DTE Electric Company One Energy Plaza, 1635 WCB Detroit, MI 48226-1279



Lauren D. Donofrio (313) 235-4017 lauren.donofrio@dteenergy.com

March 20, 2020

Ms. Lisa Felice Executive Secretary Michigan Public Service Commission 7109 West Saginaw Highway Lansing, MI 48917

RE: In the matter of the Application of DTE Electric Company for approval of

its Integrated Resource Plan pursuant to MCL 460.6t, and for other relief

MPSC Case No: U-20471

Dear Ms. Felice:

Attached for electronic filing in the above referenced matter is DTE Electric Company's MCL 460.6t(7) Incorporation of Commission Changes to its Integrated Resource Plan. Also attached is the Proof of Service.

Very truly yours,

Lauren D. Donofrio

LDD/lah Enclosure

c: Service List

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the Application of)	
DTE ELECTRIC COMPANY for)	
approval of its Integrated Resource Plan)	Case No. U-20471
pursuant to MCL 460.6t, and for other)	
relief)	(Paperless e-file)
	_)	

<u>DTE ELECTRIC COMPANY'S MCL 460.6t(7) INCORPORATION OF</u> <u>COMMISSION CHANGES TO ITS INTEGRATED RESOURCE PLAN</u>

Pursuant to MCL 460.6t(7), DTE Electric Company ("DTE Electric" or the "Company") accepts and hereby incorporates the Commission's recommended changes to its integrated resource plan (IRP) as set forth below.

- 1. DTE Electric filed its IRP on March 29, 2019 in this docket.
- The Commission issued its interim order recommending changes to the Company's IRP on February 20, 2020.
- 3. MCL 460.6t(7) provides, in pertinent part, the framework for Commission-recommended changes to a utility's IRP:

If the commission recommends changes, the commission shall set a schedule allowing parties at least 15 days after that recommendation to file comments regarding those recommendations, and allowing the electric utility at least 30 days to consider the recommended changes and submit a revised integrated resource plan that incorporates 1 or more of the recommended changes. If the electric utility submits a revised integrated resource plan under this section, the commission shall issue a final, appealable order approving the plan as revised by the electric utility or denying the plan.

4. On page 97 of the Commission's February 20, 2020 interim order recommending changes to the Company's IRP, the Commission stated, "In this 300-day order under MCL

460.6t(7), the Commission recommends incorporation of all of the following changes to DTE Electric's IRP filed in this docket" and set out the following recommended changes:

- a. Select a single pathway as part of an overall plan;
- b. Supplement the record with the RFP and responses that are required by Section 6t(6);
- c. Remove all unapproved supply-side resources from the defined proposed course of action (PCA) and modeling starting point;
- d. Include energy waste reduction (EWR) levels of 1.75% in 2020, prorated based on the date of the final order in this case, and 2.0% in 2021;
- e. Revise demand response (DR) related tariff language as described herein and remove proposed DR pilots other than the bring your own device (BYOD) and Electric Power Research Institute (EPRI) pilots;
- f. Revise the rate impact analysis to reflect the decisions in this order; and
- g. Include the reporting requirements proposed by the Staff.
- 5. DTE Electric accepts each of the above Commission recommendations and incorporates them into its IRP as follows:
 - a. "Select a single pathway as an overall plan": DTE Electric hereby revises its IRP to select one pathway. The Company selected pathway A, as set out in its Exhibit A-5, and then incorporated the Commission's recommendations by applying the recommended EWR levels and the removal of unapproved supply side starting point resources solving for capacity needs arising in the next fifteen years (thru 2034). This results in minor changes in pathway A, namely, some renewable resources not needed for RPS compliance that were previously

included in the "starting point" are no longer required, and a switch from wind to solar in renewables additions, as shown in Attachments A – DTE Electric Proposed Course of Action, Attachment B – Summary of Renewable Resources, Attachment C – Capacity Positions for Starting Point and PCA, and Attachment D – PCA Revenue Requirement.

- b. "Supplement the record with the RFP and responses that are required by Section 6t(6)": DTE Electric conducted an RFP on September 16, 2019, which the Company previously provided to the parties in this matter on September 30, 2019 in response to MECDE 12.39, and as also attached in Attachment E, submitted pursuant to the protective order entered in this matter. Attachment E consists of E.1 Wind RFP Overview and E.2 Solar RFP Overview. The results of the RFP are provided in Attachment F –Summary of RFP Bids.
- c. "Remove all unapproved supply-side resources from the defined PCA and modeling starting point": DTE Electric hereby removes all unapproved supplyside resources from the defined PCA and modeling starting point, as shown on Attachment A.
- d. "Include EWR levels of 1.75% in 2020, prorated based on the date of the final order in this case, and 2.0% in 2021": DTE Electric hereby revises its IRP to select EWR levels of 1.75% in 2020, prorated based on the date of the final order in DTE Electric's revised EWR plan case as described below and 2.0% in 2021, assuming DTE Electric receives a final order in its upcoming revised EWR plan before January 1, 2021, as shown on Attachment G Projected EWR. The Company will begin working towards meeting the EWR targets as

- soon as possible and to that end will file a revised EWR plan by June 1, 2020 and request an expedited schedule. DTE Electric will begin implementing the recommended levels of EWR once the Company has an EWR plan order approving the new levels of EWR and associated costs.
- e. "Revise DR-related tariff language as described herein and remove proposed DR pilots other than the BYOD and EPRI pilots": DTE Electric agrees that it will revise DR-related tariff language, specifically, Tariff D1.8 as described in the Commission's order and will include that revision in the Company's next rate case, anticipated to be filed in the summer of 2020. DTE Electric hereby revises its IRP to remove proposed DR pilots other than the BYOD and EPRI pilots and their associated costs, as shown on Attachments H PCA Cost Preapproval and DR Detail.
- f. "Revise the rate impact analysis to reflect the decisions in this order": DTE Electric hereby revises the rate impact analysis included in its IRP to reflect the decisions in this order, namely, selection of a single pathway, removal of all unapproved supply-side resources from the defined period, revised EWR levels, and removal of non-BYOD and EPRI pilots, as shown in Attachment I Revised Rate Impact, and attaches a copy of the April 25, 2019 BWEC Interim Status Report in Attachment J.
- g. "Include the reporting requirements proposed by the Staff": DTE Electric hereby revises the IRP to include the reporting requirements proposed by the Staff, specifically an annual report using the template provided in Exhibit S-3.0, beginning in 2021 accompanied by a narrative explaining any adjustments

to the timing, scope, status, or costs associated with expense approvals for the

first three years of the plan. The Company also agrees to communicate with the

Commission when there is a significant change to the cost, timing, or size of

any expected resource addition, in a timely manner.

6. The Company will commence a stakeholder event within 90 days of the February

20, 2020 order and will also file a report on the results of the collaborative, including an overview

of the alternative tools that were considered, in this docket within 120 days of February 20, 2020.

WHEREFORE, DTE Electric respectfully requests that the Commission enter an order

approving the Company's integrated resource plan with each of the Commission's recommended

revisions incorporated, as set forth herein.

Respectfully submitted,

DTE ELECTRIC COMPANY

By: _

Lauren D. Donofrio (P66026) One Energy Plaza, 1635 WCB Detroit, Michigan 48226 (313) 235-4017

Dated: March 20, 2020

Michigan Public Service Commission DTE Electric Company DTE Electric Proposed Course of Action (Summary)

Case No. : U-20471
Attachment: A Page: 1 of 2

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
<u>Line</u>		DTE Renewables (Through 2034)	Voluntary Gree Pricing (VPG) Renewables	EWR	2030 CCGT Build	DR	Added DR	Unit Retirements
1	Starting Point	Starting Point DTE Renewables 3364 MW Total 1402 MW Solar 1962 MW Wind (see schedule I)	Starting Point VPG Renewables 300 MW Wind (see schedule II)	1.5% in 2019 through 2034	NA	732 MW in 2019 increasing up to 863 MW in 2024 (see schedule IX)		Belle River 2029/2030 Monroe 2040 River Rouge 3 - 2020 St. Clair 1 - 2022 St. Clair 2,3, 6 - 2022 St. Clair 7 - 2023 Trenton 9 - 2023
2	Revised Starting Point	Revised Starting Point DTE Renewables 1314 MW Total 77 MW Solar 1237 MW Wind (see schedule V)	Revised Starting Point VPG Renewables 456 MW Wind (see schedule VI)	1.5% in 2019 through 2034	NA	732 MW in 2019 increasing up to 863 MW in 2024 (see schedule IX)		Belle River 2029/2030 Monroe 2040 River Rouge 3 - 2020 St. Clair 1 - 2022 St. Clair 2,3, 6 - 2022 St. Clair 7 - 2023 Trenton 9 - 2023
3	Original PCA A	Original PCA A DTE Renewables 3364 MW Total 1402 MW Solar 1962 MW Wind (see schedule III)	VPG Renewables 1390 MW Total: - 775 MW of Solar - 615 MW of Wind (see schedule IV)	1.5% in 2019 1.625% in 2020 1.75% in 2021 through 2034	None	709 MW in 2019 increasing up to 859 MW in 2024 (see schedule X)	50 MW total of CVR/VVO in 2030: - 10 MW of CVR/VV in 2026 - Ramp up 10 MW each year till 2030	Belle River 2029/2030 Monroe 2040 River Rouge 3 - 2022 St. Clair 1 - 2019 St. Clair 2, 3, 6, 7 - 2022 Trenton 9 - 2022
4	Revised PCA	Revised PCA DTE Renewables 1667 MW Total 205 MW Solar 1462 MW Wind (see schedule VII)	VPG Renewables 1391 MW Total: - 935 MW of Solar - 456 MW of Wind (see schedule VIII)	Prorated 1.75% in 2020 2.0% in 2021 through 2034	None	709 MW in 2019 increasing up to 859 MW in 2024 (see schedule X)	50 MW total of CVR/VVO in 2030: - 10 MW of CVR/VV in 2026 - Ramp up 10 MW each year till 2030	Belle River 2029/2030 Monroe 2040 River Rouge 3 - 2022 St. Clair 1 - 2019 St. Clair 2, 3, 6, 7 - 2022 Trenton 9 - 2022

- All MW shown are installed (nameplate)
 Yellow highlights indicates updates from Exhibit A-5

Michigan Public Service Commission

DTE Electric Company
DTE Electric Proposed Course of Action (Detail)

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Attachment: A

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Checkedule Starring Point Renewables Checkedule Checkedule Checkedule Checkedu																		
Schedule (Starting Point Starting Po	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(I)	(m)	(n)	(o)	(p)	(q)	(r)
Renewables Property Renewables Renew		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
DTE Saler (MW)	Schedule I: Starting Point																	
DTE Wind (MW)	Renewables																	
Total [N/M] 973	DTE Solar (MW)	66	66	76	77	77	77	77	127	202	302	302	402	602	802	1,002	1,202	1,40
Schedule II: Starting Point Voluntary (see Pricing Program (VGP) Voluntary (VGP) Volunt	DTE Wind (MW)	907	1,068	1,237	1,237	1,462	1,612	1,762	1,762	1,762	1,762	1,762	1,762	1,762	1,862	1,862	1,862	1,96
Voluntary Green Pricing Program (Vol) Pr	Total (MW)	973	1,134	1,313	1,314	1,539	1,689	1,839	1,889	1,964	2,064	2,064	2,164	2,364	2,664	2,864	3,064	3,36
Program (VEP) Voluntary Solar (MW)	Schedule II: Starting Point		•					•	•							•	•	
Valuatary Solar (MW)	Voluntary Green Pricing																	
Voluntary Wind (MW)	Program (VGP)																	
Voluntary Wind (MW)	Voluntary Solar (MW)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total (MW) 0 0 0 0 0 300 300 300 300 300 300 300	· · · · · · · · · · · · · · · · · · ·	0	0	0	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Schedule II: Original PCA A DTE	· · · · · · · · · · · · · · · · · · ·	0	0															300
Renewables									1									
DTE Solar (MW)	_																	
DTE Wind (NW)		66	66	67	77	77	77	77	127	202	302	402	502	602	802	1 002	1 202	1 40
Total (MW) 973 1,134 1,304 1,314 1,539 1,689 1,889 1,889 1,964 2,064 2,164 2,264 2,364 2,664 2,864 3,064 3,365 3,664 3,365 3,664 3,064 3,365 3,064 3	` · · · · · · · · · · · · · · · · · · ·		+													-		
Schedule IV: VGP for Original PCA A Voluntary Solar (MW)	, ,			.														
PCAA Voluntary Solar (MW)	` '	373	1,134	1,304	1,314	1,555	1,003	1,033	1,005	1,304	2,004	2,104	2,204	2,304	2,004	2,004	3,004	3,30
Voluntary Solar (MW)	_																	
Voluntary Wind (MW)			Ι ο	Ι ο	0	0	ΕO	100	250	275	17E	E 7 E	675	775	775	775	775	775
Total (MW)				_	1	_												
Schedule V: Revised Starting Point Renewables			+	+														
Point Renewables	` '	0	0	0	465	615	665	/15	865	990	1090	1190	1290	1390	1390	1390	1390	139
DTE Wind (MW)																		
Total (MW) 973 1134 1313 1314 1314 1314 1314 1314 13	DTE Solar (MW)	66	66	76	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Schedule VI: Revised Starting Point VGP	DTE Wind (MW)	907	1068	1237	1237	1237	1237	1237	1237	1237	1237	1237	1237	1237	1237	1237	1237	123
Point VGP	Total (MW)	973	1134	1313	1314	1314	1314	1314	1314	1314	1314	1314	1314	1314	1314	1314	1314	131
DTE Solar (MW)	Schedule VI: Revised Starting																	
DTE Solar (MW)	Point VGP																	
DTE Wind (MW)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total (MW) 0 0 0 0 456 456 456 456 456 456 456 456 456 456																		456
Schedule VII: Revised PCA DTE Renewables Schedule VII: Revised PCA DTE Solar (MW) 66 66 67 77 156 205 20	, ,		0															456
Renewables Schedule X: PCA/Revised PCA PCA Renewables PCA PC	· · · ·				.55	.50	.50		.55	.55	.55	.55	.55	.55	.50	.55	.50	
DTE Solar (MW) 666 66 67 77 156 205 20																		
DTE Wind (MW) 907 1,068 1,237 1,237 1,462	,	66	1-66	67	77	156	205	205	205	205	205	205	205	205	205	205	205	205
Total (MW) 973 1,134 1,304 1,314 1,618 1,667 1																		
Schedule VIII: VGP for Revised PCA A															-			
Voluntary Solar (MW)			1,134	1,304	1,314	1,010	1,007	1,007	1,007	1,007	1,007	1,007	1,007	1,007	1,007	1,007	1,007	1,00
Voluntary Solar (MW)																		
Voluntary Wind (MW) 0 0 0 456 456 456 456 456 456 456 456 456 456	 	·	1			100	225	225	/2F	E2E	625	72F	92F	025	025	025	025	025
Total (MW) 0 0 0 456 556 691 791 891 991 1091 1191 1291 1391 1391 1391 1391 1391 13																		
Schedule IX: Starting Point/Revised Starting Point Demand Response DR (MW) 675 732 748 776 821 858 863																		
Point/Revised Starting Point Demand Response DR (MW) 675 732 748 776 821 858 863<	,		J	<u> </u>	456	556	091	/91	891	991	1091	1191	1291	1391	1391	1391	1391	139
Demand Response DR (MW) 675 732 748 776 821 858 863																		
DR (MW) 675 732 748 776 821 858 863 863 863 863 863 863 863 863 863 86	1																	
Schedule X: PCA/Revised PCA DR	-		1 700		7-0	001	050	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DR		675	732	748	776	821	858	863	863	863	863	863	863	863	863	863	863	863
DR																		
DR (MW) 675 709 746 782 836 858 859 85			_	1							-						1	1
	DR (MW)	675	709	746	782	836	858	859	859	859	859	859	859	859	859	859	859	859

^{1.} Yellow highlights indicates updates from Exhibit A-5

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	A	В	C	D	E
1	Project	Technology	Capacity (MW)	COD ¹ (Ascending)	IRP Modelling Assumptions
2		PA 342 RPS 15	0/0 ²		
3	Stoney Corners - Heritage Sustainable Energy PPA	Wind	32.40	2010	Existing
4	Scio Township	Solar	0.06	2010	Existing
5	L'Anse Warden - L'Anse Warden Electric Co. PPA	Biomass	17.00	2010	Existing
6	Gratiot Wind Park	Wind	102.40	2011	Existing
7	Blue Cross Blue Shield	Solar	0.20	2011	Existing
8	Monroe County Community College	Solar	0.50	2011	Existing
9	Ford Wayne Assembly Plant	Solar	0.50	2011	Existing
10	DTE - Training and Development Center	Solar	0.38	2011	Existing
11	General Motors Hamtramck Assembly Plant	Solar	0.50	2011	Existing
12	WM Renewables - Waste Management PPA	Landfill Gas	3.20	2011	Existing
13	Gratiot County - Invenergy PPA	Wind	110.40	2012	Existing
14	Minden	Wind	32.00	2012	Existing
15	McKinley	Wind	14.40	2012	Existing
16	Sigel	Wind	64.00	2012	Existing
17	DTE Headquarters	Solar	0.08	2012	Existing
18	Mercy High School	Solar	0.38	2012	Existing
19	Warren Consolidated Schools	Solar	0.19	2012	Existing
20	General Motors Orion Assembly Plant	Solar	0.30	2012	Existing
21	Huron Clinton Metroparks - Indian Springs	Solar	0.50	2012	Existing
22	Wil-Le Farms	Solar	0.48	2012	Existing
23	Sisters, Servants of the Immaculate Heart of Mary	Solar	0.50	2012	Existing
24	University of Michigan - North Campus Center	Solar	0.43	2012	Existing
25	Blue Water Renewables - DTE Affiliate PPA	Landfill Gas	3.20	2012	Existing
26	Tuscola Bay - NextEra PPA	Wind	120.00	2013	Existing
27	University of Michigan - Institute of Science	Solar	0.24	2013	Existing
28	Riopelle Farms	Solar	0.50	2013	Existing
29	St. Clair RESA	Solar	0.50	2013	Existing
30	Leipprandt Orchards	Solar	0.50	2013	Existing
31	Hartland Schools	Solar	0.44	2013	Existing
32	ЕСНО	Wind	112.00	2014	Existing
33	Brookfield	Wind	74.80	2014	Existing
34	Tuscola Wind - NextEra PPA	Wind	100.30	2014	Existing
35	Pheasant Run - NextEra PPA	Wind	74.80	2014	Existing
36	McPhail Properties	Solar	0.75	2014	Existing
37	Big Turtle - Heritage Sustainable Energy PPA	Wind	20.00	2015	Existing
38	Dominos Farm	Solar	1.00	2015	Existing
39	Thumb Electric Cooperative	Solar	0.60	2015	Existing
40	Ford World Headquarters	Solar	0.75	2015	Existing
41	Ashley / Romulus	Solar	0.68	2015	Existing
42	Pinnebog ³	Wind	28.47	2016	Existing
43	Brownstown	Solar	0.50	2016	Existing
44	Greenwood Energy Center	Solar	1.39	2016	Existing
45	Ypsilanti Highland Cemetary	Solar	0.67	2016	Existing
46	General Motors Transmission Plant	Solar	0.74	2016	Existing
47	Pine River	Wind	161.30	2019	Existing
48	Future Solar Pilot	Solar	0.75	2020 (est.)	Approved
49	Polaris	Wind	168.00	2020 (est.)	Approved
50	Future Solar Pilot	Solar	10.00	2021 (est.)	Approved
51	2021 Build	Wind	225.00	2021 (est.)	To be submitted
51	2021 Build/PPA	Solar	79.00	2021 (est.)	To be submitted
	2022 Build/PPA	Solar	49.00	2022 (est.)	To be submitted

Michigan Public Service Commission

DTE Electric Company - 2019 Integrated Resource Plan

Summary of Renewable Resources

54		Voluntary Green Pi	ograms		
55	Pinnebog (VGP allocation)	Wind	22.53	2016	Existing
56	Demille Park	Solar	28.00	2017	Existing
57	Turrill Park	Solar	20.00	2017	Existing
58	O'Shea Park	Solar	2.00	2017	Existing
59	Isabella I and II	Wind	383.50	2020	Approved
60	Fairbanks	Wind	72.45	2020	Approved
61	2021 Build	Solar	100.00	2021 (est.)	VGP
62	2022 Build	Solar	135.00	2022 (est.)	VGP
63	2023 Build	Solar	100.00	2023 (est.)	VGP
64	2024 Build	Solar	100.00	2024 (est.)	VGP
65	2025 Build	Solar	100.00	2025 (est.)	VGP
66	2026 Build	Solar	100.00	2026 (est.)	VGP
67	2027 Build	Solar	100.00	2027 (est.)	VGP
68	2028 Build	Solar	100.00	2028 (est.)	VGP
69	2029 Build	Solar	100.00	2029 (est.)	VGP

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¹ COD is defined as projects coming online on 12/31 of each year; first full year of production follows in the next year

 $^{^{2}}$ This capacity also slated to achieve 35% goal by 2025 combined with EWR $\,$

³ The Pinnebog wind park capacity is 51 MW, 22.53 MW is included in the Voluntary Green Pricing program (see line 55)

Michigan Public Service Commission

DTE Electric Company

Capacity Position at time of filing (Starting point - unapproved Renewables removed)

Planning Reserve Margin Requirements and Planning Resources to be Acquired (ZRC)

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<u>Line</u>		Calculation	PY 2019-2020	PY 2020-2021	PY 2021-2022	PY 2022-2023	PY 2023-2024	PY 2024-2025	PY 2025-2026	PY 2026-2027
1	Forecasted Bundled (or AES) Non-Coincident Peak Demand, MW		10,384	10,343	10,298	10,212	10,161	10,114	10,064	10,020
2	Internal Demand Response Programs that are applied as an adjustment to the Peak forecast, MW		17	17	17	17	7	-	-	-
3	Adjusted Forecasted Bundled (or AES) Non-Coincident Peak Demand, MW	L1-L2	10,367	10,326	10,281	10,195	10,154	10,114	10,064	10,020
4	Load Diversity Factor coincident to MISO, %.		96.14%	96.14%	96.14%	96.14%	96.14%	96.14%	96.14%	96.14%
5	Adjusted Forecasted Bundled (or AES) Coincident Peak Demand, MW	L3*L4	9,967	9,927	9,884	9,801	9,762	9,724	9,675	9,633
6	Transmission Losses, %		2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%
7	Planning Reserve Margin % UCAP Basis		8.40%	8.30%	8.30%	8.40%	8.40%	8.40%	8.40%	8.40%
8	Total Planning Reserve Margin Requirement, ZRC	L5*(1+L7)	10,805	10,751	10,705	10,625	10,582	10,541	10,488	10,442
9	Company Owned, In-State, Non-Intermittent, ZRC		9,755	9,603	9,697	10,085	9,351	9,347	9,345	9,343
10	Company Owned, Out-of-State, Non-Intermittent, ZRC		-	-	-	-	-	-	-	-
11			7	7	7	7	7	7	7	7
12			-	-	-	-	-	-	-	-
13			125	145	198	198	198	196	195	193
14			_	-	-	-	-	-	-	-
15			33	38	38	38	38	38	38	38
16			-	-	-	-	-	-	-	-
17		SUM OF L9 TO L16	9,920	9,792	9,940	10,328	9,593	9,588	9,584	9,580
18	Total Load Modifying Resources, Treated as Capacity, ZRC (from Ex. 4)		731	747	775	821	857	863	863	863
19	PPA, In-State, Non-Intermittent, ZRC		-	-	-	-	-	-	-	-
20	PPA, Out-of-State, Non-Intermittent, ZRC		-	-	-	-	-	-	-	-
21	PPA, In-State, Non-Intermittent (BTMG), ZRC		104	105	105	105	105	105	105	105
22	PPA, Out-of-State, Non-Intermittent (BTMG), ZRC		-	-	-	-	-	-	-	-
23	PPA, In-State, Intermittent, ZRC		-	-	-	-	-	-	-	-
24	PPA, Out-of-State, Intermittent, ZRC		-	-	-	-	-	-	-	-
25	PPA, In-State, Intermittent (BTMG), ZRC		1	1	1	1	1	1	1	1
26	PPA, Out-of-State, Intermittent (BTMG), ZRC		-	-	-	-	-	-	-	-
27	Other Forward Capacity Contract, ZRC - In-State		-	-	-	-	-	-	-	-
28	Other Forward Capacity Contract, ZRC - Out-of-State		100	200	-	-	-	-	-	-
29	Total PPA, ZRC	SUM OF L19 TO L28	205	306	106	106	106	106	106	106
30	Total Planning Resources, ZRC	L17+L18+L29	10,856	10,845	10,821	11,255	10,557	10,557	10,553	10,549
31	UCAP Surplus/(Shortfall), MW	L30-L8	51	94	116	630	(25)	16	65	107

Michigan Public Service Commission

DTE Electric Company

Capacity Position at time of filing (Starting point - unapproved Renewables removed)
Planning Reserve Margin Requirements and Planning Resources to be Acquired (ZRC)

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Attachment C
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<u>Line</u>		Source	PY 2027-2028	PY 2028-2029	PY 2029-2030	PY 2030-2031	PY 2031-2032	PY 2032-2033	PY 2033-2034	PY 2034-2035
1	Forecasted Bundled (or AES) Non-Coincident Peak Demand, MW		10,002	9,979	9,958	9,951	9,919	9,898	9,876	9,850
2	Internal Demand Response Programs that are applied as an adjustment to the Peak forecast, MW		-	-	-	-	-	-	-	-
3	Adjusted Forecasted Bundled (or AES) Non-Coincident Peak Demand, MW	L1-L2	10,002	9,979	9,958	9,951	9,919	9,898	9,876	9,850
4	Load Diversity Factor coincident to MISO, %.		96.14%	96.14%	96.14%	96.14%	96.14%	96.14%	96.14%	96.14%
5	Adjusted Forecasted Bundled (or AES) Coincident Peak Demand, MW	L3*L4	9,616	9,594	9,573	9,567	9,536	9,516	9,494	9,470
6	Transmission Losses, %		2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%
7	Planning Reserve Margin % UCAP Basis		8.40%	8.40%	8.40%	8.40%	8.40%	8.40%	8.40%	8.40%
8	Total Planning Reserve Margin Requirement, ZRC	L5*(1+L7)	10,423	10,400	10,378	10,370	10,337	10,315	10,292	10,265
9	Company Owned, In-State, Non-Intermittent, ZRC		9,341	9,340	8,851	8,355	8,354	8,353	8,340	8,356
10	Company Owned, Out-of-State, Non-Intermittent, ZRC		-	-	-	-	-	-	-	-
11	Company Owned, In-State, Non-Intermittent (BTMG), ZRC		7	7	7	7	7	7	7	7
12	Company Owned, Out-of-State, Non-Intermittent (BTMG), ZRC		-	-	-	-	-	-	-	-
13	Company Owned, In-State, Intermittent, ZRC		191	190	188	187	185	183	182	182
14	Company Owned, Out-of-State, Intermittent, ZRC		-	-	-	-	-	-	-	-
15	Company Owned, In-State, Intermittent (BTMG), ZRC		38	38	38	38	38	38	38	38
16	Company Owned, Out-of-State, Intermittent (BTMG), ZRC		-	-	-	-	-	-	-	-
17	Total Company Owned Generation, ZRC	SUM OF L9 TO L16	9,577	9,574	9,084	8,586	8,583	8,581	8,566	8,582
18	Total Load Modifying Resources, Treated as Capacity, ZRC (from Ex. 4)		863	863	863	863	863	863	863	863
19	PPA, In-State, Non-Intermittent, ZRC		-	-	-	-	-	-	-	-
20	PPA, Out-of-State, Non-Intermittent, ZRC		-	-	-	-	-	-	-	-
21	PPA, In-State, Non-Intermittent (BTMG), ZRC		105	105	105	105	105	105	105	105
22	PPA, Out-of-State, Non-Intermittent (BTMG), ZRC		-	-	-	-	-	-	-	-
23	PPA, In-State, Intermittent, ZRC		-	-	-	-	-	-	-	-
24	PPA, Out-of-State, Intermittent, ZRC		-	-	-	-	-	-	-	-
25	PPA, In-State, Intermittent (BTMG), ZRC		1	1	1	1	1	1	1	1
26	PPA, Out-of-State, Intermittent (BTMG), ZRC		-	-	-	-	-	-	-	-
27	Other Forward Capacity Contract, ZRC - In-State		-	-	-	-	-	-	-	-
28	Other Forward Capacity Contract, ZRC - Out-of-State		-	-	-	-	-	-	-	-
29	Total PPA, ZRC	SUM OF L19 TO L28	106	106	106	106	106	106	106	106
30	Total Planning Resources, ZRC	L17+L18+L29	10,546	10,543	10,053	9,555	9,552	9,550	9,535	9,551
31	UCAP Surplus/(Shortfall), MW	L30-L8	123	143	(324)	(815)	(785)	(766)	(757)	(714)

Michigan Public Service Commission DTE Electric Company

Capacity Position at time of filing (PCA)

Planning Reserve Margin Requirements and Planning Resources to be Acquired (ZRC)

Case No: U-20471
Attachment C

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	(a)		(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
Line No.		Calculation	DV 2010 2020 1	ov 2020 2021	DV 2021 2022	DV 2022 2022	DV 2022 2024	DV 2024 2025	DV 2025 2026	DV 2026 2027
1	Description Forecasted Bundled (or AES) Non-Coincident Peak Demand, MW	Calculation	10,384	10,343	10,298	10,212	10,161	PY 2024-2025 10,114	10,064	10,020
2	Internal Demand Response Programs that are applied as an adjustment to the Peak forecast, MW		-	10,545	10,298	7	7	7	7	7
3	Adjusted Forecasted Bundled (or AES) Non-Coincident Peak Demand, MW	L1 - L2	10,384	10,343	10,298	10,205	10,154	10,107	10,057	10,013
4	Load Diversity Factor coincident to MISO, %.		95.91%	95.91%	95.91%	95.91%	95.91%		95.91%	95.91%
5	Adjusted Forecasted Bundled (or AES) Coincident Peak Demand, MW	L 3 * L4	9,960	9,920	9,877	9,788	9,739	9,694	9,645	9,603
6	Transmission Losses, %		2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%
7	Planning Reserve Margin % UCAP Basis		7.90%	7.90%	7.90%	8.10%	8.10%	7.60%	7.60%	7.60%
8	Total Planning Reserve Margin Requirement, ZRC	L5 * (1 + L7)	10,747	10,703	10,657	10,580	10,528	10,431	10,378	10,333
9	Company Owned, In-State, Non-Intermittent, ZRC		9,607	9,576	9,564	9,280	9,281	9,281	9,281	9,281
10	Proposed Course of Action; CCGTs in 2040 (placeholder)									
11	Proposed Course of Action; 1x1 CCGT in 2030		-	-	-	-	-	-	-	-
12	Company Owned, Out-of-State, Non-Intermittent, ZRC		-	-	-	-	-	-	-	-
13	Company Owned, In-State, Non-Intermittent (BTMG), ZRC		3	3	3	3	3	3	3	3
14	Company Owned, Out-of-State, Non-Intermittent (BTMG), ZRC		-	-	-	-	-	-	-	-
15	Company Owned, In-State, Intermittent, ZRC		97	72	126	152	152	152	152	152
16	Company Owned, Out-of-State, Intermittent, ZRC		-	-	- 38	- 127	- 219	- 257	- 201	- 221
17 18	Company Owned, In-State, Intermittent (BTMG), ZRC Company Owned, Out-of-State, Intermittent (BTMG), ZRC		29	38	-	127	-	257	291 -	321
19	Total Company Owned Generation, ZRC	Sum L9-L18	9,736	9,690	9,731	9,563	9,656	9,694	9,728	9,758
	Total company of med concration, and	34 23 223	3,755	3,000		3,000	3,000	3,00 .	3,: 25	3,7.00
20	Total Load Modifying Resources, Treated as Capacity, ZRC		709	746	782	836	858	859	859	859
21	Proposed Course of Action; DR Build Plan - CVR (Assume 5-year ramp-up)		-	-	-	-	-	-	-	10
22	Proposed Course of Action; DR Build Plan - Other (Assume 5-year ramp-up)		-	-	-	-	-	-	-	-
23	Proposed Course of Action; Ramp-up to 1.75% EWR by 2021		-	-	-	-	-	-	-	-
24	Proposed Course of Action; Ramp-up to 2.0% EWR by 2021		-	14	61	114	162	210	259	309
25	PPA, In-State, Non-Intermittent, ZRC		-	-	-	-	-	-	-	-
26	PPA, Out-of-State, Non-Intermittent, ZRC		-	-	-	-	-	-	-	-
27	PPA, In-State, Non-Intermittent (BTMG), ZRC		104	60	60	60	60	60	60	60
28	PPA, Out-of-State, Non-Intermittent (BTMG), ZRC		-	-	-	-	-	-	-	-
29	PPA, In-State, Intermittent, ZRC		72	72	72	72	72	72	72	72
30	PPA, Out-of-State, Intermittent, ZRC		-	-	-	-	-	-	-	-
31	PPA, In-State, Intermittent (BTMG), ZRC PPA, Out-of-State, Intermittent (BTMG), ZRC		1	1	1	1	1	1	1	_
32 33	Other Forward Capacity Contract, ZRC - In-State		-	_	-	_	-	-	_	-
34	Other Forward Capacity Contract, ZRC - Out-of-State		100	200	_	_	_	_	-	_
35	Total PPA, ZRC	Sum L25-L34	277	333	133	133	133	133	133	133
			40.700	10.700	40.707	10.517				
36	Total Planning Resources, ZRC	(Sum L19-24) + L35	10,722	10,783	10,707	10,647	10,809	10,896	10,980	11,069
37	UCAP Surplus/(Shortfall), MW	L36 - L8	(25)	80	50	67	281	466	601	736

Michigan Public Service Commission

DTE Electric Company

Capacity Position at time of filing (PCA)

Planning Reserve Margin Requirements and Planning Resources to be Acquired (ZRC)

Case No: U-20471
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(k) (1) (a) (j) (m) (n) (o) (p) (q) Line PY 2027-2028 PY 2028-2029 PY 2029-2030 PY 2030-2031 PY 2031-2032 PY 2032-2033 PY 2033-2034 PY 2034-2035 Description No. Source Forecasted Bundled (or AES) Non-Coincident Peak Demand, MW 9,876 10,002 9,979 9,958 9,951 9,919 9,898 9,850 Internal Demand Response Programs that are applied as an adjustment to the Peak forecast, MW 2 3 Adjusted Forecasted Bundled (or AES) Non-Coincident Peak Demand, MW L1 - L2 9,995 9,972 9,951 9,944 9,912 9,891 9,869 9,843 Load Diversity Factor coincident to MISO, %. 95.91% 95.91% 95.91% 95.91% 95.91% 95.91% 95.91% 95.91% 4 Adjusted Forecasted Bundled (or AES) Coincident Peak Demand, MW L 3 * L4 9,586 9,564 9,544 9,537 9,507 9,486 9,441 5 9,465 6 Transmission Losses, % 2.20% 2.20% 2.20% 2.20% 2.20% 2.20% 2.20% 2.20% Planning Reserve Margin % UCAP Basis 7.60% 7.60% 7.60% 7.60% 7.60% 7.60% 7.60% 7.60% 7 L5 * (1 + L7) 10,314 10,291 10,269 10,262 10,229 10,158 **Total Planning Reserve Margin Requirement, ZRC** 10,207 10,184 9 Company Owned, In-State, Non-Intermittent, ZRC 9,281 9,281 8,793 8,297 8,297 8,297 8,297 8,297 Proposed Course of Action; CCGTs in 2040 (placeholder) Proposed Course of Action; 1x1 CCGT in 2030 11 12 Company Owned, Out-of-State, Non-Intermittent, ZRC 13 Company Owned, In-State, Non-Intermittent (BTMG), ZRC 3 3 3 3 3 3 3 3 Company Owned, Out-of-State, Non-Intermittent (BTMG), ZRC 14 152 Company Owned, In-State, Intermittent, ZRC 152 152 152 152 152 152 152 15 Company Owned, Out-of-State, Intermittent, ZRC 16 Company Owned, In-State, Intermittent (BTMG), ZRC 347 369 386 400 376 352 329 327 17 Company Owned, Out-of-State, Intermittent (BTMG), ZRC Sum L9-L18 19 Total Company Owned Generation, ZRC 9,783 9,805 9,335 8,853 8,829 8,805 8,781 8,779 Total Load Modifying Resources, Treated as Capacity, ZRC 20 859 859 859 859 859 859 859 859 Proposed Course of Action; DR Build Plan - CVR (Assume 5-year ramp-up) 20 30 40 50 50 50 50 50 21 Proposed Course of Action; DR Build Plan - Other (Assume 5-year ramp-up) Proposed Course of Action; Ramp-up to 1.75% EWR by 2021 Proposed Course of Action; Ramp-up to 2.0% EWR by 2021 351.2 392.6 431.2 457.1 474.1 494.3 495.0 507.3 PPA, In-State, Non-Intermittent, ZRC 26 PPA, Out-of-State, Non-Intermittent, ZRC 27 PPA, In-State, Non-Intermittent (BTMG), ZRC 60 60 60 60 60 60 60 60 PPA, Out-of-State, Non-Intermittent (BTMG), ZRC 28 72 72 72 PPA, In-State, Intermittent, ZRC 72 72 72 72 72 29 30 PPA, Out-of-State, Intermittent, ZRC 31 PPA, In-State, Intermittent (BTMG), ZRC 1 1 1 1 1 32 PPA, Out-of-State, Intermittent (BTMG), ZRC Other Forward Capacity Contract, ZRC - In-State 33 34 Other Forward Capacity Contract, ZRC - Out-of-State Total PPA, ZRC Sum L25-L34 133 133 133 133 133 133 133 133 35 36 Total Planning Resources, ZRC (Sum L19-24) + L35 11,220 10,329 11,147 10,798 10,352 10,345 10,342 10,319 37 UCAP Surplus/(Shortfall), MW L36 - L8 833 929 529 134 134 171 90 116

Michigan Public Service Commission DTE Electric Company PCA Revenue Requirement (\$ million) Case No. U-20471 Attachment D Page 1 of 1

Proposed Course of Action

Incremental Revenue Requirement¹

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Planned DTE Renewables & CVR	8.97	27.19	49.45	84.66	83.30	78.23	74.75	72.35	70.45	68.86	88.62	86.38	106.91	104.34	101.83

¹ Excludes planned VGP projects, cost recovery of VGP projects is through customer participation and associated VGP riders



DTE ELECTRIC COMPANY

REQUEST FOR PROPOSALS – WIND ENERGY RESOURCES

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1) Definitions and Abbreviations

Capitalized terms and abbreviations used in this RFP are defined below:

"Build Transfer Agreement" or "BTA" shall mean a pro forma build transfer contract in the form set forth in Appendix A of this RFP.

"Commercial Operation Date" or "COD" shall mean the date that the Project commences commercial operations in accordance with the requirements of the Build Transfer Agreement, Power Purchase Agreement, or Build Transfer Agreement – DTE Site.

"DTE Electric" or the "Company" shall mean DTE Electric Company, a Michigan corporation and operating electric public utility, and any successor entity thereto, subject to the applicable rules of the MPSC and the FERC.

"DTE Site" shall mean a potential project site located on property under a DTE Standard Utility Easement for Wind Energy Development.

"EPT" or Eastern Prevailing Time shall mean Eastern Standard Time or Eastern Daylight Savings Time, whichever is in effect in Detroit, Michigan on any date specified.

"MISO" shall mean the Midcontinent Independent System Operator, Inc. and any successor organization thereto.

"MPSC" shall mean the Michigan Public Service Commission and any successor entity thereto.

"NERC" shall mean the North American Electric Reliability Corporation and any successor entity thereto.

"OSHA" shall mean the Occupational Safety and Health Administration and any successor entity thereto.

"Power Purchase Agreement" or "PPA" shall mean a pro forma power purchase contract in the form set forth in Appendix B of this RFP.

"Product" means all Energy, all Capacity, all Ancillary Services, all RECs, and all Renewable Energy Benefits.

"Project" shall mean the applicable wind energy resource project that is the subject of the Proposal.

"Proposal" shall mean a Respondent's submittal in response to this RFP.

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"PTC" shall mean the renewable electricity production tax credit established pursuant to Section 45 of the U.S. Internal Revenue Code of 1986.

"Renewable Energy Benefits" means any and all renewable and environmental attributes, emissions reductions, credits, offsets, allowances or benefits, however entitled, (a) allocated, assigned, awarded, certified or otherwise transferred or granted by any Governmental Authority in any jurisdiction in connection with the Generating Facility; or (b) associated with the production of electrical energy by the Generating Facility or based in whole or part on the Generating Facility's use of renewable resources for generation or because the Generating Facility constitutes a renewable energy system or the like or because the Generating Facility does not produce greenhouse gases, regulated emissions or other pollutants, whether any such attributes, reductions, credits, offsets, allowances or benefits exist now or in the future or whether they arise under existing Law or any future Law or whether such attribute, reduction, credit, offset, allowance or benefit or any Law, or the nature of such, is foreseeable or unforeseeable, but in all cases shall not mean RECs or Tax Credits. Renewable Energy Benefits includes such attributes, reductions, credits, offsets, allowance or benefits attributable to Energy or Ancillary Services sold under this Agreement, and Energy or Ancillary Services consumed by the Generating Facility, such as Station Service.

"Renewable Energy Credit" or "REC" shall mean a credit granted pursuant to Section 41 of the Clean, Renewable and Efficient Energy Act (PA 295) as amended, that represents generated renewable energy, including, without limitation, incentive RECs granted under section 39(2)(a)—(e), as applicable, of the Clean, Renewable and Efficient Energy Act.

"Renewable Energy Plan" shall mean DTE Electric's Amended 2018 Renewable Energy Plan, MPSC Case No. U-18232.

"Respondent" shall mean a developer, independent power producer, or other entity that responds to this RFP by submitting a Proposal in accordance with the requirements herein.

"RFP" shall mean this Request for Proposals, the document that publicly opens the competitive business process by describing DTE Electric's needs and seeking responses to fulfill those needs.

"SCADA" shall mean Supervisory Control and Data Acquisition.

Capitalized terms not defined herein shall have meaning set forth in the Build Transfer Agreement, Power Purchase Agreement, or Build Transfer Agreement – DTE Site.

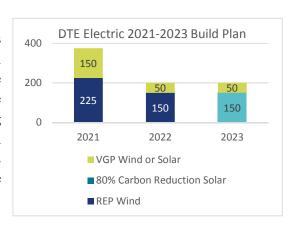
2) Corporate Introduction

DTE Electric, a wholly owned subsidiary of DTE Energy Company, generates, distributes and sells electricity to approximately 2.2 million customers in southeastern Michigan. DTE Electric uses coal, coke oven gas, nuclear fuel, oil, natural gas, wind, solar and hydroelectric pumped storage to generate its electrical output. Founded in 1903, DTE Electric is the largest electric utility in Michigan and one of the largest in the nation. Additional information can be found at www.dteenergy.com.

3) Purpose and Scope

3.1 Purpose

The purpose of this RFP is to solicit Proposals to acquire wind energy projects which will help the Company achieve its Renewable Energy Plan (REP) requirements, fulfill large customer demand for Voluntary Green Pricing (VGP) programs, and meet its carbon reduction goals. Illustrated to the right, DTE expects to install nearly 800 MW of renewable energy in years 2021-2023.



This RFP is consistent with DTE Electric's objective to obtain a diversified portfolio of safe, reliable, and adequate power supplies for its customers at the lowest reasonable cost and in an environmentally responsible manner.

3.2 Project Description

DTE Electric is seeking Proposals for new wind energy projects through the contract methods listed below; each project bid should be no less than 100 MW and no more than 200 MW.

3.2.1 Build Transfer Agreement

Projects submitted under a BTA are required to be 80% PTC qualified with a COD no later than December 31, 2021; 60% PTC qualified with a COD no later than December 31, 2022; 40% PTC qualified with a COD no later than December 31, 2023.

3.2.1.1 Delivery & Location

BTA projects must be located in the state of Michigan and electrically connected to a distribution or transmission system owner/operator serviced by MISO.

3.2.1.2 Union Labor Component for Construction

Proposals submitted must include the utilization of union labor where/when appropriate.

Respondent shall review Appendix A for additional information on the Build Transfer Agreement RFP requirements.

3.2.2 Power Purchase Agreement

Projects submitted under a PPA will have a COD no earlier than January 1, 2021 and no later than December 31, 2023. DTE would expect to contract for the output of the Project pursuant to this RFP by means of a Power Purchase Agreement with a minimum of a twenty-year term. The same Project offered under a PPA must also be submitted under a BTA structure. The Project must produce RECs that are Green-e eligible.

3.2.2.1 Delivery and Location

PPA Projects must be located in the state of Michigan and be electrically connected to a distribution or transmission system owner/operator serviced by MISO

3.2.2.2 Capacity, Energy & REC Structure

At a minimum, Respondents shall submit a fixed price for the term of the PPA. The price for the renewable energy Product levelized for the term shall reflect the energy, REC, capacity, Renewable Energy Benefits, ancillary services, and all associated attributes which includes the transfer of all capacity and environmental attributes including associated RECs, Michigan incentive RECs and any other current or future Renewable Energy Benefits and environmental attributes associated with the Product contracted from the facility for the term of the Power Purchase Agreement.

Respondent shall review Appendix B for additional information on the Power Purchase Agreement RFP requirements.

3.2.3 Build Transfer Agreement – DTE Site

DTE has two wind project sites that are currently under development by the Company. The DTE Sites are located in the lower peninsula of Michigan and have substantial land assets under the DTE Electric Standard Utility Easement for Wind Energy Development. Respondents that are interested in negotiating a Build Transfer Agreement utilizing DTE's development assets for a 60% PTC qualified project with a COD no later than December 31, 2022 or 40% PTC qualified project with a COD no later than December 31, 2023 may request access to a separate PowerAdvocate site upon signature of a mutual non-disclosure agreement. Respondents should also provide their qualifications which include prior experience with successful wind energy projects, previous build transfer negotiations with utilities, evidence of positive community engagement, and a brief summary on PTC qualified equipment that would be used in these projects.

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Respondents should use the PowerAdvocate Pre-Bid event messaging system to notify the Company of their interest level in the DTE Site opportunity. DTE reserves the right to reject any or all Respondents for this opportunity at the Company's sole discretion.

4) Instructions to Respondents

4.1 Access to RFP

The RFP event will take place through the PowerAdvocate platform. Interested bidders should be registered and have access to the bid event listed below.

The RFP number is: 96689 - 2019 Wind Energy RFP

To view the RFP in its entirety, Respondents shall execute and submit a Non-Disclosure Agreement (NDA) prior to being granted access to the RFP packages. The NDA is currently available through the PowerAdvocate site.

Detailed instructions on the use of the PowerAdvocate website are available in Attachment B, the Supplier Quick Start Guide, posted on the website under the above listed RFP number. Additionally, Attachment C, Supplier Frequently Asked Questions, is posted if you have questions relative to the website.

Please address any questions regarding the process or use of the PowerAdvocate website to the following:

DTE Electric Contact: DJ Wagner

Senior Buyer, DTE Electric daniel.wagner@dteenergy.com

(313) 235-5460

4.2 Submittal Instructions

An electronic copy of each Proposal must be submitted within PowerAdvocate in Microsoft Word (*.doc or *.docx) format or Adobe Acrobat (*.pdf) format and the pricing MUST be completed in Excel. Respondent shall upload its Proposal and include the appropriate document naming convention to match the sections as outlined in the specific agreement scope documents. Respondent shall also include a completed copy of Attachment A, the Proposal Cover Sheet, for each Proposal.

A hard copy of each Proposal must be delivered to DTE Electric by November 6, 2019 (pricing may be excluded from the hard copy mailing). Proposal hard copies shall be

Case No. U-20471 Attachment E.1

numbered to match the section headings referenced in the scope documents. Hard copy binders shall contain separate tabs with the information organized as required below.

One (1) hard copy response will be mailed to:

DTE Energy Renewable Energy – Wind RFP Response One Energy Plaza, 1004 GO Detroit, MI 48226-1221

Each Respondent is solely responsible for all its expenses related to its Proposal and/or any other expenses incurred in connection with this RFP.

5) Timing and Schedule

The following table provides the RFP schedule and timing. DTE Electric may change this schedule at any time, and the schedule may be affected by, among other things, the deliberations of DTE Electric and negotiations with Respondents. DTE Electric will attempt to provide notice to all Respondents of a change in the schedule, but shall have no liability or responsibility in the event that it fails to do so.

Item	Completion Date
Issue RFP	September 16, 2019 (8:00 AM EST)
Respondent Questions Due	October 4, 2019
Notice of Intent to Bid Due	October 18, 2019
Proposals Due	November 5, 2019 (12:00 PM EST)
Hard Copies Due	November 6, 2019
Shortlist Notifications	November 2019
Execute Agreement	March 2020

5.1 Notice of Intent to Bid

A notice of intent to bid must be received by **Noon (12:00 PM EST)** on **October 18, 2019**; the notice of intent to bid must be submitted via the PowerAdvocate bid event messaging system. Failure to submit a notice of intent to bid will result in Respondent being deleted from the event website and excluded from the RFP.

5.2 RFP Response Deadline

Proposals must be received by Noon (12:00 PM EST) on November 5, 2019. A Proposal will not be considered unless it is submitted via the PowerAdvocate bid event platform.

Any exceptions to the response date will be accepted at DTE Electric's sole discretion. DTE Electric reserves the right, in its sole discretion, to extend the RFP due date.

6) Review and Selection Criteria

The objective of the Proposal evaluation is to identify the Proposal(s) which best meet the requirements of this RFP. The evaluation process will include the assessment of both economic and non-economic criteria. The economic evaluation will be conducted primarily using spreadsheet analysis tools which will assess the proposed cost factors set forth in each Proposal. Non-economic factors will be assessed through a due diligence process that will gauge the relative risks and benefits of each Proposal.

Proposals will be evaluated using a multi-step process as follows:

Step 1 – Screening

The information provided in the Proposal will first be evaluated for completeness and consistency with the Proposal content and bid requirements outlined in this RFP.

As a result of this screening review, DTE Electric will eliminate Proposals that do not meet the requirements described in this RFP from further consideration. DTE Electric will limit follow up contacts to clarify Proposals or request additional information only to those Proposals that meet the requirements described in this RFP.

Step 2 – Evaluation

DTE Electric will evaluate the Proposals based on both economic and noneconomic evaluation criteria, listed below in no particular order, that will include but are not limited to:

Economic Evaluation Criteria

Proposals will be evaluated to determine the overall cost of the Project, as unitized and levelized on a per MWh basis for the purposes of facilitating a cross-proposal comparison. This will include but is not limited to the acquisition price, the PPA price (including lost Project terminal value, anticipated financial compensation mechanism, and additional costs that may impact customers), operation and maintenance, and capital requirements over the life of the Project.

Submission requirements supporting this economic evaluation are described in sections 3.8 and 3.13 of Appendix A for the BTA option and in sections 3.6 and 3.11 of Appendix B for the PPA option.

Non-Economic Evaluation Criteria

The purpose of the non-economic evaluation is to assess whether the Project proposed meets certain quality standards which evidence that the Respondent has done the necessary due diligence and development work such that the Project is in a relatively satisfactory position to proceed, upon contract award, from its present state through the stated guaranteed COD while meeting all obligations established under either the BTA or PPA agreements, as applicable. The non-economic evaluation will highlight any risks that are presented to DTE and its customers with respect to the Proposal. Proposals will be evaluated based on five non-economic criteria:

Project Feasibility

Evaluation will include, but will not be limited to, an assessment of the following:

- 1) The feasibility of the proposed Project to be completed by the guaranteed COD based upon the status of land acquisition, interconnection planning and turbine order; Proposals that provide substantial assurances of being commercially available in the time schedule proposed are preferred.
- 2) Acceptance and support for the proposed Project by the community and local, state and federal government.
- 3) Potential environmental impacts from the proposed Project, including impacts on wildlife, and any proposed mitigation measures to lessen the impact of the proposed facility on the environment, including wildlife.
- 4) The timelines for acquiring and the feasibility of obtaining all required permits (federal, state, local) and land rights (including those required for new interconnection lines).

Submission requirements supporting this evaluation are described in sections 2.2, 3.7 and 3.12 of Appendix A for the BTA option and in sections 2.2, 3.6, 3.10 of Appendix B for the PPA option.

Exceptions to the DTE pro forma agreements

DTE Electric will evaluate the exceptions to the agreements as they relate to the ability of the two parties to potentially execute an acceptable definitive agreement and the extent to which they shift risk to DTE Electric.

Submission requirements supporting this evaluation are described in section 3.10 of Appendix A for the BTA option and in section 3.8 of Appendix B for the PPA option.

Technical & Operations & Maintenance

Under this criterion, DTE Electric will assess the following:

- 1) The proposed wind turbines from the standpoint of the reliability of the technology along with reviewing the commercial terms of the turbine supply agreement and warranty arrangements.
- 2) The experience of the Respondent and the Respondent's advisors involved in generating energy projections and the quality and quantity of on-site wind data, mechanical availability data, and capacity factor guaranteed.
- 3) The net capacity factor based on the analysis of turbine locations, wind resource, and other key factors.
- 4) The Project layout, including set-back requirements are followed on Project layout.
- 5) The status and schedule for completion of the necessary interconnection arrangements to provide the delivery of energy.
- 6) The proper metering and SCADA systems have been proposed.
- 7) The operations & maintenance plan.
- 8) Similar projects can be visited by DTE Electric.

Submission requirements supporting this area are described in sections 3.6, 3.7, and 3.8 of Appendix A for the BTA option and in sections 3.6 of Appendix B for the PPA option.

Experience and Project Management

Under this criterion, DTE Electric will assess the pertinent experience of the Respondent in developing, financing, constructing, and operating and maintaining wind energy facilities; DTE Electric prefers Respondents with a successful history of relevant experience.

Submission requirements supporting this area are described in sections 3.2, 3.3, 3.4, 3.5, 3.6 and 3.13 of Appendix A for the BTA option and in sections 3.2, 3.3, 3.4, 3.5 and 3.10 of Appendix B for the PPA option.

Financial Strength and Creditworthiness

DTE Electric requires Respondents to demonstrate the ability to obtain credit support in the future from credit support providers (banks, parent companies,

financial institutions). After the Proposal has been submitted and upon further review by DTE Risk Management, Respondent may be asked to provide additional documentation to complete the Company's evaluation of financial strength and creditworthiness.

Submission requirements supporting this evaluation criteria are described in section 3.11 of Appendix A for the BTA option and in section 3.9 of Appendix B for the PPA option.

Additional points are available for diversity, Michigan-based suppliers, Michigan-based labor and Michigan manufactured material content. Submission requirements supporting this evaluation are described in section 3.9 of Appendix A for the BTA option and in section 3.7 of Appendix B for the PPA option.

Step 3 – Scoring & Ranking

Upon completion of the detailed evaluation, DTE Electric will develop a combined score, inclusive of both the non-economic and economic criteria assessment. Based on the aggregated score, Proposals will be sorted and ranked accordingly.

7) Additional RFP Guidelines and Terms

Carefully review the following guidelines and terms that apply to this RFP. A notice of intent to bid message will be interpreted as an understanding and acceptance of these guidelines and terms:

7.1 Conforming Bids

DTE will consider Proposals submitted under each contracting structure. The Company will consider a conforming bid one where Respondent submits at least one of the following for a Project:

- 1) Build Transfer Proposal
- 2) Power Purchase Proposal & Build Transfer Proposal

7.2 Disclaimer

Nothing in this RFP shall be construed as an offer or commitment by DTE Electric and any response to this RFP does not bind DTE Electric in any way. DTE Electric reserves the right to discontinue or modify the RFP process at any time, and makes no commitments, implied or otherwise, that this process will result in a business transaction or negotiation with one or more Respondents. All costs incurred by a Respondent in preparing a response to this RFP and in providing or obtaining additional information to or from DTE Electric shall be borne by the Respondent.

7.3 Right of Rejection / Acceptance

DTE Electric reserves the right to reject any or all responses, to accept any response or to select any combination of responses. DTE Electric reserves the right to waive any irregularity contained in any response, including a nonconforming bid.

7.4 Right of Withdrawal

A Proposal may be withdrawn at any time prior to the RFP due date. Any request to withdraw a response must be sent via e-mail to DJ Wagner at daniel.wagner@dteenergy.com

7.5 Documents

DTE Electric makes no representations or warranties regarding the accuracy or completeness of the information contained in this RFP, including the attachments, appendices, and exhibits. The Respondent is responsible for making its own evaluation of information and data contained in this RFP and in preparing and submitting Proposals in response to this RFP.

7.6 Confidentiality

All Proposals submitted in response to this RFP are the property of DTE Electric upon submittal. DTE Electric will take reasonable precautions and use reasonable efforts to maintain the confidentiality of all responses submitted and will disclose such responses to its agents, employees, or consultants who have a need to know as is necessary for that agent, employee, or consultant to perform his/her function relating to the Project. Further, information that is received in response to this RFP will be properly maintained in accordance with DTE Electric's Code of Conduct which was issued pursuant to the October 29, 2001 Rehearing Order in MPSC Case No. U-12134. Respondents should clearly identify each page of information considered to be confidential or proprietary. Regardless of the confidentiality claimed, all such information may be subject to review by the appropriate state authority, or any other governmental authority or judicial body with jurisdiction relating to these matters and may be subject to discovery. Under such circumstances, DTE Electric will use reasonable efforts to protect Respondent's confidential information.

7.7 Compliance with Federal and State Regulation

Respondents selected for further consideration must provide documentation that will enable DTE Electric to assess the Respondent's ability to comply with all federal and state

regulations, and to obtain all permits, licenses and approvals necessary to construct and operate the Project.

7.8 Proposal Validity

Proposals that are submitted must be valid for at least six (6) months after the Proposal due date, November 5, 2019. Please list any exceptions to this duration.

8) Attachments

- A. Proposal Cover Sheet
- B. PowerAdvocate Quick Start Guide
- C. PowerAdvocate FAQs

9) Appendices

- A. Build Transfer RFP Documentation
- B. Power Purchase RFP Documentation



DTE ELECTRIC COMPANY

REQUEST FOR PROPOSALS – SOLAR ENERGY RESOURCES

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1) Definitions and Abbreviations

Capitalized terms and abbreviations used in this RFP are defined below:

"Build Transfer Agreement" or "BTA" shall mean a pro forma build transfer contract in the form set forth in Appendix A of this RFP.

"Commercial Operation Date" or "COD" shall mean the date that the Project commences commercial operations in accordance with the requirements of the Build Transfer Agreement, Power Purchase Agreement, or Build Transfer Agreement – DTE Site.

"DR-SOC" shall mean Distributed Resources System Operations Center.

"DTE Electric" or the "Company" shall mean DTE Electric Company, a Michigan corporation and operating electric public utility, and any successor entity thereto, subject to the applicable rules of the MPSC and the FERC.

"DTE Site" shall mean a potential project site located on property owned in fee by the Company.

"EPT" or Eastern Prevailing Time shall mean Eastern Standard Time or Eastern Daylight Savings Time, whichever is in effect in Detroit, Michigan on any date specified.

"Investment Tax Credit (ITC)" is a thirty percent (30%) federal tax credit for solar systems on commercial (under Section 48) properties that, under current law, begins decreasing in 2019.

"MISO" shall mean the Midcontinent Independent System Operator and any success entity thereto.

"MPSC" shall mean the Michigan Public Service Commission and any successor entity thereto.

"OSHA" shall mean the Occupational Safety and Health Administration and any successor entity thereto.

"Power Purchase Agreement" or "PPA" shall mean a pro forma power purchase contract in the form set forth in Appendix B of this RFP.

"Product" means all Energy, all Capacity, all Ancillary Services, all RECs, and all Renewable Energy Benefits.

"Project" shall mean the applicable solar energy resource project that is the subject of the Proposal.

"Proposal" shall mean a Respondent's submittal in response to this RFP.

"Renewable Energy Benefits" means any and all renewable and environmental attributes, emissions reductions, credits, offsets, allowances or benefits, however entitled, (a) allocated, assigned, awarded, certified or otherwise transferred or granted by any Governmental Authority in any jurisdiction in connection with the Generating Facility; or (b) associated with the production of electrical energy by the Generating Facility or based in whole or part on the Generating Facility's use of renewable resources for generation or because the Generating Facility constitutes a renewable energy system or the like or because the Generating Facility does not produce greenhouse gases, regulated emissions or other pollutants, whether any such attributes, reductions, credits, offsets, allowances or benefits exist now or in the future or whether they arise under existing Law or any future Law or whether such attribute, reduction, credit, offset, allowance or benefit or any Law, or the nature of such, is foreseeable or unforeseeable, but in all cases shall not mean RECs or Tax Credits. Renewable Energy Benefits includes such attributes, reductions, credits, offsets, allowance or benefits attributable to Energy or Ancillary Services sold under this Agreement, and Energy or Ancillary Services consumed by the Generating Facility, such as Station Service.

"Renewable Energy Credit" or "REC" shall mean a credit granted pursuant to Section 41 of the Clean, Renewable and Efficient Energy Act (PA 295) as amended, that represents generated renewable energy, including, without limitation, incentive RECs granted under section 39(2)(a)–(e), as applicable, of the Clean, Renewable and Efficient Energy Act.

"Renewable Energy Plan" shall mean DTE Electric's Amended 2018 Renewable Energy Plan, MPSC Case No. U-18232.

"Respondent" shall mean a developer, contractor, supplier, or other entity that responds to this RFP by submitting a Proposal in accordance with the requirements herein.

"RFP" shall mean this Request for Proposal, the document that publicly opens the competitive business process by describing DTE Electric's needs and seeking responses to fulfill those needs.

"SCADA" shall mean Supervisory Control and Data Acquisition.

Capitalized terms not defined herein shall have meaning set forth in the Build Transfer Agreement, Power Purchase Agreement, or Build Transfer Agreement – DTE Site.

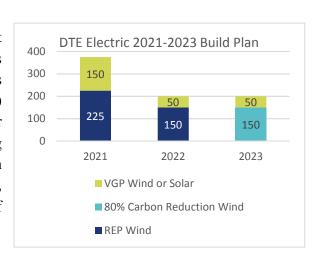
2) Corporate Introduction

DTE Electric, a wholly owned subsidiary of DTE Energy Company, generates, distributes and sells electricity to approximately 2.2 million customers in southeastern Michigan. DTE Electric uses coal, coke oven gas, nuclear fuel, oil, natural gas, wind, solar and hydroelectric pumped storage to generate its electrical output. Founded in 1903, DTE Electric is the largest electric utility in Michigan and one of the largest in the nation. Additional information can be found at www.dteenergy.com.

3) Purpose and Scope

3.1 Purpose

The purpose of this RFP is to solicit Proposals to acquire solar energy projects which will help the Company achieve its Renewable Energy Plan (REP) requirements, fulfill large customer demand for Voluntary Green Pricing (VGP) programs, and meet its carbon reduction goals. Illustrated to the right, DTE expects to install nearly 800 MW of renewable energy in years 2021-2023.



This RFP is consistent with DTE Electric's objective to obtain a diversified portfolio of safe, reliable, and adequate power supplies for its customers at the lowest reasonable cost and in an environmentally responsible manner.

3.2 Project Description

DTE Electric is seeking Proposals for new solar energy projects through the contract methods listed below; each project bid should be no less than **25 MW** and no more than **200 MW**.

3.2.1 Build Transfer Agreement

Projects submitted under a BTA are required to be 30% ITC qualified with a COD of no earlier than January 1, 2021 and no later than December 31, 2023.

3.2.1.1 Delivery & Location

BTA projects must be located in the state of Michigan and electrically connected to a distribution or transmission system owner/operator serviced by MISO.

Respondent shall review Appendix A for additional information on the Build Transfer Agreement RFP requirements.

3.2.2 Power Purchase Agreement

Projects submitted under a PPA will have a COD no earlier than January 1, 2021 and no later than December 31, 2023. DTE would expect to contract for the output of the Project pursuant to this RFP by means of a Power Purchase Agreement with a minimum of a twenty-year term. The same Project offered under a PPA must also be submitted under a BTA structure. The Project must produce RECs that are Green-e eligible.

3.2.2.1 Delivery and Location

PPA Projects must be located in the state of Michigan and be electrically connected to a distribution or transmission system owner/operator serviced by MISO.

3.2.2.2 Capacity, Energy & REC Structure

At a minimum, Respondents shall submit a fixed price for the term of the PPA. The price for the renewable energy Product levelized for the term shall reflect the energy, REC, capacity, Renewable Energy Benefits, ancillary services, and all associated attributes which includes the transfer of all capacity and environmental attributes including associated RECs, Michigan incentive RECs and any other current or future Renewable Energy Benefits and environmental attributes associated with the Product contracted from the facility for the term of the PPA.

Respondent shall review Appendix B for additional information on the Power Purchase Agreement RFP requirements.

3.2.3 Build Transfer Agreement – DTE Site

DTE has four potential solar project sites that are on land that is owned in fee by the Company. The DTE Sites are located in the lower peninsula of Michigan in the southeast region. Respondents that are interested in negotiating a Build Transfer Agreement utilizing DTE's land assets for a 30% ITC qualified project with a COD no later than December 31, 2023 may request access to a separate PowerAdvocate site upon signature of a mutual non-disclosure agreement. Respondents should also provide their qualifications which include prior experience with successful solar

Case No. U-20471 Attachment E.2

energy projects, previous build transfer negotiations with utilities, evidence of positive community engagement, and a brief summary on ITC qualified equipment that would be used in these projects.

Respondents should use the PowerAdvocate Pre-Bid event messaging system to notify the Company of their interest level in the DTE Site opportunity. DTE reserves the right to reject any or all Respondents for this opportunity at the Company's sole discretion.

4) Instructions to Respondents

4.1 Access to RFP

The RFP event will take place through the PowerAdvocate platform. Interested bidders should be registered and have access to the bid event listed below.

The RFP number is 96722 - 2019 Solar Energy RFP

To view the RFP in its entirety, Respondents shall execute and submit a Non-Disclosure Agreement (NDA) prior to being granted access to the RFP packages. The NDA is currently available through the PowerAdvocate site.

Detailed instructions on the use of the PowerAdvocate website are available in Attachment B, the Supplier Quick Start Guide, posted on the website under the above listed RFP number. Additionally, Attachment C, Supplier Frequently Asked Questions, is posted if you have questions relative to the website.

Please address any questions regarding the process or use of the PowerAdvocate website to the following:

DTE Electric Contact: David Wasmund

Strategic Supply Category Manager, DTE Electric

david.wasmund@dteenergy.com

(313) 235-3617

4.2 Submittal Instructions

An electronic copy of each Proposal must be submitted within PowerAdvocate in Microsoft Word (*.doc or *.docx) format or Adobe Acrobat (*.pdf) format and the pricing **MUST** be completed in Excel. Respondent shall upload its Proposal and include the appropriate document naming convention to match the sections as outlined in the specific

agreement scope documents. Respondent shall also include a completed copy of Attachment A, the Proposal Cover Sheet, for each Proposal.

A hard copy of each Proposal must be delivered to DTE Electric by **November 6, 2019** (pricing may be excluded from the hard copy mailing). Proposal hard copies shall be numbered to match the section headings referenced in the scope documents. Hard copy binders shall contain separate tabs with the information organized as required below.

One (1) hard copy response will be mailed to:

DTE Energy Renewable Energy – Solar RFP Response One Energy Plaza, 1004 GO Detroit, MI 48226-1221

Each Respondent is solely responsible for all its expenses related to its Proposal and/or any other expenses incurred in connection with this RFP.

5) Timing and Schedule

The following table provides the RFP schedule and timing. DTE Electric may change this schedule at any time, and the schedule may be affected by, among other things, the deliberations of DTE Electric and negotiations with Respondents. DTE Electric will attempt to provide notice to all Respondents of a change in the schedule, but shall have no liability or responsibility in the event that it fails to do so.

Item	Completion Date
Issue RFP	September 16, 2019 (8:00 AM EST)
Respondent Questions Due	October 4, 2019
Notice of Intent to Bid Due	October 18, 2019
Proposals Due	November 5, 2019 (12:00 PM EST)
Hard Copies Due	November 6, 2019
Shortlist Notifications	November 2019
Execute Agreement	March 2020

5.1 Notice of Intent to Bid

A notice of intent to bid must be received by **Noon** (12:00 PM EST) on **October 18, 2019**; the notice of intent to bid must be submitted via the PowerAdvocate bid event messaging system. Failure to submit a notice of intent to bid will result in Respondent being deleted from the event website and excluded from the RFP.

5.2 RFP Response Deadline

Proposals must be received by **Noon** (12:00 PM EST) on **November 5, 2019**. A Proposal will not be considered unless it is submitted via the PowerAdvocate bid event platform. Any exceptions to the response date will be accepted at DTE Electric's sole discretion. DTE Electric reserves the right, in its sole discretion, to extend the RFP due date.

6) Review and Selection Criteria

The objective of the Proposal evaluation is to identify the Proposal(s) which best meet the requirements of this RFP. The evaluation process will include the assessment of both economic and non-economic criteria. The economic evaluation will be conducted primarily using spreadsheet analysis tools which will assess the proposed cost factors set forth in each Proposal. Non-economic factors will be assessed through a due diligence process that will gauge the relative risks and benefits of each Proposal.

Proposals will be evaluated using a multi-step process as follows:

Step 1 – Screening

The information provided in the Proposal will first be evaluated for completeness and consistency with the Proposal content and bid requirements outlined in this RFP.

As a result of this screening review, DTE Electric will eliminate Proposals that do not meet the requirements described in this RFP from further consideration. DTE Electric will limit follow up contacts to clarify Proposals or request additional information only to those Proposals that meet the requirements described in this RFP.

Step 2 – Evaluation

DTE Electric will evaluate the Proposals based on both economic and non-economic evaluation criteria, listed below in no particular order, that will include but are not limited to:

Economic Evaluation Criteria

Proposals will be evaluated to determine the overall cost of the Project, as unitized and levelized on a per MWh basis for the purposes of facilitating a cross-proposal comparison. This will include but is not limited to the acquisition price, the PPA

price (including lost Project terminal value, anticipated financial compensation mechanism, and additional costs that may impact customers), operation and maintenance, and capital requirements over the life of the Project.

Submission requirements supporting this economic evaluation are described in sections 3.8 and 3.13 of Appendix A for the BTA option and in sections 3.6 and 3.11 of Appendix B for the PPA option.

Non-Economic Evaluation Criteria

The purpose of the non-economic evaluation is to assess whether the Project proposed meets certain quality standards which evidence that the Respondent has done the necessary due diligence and development work such that the Project is in a relatively satisfactory position to proceed, upon contract award, from its present state through the stated guaranteed COD while meeting all obligations established under either the BTA or PPA agreements, as applicable. The non-economic evaluation will highlight any risks that are presented to DTE and its customers with respect to the Proposal. Proposals will be evaluated based on five non-economic criteria:

Project Feasibility

Evaluation will include, but will not be limited to, an assessment of the following:

- The feasibility of the proposed Project to be completed by the guaranteed COD
 based upon the status of land acquisition, interconnection planning and panel
 order; Proposals that provide substantial assurances of being commercially
 available in the time schedule proposed are preferred.
- 2) Acceptance and support for the proposed Project by the community and local, state and federal government.
- 3) Potential environmental impacts from the proposed Project, including impacts on wildlife, and any proposed mitigation measures to lessen the impact of the proposed facility on the environment, including wildlife.
- 4) The timelines for acquiring and the feasibility of obtaining all required permits (federal, state, local) and land rights (including those required for new interconnection lines).
- 5) A high level of site control through executed land leases/easements and stated terms of the agreements.

Submission requirements supporting this evaluation are described in sections 2.2, 3.7 and 3.12 of Appendix A for the BTA option and in sections 2.2, 3.6, 3.10 of Appendix B for the PPA option.

Exceptions to the DTE pro forma agreements

DTE Electric will evaluate the exceptions to the agreements as they relate to the ability of the two parties to potentially execute an acceptable definitive agreement and the extent to which they shift risk to DTE Electric.

Submission requirements supporting this evaluation are described in section 3.10 of Appendix A for the BTA option and in section 3.8 of Appendix B for the PPA option.

Technical & Operations & Maintenance

Under this criterion, DTE Electric will assess the following:

- The proposed solar panels and inverters from the standpoint of the reliability of the technology along with reviewing the commercial terms of the panel supply agreement and warranty arrangements
- 2) The experience of the Respondent and the Respondent's advisors involved in generating energy projections and the quality and quantity of on-site solar data, availability data, and capacity factor guaranteed
- 3) The capacity factor based on the micrositing analysis.
- 4) Set-back requirements are followed on Project layout.
- 5) The status and schedule for completion of the necessary interconnection arrangements to provide the delivery of energy at the Proposal-specified Point of Interconnection.
- 6) The proper metering and SCADA systems have been proposed.
- 7) The operations and maintenance plan.
- 8) Similar projects can be visited by DTE Electric.

Submission requirements supporting this area are described in sections 3.6, 3.7, and 3.8 of Appendix A for the BTA option and in sections 3.6 of Appendix B for the PPA option.

Experience and Project Management

The pertinent experience of the Respondent in developing, financing, constructing, and operating and maintaining solar energy facilities; DTE Electric prefers Respondents with a successful history of relevant experience.

Submission requirements supporting this area are described in sections 3.2, 3.3, 3.4, 3.5, 3.6 and 3.13 of Appendix A for the BTA option and in sections 3.2, 3.3, 3.4, 3.5 and 3.10 of Appendix B for the PPA option.

Financial Strength and Creditworthiness

DTE Electric requires Respondents to demonstrate the ability to obtain credit support in the future from credit support providers (banks, parent companies, financial institutions). After the Proposal has been submitted and upon further review by DTE Risk Management, Respondent may be asked to provide additional documentation to complete the Company's evaluation of financial strength and creditworthiness.

Submission requirements supporting this evaluation criteria are described in section 3.11 of Appendix A for the BTA option and in section 3.9 of Appendix B for the PPA option.

Additional points are available for diversity, Michigan-based suppliers, Michigan-based labor and Michigan manufactured material content. Submission requirements supporting this evaluation are described in section 3.9 of Appendix A for the BTA option and in section 3.7 of Appendix B for the PPA option.

Step 3 – Scoring & Ranking

Upon completion of the detailed evaluation, DTE Electric will develop a combined score, inclusive of both the non-economic and economic criteria assessment. Based on the aggregated score, Proposals will be sorted and ranked accordingly.

7) Additional RFP Guidelines and Terms

Carefully review the following guidelines and terms that apply to this RFP. A notice of intent to bid message will be interpreted as an understanding and acceptance of these guidelines and terms:

7.1 Conforming Bids

DTE will consider Proposals submitted under each contracting structure. The Company will consider a conforming bid one where Respondent submits at least one of the following for a Project:

- 1) Build Transfer Proposal
- 2) Power Purchase Proposal & Build Transfer Proposal

7.2 Disclaimer

Nothing in this RFP shall be construed as an offer or commitment by DTE Electric and any response to this RFP does not bind DTE Electric in any way. DTE Electric reserves the

right to discontinue or modify the RFP process at any time, and makes no commitments, implied or otherwise, that this process will result in a business transaction or negotiation with one or more Respondents. All costs incurred by a Respondent in preparing a response to this RFP and in providing or obtaining additional information to or from DTE Electric shall be borne by the Respondent.

7.3 Right of Rejection / Acceptance

DTE Electric reserves the right to reject any or all responses, to accept any response or to select any combination of responses. DTE Electric reserves the right to waive any irregularity contained in any response, including a nonconforming bid.

7.4 Right of Withdrawal

A Proposal may be withdrawn at any time prior to the RFP due date. Any request to withdraw a response must be sent via e-mail to David Wasmund at david.wasmund@dteenergy.com

7.5 Documents

DTE Electric makes no representations or warranties regarding the accuracy or completeness of the information contained in this RFP, including the attachments, appendices, and exhibits. The Respondent is responsible for making its own evaluation of information and data contained in this RFP and in preparing and submitting Proposals in response to this RFP.

7.6 Confidentiality

All Proposals submitted in response to this RFP are the property of DTE Electric upon submittal. DTE Electric will take reasonable precautions and use reasonable efforts to maintain the confidentiality of all responses submitted and will disclose such responses to its agents, employees, or consultants who have a need to know as is necessary for that agent, employee, or consultant to perform his/her function relating to the Project. Further, information that is received in response to this RFP will be properly maintained in accordance with DTE Electric's Code of Conduct which was issued pursuant to the October 29, 2001 Rehearing Order in MPSC Case No. U-12134. Respondents should clearly identify each page of information considered to be confidential or proprietary. Regardless of the confidentiality claimed, all such information may be subject to review by the appropriate state authority, or any other governmental authority or judicial body with jurisdiction relating to these matters and may be subject to discovery. Under such circumstances, DTE Electric will use reasonable efforts to protect Respondent's confidential information.

7.7 Compliance with Federal and State Regulation

Respondents selected for further consideration must provide documentation that will enable DTE Electric to assess the Respondent's ability to comply with all federal and state regulations, and to obtain all permits, licenses and approvals necessary to construct and operate the Project.

7.8 Proposal Validity

Proposals that are submitted must be valid for at least six (6) months after the Proposal due date, November 5, 2019. Please list any exceptions to this duration.

8) Attachments

- A. Proposal Cover Sheet
- B. PowerAdvocate Quick Start Guide
- C. PowerAdvocate FAQs

9) Appendices

- A. Build Transfer RFP Documentation
- B. Power Purchase RFP Documentation

Project #	Technology	MW (AC)	Structure	COD	Total Bid Score	LCOE (As Bid)	LCOE Range (with estimated contractual exception adjustments)	LCOE Range (with estimated contractual exception and terminal value adjustments)	Comment
1	Wind	225	Self	2021	4.0	\$46	\$46-49	\$46-49	Currently in consideration for REP Compliance
2	Wind	150	вта	2021	3.1	\$56	\$57-60	\$57-60	Currently in consideration for VGP
3	Solar	75	PPA	2021	3.0	\$44	\$47-50	\$51-54	Currently in consideration for REP Compliance
4	Solar	75	вта	2021	3.0	\$49	\$51-54	\$51-54	Duplicate of project in consideration for REP Compliance
5	Solar	75	PPA	2021	2.9	\$45	\$48-51	\$52-55	Duplicate of project in consideration for REP Compliance
6	Solar	75	PPA	2021	2.9	\$45	\$48-51	\$56-59	Duplicate of project in consideration for REP Compliance
7	Solar	75	PPA	2021	2.7	\$46	\$49-52	\$56-59	Duplicate of project in consideration for REP Compliance
8	Solar	75	ВТА	2021	2.7	\$57	\$60-63	\$60-63	
9	Solar	75	вта	2021	2.6	\$58	\$61-64	\$61-64	
10	Solar	50	ВТА	2021	2.5	\$63	\$66-69	\$66-69	
11	Solar	75	ВТА	2021	2.4	\$256	\$259-262	\$259-262	
12	Solar	75	ВТА	2021	2.4	\$256	\$259-262	\$259-262	
13	Solar	50	вта	2021	2.2	\$67	\$70-73	\$70-73	

Project #	Technology	MW (AC)	Structure	COD	Total Bid Score	LCOE (As Bid)	LCOE Range(with estimated contractual exception adjustments)	LCOE Range(with estimated contractual exception and terminal value adjustments)	Comment
14	Solar	125	PPA	2022	3.6	\$41	\$44-47	\$49-52	Currently in consideration for VGP
15	Solar	125	ВТА	2022	3.2	\$52	\$52-55	\$52-55	Duplicate of project in consideration for VGP
16	Solar	200	PPA	2022	3.1	\$41	\$44-47	\$49-52	Currently in consideration for VGP
17	Solar	50	BTA	2022	3.1	\$53	\$54-57	\$54-57	
18	Wind	200	BTA	2022	3.1	\$70	\$70-73	\$70-73	
19	Solar	75	PPA	2022	3.0	\$46	\$49-52	\$51-54	Duplicate of project in consideration for VGP in 2023
20	Solar	75	BTA	2022	3.0	\$49	\$51-54	\$51-54	Duplicate of project in consideration for REP Compliance in 2021
21	Solar	75	PPA	2022	3.0	\$43	\$46-49	\$51-54	Duplicate of project in consideration for REP Compliance in 2021
22	Solar	75	PPA	2022	3.0	\$44	\$47-50	\$51-54	Duplicate of project in consideration for REP Compliance in 2021
23	Solar	50	ВТА	2022	3.0	\$54	\$55-58	\$55-58	
24	Solar	200	ВТА	2022	2.9	\$46	\$46-49	\$46-49	Duplicate of project in consideration for VGP
25	Solar	200	PPA	2022	2.9	\$42	\$45-48	\$50-53	Duplicate of project in consideration for VGP
26	Solar	50	BTA	2022	2.9	\$50	\$51-54	\$51-54	
27	Solar	200	PPA	2022	2.9	\$44	\$47-50	\$51-54	Currently in consideration for VGP
28	Solar	75	PPA	2022	2.9	\$45	\$48-51	\$55-58	Duplicate of project in consideration for VGP in 2023
29	Solar	125	BTA	2022	2.8	\$49	\$49-52	\$49-52	Duplicate of project in consideration for VGP
30	Solar	200	PPA	2022	2.8	\$43	\$46-49	\$54-57	Duplicate of project in consideration for VGP
31	Solar	200	PPA	2022	2.8	\$43	\$46-49	\$54-57	Duplicate of project in consideration for VGP
32	Solar	200	PPA	2022	2.7	\$44	\$47-50	\$52-55	Duplicate of project in consideration for VGP
33	Solar	50	PPA	2022	2.7	\$46	\$49-52	\$53-56	Currently in consideration for REP Compliance
34	Solar	50	PPA	2022	2.7	\$47	\$50-53	\$54-57	Duplicate of project in consideration for REP Compliance
35	Solar	50	BTA	2022	2.7	\$53	\$55-58	\$55-58	Duplicate of project in consideration for REP Compliance
36	Solar	75	PPA	2022	2.7	\$45	\$48-51	\$56-59	Duplicate of project in consideration for REP Compliance in 202
37	Solar	75	PPA	2022	2.7	\$45	\$48-51	\$56-59	Duplicate of project in consideration for REP Compliance in 202
38	Solar	200	PPA	2022	2.6	\$45	\$48-51	\$56-59	Duplicate of project in consideration for VGP
39	Solar	200	PPA	2022	2.6	\$46	\$49-52	\$56-59	Duplicate of project in consideration for VGP
40	Solar	50	PPA	2022	2.5	\$49	\$52-55	\$59-62	Duplicate of project in consideration for REP Compliance
41	Solar	50	PPA	2022	2.5	\$49	\$52-55	\$59-62	Duplicate of project in consideration for REP Compliance
42	Solar	50	вта	2022	2.5	\$59	\$60-63	\$60-63	

Project #	Technology	MW (AC)	Structure	COD	Total Bid Score	LCOE (As Bid)	LCOE Range(with estimated contractual exception adjustments)	LCOE Range(with estimated contractual exception and terminal value adjustments)	Comment
43	Wind	200	вта	2022	2.5	\$60	\$62-65	\$62-65	
44	Solar	50	PPA	2022	2.4	\$46	\$49-52	\$57-60	
45	Solar	50	BTA	2022	2.4	\$59	\$62-65	\$62-65	
46	Solar	50	PPA	2022	2.3	\$46	\$49-52	\$57-60	
47	Wind	200	PPA	2022	2.3	\$55	\$57-60	\$60-63	
48	Wind	200	PPA	2022	2.3	\$54	\$56-59	\$60-63	

Project #	Technology	MW (AC)	Structure	COD	Total Bid Score	LCOE (As Bid)	LCOE Range(with estimated contractual exception adjustments)	LCOE Range(with estimated contractual exception and terminal value adjustments)	Comment
49	Solar	50	PPA	2023	3.3	\$37	\$38-41	\$40-43	Currently in consideration for VGP
50	Solar	50	PPA	2023	3.3	\$38	\$39-42	\$41-44	Duplicate of project in consideration for VGP
51	Solar	50	PPA	2023	3.3	\$37	\$38-41	\$44-47	Duplicate of project in consideration for VGP
52	Solar	50	PPA	2023	3.3	\$38	\$39-42	\$45-48	Duplicate of project in consideration for VGP
53	Solar	50	PPA	2023	3.2	\$38	\$39-42	\$41-44	Currently in consideration for VGP
54	Solar	50	PPA	2023	3.2	\$39	\$40-43	\$42-45	Duplicate of project in consideration for VGP
55	Solar	50	PPA	2023	3.2	\$38	\$39-42	\$44-47	Duplicate of project in consideration for VGP
56	Solar	50	PPA	2023	3.2	\$39	\$40-43	\$45-48	Duplicate of project in consideration for VGP
57	Solar	75	BTA	2023	3.2	\$48	\$51-54	\$51-54	
58	Solar	200	BTA	2023	3.1	\$46	\$48-51	\$48-51	Duplicate of project in consideration for VGP in 2022
59	Solar	200	PPA	2023	3.1	\$41	\$44-47	\$49-52	Duplicate of project in consideration for VGP in 2022
60	Solar	200	PPA	2023	3.1	\$41	\$44-47	\$49-52	Duplicate of project in consideration for VGP in 2022
61	Solar	150	PPA	2023	3.0	\$45	\$48-51	\$50-53	Currently in consideration for VGP
62	Solar	75	PPA	2023	3.0	\$45	\$48-51	\$50-53	Duplicate of project in consideration for VGP
63	Solar	75	BTA	2023	3.0	\$49	\$51-54	\$51-54	Duplicate of project in consideration for REP Compliance in 2021
64	Solar	75	PPA	2023	3.0	\$43	\$46-49	\$51-54	Duplicate of project in consideration for REP Compliance in 2021
65	Solar	75	PPA	2023	3.0	\$43	\$46-49	\$51-54	Duplicate of project in consideration for REP Compliance in 2021
66	Solar	75	PPA	2023	3.0	\$46	\$49-52	\$51-54	Duplicate of project in consideration for VGP
67	Solar	200	BTA	2023	2.9	\$48	\$50-53	\$50-53	Duplicate of project in consideration for VGP in 2022
68	Solar	200	PPA	2023	2.9	\$43	\$46-49	\$51-54	Duplicate of project in consideration for VGP in 2022
69	Solar	200	PPA	2023	2.9	\$43	\$46-49	\$51-54	Duplicate of project in consideration for VGP in 2022
70	Solar	200	PPA	2023	2.9	\$42	\$43-46	\$52-55	
71	Solar	200	PPA	2023	2.9	\$46	\$47-50	\$52-55	
72	Solar	200	PPA	2023	2.9	\$51	\$52-55	\$54-57	
73	Solar	50	BTA	2023	2.9	\$54	\$55-58	\$55-58	Duplicate of project in consideration for VGP
74	Solar	150	PPA	2023	2.9	\$44	\$47-50	\$55-58	Duplicate of project in consideration for VGP
75	Solar	75	PPA	2023	2.9	\$44	\$47-50	\$55-58	Duplicate of project in consideration for VGP
76	Solar	50	BTA	2023	2.9	\$54	\$55-58	\$55-58	Duplicate of project in consideration for VGP
77	Solar	75	PPA	2023	2.9	\$45	\$48-51	\$56-59	Duplicate of project in consideration for REP Compliance in 2021

Project #	Technology	MW (AC)	Structure	COD	Total Bid Score	LCOE (As Bid)	LCOE Range(with estimated contractual exception adjustments)	LCOE Range(with estimated contractual exception and terminal value adjustments)	Comment
78	Solar	75	PPA	2023	2.9	\$45	\$48-51	\$56-59	Duplicate of project in consideration for REP Compliance in 2021
79	Solar	100	вта	2023	2.9	\$53	\$56-59	\$56-59	
80	Solar	200	BTA	2023	2.9	\$56	\$57-60	\$57-60	
81	Solar	150	BTA	2023	2.9	\$56	\$58-61	\$58-61	
82	Solar	200	PPA	2023	2.8	\$42	\$45-48	\$54-57	Duplicate of project in consideration for VGP in 2022
83	Solar	200	PPA	2023	2.8	\$42	\$45-48	\$54-57	Duplicate of project in consideration for VGP in 2022
84	Solar	75	ВТА	2023	2.8	\$54	\$57-60	\$57-60	
85	Solar	50	PPA	2023	2.7	\$46	\$49-52	\$53-56	Duplicate of project in consideration for REP Compliance in 2022
86	Solar	50	PPA	2023	2.7	\$46	\$49-52	\$54-57	Duplicate of project in consideration for REP Compliance in 2022
87	Solar	50	вта	2023	2.7	\$53	\$55-58	\$55-58	Duplicate of project in consideration for REP Compliance in 2022
88	Solar	200	PPA	2023	2.7	\$45	\$48-51	\$56-59	Duplicate of project in consideration for VGP in 2022
89	Solar	200	PPA	2023	2.7	\$45	\$48-51	\$56-59	Duplicate of project in consideration for VGP in 2022
90	Solar	75	PPA	2023	2.7	\$45	\$48-51	\$56-59	Duplicate of project in consideration for VGP
91	Solar	200	PPA	2023	2.7	\$48	\$51-54	\$59-62	
92	Solar	200	PPA	2023	2.7	\$50	\$53-56	\$60-63	
93	Solar	100	PPA	2023	2.7	\$56	\$57-60	\$61-64	
94	Solar	100	PPA	2023	2.6	\$54	\$55-58	\$61-64	
95	Solar	100	PPA	2023	2.6	\$54	\$55-58	\$61-64	
96	Solar	50	PPA	2023	2.6	\$57	\$58-61	\$61-64	
97	Solar	75	PPA	2023	2.6	\$54	\$55-58	\$62-65	
98	Solar	50	PPA	2023	2.6	\$54	\$55-58	\$62-65	
99	Solar	75	вта	2023	2.6	\$59	\$62-65	\$62-65	
100	Solar	50	вта	2023	2.6	\$61	\$64-67	\$64-67	
101	Solar	50	PPA	2023	2.5	\$48	\$51-54	\$58-61	Duplicate of project in consideration for REP Compliance in 2022
102	Solar	50	PPA	2023	2.5	\$48	\$51-54	\$59-62	Duplicate of project in consideration for REP Compliance in 2022
103	Solar	100	PPA	2023	2.5	\$54	\$55-58	\$61-64	
104	Solar	100	PPA	2023	2.5	\$57	\$58-61	\$62-65	
105	Solar	150	PPA	2023	2.5	\$54	\$57-60	\$63-66	
106	Solar	150	PPA	2023	2.5	\$55	\$58-61	\$65-68	

Project #	Technology	MW (AC)	Structure	COD	Total Bid Score	LCOE (As Bid)	LCOE Range(with estimated contractual exception adjustments)	LCOE Range(with estimated contractual exception and terminal value adjustments)	Comment
107	Solar	100	ВТА	2023	2.5	\$69	\$71-74	\$71-74	
108	Solar	75	ВТА	2023	2.5	\$73	\$75-78	\$75-78	
109	Solar	100	ВТА	2023	2.5	\$73	\$75-78	\$75-78	
110	Solar	50	ВТА	2023	2.5	\$81	\$83-86	\$83-86	
111	Solar	100	ВТА	2023	2.4	\$73	\$75-78	\$75-78	
112	Solar	75	ВТА	2023	2.4	\$256	\$259-262	\$259-262	
113	Solar	75	ВТА	2023	2.4	\$256	\$259-262	\$259-262	
114	Solar	200	ВТА	2023	2.3	\$62	\$63-66	\$63-66	
115	Solar	25	ВТА	2023	1.9	N/A	N/A	N/A	
116	Solar	25	ВТА	2023	1.8	N/A	N/A	N/A	

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	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(1)
Line												
No.	Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
	Total Annual Incremental Energy Savings (MWh) ¹											
1	1.5% (IRP Starting Point)	702,851	700,870	701,156	702,273	701,147	700,420	699,624	699,230	699,022	698,853	698,732
2	1.75% Defined PCA ³ /1.75% Flexible PCA-A,B,D ⁴)	702,851	759,276	818,016	817,273	814,027	811,246	808,399	806,390	804,684	803,107	802,147
3	1.75% Defined PCA ¹ /2.00% Flexible PCA-C ⁵)	702,851	759,276	818,016	817,273	814,027	811,246	866,142	921,589	917,335	913,363	910,134
4	2.00% (Revised) ⁸	702,851	784,397	934,875	931,689	925,783	920,421	915,019	910,999	907,457	904,129	902,129
5	2.25%	702,851	817,681	934,875	1,045,521	1,036,417	1,027,953	1,019,491	1,013,085	1,007,361	1,001,969	998,767
6	2.50%	702,851	855,061	1,014,339	1,158,769	1,145,938	1,133,863	1,121,867	1,112,711	1,104,397	1,096,657	1,092,121
	Total Cumulative Energy Savings (MWh) ^{1 7}											
7	1.5% (IRP Starting Point)	750,206	1,444,500	2,153,571	2,875,239	3,472,031	4,051,194	4,608,739	5,151,670	5,470,110	5,714,355	6,019,403
8	1.75% Defined PCA ¹ /1.75% Flexible PCA-A,B,D ²)	750,206	1,506,999	2,337,690	3,177,680	3,891,009	4,585,749	5,243,095	5,895,121	6,321,370	6,638,096	7,003,564
9	1.75% Defined PCA ¹ /2.00% Flexible PCA-C ²)	750,206	1,506,999	2,337,690	3,177,680	3,891,009	4,585,749	5,304,709	6,076,894	6,617,888	7,048,352	7,522,296
10	2.00% (Revised) ⁸	750,206	1,533,881	2,486,284	3,443,940	4,271,884	5,080,476	5,842,837	6,601,344	7,132,414	7,545,534	8,009,513
11	2.25%	750,206	1,569,501	2,521,806	3,600,909	4,543,680	5,464,205	6,329,787	7,174,964	7,763,910	8,227,091	8,737,429
12	2.50%	750,206	1,609,503	2,644,631	3,841,483	4,897,110	5,928,320	6,889,054	7,801,727	8,416,837	8,899,861	9,428,184
	Total Cumulative Capacity Savings (MW) ^{1 6 7}											
13	1.5% (IRP Starting Point)	112	218	331	450	548	644	741	832	894	944	1,004
14	1.75% Defined PCA ¹ /1.75% Flexible PCA-A,B,D ²)	112	229	363	506	629	751	873	990	1,070	1,137	1,212
15	1.75% Defined PCA ¹ /2.00% Flexible PCA-C ²)	112	229	363	506	629	751	887	1,031	1,139	1,234	1,335
16	2.00% (Revised) ⁸	112	232	393	564	711	854	1,001	1,141	1,246	1,336	1,435
17	2.25%	112	239	400	590	756	920	1,083	1,235	1,345	1,439	1,536
18	2.50%	112	245	422	629	811	992	1,170	1,332	1,445	1,543	1,644
	Total Annual Capital Cost (\$M) ¹											
19	1.5% (IRP Starting Point)	\$22.2	\$26.0	\$26.7	\$27.4	\$26.0	\$22.4	\$21.1	\$20.9	\$21.5	\$20.7	\$19.7
20	1.75% Defined PCA ³ /1.75% Flexible PCA-A,B,D ⁴)	\$22.2	\$30.3	\$36.1	\$37.0	\$34.3	\$29.5	\$27.7	\$27.6	\$27.6	\$26.7	\$25.4
21	1.75% Defined PCA¹/2.00% Flexible PCA-C⁵)	\$22.2	\$30.3	\$36.1	\$37.0	\$34.3	\$29.5	\$32.0	\$35.9	\$35.0	\$33.9	\$32.7
22	2.00% (Revised) ⁸	\$22.2	\$33.6	\$51.8	\$52.7	\$44.5	\$40.4	\$38.2	\$35.4	\$34.6	\$33.6	\$32.3
23	2.25%	\$22.2	\$35.0	\$51.8	\$63.2	\$54.1	\$49.2	\$46.7	\$43.3	\$42.1	\$41.0	\$39.8
24	2.50%	\$22.2	\$36.7	\$57.1	\$120.7	\$108.8	\$89.5	\$82.6	\$80.6	\$77.9	\$75.4	\$68.1
	Total Assessal OS NA Cost (CNA)12											
25	Total Annual O&M Cost (\$M) ^{1 2}	604.4	604.0	¢07.5	¢04.2	Ć00 F	¢00.2	¢00.0	¢00.2	Ć00.4	604.2	Ć04.4
25	1.5% (IRP Starting Point)	\$91.1	\$84.8	\$87.5	\$91.3	\$89.5	\$88.2	\$90.8	\$90.2	\$89.4	\$94.2	\$94.1
26 27	1.75% Defined PCA³/1.75% Flexible PCA-A,B,D⁴) 1.75% Defined PCA¹/2.00% Flexible PCA-C⁵)	\$91.1	\$97.9 \$07.0	\$118.7	\$123.8	\$119.4 \$110.4	\$117.8	\$121.1	\$120.4	\$117.0 \$151.4	\$123.9	\$123.3
27 28	2.00% (Revised) ⁸	\$91.1 \$91.1	\$97.9 \$107.4	\$118.7 \$167.3	\$123.8 \$175.5	\$119.4 \$156.7	\$117.8 \$160.0	\$140.8 \$164.4	\$158.9 \$156.3	\$151.4 \$149.5	\$159.8 \$157.9	\$159.6 \$157.7
29	2.25%	\$91.1	\$107.4	\$167.3	\$173.3	\$130.7	\$203.8	\$208.6	\$198.0	\$149.5 \$190.6	\$200.1	\$137.7
30	2.50%	\$91.1	\$112.7	\$107.5	\$381.2	\$356.7	\$338.4	\$340.0	\$331.1	\$311.5	\$329.5	\$317.6
30	2.30/0	751.1	7110.0	\$105.0	7501.2	7330.7	7 556.4	γ 5-το.σ	7331.1	γ311. 3	4323.3	γ317.0
	Total Financial Performance Incentive (\$M) ¹											
31	1.5% (IRP Starting Point)	\$22.7	\$22.2	\$22.9	\$23.7	\$23.1	\$22.1	\$22.4	\$22.2	\$22.2	\$23.0	\$22.7
32	1.75% Defined PCA ³ /1.75% Flexible PCA-A,B,D ⁴)	\$22.7	\$25.6	\$31.0	\$32.2	\$30.7	\$29.5	\$29.8	\$29.6	\$28.9	\$30.1	\$29.7
33	1.75% Defined PCA ¹ /2.00% Flexible PCA-C ⁵)	\$22.7	\$25.6	\$31.0	\$32.2	\$30.7	\$29.5	\$34.5	\$38.9	\$37.3	\$38.7	\$38.4
34	2.00% (Revised) ⁸	\$22.7	\$28.2	\$43.8	\$45.7	\$40.2	\$40.1	\$40.5	\$38.3	\$36.8	\$38.3	\$38.0
35	2.25%	\$22.7	\$29.5	\$43.8	\$56.6	\$50.8	\$50.6	\$51.1	\$48.3	\$46.5	\$48.2	\$49.5
36	2.50%	\$22.7	\$31.1	\$48.4	\$100.4	\$93.1	\$85.6	\$84.5	\$82.3	\$77.9	\$81.0	\$77.1
	Total Annual Cost (\$M)1 2											
27	• •	¢136.0	¢122.0	¢127.1	¢1.42.4	¢139.6	¢122.7	¢124.4	¢122.4	¢122.1	¢127.0	¢126 E
37 38	1.5% (IRP Starting Point) 1.75% Defined PCA ³ /1.75% Flexible PCA-A,B,D ⁴)	\$136.0 \$136.0	\$133.0 \$153.8	\$137.1 \$185.7	\$142.4 \$192.9	\$138.6 \$184.4	\$132.7 \$176.8	\$134.4 \$178.5	\$133.4 \$177.5	\$133.1 \$173.5	\$137.9 \$180.7	\$136.5 \$178.5
38 39	1.75% Defined PCA-71.75% Flexible PCA-A,B,D-1) 1.75% Defined PCA ¹ /2.00% Flexible PCA-C ⁵)	\$136.0 \$136.0	\$153.8 \$153.8	\$185.7 \$185.7	\$192.9 \$192.9	\$184.4 \$184.4	\$176.8 \$176.8	\$178.5 \$207.3	\$177.5 \$233.7	\$173.5 \$223.6	\$180.7 \$232.4	\$178.5 \$230.7
39 40	2.00% (Revised) ⁸	\$136.0	\$153.8	\$183.7	\$192.9	\$184.4 \$241.4	\$176.8	\$207.3 \$243.2	\$233.7 \$230.0	\$223.6	\$232.4 \$229.8	\$230.7 \$228.0
41	2.25%	\$136.0	\$109.2	\$263.0	\$339.8	\$305.0	\$303.7	\$306.3	\$289.5	\$279.2	\$229.8	\$228.0
42	2.50%	\$136.0	\$177.5	\$290.6	\$602.3	\$558.5	\$503.7	\$500.5	\$494.1	\$467.3	\$485.9	\$462.9
72		Ţ _00.0	Ţ = 00. T	₇ = 3 0 . 0	7002.0	+555.5	7020.0	+50/.±	7.5.1.2	Ţ . 0 / . 0	÷ .55.5	Ţ . 02. 3

Notes:

¹ Includes Tiered Incentive Cost sensitivity

² Includes costs from Pilots, Education, and EM&V

³ The Defined PCA increases the level of EWR to 1.75%, starting with an increase to 1.625% in 2020 and full implementation of 1.75% in 2021 through 2024.

 $^{^{\}rm 4}$ The Flexible PCA - A, B, & D continues the 1.75% EWR level from 2025 through 2040

⁵ The Flexible PCA - C increases the level of EWR to 2.00%, starting with an increase to 1.875% in 2020 and full implementation of 2.00% in 2026 through 2040

⁶ Total Cumulative Capacity Savings (MW) provided by IRP Team

⁷ Includes average line loss of 6.8% as approved in DTE Electric's General Rate Case No. U-15244

⁸ The Revised 2.00% EWR savings level includes 1.75% in 2020 prorated based on an August 2020 implementation and increases EWR to 2.0% in 2021-2040

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	(a)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)	(u)	(v)	(w)
Line												
No.	Description Carrier (ANALL)	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
1	Total Annual Incremental Energy Savings (MWh) ¹	608 655	609 649	600 554	600 400	609 396	609 215	608.070	607.804	607.763	607.693	607.635
1	1.5% (IRP Starting Point)	698,655	698,648	698,554	698,489	698,386	698,215	698,079	697,894	697,762	697,682	697,625
2	1.75% Defined PCA ³ /1.75% Flexible PCA-A,B,D ⁴)	801,392	800,659	800,234	799,603	799,760	799,607	799,413	799,455	798,973	798,634	798,631
3 4	1.75% Defined PCA ¹ /2.00% Flexible PCA-C ⁵)	907,325	905,091	903,600	901,900	901,041	900,298	899,150	898,749	897,315	896,524	896,317
4 5	2.00% 2.25%	900,537 996,219	898,906 993,569	898,089 992,323	896,757 990,227	897,252 991,211	897,155 991,399	896,902 991,144	897,251 991,939	896,358 990,642	895,716 989,657	895,757 989,628
6	2.50%	1,088,526	1,084,757	1,083,029	1,080,078	1,081,731	1,082,089	1,081,963	1,083,265	1,081,381	1,080,138	1,080,525
b	2.50%	1,088,320	1,064,757	1,065,029	1,080,078	1,001,731	1,062,069	1,061,965	1,065,205	1,001,301	1,000,130	1,060,525
	Total Cumulative Energy Savings (MWh) ¹⁷											
7	1.5% (IRP Starting Point)	6,186,664	6,245,083	6,125,008	5,941,857	5,945,454	5,857,586	6,008,841	6,052,122	6,031,371	6,202,312	6,400,705
8	1.75% Defined PCA ¹ /1.75% Flexible PCA-A,B,D ²)	7,155,025	7,195,506	7,084,826	6,891,939	6,955,959	6,811,549	6,866,838	6,915,130	6,894,345	7,017,025	7,194,863
9	1.75% Defined PCA ¹ /2.00% Flexible PCA-C ²)	7,781,261	7,928,171	7,919,073	7,718,357	7,823,756	7,689,266	7,777,556	7,884,894	7,893,049	7,952,866	8,120,121
10	2.00% (Revised) ⁸	8,240,842	8,370,960	8,348,607	8,131,410	8,218,906	8,028,308	8,084,325	8,124,937	8,094,303	8,107,762	8,235,612
11	2.25%	8,978,346	9,120,549	9,106,366	8,824,374	8,906,214	8,693,542	8,684,475	8,771,788	8,701,215	8,666,893	8,775,021
12	2.50%	9,652,354	9,767,176	9,700,100	9,527,848	9,580,719	9,308,470	9,366,585	9,403,426	9,404,312	9,559,751	9,842,148
	Total Cumulative Capacity Savings (MW) ^{1 6 7}											
13	1.5% (IRP Starting Point)	1,043	1,058	1,040	1,027	1,036	1,027	1,046	1,057	1,054	1,076	1,103
14	1.75% Defined PCA ¹ /1.75% Flexible PCA-A,B,D ²)	1,258	1,272	1,255	1,241	1,260	1,242	1,241	1,248	1,238	1,247	1,264
15	1.75% Defined PCA ¹ /2.00% Flexible PCA-C ²)	1,406	1,441	1,446	1,437	1,464	1,448	1,454	1,472	1,465	1,464	1,474
16	2.00% (Revised) ⁸	1,500	1,532	1,534	1,522	1,544	1,515	1,515	1,519	1,507	1,498	1,500
17	2.25%	1,601	1,633	1,633	1,609	1,631	1,600	1,589	1,601	1,583	1,565	1,566
18	2.50%	1,710	1,739	1,730	1,723	1,740	1,682	1,678	1,676	1,663	1,676	1,713
	Total Annual Capital Cost (\$M) ¹											
19	1.5% (IRP Starting Point)	\$20.8	\$27.8	\$28.1	\$28.3	\$30.3	\$30.3	\$28.6	\$28.4	\$29.1	\$29.3	\$29.5
20	1.75% Defined PCA ³ /1.75% Flexible PCA-A,B,D ⁴)	\$26.9	\$35.2	\$35.5	\$35.6	\$38.2	\$38.4	\$36.1	\$35.8	\$36.7	\$36.9	\$37.2
21	1.75% Defined PCA ¹ /2.00% Flexible PCA-C ⁵)	\$35.1	\$43.5	\$43.9	\$44.9	\$46.7	\$47.1	\$44.4	\$43.8	\$45.4	\$45.6	\$45.8
22	2.00%	\$34.8	\$43.2	\$43.7	\$44.6	\$46.6	\$47.0	\$44.3	\$43.7	\$45.3	\$45.6	\$45.8
23	2.25%	\$43.3	\$54.7	\$55.2	\$55.8	\$58.5	\$59.1	\$56.5	\$56.1	\$58.1	\$58.4	\$58.6
24	2.50%	\$72.6	\$94.9	\$95.6	\$96.6	\$108.7	\$108.6	\$101.3	\$100.4	\$102.3	\$102.5	\$102.9
		·	·	•		•	•	·			•	•
	Total Annual O&M Cost (\$M)1 2											
25	1.5% (IRP Starting Point)	\$92.6	\$94.6	\$96.6	\$97.6	\$96.4	\$96.6	\$95.7	\$101.5	\$99.0	\$99.9	\$100.8
26	1.75% Defined PCA ³ /1.75% Flexible PCA-A,B,D ⁴)	\$121.8	\$121.8	\$124.3	\$125.4	\$121.8	\$121.5	\$120.3	\$127.5	\$124.7	\$125.7	\$126.7
27	1.75% Defined PCA¹/2.00% Flexible PCA-C⁵)	\$159.8	\$153.7	\$156.9	\$159.8	\$152.1	\$150.4	\$150.2	\$155.9	\$156.3	\$157.3	\$158.4
28	2.00%	\$158.0	\$152.6	\$155.9	\$158.8	\$151.5	\$149.9	\$149.8	\$155.7	\$156.1	\$157.2	\$158.3
29	2.25%	\$197.7	\$192.0	\$195.9	\$198.6	\$192.7	\$194.1	\$195.3	\$215.9	\$201.4	\$202.6	\$203.9
30	2.50%	\$322.6	\$318.4	\$324.2	\$328.0	\$326.4	\$323.1	\$317.4	\$337.8	\$328.9	\$329.8	\$331.4
	Total Financial Performance Incentive (\$M) ¹											
31	1.5% (IRP Starting Point)	\$22.7	\$24.5	\$24.9	\$25.2	\$25.3	\$25.4	\$24.9	\$26.0	\$25.6	\$25.8	\$26.1
32	1.75% Defined PCA ³ /1.75% Flexible PCA-A,B,D ⁴)	\$29.7	\$31.4	\$31.9	\$32.2	\$32.0	\$32.0	\$31.3	\$32.7	\$32.3	\$32.5	\$32.8
33	1.75% Defined PCA ¹ /2.00% Flexible PCA-C ⁵)	\$39.0	\$39.4	\$40.2	\$40.9	\$39.8	\$39.5	\$38.9	\$39.9	\$40.3	\$40.6	\$40.9
34	2.00%	\$38.6	\$39.2	\$39.9	\$40.7	\$39.6	\$39.4	\$38.8	\$39.9	\$40.3	\$40.5	\$40.8
35	2.25%	\$48.2	\$49.3	\$50.2	\$50.9	\$50.2	\$50.6	\$50.4	\$54.4	\$51.9	\$52.2	\$52.5
36	2.50%	\$79.0	\$82.7	\$84.0	\$84.9	\$87.0	\$86.3	\$83.7	\$87.6	\$86.2	\$86.5	\$86.9
		+ · · · ·	+	Ŧ - ··•	+ - ····	+ - · · •	+ · · ·	T	Ŧ - · · •	+ · -	+ · · ·	+ · · ·
	Total Annual Cost (\$M) ^{1 2}											
37	1.5% (IRP Starting Point)	\$136.0	\$146.9	\$149.6	\$151.1	\$152.1	\$152.4	\$149.2	\$155.8	\$153.7	\$155.0	\$156.4
38	1.75% Defined PCA ³ /1.75% Flexible PCA-A,B,D ⁴)	\$178.4	\$188.4	\$191.7	\$193.1	\$192.0	\$191.8	\$187.7	\$196.0	\$193.7	\$195.1	\$196.7
39	1.75% Defined PCA¹/2.00% Flexible PCA-C⁵)	\$233.9	\$236.5	\$240.9	\$245.7	\$238.5	\$237.1	\$233.5	\$239.6	\$242.0	\$243.5	\$245.1
40	2.00%	\$231.4	\$234.9	\$239.4	\$244.2	\$237.7	\$236.3	\$232.9	\$239.3	\$241.8	\$243.3	\$245.0
41	2.25%	\$289.2	\$296.0	\$301.3	\$305.2	\$301.4	\$303.7	\$302.2	\$326.4	\$311.4	\$313.2	\$315.0
42	2.50%	\$474.2	\$496.0	\$503.7	\$509.6	\$522.0	\$518.1	\$502.4	\$525.8	\$517.4	\$518.9	\$521.1

Notes:

¹ Includes Tiered Incentive Cost sensitivity

² Includes costs from Pilots, Education, and EM&V

³ The Defined PCA increases the level of EWR to 1.75%, starting with an increase to 1.625% in 2020 and full implementation of 1.75% in 2021 through 2024.

⁴ The Flexible PCA - A, B, & D continues the 1.75% EWR level from 2025 through 2040

⁵ The Flexible PCA - C increases the level of EWR to 2.00%, starting with an increase to 1.875% in 2020 and full implementation of 2.00% in 2026 through 2040

⁶ Total Cumulative Capacity Savings (MW) provided by IRP Team

⁷ Includes average line loss of 6.8% as approved in DTE Electric's General Rate Case No. U-15244

⁸ The Revised 2.00% EWR savings level includes 1.75% in 2020 prorated based on an August 2020 implementation and increases EWR to 2.0% in 2021-2040

Michigan Public Service Commission
DTE Electric Company
IRP EWR, DR, CVR/VVO Resource Capacity and Cost
PCA Cost Pre-Approval Detail

Case No. : U-20471

Attachment: H

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	2019	2020	2021	2022	2023	2024					
Year		1	2	3	4	5					
	IRP Approval Period										
	Capital Cost Pre-Approval Period										

Starting Point Capacity (MW)									
The second color of the		Starting Point							Source
Table Tabl	1	Capacity (MW)							
4 Capital Costs (\$MM) 5 EWR 6 DR* 22.2 26.0 26.7 27.4 26.0 22.4 6 DR* 12.7 3.6 Proposed Course of Action (PCA) 7 Capacity (MW) 8 EWR 112.0 232 393 564 711 854 9 DR 709.0 746 782 836 858 859 10 CVR/VVO (estimate) 11 Capital Costs (\$MM) 12 EWR 22.2 33.6 51.8 52.7 44.5 40.4 13 DR 15.9 5.5 8.0 8.0 14 CVR/VVO 15 EWR 16 EWR 17 DR 17 DR 18 C23.0) (2.0) 6.0 15.0 - (4.0) 19 Capital Costs (\$MM) 20 EWR 21 DR 22 DR 23 DR 24 DR 25 DR 26 DR 26 DR 27.4 26.0 22.4 Attachment G Attachment G Attachment G Attachment G Attachment H, p.2 Exhibit A-29 Line 8 - Line 2 Line 9 - Line 3 Line 10 Line 12 - Line 5 Line 13 - Line 16	2	EWR	112.0	218.0	331.0	450.0	548.0	644.0	Attachment G
DR	3	DR	732.0	748.0	776.0	821.0	858.0	863.0	Exhibit A-3
Proposed Course of Action (PCA) Total Capacity (MW)	4	Capital Costs (\$MM)	-			-	-		
Proposed Course of Action (PCA) 7	5	EWR	22.2	26.0	26.7	27.4	26.0	22.4	Attachment G
7	6	DR*	12.7	3.6	-	-	-	-	
7		Proposed Course of Action (PC	Δ)						
8 EWR	7	-	A)						
9 DR	-	,	112.0	232	393	564	711	854	Attachment G
10									
11 Capital Costs (\$MM) 12 EWR 13 DR 15.9 5.5 8.0 8.0 Attachment G 14 CVR/VVO 15 Capacity (MW) 16 EWR 17 DR 18 CVR/VVO (estimate) 19 Capital Costs (\$MM) 22.2 33.6 51.8 52.7 44.5 40.4 15.9 5.5 8.0 8.0 Exhibit A-29 10.4 0.3 Exhibit A-29 11 Line 8 - Line 2 12 Line 9 - Line 3 13 Line 10 14 CVR/VVO (estimate) 15 Capacity (MW) 16 EWR 17 DR 18 CVR/VVO (estimate) 19 Capital Costs (\$MM) 20 EWR 21 DR 22.2 33.6 51.8 52.7 44.5 40.4 Attachment G Attachment H, p.2 Exhibit A-29 Line 8 - Line 2 Line 9 - Line 3 Line 10 Line 12 - Line 5 Line 13 - Line 6									
12 EWR 22.2 33.6 51.8 52.7 44.5 40.4 Attachment G 13 DR 15.9 5.5 8.0 8.0 - - Exhibit A-29 14 CVR/VVO 0.4 0.3 - - - Exhibit A-29 15 Capacity (MW) 16 EWR - 14.0 62.0 114.0 163.0 210.0 17 DR (23.0) (2.0) 6.0 15.0 - (4.0) 18 CVR/VVO (estimate) 0.8 0.8 - - - - 19 Capital Costs (\$MM) 20 EWR - 7.6 25.1 25.3 18.5 18.0 21 DR 3.2 1.9 8.0 8.0 - - 22.2 33.6 51.8 52.7 44.5 40.4 Attachment G Attachment G Attachment G Attachment H, p.2		,				ļ	ļ		
14 CVR/VVO			22.2	33.6	51.8	52.7	44.5	40.4	Attachment G
14 CVR/VVO	13	DR	15.9	5.5	8.0	8.0	-		Attachment H, p.2
15 Capacity (MW) 16 EWR 17 DR 18 CVR/VVO (estimate) 19 Capital Costs (\$MM) 20 EWR 21 DR 22 DR 3.2 1.9 8.0 8.0 Line 10 21 Line 8 - Line 2 21 Line 8 - Line 2 21 Line 9 - Line 3 21 Line 10 21 Line 12 - Line 5 21 Line 13 - Line 6	14	CVR/VVO	0.4	0.3	-	-	-	-	• •
15 Capacity (MW) 16 EWR 17 DR 18 CVR/VVO (estimate) 19 Capital Costs (\$MM) 20 EWR 21 DR 22 DR 3.2 1.9 8.0 8.0 Line 10 21 Line 8 - Line 2 21 Line 8 - Line 2 21 Line 9 - Line 3 21 Line 10 21 Line 12 - Line 5 21 Line 13 - Line 6		Incremental Amounta for Dra A	nnveyel = D	CA Starting n	-1-4				
16 EWR - 14.0 62.0 114.0 163.0 210.0 Line 8 - Line 2 17 DR (23.0) (2.0) 6.0 15.0 - (4.0) Line 9 - Line 3 18 CVR/VVO (estimate) 0.8 0.8 - - - - - Line 10 19 Capital Costs (\$MM) - 7.6 25.1 25.3 18.5 18.0 Line 12 - Line 5 21 DR 3.2 1.9 8.0 8.0 - - Line 13 - Line 6	15		pprovai = P	CA - Starting po	oint				
17 DR (23.0) (2.0) 6.0 15.0 - (4.0) Line 9 - Line 3 18 CVR/VVO (estimate) 0.8 0.8 - - - - - - Line 10 19 Capital Costs (\$MM) - 7.6 25.1 25.3 18.5 18.0 Line 12 - Line 5 21 DR 3.2 1.9 8.0 8.0 - - Line 13 - Line 6		,		14 0	62 N	114.0	163.0	210.0	line 8 - Line 2
18 CVR/VVO (estimate) 19 Capital Costs (\$MM) 20 EWR 21 DR 3.2 1.9 8.0 - -	_								
19 Capital Costs (\$MM) 20 EWR 21 DR - 7.6 25.1 25.3 18.5 18.0 Line 12 - Line 5 - 3.2 1.9 8.0 8.0 Line 13 - Line 6		= : :	_ ` /	` '					• •
20 EWR 21 DR - 7.6 25.1 25.3 18.5 18.0 Line 12 - Line 5 21 DR 3.2 1.9 8.0 8.0 - - Line 13 - Line 6		,	0.0	0.0	_	_			LINC 10
21 DR 3.2 1.9 8.0 8.0 Line 13 - Line 6		•		76	25.1	25.3	18.5	18.0	Line 12 - Line 5
22 CVR/VVO 0.4 0.3 Line 14	۱ ک	DIX	5.2	1.9	0.0	0.0	-		LING 10 - LING U
	22	CVR/VVO	0.4	0.3	-	-			Line 14

^{*} As requested in Rate Case U-20162 throughout End of Test Year (4/30/2020)

Michigan Public Service Commission DTE Electric Company Demand Response Capital Expenditures (\$000) Case No: U-20471 Attachment H

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(a) Line	(b)	(c)	(d)	(e)	(f)
No.		Program / Pilot Description	2020	2021	2022
1		Requested DR Capital Expenditures in Rate Case U-201621			
2		Interruptible Air Conditioning (IAC) ²	2,000		
3		Programmable Communicating Thermostats (PCT)⁴	900		
4		Other DR Pilot Programs⁵	700		
5		Total Requested Capital Expenditures	3,600		
6					
7		Projected DR Capital Expenditures			
8		Interruptible Air Conditioning (IAC) ²	1,800	5,000	5,000
9		Programmable Communicating Thermostats (PCT)⁴	3,700	3,000	3,000
10		Other DR Pilot Programs⁵	-	-	-
11		Total Capital Expenditures	5,500	8,000	8,000
12					
13		Requested Preapproval DR Capital Expenditures			
		In 2019 IRP Case U-20471 ⁶ (Difference: Line 11 minus Line 5)	1,900	8,000	8,000
14					
15	Not	es:			
16	1	Test year in Rate Case U-20162 includes the period January 1, 2020 - April	30, 2020		
17	2	IAC Program in conjunction with D1.1 Interruptible A/C rate			
18	3	In the year 2019, DTEE is planning to accelerate unit installation originally so	cheduled for 2	020 and beyo	ond
19	4	PCT Program in conjunction with Dynamic Peak Pricing rate (D1.8)			
20	5	Includes: Bring-Your-Own Device (BYOD) program (residential), battery-stor- company-controlled electric vehicle charging program or PEV-EPRI program other pilots			
21	6	Preapproval period in Case U-20471 extends from May 1, 2020 through Dec	cember 31, 20	22	

Residential Customer Class

Line		<u>Source</u>	<u>U-20162</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>
1	Class Revenue Requirement from U-20162	U-20162 Order detail	2,470															
2	Revenue Requirement Projection	2.13% inflation		2,522	2,576	2,631	2,687	2,744	2,803	2,862	2,923	2,985	3,049	3,114	3,180	3,248	3,317	3,388
3																		
4	Production COSS % allocation from U-20162 COSS	U-20162 Final Cost of Service	42.02%	42.02%	42.02%	42.02%	42.02%	42.02%	42.02%	42.02%	42.02%	42.02%	42.02%	42.02%	42.02%	42.02%	42.02%	42.02%
5																		
6	Estimated Annual Revenue Requirement of PCA	Attachment D		8.97	27.19	49.45	84.66	83.3	78.23	74.75	72.35	70.45	68.86	88.62	86.38	106.91	104.34	101.83
7																		
8	Class allocation of incremental Rev Req	Line 4 X Line 6		3.76919	11.42524	20.77889	35.57413	35.00266	32.87225	31.40995	30.40147	29.60309 2	28.93497	37.23812	36.29688	44.92358	43.84367	42.78897
9																		
10	Sales Forecast (GWh)	Leuker Exhibit A-34		14898	14851	14794	14764	14750	14735	14728	14717	14703	14690	14683	14667	14657	14646	14636
11			46.60															
12	Current Rate (cents/kWh)	U-20162 Order detail	16.60															
13	Projected rate after inflation	Line 2 / Line 10		16.93	17.35	17.78	18.20	18.60	19.02	19.43	19.86	20.31	20.76	21.21	21.68	22.16	22.65	23.15
14	Projected rate impact of PCA	Line 8 / Line 10		0.03	0.08	0.14	0.24	0.24	0.22	0.21	0.21	0.20	0.20	0.25	0.25	0.31	0.30	0.29
15	Total projected rate	Line 13 + Line 14		16.96	17.42	17.92	18.44	18.84	19.24	19.65	20.07	20.51	20.95	21.46	21.93	22.47	22.95	23.44
16																		
17																		
18	CAGR of proposed Plan			3.01%														

Secondary Customer Class

Line		<u>Source</u>	<u>U-20162</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>
1	Class Revenue Requirement from U-20162	U-20162 Order detail	1,202															
2	Revenue Requirement Projection	2.13% inflation		1,228	1,254	1,280	1,308	1,336	1,364	1,393	1,423	1,453	1,484	1,516	1,548	1,581	1,615	1,649
4	Production COSS % allocation from U-20162 COSS	U-20162 Final Cost of Service	24.20%	24.20%	24.20%	24.20%	24.20%	24.20%	24.20%	24.20%	24.20%	24.20%	24.20%	24.20%	24.20%	24.20%	24.20%	24.20%
6	Estimated Annual Revenue Requirement of PCA	Attachment D		8.97	27.19	49.45	84.66	83.3	78.23	74.75	72.35	70.45	68.86	88.62	86.38	106.91	104.34	101.83
8	Class allocation of incremental Rev Req	Line 4 X Line 6		2.17074	6.57998	11.96690	20.48772	20.15860	18.93166	18.08950	17.50870	17.04890	16.66412	21.44604	20.90396	25.87222	25.25028 2	<u>2</u> 4.64286
10 11	Sales Forecast (GWh)	Leuker Exhibit A-34		9437	9431	9354	9303	9262	9217	9177	9191	9208	9230	9268	9278	9295	9306	9313
12	Current Rate (cents/kWh)	U-20162 Order detail	11.10															
13	Projected rate after inflation	Line 2 / Line 10		13.01	13.29	13.69	14.06	14.42	14.80	15.18	15.48	15.78	16.08	16.35	16.68	17.01	17.35	17.71
14	Projected rate impact of PCA	Line 8 / Line 10		0.02	0.07	0.13	0.22	0.22	0.21	0.20	0.19	0.19	0.18	0.23	0.23	0.28	0.27	0.26
15 16 17	Total projected rate	Line 13 + Line 14		13.03	13.36	13.82	14.28	14.64	15.01	15.38	15.67	15.97	16.26	16.59	16.91	17.29	17.62	17.97
18	CAGR of proposed Plan			3.16%														

Industrial Customer Class

Line		<u>Source</u>	<u>U-20162</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	2034
1	Class Revenue Requirement from U-20162	U-20162 Order detail	1,184															
2	Revenue Requirement Projection	2.13% inflation		1,209	1,235	1,261	1,288	1,316	1,344	1,372	1,402	1,431	1,462	1,493	1,525	1,557	1,591	1,624
3																		
4	Production COSS % allocation from U-20162 COSS	U-20162 Final Cost of Service	33.41%	33.41%	33.41%	33.41%	33.41%	33.41%	33.41%	33.41%	33.41%	33.41%	33.41%	33.41%	33.41%	33.41%	33.41%	33.41%
5																		
6	Estimated Annual Revenue Requirement of PCA	Attachment D		8.97	27.19	49.45	84.66	83.3	78.23	74.75	72.35	70.45	68.86	88.62	86.38	106.91	104.34	101.83
7				2 22522	0.00440	46 50405	20 20 404	27.02052	26.42664	24.07220		22 52725	22 22642	20.60704	20.05056	25 74062	24.05000	24.024.40
	Class allocation of incremental Rev Req	Line 4 X Line 6		2.99688	9.08418	16.52125	28.28491	27.83053	26.13664	24.9/398 2	24.1/214	23.53735	23.00613	29.60794	28.85956	35./1863	34.85999	34.02140
9 10	Sales Forecast (GWh)	Leuker Exhibit A-34		17526.6	17515 55	17372.55	17277 65	17201 6	17116.45	17043	17069	17100.85	171/11 15	17211 25	17230.2	17262 7	17282.85	17295.2
11	Sales Forecast (GWII)	Leukei Exilibit A-34		1/320.0	1/313.33	1/3/2.33	1/2//.03	17201.0	1/110.43	17043	17009	17100.63	1/141.13	1/211.55	17230.2	1/202./	1/202.03	17293.2
12	Current Rate (cents/kWh)	U-20162 Order detail	5.80															
13	Projected rate after inflation	Line 2 / Line 10	3.00	6.90	7.05	7.26	7.46	7.65	7.85	8.05	8.21	8.37	8.53	8.67	8.85	9.02	9.20	9.39
14	Projected rate impact of PCA	Line 8 / Line 10		0.02	0.05	0.10	0.16	0.16	0.15	0.15	0.14	0.14	0.13	0.17	0.17	0.21	0.20	0.20
15	Total projected rate	Line 13 + Line 14		6.92	7.10	7.36	7.62	7.81	8.00	8.20	8.35	8.51	8.66	8.85	9.02	9.23	9.40	9.59
16	, ,																	
17																		
18	CAGR of proposed Plan			3.54%														

Other Customer Class

Line		<u>Source</u>	<u>U-20162</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	2024	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>
1	Class Revenue Requirement from U-20162	U-20162 Order detail	64															
2	Revenue Requirement Projection	2.13% inflation		65	67	68	70	71	73	74	76	77	79	81	83	84	86	88
3																		
4	Production COSS % allocation from U-20162 COSS	U-20162 Final Cost of Service	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%	0.37%
5																		
6	Estimated Annual Revenue Requirement of PCA	Attachment D		8.97	27.19	49.45	84.66	83.3	78.23	74.75	72.35	70.45	68.86	88.62	86.38	106.91	104.34	101.83
7																		
8	Class allocation of incremental Rev Req	Line 4 X Line 6		0.03319	0.10060	0.18297	0.31324	0.30821	0.28945	0.27658	0.26770 (0.26067 (0.25478(0.32789	0.31961	0.39557	0.38606	0.37677
9																		
10	Sales Forecast (GWh)	Leuker Exhibit A-34		218	215	213	214	214	215	215	216	216	216	216	216	216	216	216
11																		
12	Current Rate (cents/kWh)	U-20162 Order detail	27.30															
13	Projected rate after inflation	Line 2 / Line 10		30.03	31.10	32.06	32.59	33.29	33.84	34.56	35.13	35.88	36.64	37.42	38.22	39.03	39.86	40.71
14	Projected rate impact of PCA	Line 8 / Line 10		0.02	0.05	0.09	0.15	0.14	0.13	0.13	0.12	0.12	0.12	0.15	0.15	0.18	0.18	0.17
15	Total projected rate	Line 13 + Line 14		30.05	31.15	32.15	32.74	33.43	33.97	34.69	35.25	36.00	36.76	37.57	38.37	39.22	40.04	40.89
16																		
17																		
18	CAGR of proposed Plan			2.44%														

of propo

DTE Electric Company One Energy Plaza, 688 WCB Detroit, MI 48226-1279



April 25, 2019

Ms. Kavita Kale Executive Secretary Michigan Public Service Commission 7109 West Saginaw Highway Lansing, Michigan 48917

Re: In the matter of the Application of DTE Electric Company for approval of Certificates of Necessity pursuant to MCL 460.6s, as amended, in connection with the addition of a natural gas combined cycle generating facility to its generation fleet and for related accounting and ratemaking authorizations.

MPSC Case No. U-18419

Dear Ms. Kale:

Attached for electronic filing in the above-captioned matter please find DTE Electric Company's BWEC Interim Report.

Very truly yours,
Lauren D. Digitally signed by
Lauren D. Donofrio
Date: 2019.04.25
16:54:37 -04'00'
Lauren D. Donofrio

LDD/lah Encl.

cc: Service List

The Michigan Public Service Commission DTE Electric Company BWEC Interim Status Report

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DTE Electric Company
Blue Water Energy Center Interim Status Report

Case No. U-20471 Attachment J

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Blue Water Energy Center Interim Status Report

April 26, 2019

Case No. U-20471 Attachment J

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Blue Water Energy Center Status Report to the Commission

DTE Electric is suppling this report in compliance with the following provision.

MCL 460.6s (7)

The utility shall annually file, or more frequent if required by the commission, reports to the commission regarding the status of any project for which a certificate of necessity has been granted under subsection (4), including an update concerning the cost and schedule of that project.

1.0 - Progress Summary

Certificates of necessity were approved by the Michigan Public Service Commission on April 27, 2018 for DTE Electric's proposed Blue Water Energy Center (BWEC) granting that:

- The power to be supplied by the new facility is needed.
- The new facility represents the most reasonable and prudent means of meeting the power need.
- The estimated capital and financing costs, and the estimated cost of power from the facility will be recoverable in rates from the company's customers.

The Commission approved recovery of up to \$951.8 million for the construction of the new generating facility.

DTE Electric (the Company) authorized Kiewit Engineering (MI) Co. (its Engineering, Procurement, Construction (EPC) contractor) limited notice to proceed with the project on April 30, 2018 and full notice to proceed with the project on July 30, 2018. With the notices, Kiewit has commenced engineering of the facility, procurement of long lead equipment and materials, and site construction. As of April 1, 2019, the overall project is approximately 17% complete, and is on schedule and on budget.

Permitting activities are ongoing. Critical permits, including the air permit, necessary to begin work on the site, have been obtained. The remaining permits are progressing and are expected to be obtained as needed. The current status of all permits is included in Appendix A.

DTE Electric submitted a Generator Interconnection Agreement (GIA) application to MISO on June 5, 2017 for BWEC. The GIA process consists of three Definitive Planning Phases (DPPs) and execution of a GIA. The Company's application is currently included in MISO's August 2017 interconnection gueue. The first DPP for the queue concluded on January 9, 2019. The second DPP for the queue concluded on

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April 19, 2019. The third DPP is in progress and the GIA is expected to be in place in the first quarter of 2020. DTE Electric is working closely with MISO and the ITC to ensure the transmission interconnection is in place on time. A provisional GIA with MISO is expected to be in place in second quarter of 2019 to support the contractual schedule date for back feed power to the project.

Natural gas transportation, storage, and lateral pipeline/interconnection contracts are nearing execution. Construction of the natural gas lateral to BWEC is expected to be complete in the first quarter of 2021. Gas supply agreements will be negotiated and in place to supply the facility during startup and commissioning in 2021 and commercial operations in 2022.

Engineering of the BWEC is progressing as planned and is currently 49% complete. To date over 4,700 engineering drawings have been generated for review.

The most significant procurement component for the project is the power island, which includes the Combustion Turbines (CTs), Combustion Turbine Generators (CTGs), Heat Recovery Steam Generators (HRSGs), Steam Turbine (ST), Steam Turbine Generator (STG), and Distributed Control System (DCS). General Electric is under contract with Kiewit to provide the power island. Engineering and manufacturing of the power island is currently in progress. The power island is on plan and is currently 87% engineered. Manufacturing of the power island is progressing, with the CTs and CTGs expected to arrive on site at the end of the second quarter of this year. The HRSG bundles, casings, and stacks are expected to arrive in the fourth quarter of 2019.

In addition to the power island, the following major procurements have been awarded to date:

- Demineralization water treatment system
- Cooling tower
- Circulating water pumps
- Oil/water separator and underground tanks
- Raw water treatment system
- Electrical enclosures
- General service pumps
- Generator step-up transformers (GSU)
- Main auxiliary transformers (MAT)
- Switchyard relay panels and enclosures
- STG building elevator
- Boiler feed pumps
- Large bore valves

Site segregation and improvement, and construction activities have progressed. To date:

Endangered species have been relocated

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- Wetlands mitigation has been completed
- Perimeter fence, security gates, and guard house have been installed
- Road improvements necessary to support construction have been completed
- Electrical distribution lines have been rerouted or raised on site
- Temporary power has been installed and energized
- Underground circulating water pipes have been installed
- Temporary construction trailers have been installed
- Both Kiewit and DTE Electric staff have mobilized to the construction site
- Mass excavation of the site was completed

In addition, the following construction activities are in progress:

- Deep foundation (H-pile) installation
- Underground piping and electrical duct bank installation

Progress photos of the project are included in Appendix C.

2.0 - Safety

Safety is the number one priority for the Blue Water Energy Center. To date there have been zero recordable injuries for the project.

Five near miss incidents have occurred to date:

- While positioning a section of circulating water pipe, a joint collar strapped onto a section of pipe fell off during a lifting activity. No injury or damage occurred.
- While unloading a section of H-pile, the pile made contact with another pile on the truck causing it to fall 4 feet to the ground inside the delineated danger zone. No injury or damage occurred.
- While unloading a section of H-pile, one side of the pile slid off the fork of the lift truck to the ground. The operator lowered the pile to the ground. No injury or damage occurred.
- While parking a vehicle, the driver (a delivery vendor) scraped the side and bumper of a parked security patrol car. No injury occurred.
- While unloading a crate containing shim plates for the combustion turbine generators, the supporting pallet broke and three shim plates fell to the ground.
 No injury or damage occurred.

Kiewit has completed investigations and has taken corrective action in each incident.

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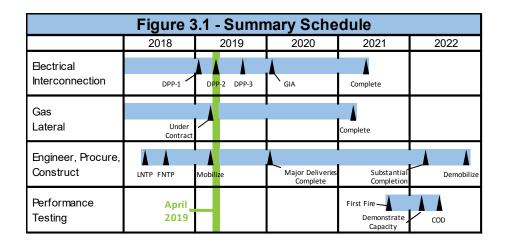
Table	2.1 - BWEC Saf	ety Metrics	
Recordable	Lost Time	First	Near
Injury Rate	Incidents	Aids	Misses
0	0	0	5

Both DTE Electric and Kiewit are dedicated to ensuring the construction project is managed in a safe manner in accordance with all applicable laws. Kiewit is solely responsible for initiating, maintaining, and supervising all safety precautions and programs in the performance of the work. Kiewit protocol requires that all individuals who enter the construction site must first complete safety orientation, including those who will be escorted. Proper personal protective equipment is also required at all times while on site.

In addition, DTE Electric, Kiewit, the building trades, and MIOSHA are intending to enter into a partnership agreement for the construction project. The partnership agreement is progressing and is expected to be in place in the second quarter of 2019.

3.0 - Schedule

The new Blue Water Energy Center will be commercially available and included as part of Company's capacity requirements for the MISO planning year beginning in June of 2022. Figure 3.1 provides a summary schedule.



A detailed integrated schedule is maintained for the project that comprehensively describes the activities and associated milestones required to complete the project. The schedule is managed by Kiewit. The schedule is reviewed in detail each month by

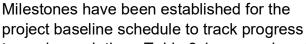
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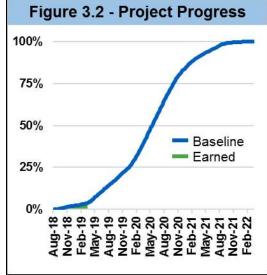
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the Company. The schedule has been baselined, so going forward any changes will require approval from the project's Change Review Board.

Figure 3.2 compares actual engineering and construction progress earned (completed) to the baseline plan (approved schedule).

The Schedule Performance Index (SPI) is a measure of schedule efficiency, or how well the project team is using time. An SPI greater than 1.0 indicates the project has earned (or completed) more work than planned. An SPI less than 1.0, indicates that less work has been earned versus the baseline plan or schedule. Currently, SPI for the project is 1.02, or slightly better than plan. Progress is being monitored by both the Company and Kiewit. No corrective action is required at this time.





toward completion. Table 3.1 summarizes the major project milestones.

Table 3.1 Major Project Milestones											
Milestone	Date	Status									
Limited Notice to Proceed	04/27/18	Complete									
Full Notice to Proceed	07/30/18	Complete									
EPC Initial Mobilization	08/15/18	Complete									
EPC Full Mobilization	03/04/19	Complete									
Gas Lateral Complete	03/31/21										
Site Back Feed Power Available	05/26/21										
Fuel Gas Available	06/18/21										
CCGT 1 First Fire	09/09/21										
CCGT 2 First Fire	09/20/21										
MISO Demonstration Test	03/01/22										
Substantial Completion	03/31/22										
Commercial Operation	06/01/22										

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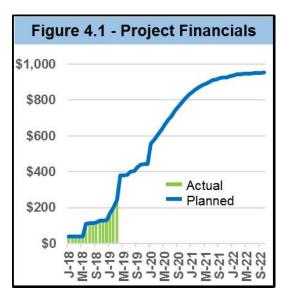
4.0 - Cost

On April 27, 2018, the Commission granted certificates of necessity assuring recovery of up to \$951.8 million to construct the Blue Water Energy Center.

A baseline financial forecast has been established for the project as shown in Figure 4.1 as the planned line. To date, the project is on plan indicated by the green bars in the figure. Spend to date on the project, including costs incurred prior to receiving the CON, is \$246 million.

The project is managing several risks that are discussed below in section 6.0 - Risk. The project estimate at completion (EAC) remains at the Commission authorized spend.

Both DTE Electric and Kiewit are committed to ensure opportunities for Michigan and diversity enterprises. The Company and



Kiewit have participated in two events with Pure Michigan Business Connect to help identify qualified Michigan businesses and have made a concerted effort to reach out to diversity businesses.

To that end, Kiewit has implemented a comprehensive plan to ensure that Michigan enterprises have opportunity to competitively bid on the supply of materials, equipment and subcontracted work. Kiewit has agreed to a Michigan spend target of \$200 million.

DTE Electric and Kiewit are committed to the Michigan work force and the utilization of Michigan craft labor in the construction of the Blue Water Energy Center. The Company's target is that 90% of the craft labor for the project will be comprised of Michigan residents. At the time of the CON filing, the Company believed that adequate craft labor from Michigan would be available for the project. Since the CON filing, a significant number of new large construction projects have been announced within the state. This is creating a strain on the availability of Michigan craft labor. This is a risk for the project that is being carefully monitored and managed by both the Company and Kiewit.

DTE meets regularly with Michigan labor union leadership to discuss current and future projects at DTE and across the state and the skilled trades needed for the work. These tripartite meetings help both the Company and unions understand and plan for the supply and demand for skilled resources. Kiewit is now participating in the tripartite meetings. In addition, Kiewit has reached out and is working directly with the Michigan union locals. To date, Michigan craft labor has accounted for 96% of total craft labor for the project.

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5.0 - Quality

The Company has worked closely with Kiewit to implement a quality program for the construction of the Blue Water Energy Center to ensure the facility meets all defined requirements. Kiewit's Quality Management System (QMS) will be deployed throughout all phases of the project including engineering, procurement, construction, acceptance testing, and turnover to operations. QMS is consistent with ISO 9001-2008 standards.

The quality program includes observations and inspections at predetermined points during the manufacturing of the major equipment and during construction. Quality inspection specialists will document any non-conformances. Any reported non-conformances will be fully analyzed and resolved before closure. To date, there have been 47 equipment supplier inspections completed with zero quality non-conformances reported. In addition, there have been 6 non-conformances in field construction that have been resolved.

As the Commission is aware, an equipment issue occurred on the GE HA-class combustion turbines at a different facility. A combustion turbine blade (GE calls this a bucket) broke free and caused additional damage to the turbine. At the time of the incident, GE had plans in place to replace generation 1 buckets with updated generation 2 buckets. However, the failure occurred before the replacement took place. The cause of the failure was due to oxidation (more simply, initial indications of cracking) on generation 1 buckets. DTE's turbines will include all generation 2 buckets, incorporating improved processes and technology. These generation 2 buckets are currently being installed on over 30 GE HA turbines, many of which will have over 2 years of operating experience prior to the startup of DTE's turbines. DTE will receive new parts, incorporating all known improvements, for assembly of our turbines with no identified schedule impacts and for no additional cost.

6.0 - Risk

Risk identification, qualitative and quantitative analysis, management and control is an iterative process that will continue throughout the life of the proposed project. As mentioned in the Cost section of this report, significant risk still remains at this early stage of the project. To date, Kiewit has sent two formal notifications to DTE of potential changes in contract price due to the impact of tariffs imposed after the contract was signed and due to differing soil conditions discovered during excavation.

The project has experienced some challenges to date. Several requests have been received to add vendors to the Approved Vendor List (AVL) within the contract. The requests result from a changing supplier base for GE and from Kiewit procurement. DTE performs due diligence on all vendors before accepting them to the AVL. As detailed engineering progresses, thousands of clarifying questions have emerged to

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ensure the detailed design complies with the higher-level scope document contained within the EPC contract.

The Company provided an updated risk register during the discovery portion of the CON dated January 31, 2018 that included 31 potential risks to the project. The current risk register includes 25 potential risks. The current risk register reflects the closure of 7 risks associated with PIE/EPC pricing, potential geotechnical issues, and potential air and water permit issues. These risks have been resolved or mitigated, and closed. Risks associated with DTE scope have been reduced for items that have been resolved. Estimates for several components of DTE scope are still rough order of magnitude and contain risk. Risk associated with potential delays due to potential intervener action has increased in potential dollar impact, but has decreased in Expected Monetary Value (EMV) due to reduced probability of delays due to potential comments that must be addressed during the permitting processes. A new risk has been added to reflect potential impacts due to supplier delays or quality issues.

The Company along with Kiewit will continue to manage all project risks. The current project risk register is included in Appendix B.

7.0 – Commercial Operation

The new Blue Water Energy Center is on target to be commercially available and included as part of Company's capacity requirements for the MISO planning year beginning in June of 2022. To be included as a new generation resource for the planning year, BWEC will require a GIA to be in place and the facility must be registered in the MISO June Commercial Model for the planning year. The GIA for BWEC is expected to be in place in January of 2020, per the current MISO schedule, and BWEC will be registered for the June 2022 planning year. DTE sees little risk that the GIA will not be in place to meet the requirements to enter BWEC into the 2022 planning year.

In addition, BWEC will have to demonstrate that the plant capacity is available by March 1, 2022. Demonstration of capacity is achieved by meeting MISO Generation Verification Tested Capacity (GVTC) testing requirements. Both DTE and Kiewit have mitigation plans in place for potential risks that could impact achieving capacity demonstration.

In the event that BWEC has not demonstrated capacity by March 1, 2022, a deferral can be obtained. The deferral will require DTE to post credit with MISO for an amount equal to 90 days of the daily Cost of New Entry (CONE) for MISO Zone 7. Should the deferral occur, the GVTC requirements would need to be met by May 31, 2022. At this time DTE does not anticipate requesting a deferral.

8.0 – Workforce Planning

To prepare for BWEC commercial operations, a comprehensive staffing plan is under development. The plan will ensure that the roles and responsibilities are well defined

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and that the new positions are filled in a timely manner. In addition to the staffing plan, the BWEC project team is in the process of developing necessary training, job instructions, and procedures for the new facility. The employees assigned to BWEC will be in place by the fourth quarter of 2020 and will undergo 18-24 months of training. The employees will be trained so that they can be deployed to perform startup activities for the plant beginning in 2021, to prepare for full commercial operations in 2022.

DTE Electric has announced the retirement of four power plants by 2022. The employees displaced by the closures will be reassigned to other work within DTE Energy. The Company is committed to its employees and has no intention of layoffs as a result of the future plant closings.

9.0 – Summary

The Company is pleased with the progress to date on the new Blue Water Energy Center project. The project is on schedule and on budget. The project team is working well with Kiewit and GE to resolve challenges that have occurred since the contract was executed. Over the next six months, the team will be working diligently to install underground systems, deep foundations, crane set ups, roads, and initial deliveries of major components.

In response to the interest expressed by the Commission in its April 27, 2018 Order in Case No. U-18419, DTE Electric's Certificate of Necessity filing, "in understanding the impact to rates if some or all of the unrecovered book value associated with the coal plant retirements were removed from rate base and addressed through securitization or other financial measures, rather than recovery through traditional depreciation schedules," this report includes Appendix D – Commission-Requested Securitization Information.

The Company is available to the MPSC for further discussion and to answer questions about this report.

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Appendix A – Permit Status

Current permit status is show in Table A-1 below.

Table A-1 Project Permit Matrix Pormit Applicant Agencies Status											
Permit	Applicant	Agencies	Status								
Air Quality Federal			Not Required								
Air Quality State (Permit to Construct)	DTE	MDEQ	Recvd. 07/18								
Boiler Permit (Non-HVAC)	DTE/EPC	E China	Need Q2/19								
Building Permits – Electrical	DTE/EPC	E China	Need Q2/19								
Building Permits – Elevator	DTE/EPC	State	Need Q2/19								
Building Permits – Fire Protection	DTE/EPC	E China	Need Q2/19								
Building Permits – Mechanical	DTE/EPC	E China	Need Q2/19								
Building Permits – Mechanical (HVAC)	DTE/EPC	E China	Need Q2/19								
Building Permits – Sewer Tap	DTE	St Clair Co	Need Q2/19								
Building Permits – Structural	DTE	E China	Need Q2/19								
Building Permits – Water Tap	DTE	E China	Need Q2/19								
Coastal Zone Management			Not Required								
Cultural Resources (SHPO)			Not Required								
Dam Safety Permits			Not Required								
Demolition – General	DTE/EPC	E China	Not Required								
Demolition – Asbestos (MIOSHA/NESHAPS)	DTE	MDEQ	Not Required								
Demolition – Explosives (Transport/Storage)			Not Required								
Demolition – Fuel Storage Tanks			Not Required								
Demolition – Lead Abatement			Not Required								
Drains (County)	DTE	St Clair Co	Recvd. 02/19								
Drains (Municipal)			Not Required								
Endangered Species Federal			Not Required								
Endangered Species State	DTE	State	Recvd 08/18								
Erosion Control Sedimentation County	DTE	St Clair Co	Recvd 07/18								
Erosion Control Sedimentation State			Not Required								
Fence Permits	DTE/EPC	E China	Not Required								
Flood Plain Management	DTE/EPC	JPA	Not Required								
Ground Water Discharge	DTE	JPA	Recvd 10/18*								
Hazardous Materials (HAZMAT)			Not Required								
International Waterways			Not Required								
Local Woodlands			Not Required								
Marking & Lighting of Tall Structures (FAA)	DTE/EPC	FAA	Not Required								
Marking & Lighting of Waterways			Not Required								
Mineral Management			Not Required								
NPDS – Major/Minor	DTE	MDEQ	Recvd 08/18								
Nuclear Equipment	DTE	NRC	Need Q4/19								
Paving Permit (Local Ordinance)	DTE	E China	Not Required								
Planning/Zoning (Local Ordinance)	DTE	E China	Recvd 02/19								
Public Lighting (Interruption/Modification)	DTE	E China	Need Q4/19								
Railroad Crossings			Not Required								

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Right of Way Easements	DTE		Need Q4/19
Road Crossings / Curb Cut – Local			Not Required
Road Crossings / Curb Cut – County			Not Required
Road Crossings / Curb Cut – State	DTE/EPC	MDOT	Recvd 11/18
Signage Permits (Local Ordinance)	DTE/EPC	E China	Ongoing
Sanitary Discharge / Removal (Pump/Haul)			Not Required
Stream / Drain Crossing County			Not Required
Stream Crossing Federal			Not Required
Stream Crossing State	DTE	JPA	Need Q2/19
Storm Water Discharge (Run-off)	DTE	JPA	See SESC
Wild & Scenic Rivers			Not Required
Wetlands – Local			Not Required
Wetlands – State	DTE/EPC	JPA	Recvd 08/18
Certificate of Occupancy	DTE	E China	Need Q3/21

^{*} Separate permits required for hydrostatic water discharge

Attachment J Case No.: <u>U-18419</u> April 25, 2019

Case No. U-20471

Appendix B – Risk Register

S Impact S Impact S Impact Millionia Source Probability BMV Scheduler Millionia Source	5.6 PM input 0.5 \$ 2.8 N	8 4.5 PM input 0.3 8 1.4 8	N 0.9 \$ 5.0 Indin Md 0.81		4.0 PM input 0.1 \$ 0.2 V	PM input 0.1 \$ 0.2 Y	PM lipput 0.1 \$ 0.2 Y	4.0 PM input 0.1 \$ 0.2 Y 4.0 PM input 0.1 \$ 0.2 N 3.0 PM input 0.5 \$ 1.5 N 80.0 PM input 0.0 \$ 0.8 Y	4.0 PM Input 0.1 \$ 0.2 0.2 0.2 0.2 0.0 PM Input 0.1 \$ 0.2 0.2 0.2 0.2 0.0 PM Input 0.0 \$ 0.5 0.5 0.5 0.5 0.0 PM Input 0.0 \$ 0.0 \$ 0.0 PM Input	4.0 PM httpdd 0.1 \$ 0.2 Y	4.0 PM input 0.1 \$ 0.2 Y 4.0 PM input 0.1 \$ 0.2 Y 3.0 PM input 0.1 \$ 0.2 N 80.0 PM input 0.0 \$ 0.8 Y 27.0 PM input 0.1 \$ 0.0 Y 27.0 PM input 0.1 \$ 0.1 \$ 0.0 Y	4.0 PM input 0.1 \$ 0.2 N	4.0 PM input 0.1 \$ 0.2 Y 4.0 PM input 0.1 \$ 0.2 N 80.0 PM input 0.1 \$ 0.2 N 80.0 PM input 0.1 \$ 0.0 Y 7.7 PM input 0.1 \$ 0.0 Y 2.3 PM input 0.1 \$ 0.0 Y 2.3 PM input 0.1 \$ 0.0 Y 8 13.5 Y 8 13.5 Y 8 13.5 Y 9 PM input 0.1 \$ 0.0 Y 9 PM input 0.1 \$ 0.0 Y	40 PM input 0.1 \$ 0.2 Y 40 PM input 0.1 \$ 0.2 N 80.0 PM input 0.1 \$ 0.2 N 80.0 PM input 0.1 \$ 0.0 Y 23 PM input 0.1 \$ 0.0 Y 23 PM input 0.1 \$ 0.0 Y 23 PM input 0.1 \$ 0.1 Y 23 PM input 0.1 \$ 0.1 Y 23 PM input 0.1 \$ 0.1 Y	4.0 PM input 0.1 \$ 0.2 Y	4.0 PM input 0.1 \$ 0.2 Y 3.0 PM input 0.1 \$ 0.2 Y 80.0 PM input 0.1 \$ 0.2 Y 7.0 PM input 0.1 \$ 0.0 Y 7.1 PM input 0.1 \$ 0.1 Y 7.2 PM input 0.1 \$ 0.1 Y 9.3 PM input 0.1 \$ 0.1 Y 9.0 PM input 0.1 \$ 0.0 N 9.0 PM input 0.1 \$ 0.0 N 9.0 PM input 0.1 S 9.0 PM input 0.1	4.0 PM input 0.1 \$ 0.2 V	4.0 PM input 0.1 \$ 0.2 N	4.0 PM input 0.1 \$ 0.2 Y 2.0 PM input 0.1 \$ 0.2 N 80.0 PM input 0.1 \$ 0.2 N 80.0 PM input 0.1 \$ 0.0 Y 7 Y 80.0 PM input 0.1 \$ 0.0 N 80.0 PM input 0.1 S 0.0 N 80.0 PM input 0	4.0 PM input 0.1 \$ 0.2 N	4.0 PM input 0.1 \$ 0.2 W 2.0 PM input 0.1 \$ 0.2 W 2.1 PM input 0.1 \$ 0.2 W 2.2 PM input 0.1 \$ 0.1 \$ 0.2 W 2.3 PM input 0.1 \$ 0.1 \$ 0.1 2.4 PM input 0.1 \$ 0.1 2.5 PM input 0.1 \$ 0.1 2.6 PM input 0.1 \$ 0.1 2.7 PM input 0.1 \$ 0.1 2.8 PM input 0.1 \$ 0.1 2.9 PM input	4.0 PM input 0.1 \$ 0.2 Y	4.0 PM input 0.1 \$ 0.2 Y 2.0 PM input 0.1 \$ 0.2 N 2.0 PM input 0.1 \$ 0.2 N 2.1 PM input 0.1 \$ 0.0 Y 2.2 PM input 0.1 \$ 0.0 Y 2.3 PM input 0.1 \$ 0.0 Y 2.4 PM input 0.1 \$ 0.0 Y 2.5 PM input 0.1 \$ 0.0 Y 2.6 PM input 0.1 \$ 0.0 Y 2.7 PM input 0.1 \$ 0.0 Y 2.8 PM input 0.1 \$ 0.0 Y 2.9 PM input 0.1 2.9 PM input 0.1 2.9 PM input 0.1 2.9 PM input 0.1 2.9 PM	4.0 PM input 0.1 \$ 0.2 Y	4.0 PM input 0.1 \$ 0.2 Y	4.0 PM input 0.1 \$ 0.2 N
Continue to monther Continues for monther as pecual to be in place by and of CA 2016 Y Y N N N N N N N N	> > z	> > Z	> Z	z		Z	CON approved, intoveners lost their appeal to the courts, but could slit appeal to the suppreme court. Intoveners could also still stall permits. Continue to monitor.	<i>></i>	>	z	>	Z	, h	z	On-going process. Utilizing business case evaluation for appropriation of funds.	N N	>	z	>	>	Α	Continue to work with EPC on logistics Niplan	Once approved this one will have been miligated.	GenOps risk: Wil track down appropriate contact that our Risk Owner will work with.	<i>></i>	
Adjust scope, competitive bid, or CRB Randall J Kulhanek Corprocess						Catherine E Woods	Mitze schedule float Reduce reviews Randall J Kultharnek (CO equired, CRB Process supplied (CRB Process suppli	lize schedule float, CRB Process	Ukize schredule float, implement alternative Demis B Decator sources for back feed power; incur collatest powments, CRB Process	Explore options, CRB Process Robert S Dewinter	Explore options, CRB Process Robert S Dewinter	s, CRB Process		Michael E Banks	case to support change, Michael E Banks	, CRB	Robert S Dewinter	ion, negotiate Robert S Dewinter	Jork with ITC on options, CRB Process Randall J Kulhanek Inc.	ns, CRB Process	Robert S Dewinter	Robert S Dewinter		hanek	Kiewit	
(Planned Actions)	DTE and OE detailed review of owners scope and estimates, competitive RFP process	Establish firm gas supply and transport agreements through competitive bidding process.	Monitor State and federal legislation and agency activities.	Human	uman	plan r ews		Manage DTE contracts, monitor other contracts, maintain relationship with craft labor unions (tripartite)	Monitor and influence external processes (MISO, ITC FERO), Mage spare parts procurement, Manager start up coordination activities	Coordinate plans with adjacent facilities. Maintain established site separation agreement	Monitor contractor safety program-Monitor Ex- contractor compliance with permits, laws, requisitions.		Monitor commissioning activities and start Of up readiness utilizing PDRI process		of bid technical s			-	5	Monitor permitting processes.	Monitor weather forecast to minimize Of impacts.	ō	Monitor discharge rules. Test discharge for Cf compliance Township agreement to process some of the water	_	Monitor suppliers financial positions	
음 등 등 등 등 등 등 등 등 등 등 등 등 등 등 등 등 등 등 등		L 45 Major disruptions in markets, gas futures Monitor forecasts as that time comes closer	L State and Federal legislation and agency activities		L 33 Human performance, site conditions		Monitor Intervenoes for potential appeal to the MS upreme Court and other activity around environmental permitting		L 66 Delivery of spare parts and supplies, MISO GIA, ITC construction, FERC approvals, Gas Supply contract and construction; Start up schedule coordination	M 17 Maintain awareness of adjacent facilities plans	Contractor safety performance and compliance with laws and permits	L 21 Planned, or significant forced, outages a other facilities	L 33 Start up readiness, commissioning activities	L 27 Operator training and readiness		27	M SS Soil borings identify issue, eccuration identifies issue Gas Lateral	L 7 Soil borings identify issue, excavation identifies issue Gas Lateral	MISO GIA process Number of applicants in the cue	L 25 Permitting requirements Gas lateral permitting Electric T-Line	L 45 Weather	L 7 Delivery logistic/heavy haul plan	Water discharge requirements Permit application process		L 17 Supplier financial positions Supplier equipment issues and vibration	
Cost Cost	Price-Financial H L H L L	Price-Financial H L H L L	Price-Financial H L L L	Price-Financial L H H M M	Price-Financial M M L M	Owner Delays M M L L L L	Owner Delays 1. H H 1. L	Owner Delays L H L L L	Owner Delays H M H L L	Owner Delays L M M M H	Owner Delays L H H L L	Owner Delays M M L L L	N	Scope M M L M L	Scope H M H M L	N L M L L	7 7 W W H	Scope L M L L L	1 1 H 1 H adoos	1 1 1 H edoos	Scope H M L L M	Scope L L M L L	1 1 W 1 1 doos	Price-Financial H L L L	Non-Ovmer L H H H L L Delays	
Þ	DTE scope pricing varies from CON filing (current estimates are ROMs)						e CON approval ery possible). Or use a pause or th permitting or through the		ng he	11 Adjacent hazard(s) cause potential for shutdown of construction and schedule delaws resulting in a change order		13 Owner caused labor constraints (resources of pulled to work on outages or other priority)		 Difficulty operating new technology extending start-up / commissioning resources from PIE/EPC 				22 Discovery of artifacts on site cause construction delays / cost	23 MISO DPP Studies indicate affected system upgrade costs or additional ITC costs that are not reimbursable	27 Issues occur with other permits		29 Additional analysis determines that dock improvements are needed to accommodate the heavy loads being delivered by barge	30 Hydrostatic test water requires offsite disposal	Value of generation during start-up and festing is lower than expected increasing net cost.	32 Major equipment suppliers are unable to provide timely delivery and or acceptable quality requirements.	

Case No. U-20471 Attachment J

Case No.: <u>U-18419</u> April 25, 2019

Appendix C – Progress Photos



August 2018



September 2018



October 2018

Case No. U-20471 Attachment J

Case No.: <u>U-18419</u> April 25, 2019



November 2018



December 2018



January 2019

Case No. U-20471 Attachment J

Case No.: <u>U-18419</u> April 25, 2019



February 2019



March 2019



April 2019

The Michigan Public Service Commission DTE Electric Company **BWEC Interim Status Report**

Michigan Public Service Commission DTE Electric Company Blue Water Energy Center Interim Status Report

Attachment J Case No.: U-18419

Case No. U-20471

April 25, 2019

Appendix D – Commission requested securitization information

Pursuant to the Commission's April 27, 2018 order in Case No. U-18419 (page 120), DTE Electric is providing an analysis of the rate (i.e., customer) impact if the unrecovered book value associated with the Tier 2 coal plant retirements were removed from rate base and recovered through securitization, rather than recovered through traditional depreciation. The Tier 2 plants include River Rouge, St. Clair, and Trenton Channel power plants.

Securitization is the financing of a discrete asset or group of assets by a utility with securities whose credit quality is separated from that of the utility in order to achieve higher credit ratings and lower financing costs. To accomplish this, the utility sells the revenue stream and other entitlements and property created by the financing order to a newly-established bankruptcy remote special purpose entity ("SPE" or "Issuer") in a transaction which, consistent with Public Act 142 of 2000, represents a "true sale" for bankruptcy purposes. This sale insulates the securitization property from the creditors of the utility and, thereby, from the credit risk of the utility. The SPE then issues bonds backed by the securitization property and other collateral to investors / bondholders. A trustee acts on behalf of bondholders, remits payments to bondholders and ensures bondholders' rights are protected in accordance with the terms of the financing documents. The Company will perform routine billing, collection, and reporting duties as the servicer for the Issuer pursuant to a servicing agreement between the Company, the Issuer, and the trustee. In addition to the bankruptcy remote status of the Issuer, credit enhancements, such as capital contribution to the Issuer and a true-up mechanism, are necessary to reach the rating standard for this type of securitization, which is the highest rating (a "triple-A rating") from each of two or more of the major rating agencies.

The Company has prepared an illustrative analysis of two rate impact scenarios. First, the Company analyzed the revenue requirement of the unrecovered book value associated with the Tier 2 coal plant retirements through traditional depreciation schedules ("Traditional Ratemaking Scenario"). Second, the Company analyzed the revenue requirement of the unrecovered book value associated with the Tier 2 coal plant retirements through securitization ("Securitization Scenario"). In the Company's analysis of the Securitization Scenario, the Company applied the following assumptions:

- 1. A 14-year securitization term:
- 2. The Tier 2 assets would be securitized together in January 2024, following the last Tier 2 coal plant retirement in June of 2023;
- 3. The total amount to be securitized will be \$471.7 million which is equivalent to the estimated net book value less the cumulative deferred tax liability of the Tier 2 coal plants in 2024; and
- 4. Lastly, it should be noted that this analysis was prepared for illustrative purposes. There could be additional assumptions or factors considered that could materially change the outcome of the analysis presented herein.

To illustrate the rate (i.e., customer) impact of the two scenarios, the Company has compared the revenue requirement calculated under each scenario. Table D.1 below

The Michigan Public Service Commission DTE Electric Company **BWEC Interim Status Report** Michigan Public Service Commission DTE Electric Company

Blue Water Energy Center Interim Status Report

Case No.: U-18419

Case No. U-20471

Attachment J

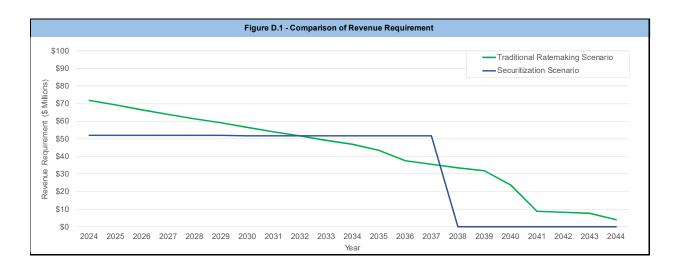
April 25, 2019

presents the key data used in the buildup of the revenue requirement including the amortization of securitization bonds, amortization of securitization tax regulatory asset, interest, and administrative fees for the Securitization Scenario. Additionally, Table D.1 presents the total rate base, deferred tax liability, return on equity, return on debt, and return of capital used in the buildup of the revenue requirement in the Traditional Ratemaking Scenario. Figure D.1 presents the annual revenue requirement from 2024 through 2044 for each scenario.

The cumulative revenue requirement from 2024 through 2044 for the Securitization Scenario is approximately \$730 million, compared to a cumulative revenue requirement of approximately \$880 million for the Traditional Ratemaking Scenario, resulting in a total rate impact of approximately \$150 million over the 20-year period. Although, the annual revenue requirement will be higher under the Securitization Scenario from 2033 through 2044. Furthermore, the Company analyzed the net present value ("NPV") of the revenue requirement for each scenario utilizing the Company's regulated revenue requirement discount rate of 6.63%. The revenue requirement NPV from 2024 through 2044 for the Securitization Scenario is approximately \$460 million, compared to a revenue requirement NPV of approximately \$560 million in the Traditional Ratemaking Scenario, resulting in the NPV difference of approximately \$100 million. While the securitization of the Tier 2 plants will achieve savings for customers, it will also reduce the Company's cash flows, putting pressure on credit metrics. The impact of securitization on the Company's credit metrics was not considered in the analysis presented herein.

Case No.: <u>U-18419</u> April 25, 2019

				Table	D.1 -	Compa	arison	of Rev	enue	Requir	emen	t									
In Millions of U.S. Dollars																					
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
Securitization Scenario																					
Amortization of Securitization Bonds	\$25.9	\$26.9	\$27.9	\$29.1	\$30.2	\$31.4	\$32.6	\$33.9	\$35.3	\$36.7	\$38.1	\$39.6	\$41.2	\$42.8	-	-	-	-	-	-	-
Amortization of Securitization Tax Regulatory Asset	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	-	-	-	-	-	-	-
Interest	18.2	17.1	16.0	14.9	13.7	12.5	11.2	9.9	8.6	7.1	5.7	4.1	2.5	8.0	-	-	-	-	-	-	-
Administrative Fees	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		-		-	_	-	
Total Revenue Requirement	51.9	51.9	51.9	51.9	51.9	51.8	51.8	51.8	51.8	51.7	51.7	51.7	51.6	51.6	-	-	-	-	-	-	-
Traditonal Ratemaking Scenario																					
Total Rate Base	\$520.1	\$487.1	\$454.0	\$421.0	\$388.0	\$355.0	\$322.0	\$289.0	\$256.0	\$223.0	\$190.0	\$158.1	\$130.3	\$102.6	\$74.8	\$47.1	\$25.6	\$18.4	\$11.1	\$3.9	_
Deferred Tax Liability	100.6	97.0	93.1	88.6	83.7	78.5	72.9	67.0	61.0	54.6	47.7	40.3	33.3	26.5	19.5	12.2	6.7	4.8	2.9	1.0	_
Return on Equity	29.3	27.3	25.4	23.4	21.5	19.6	17.8	15.9	14.1	12.3	10.5	8.8	7.3	5.8	4.4	3.0	1.8	1.1	0.7	0.4	0.1
Return on Debt	9.4	8.8	8.2	7.5	6.9	6.3	5.7	5.1	4.5	4.0	3.4	2.8	2.3	1.9	1.4	1.0	0.6	0.4	0.2	0.1	-
Return of Capital	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	31.9	27.8	27.8	27.8	27.8	21.4	7.3	7.3	7.3	3.9
Total Revenue Requirement	71.8	69.2	66.5	64.0	61.4	59.0	56.5	54.0	51.6	49.2	46.9	43.5	37.4	35.5	33.6	31.8	23.8	8.7	8.2	7.7	4.0



STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the Application of DTE ELECTRIC COMPANY for approval of its Integrated Resource Plan pursuant to MCL 460.6t, and for other relies)) Case No. U-20471
	OF OF SERVICE
STATE OF MICHIGAN)	
COUNTY OF WAYNE)	
ESTELLA BRANSON, being duly	sworn, deposes and says that on the 20th day of
March, 2020, a copy of DTE Electric Comp	pany's MCL 460.6t(7) Incorporation of Commission
Changes to its Integrated Resource Plan, w	as served upon the persons on the attached service list
via e-mail.	
	ESTELLA BRANSON
Subscribed and sworn to before me this 20 th day of March, 2020.	
Lorri A. Hanner, Notary Public Wayne County, Michigan	
My Commission Expires: 4-20-2020 Acting in Wayne County	

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MPSC Case No. U-20471 Page 3

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