344,190	6%
PILOT/Franchise Fees	84,700	2%	809,500	5%	61,700	1%
Distribution	58,000	2%	149,200	1%	-	0%
Operations/Purchased Energy	380,100	11%	10,927,160	66%	1,912,400	35%
Maintenance/Repair	117,000	3%	369,200	2%	126,800	2%
Debt Service	54,200	2%	1,171,153	7%	1,105,879	20%
Transfers to Capital	1,200,000	35%	-	0%	876,500	16%
	\$ 3,441,130	100%	\$ 16,435,602	100%	\$ 5,424,269	100%

INDIANOLA MUNICIPAL UTILITIES

FY24 O&M DRAFT BUDGET SUMMARY

1/9/23

REVENUE	WATER		ELECTRIC		FIBER	
Sale of Services	3,063,300	89%	16,520,384	92%	4,722,200	88%
Other	362,700	11%	1,514,872	8%	633,050	12%
	<u>\$ 3,426,000</u>	<u>100%</u>	<u>\$ 18,035,256</u>	<u>100%</u>	<u>\$ 5,355,250</u>	<u>100%</u>

EXPENSES	WATER		ELECTRIC		FIBER	
Salaries & Benefits	862,300	25%	1,771,100	9%	828,000	15%
Overhead/Admin	268,900	8%	698,172	4%	199,699	4%
Shared Services	280,808	8%	578,903	3%	294,177	5%
PILOT/Franchise Fees	91,900	3%	826,100	4%	58,000	1%
Distribution	58,000	2%	153,000	1%	-	0%
Operations/Purchased Energy	398,300	12%	11,023,900	58%	1,747,000	32%
Maintenance/Repair	133,500	4%	387,800	2%	156,300	3%
Debt Service	54,600	2%	1,153,672	6%	1,126,413	21%
Transfers to Capital	1,290,000	38%	2,500,000	13%	1,030,000	19%
	<u>\$ 3,438,308</u>	<u>100%</u>	<u>\$ 19,092,647</u>	<u>100%</u>	<u>\$ 5,439,589</u>	<u>100%</u>

MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities
From: Jackie Raffety, City Clerk/Asst. Finance Director
Date: January 9, 2023
Subject: Selection of officers for 2023

Recommendation: Past practice for office holders is one of rotating seniority, with each Trustee having the ability to serve as Chair and Vice Chair during a 6-year tenure. However, it is solely up to the Board to select its officers in any given year.

Selection of a Chair and Vice Chair by simple motion is in order.

Attachments: None