

## Service Quality Report to the Public Utility Commission of Texas

### Oncor Electric Delivery

2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
1297	134	IRASB	3211	272	54.35
1298	2190	RCHRD	1208	1013	54.24
1299	2054	COMRC	1201	997	54.22
1300	1663	CRSCN	1204	642	54.14
1301	1661	BDFWD	8932	1716	54.02
1302	1921	CDHCR	2055	1329	53.98
1303	651	BLTLN	0001	691	53.90
1304	2738	MTLDA	0006	4106	53.88
1305	2697	BLMGR	1901	278	53.84
1306	2571	WMMMR	2703	1152	53.83
1307	438	MESQT	1304	676	53.76
1308	1958	BRNAV	0753	1272	53.74
1309	1390	MKNNY	1202	1932	53.64
1310	1269	MAYFD	5511	2292	53.49
1311	381	WDGWD	1591	1129	53.47
1312	1621	PARIS	1202	1264	53.31
1313	496	WHITE	3521	822	53.28
1314	405	TYEST	1503	1065	53.22
1315	1125	RNDRK	1508	2150	53.13
1316	843	CNTRY	2811	2856	53.07
1317	1216	SHMNE	1409	926	52.96
1318	630	WHOUS	4122	1719	52.92
1319	2892	ALNTH	2853	3030	52.81
1320	1881	REAST	1502	1451	52.80
1321	1967	CDCSW	0004	1421	52.79
1322	1550	WSMWS	9811	5534	52.77
1323	772	NHNSW	0001	462	52.66
1324	1070	ECTHM	3312	19	52.62
1325	2008	JNDAY	3321	4298	52.59
1326	1062	MABNK	2404	2866	52.35
1327	2277	BSPRG	1902	2657	52.13
1328	897	PREST	1601	1243	52.13
1329	1884	WHOUS	4121	2148	52.06
1330	2194	BNBRK	4122	2466	52.03
1331	443	FRMBG	1703	30	52.00
1332	2079	RBNSN	2504	1738	51.96
1333	2468	RDRSE	2603	2810	51.92
1334	602	RCHRD	1204	1143	51.87
1335	2290	VANAL	1201	641	51.84
1336	101	WHITE	3512	1657	51.82
1337	2554	ROWLT	1107	518	51.81
1338	2874	MESTE	1213	997	51.77
1339	1922	DPCRK	1842	1382	51.75
1340	2384	PKRVL	1054	2804	51.73
1341	2026	ROWLT	1105	1591	51.68
1342	1381	RCHRD	1203	841	51.64
1343	1037	TATSP	4321	1465	51.61
1344	2735	MKNGB	5322	1772	51.53

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1345	552	ATHNS	1203	1081	51.47
1346	1139	HSKAV	0005	1374	51.47
1347	2199	MSHLN	0003	500	51.41
1348	1353	PJPTR	3221	46	51.40
1349	972	RBNSN	2501	1986	51.40
1350	432	MEXIA	4008	717	51.19
1351	766	SMFLD	2392	1048	51.14
1352	335	OAKHL	3082	1484	51.04
1353	207	RDLML	2512	1235	51.01
1354	1027	SHNRW	1607	587	50.97
1355	2665	KLNCC	1703	1682	50.96
1356	1617	COPEL	3052	2420	50.93
1357	353	RCHLD	2101	739	50.92
1358	484	MAPLE	0002	1296	50.76
1359	946	SSPNE	1401	835	50.75
1360	89	NSMFD	4201	366	50.73
1361	2445	SMPST	0002	1521	50.59
1362	2489	EULES	8732	637	50.58
1363	645	WOVER	6142	2073	50.54
1364	2464	TYOMN	1410	1550	50.51
1365	2606	CGRSW	9821	28	50.46
1366	1337	CNEXP	0002	1168	50.44
1367	671	TAYLR	1204	2024	50.35
1368	1401	WWDWY	2022	1081	50.27
1369	1875	JNKNS	0008	734	50.25
1370	2587	DNISN	1206	978	50.19
1371	828	TYBLR	2811	1341	50.19
1372	3093	LNDAL	2204	56	50.19
1373	1194	JKSBR	1402	1423	49.95
1374	1318	PRSTN	0005	1058	49.83
1375	1567	IRVGS	1901	1400	49.81
1376	1902	PFFRD	3482	1100	49.56
1377	551	EZACH	0005	543	49.53
1378	1294	IRVGS	1905	772	49.49
1379	2108	PAYNE	1223	126	49.43
1380	585	ENNIS	1904	1285	49.42
1381	1152	MDWCK	0006	1007	49.38
1382	814	EDGWD	1102	975	49.29
1383	2031	FSTVW	0007	1587	49.24
1384	1515	CRLCC	2704	542	49.17
1385	1377	EULES	8711	2043	49.14
1386	2516	SHNRW	1610	457	49.01
1387	643	PLGRV	0002	2413	48.98
1388	2925	LSCOL	2114	243	48.98
1389	1276	LWSNR	2242	1447	48.93
1390	433	RVRFT	0002	333	48.91
1391	1258	PLSTN	1001	1927	48.87
1392	1043	MCTYE	1721	568	48.84

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1393	999	RCHHL	0332	1683	48.82
1394	2256	SMFLD	2381	852	48.79
1395	850	CRSCN	1201	825	48.68
1396	1455	RWALS	1852	2730	48.65
1397	1760	MESQT	1308	1861	48.58
1398	2473	COTRD	0006	605	48.57
1399	2102	HKHTS	1604	1004	48.53
1400	2136	RNDRK	1506	1687	48.50
1401	2676	HLTOM	2442	1101	48.45
1402	419	KLNPS	1105	1611	48.32
1403	2899	BOWEN	3181	772	48.28
1404	1237	ARPMN	4147	648	48.22
1405	1591	PJPTR	3222	190	48.20
1406	140	ENTOH	0005	1234	48.20
1407	2410	HLSES	0522	1738	48.19
1408	832	WTHRF	2001	1256	48.15
1409	1593	HMTRD	0003	424	48.01
1410	1520	AYERS	4421	1525	47.98
1411	2168	MRSES	4012	379	47.98
1412	1654	HURST	1811	1261	47.95
1413	515	BSPRG	1903	1344	47.77
1414	1696	FSCRK	6723	4545	47.75
1415	2370	WELRD	0002	740	47.70
1416	2348	GORMN	0411	557	47.62
1417	92	HDWLK	3003	996	47.61
1418	2381	EULES	8731	1463	47.59
1419	906	HUBRD	1402	1046	47.56
1420	340	HURST	1822	1586	47.47
1421	681	GRDPR	0852	1515	47.15
1422	1835	HURST	1882	1914	47.09
1423	2618	FHLSW	1321	425	47.06
1424	1295	KLNTF	1805	1380	47.05
1425	1476	DESPR	1405	911	47.02
1426	244	EUSTC	2401	1865	46.99
1427	743	VANSB	1501	868	46.95
1428	913	IRVGS	1904	977	46.93
1429	1135	SGOVL	1402	943	46.93
1430	2104	PRMED	4404	1155	46.90
1431	2073	WALST	0005	254	46.82
1432	1965	ENSSO	2003	509	46.80
1433	1256	NCRST	2201	1977	46.71
1434	1606	LFEST	1901	1526	46.67
1435	358	PRKRW	3362	1101	46.66
1436	216	TXHRV	1611	17	46.65
1437	2512	JNKNS	0003	915	46.60
1438	842	FRFWS	3002	854	46.59
1439	1770	DNCNV	1903	1202	46.58
1440	#N/A	SALDS	3311	607	46.53

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1441	1778	NHNSW	0007	580	46.52
1442	908	HLSES	0542	769	46.52
1443	1428	GRSMN	4029	961	46.52
1444	1146	BNDRA	0007	497	46.49
1445	714	WRBND	2321	1569	46.46
1446	1266	CPRCV	1401	1845	46.44
1447	2425	RCHHL	0384	725	46.40
1448	1557	BLKST	1781	1955	46.36
1449	133	GLNHV	3963	1567	46.24
1450	97	NCSTH	1501	797	46.21
1451	2465	HUTTO	2711	3363	46.18
1452	1253	RWALE	3322	2262	46.16
1453	535	CRLJL	1507	957	46.16
1454	2178	BNBRK	4113	3876	46.11
1455	2837	ALPHA	0006	297	46.09
1456	1126	SALSW	3003	759	46.07
1457	1566	ELGIN	1001	625	46.02
1458	744	COMSO	1405	783	45.97
1459	2232	HHSTH	1502	4285	45.95
1460	991	LAVON	1404	945	45.88
1461	971	HKHTS	1601	1536	45.85
1462	2127	SWDTN	1631	1544	45.73
1463	1539	BKBNT	1811	692	45.66
1464	2822	CMTSW	0927	618	45.65
1465	#N/A	SALDS	3321	552	45.56
1466	1612	LVBRD	0004	1181	45.54
1467	1212	RSNHT	1171	2408	45.51
1468	3108	PNTIS	0272	771	45.50
1469	924	DALLW	0005	120	45.46
1470	2064	ARLNG	1292	1564	45.46
1471	2988	NCSFA	1706	1163	45.44
1472	628	LKMNT	0001	207	45.37
1473	1160	DNISN	1205	1644	45.34
1474	2415	PROAD	0004	1002	45.33
1475	891	CRANE	0321	22	45.32
1476	2481	RDLML	2552	284	45.30
1477	2267	MESQW	1801	2114	45.28
1478	2302	WMMMR	2707	1560	45.26
1479	#N/A	SANDS	1101	20	45.26
1480	1009	GPLND	1202	595	45.23
1481	1257	MSTLT	1063	1304	45.23
1482	1531	PCOIT	1006	1040	45.23
1483	2674	WTHRF	2002	1417	45.18
1484	1085	RCHRD	1207	1553	45.14
1485	2677	WEBBS	8612	3813	45.11
1486	2851	TYLNE	1624	181	45.09
1487	1702	BRLSN	2033	1683	45.04
1488	1383	RECCR	0004	66	45.01

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1489	2098	SUNNY	2303	904	45.01
1490	246	GAVSW	0001	1543	44.97
1491	399	GAVSW	0009	1023	44.93
1492	188	BANGS	1201	3530	44.89
1493	1924	SMFLD	2313	2123	44.88
1494	453	WHITE	3542	1643	44.86
1495	827	DENAV	0632	905	44.86
1496	682	BRNCH	1411	571	44.81
1497	636	WHITE	3522	1823	44.79
1498	1304	ATHNW	1404	1433	44.77
1499	2794	MCDMT	2551	3153	44.71
1500	678	MESQT	1305	1136	44.59
1501	703	HUDSN	1601	995	44.57
1502	2387	CRLTN	1405	1242	44.50
1503	25	BLKRV	8311	43	44.47
1504	1333	ALPHA	0002	1256	44.42
1505	1893	DNIWS	1602	1544	44.37
1506	1457	GRPTT	9921	595	44.34
1507	540	WXHCH	1201	1766	44.33
1508	1267	BBTWN	1504	2091	44.30
1509	1680	BRCRK	6514	579	44.29
1510	2678	BRNAV	0732	817	44.25
1511	2128	WNDCR	0262	226	44.24
1512	8	SCURY	1921	93	44.23
1513	1766	CNEXP	0003	1410	44.14
1514	291	CRSGL	1301	148	44.11
1515	289	CNTRY	2813	3097	44.05
1516	2497	RNDRK	1504	976	44.00
1517	930	ARMST	0010	878	44.00
1518	1613	RCHRD	1205	1027	43.95
1519	821	TMNTH	1602	477	43.94
1520	1529	DUBLN	1360	1141	43.91
1521	673	KLNCC	1702	3873	43.88
1522	1913	HKHTS	1607	972	43.85
1523	825	HUBRD	1401	958	43.77
1524	1904	BRNWD	1203	877	43.75
1525	1549	BDFWD	8921	685	43.65
1526	2272	TYBLR	2804	2440	43.59
1527	1883	PALRD	2203	1124	43.59
1528	434	IRVGS	1908	929	43.56
1529	1543	KFMSSO	1301	822	43.53
1530	994	CRLJL	1506	1916	43.46
1531	1817	CPRCV	1405	1584	43.37
1532	2074	MDESA	4512	1430	43.36
1533	670	CLBWS	8112	1708	43.30
1534	860	EULSO	9122	1341	43.23
1535	1700	HNRTA	0311	1074	43.23
1536	1461	MEXIA	4011	1054	43.20

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1537	72	MIDWY	0621	12	43.18
1538	1678	WXHCH	1203	1349	43.18
1539	1328	CRLTN	1453	297	43.17
1540	657	KLNTF	1804	993	43.16
1541	2089	TYEST	1511	861	43.16
1542	1443	HRSMD	1951	4422	43.08
1543	1771	RGLRW	0001	39	43.07
1544	2123	JNKNS	0004	333	43.07
1545	2276	CRTLD	4723	2325	43.00
1546	2300	PAYNE	1205	1262	42.99
1547	2702	ALNSW	2651	2673	42.98
1548	3077	EULTB	5712	1775	42.95
1549	2274	PFFRD	3492	286	42.69
1550	2393	BELLS	1201	612	42.68
1551	1011	NPKWY	0010	2997	42.56
1552	1193	FSCRK	6721	1701	42.51
1553	2037	HLTOM	2482	1046	42.48
1554	1887	BRNSY	1231	68	42.38
1555	805	RSKMN	3046	1117	42.31
1556	1223	DENAV	0622	912	42.29
1557	1952	CMTSW	0973	1603	42.21
1558	2575	ABRRD	0001	2000	41.99
1559	938	SHDYG	7811	401	41.80
1560	2581	CRLUD	1303	906	41.78
1561	2467	GRLRD	0002	1152	41.68
1562	799	CANTN	1302	1399	41.52
1563	2833	DNINR	1404	183	41.39
1564	1935	BNBRK	4111	2908	41.37
1565	1101	ABRRD	0005	1534	41.29
1566	2941	COPEL	3054	1311	41.20
1567	2230	LAVON	1451	1042	41.20
1568	2400	LIGSW	1608	390	41.09
1569	42	GODLY	1601	786	41.09
1570	1843	FRSTN	1602	1353	41.01
1571	1447	WDGWD	1581	609	41.01
1572	652	IRVHF	2305	1483	40.97
1573	2036	ARMST	0001	268	40.96
1574	2596	BDFWD	8912	1008	40.96
1575	1469	COLNY	2403	2838	40.85
1576	1094	DALWT	2992	400	40.82
1577	1169	GSTHW	1624	2261	40.76
1578	2165	OKCLS	0005	237	40.73
1579	1709	TLRWT	2201	1942	40.70
1580	929	BDFRD	8832	1013	40.65
1581	559	MKNGB	5312	752	40.64
1582	1440	WNDWD	3662	885	40.54
1583	1889	BLTLN	0003	606	40.52
1584	2527	WTAUG	4623	737	40.49

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1585	1729	PCOIT	1007	776	40.46
1586	1270	IRVND	1204	1357	40.44
1587	2548	RDLML	2532	1811	40.36
1588	1462	GVFTW	1801	747	40.34
1589	2109	BNBRK	4123	1381	40.18
1590	1155	SHDYG	7841	344	40.18
1591	1088	BSPSW	0851	544	40.15
1592	1506	WSTHL	3642	2313	40.15
1593	1614	DLEON	0111	852	40.14
1594	1108	HHSTH	1504	2655	40.08
1595	1769	RSPCK	2102	1565	40.07
1596	1184	PROAD	0003	1131	40.01
1597	1118	CRANE	0311	818	39.94
1598	2969	BOWEN	3142	1254	39.93
1599	87	NSTAR	2011	539	39.92
1600	2206	ADISN	1604	1159	39.91
1601	446	RWALL	1204	1088	39.84
1602	751	TMSTH	1402	1675	39.82
1603	1852	BAKKE	6921	2207	39.82
1604	1314	ELCTR	1211	274	39.81
1605	2185	EZACH	0006	1329	39.70
1606	1359	MDTHN	1701	1937	39.66
1607	738	FSCRK	6711	3753	39.62
1608	1895	PLANO	1104	981	39.59
1609	2240	CDHIL	1804	1297	39.51
1610	1017	MURPH	2755	3378	39.49
1611	2408	FORSW	2025	676	39.40
1612	2001	ELMGV	3653	2286	39.29
1613	1407	HURST	1861	1837	39.21
1614	2209	ODNTH	2015	570	39.14
1615	2169	WRBND	2312	1469	38.99
1616	2285	SPRDL	4811	1673	38.98
1617	2377	RKCRK	6111	4634	38.92
1618	1481	TMSTH	1405	526	38.91
1619	960	MTLDA	0001	2821	38.90
1620	#N/A	BLAGG	3911	599	38.87
1621	987	AMMFG	5611	802	38.83
1622	549	EZACH	0001	1000	38.77
1623	440	NHNSW	0006	684	38.69
1624	524	AYERS	4431	1742	38.67
1625	1863	WSOTH	1018	810	38.62
1626	182	PRKRW	3392	175	38.61
1627	2120	DESPR	1407	947	38.58
1628	755	HUTCH	1503	693	38.56
1629	#N/A	SWTWR	1362	440	38.53
1630	2236	MTLDA	0004	1266	38.46
1631	167	ATHNW	1401	906	38.45
1632	837	DAVST	0004	1738	38.44

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1633	2797	PRCRK	0003	1943	38.43
1634	2186	MYPRL	1801	496	38.42
1635	2634	BRNAV	0711	1671	38.39
1636	818	FERIS	1103	1264	38.39
1637	1977	CMNCH	1401	1241	38.38
1638	2431	CRLJL	1501	1462	38.25
1639	1664	ALNSW	2653	3333	38.13
1640	2268	SANSM	3923	4452	38.10
1641	810	IRVNG	1404	1459	38.09
1642	780	HORNE	1911	1804	38.00
1643	1936	RNDRK	1507	2890	37.99
1644	2021	ALPHA	0013	455	37.84
1645	1140	RCHRD	1201	1432	37.83
1646	1386	BRNWD	1202	449	37.80
1647	564	LKWOD	7411	631	37.79
1648	1441	KERNS	2401	542	37.78
1649	1966	MURPH	2752	1204	37.74
1650	200	DALWT	2911	348	37.70
1651	1006	DCATR	1202	1793	37.62
1652	2247	CLYVL	9311	2211	37.61
1653	2863	PGSTH	7021	35	37.49
1654	2362	WXNTH	2306	2539	37.47
1655	1025	RDOAK	1301	4183	37.46
1656	986	BDFRD	8841	811	37.32
1657	882	KLNSO	4501	2958	37.22
1658	1130	IRVBL	2504	1600	37.21
1659	1283	CHYNE	9122	36	37.16
1660	776	VESTS	3121	26	37.00
1661	1990	BBTWN	1502	1989	37.00
1662	2817	PCUST	2003	1026	36.99
1663	467	MDTHN	1702	1892	36.95
1664	1058	MESQN	1505	1451	36.87
1665	146	EDDYS	0425	423	36.84
1666	1054	DNCNV	1904	1483	36.66
1667	920	PKRVL	1053	1362	36.62
1668	1472	BLTSW	3203	1265	36.58
1669	704	MDLNW	1564	1277	36.58
1670	949	GRDPR	0831	1262	36.38
1671	2894	LWSNR	2231	796	36.36
1672	1127	ARLNG	1213	1338	36.35
1673	1829	GPLND	1201	492	36.32
1674	1611	NPKWY	0009	1271	36.24
1675	2344	SMFLD	2391	291	36.18
1676	1213	CMPWI	0002	1838	36.17
1677	1932	OAKHL	3011	2412	36.17
1678	1719	IRVNR	1505	1264	36.14
1679	884	BRLSN	2051	2987	36.13
1680	466	DAVST	0003	1794	36.11



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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
1681	266	BRGPR	1103	969	36.08
1682	1029	LKHLD	0004	1273	36.00
1683	2078	BDFWD	8922	2015	35.99
1684	1728	DESHR	1201	989	35.95
1685	2614	CDCSW	0006	1430	35.78
1686	1505	TYLER	1002	802	35.75
1687	940	CKRHL	0005	1232	35.69
1688	1738	LKMNT	0003	570	35.68
1689	1545	NCRST	2204	1946	35.66
1690	1758	WNRTH	1419	302	35.65
1691	1107	CRNDL	2403	1038	35.65
1692	345	CRTLD	4731	3039	35.65
1693	2326	SHAMP	0001	1000	35.64
1694	2238	HHSTH	1501	3574	35.62
1695	1109	KLNTF	1802	844	35.57
1696	2340	IRVNG	1401	1581	35.57
1697	2358	GSTHW	1614	875	35.53
1698	1117	SHMNE	1403	1051	35.46
1699	2532	WGROB	8411	4728	35.45
1700	1478	BRNWD	1205	1132	35.41
1701	248	CHNDW	1201	1397	35.36
1702	569	PCOIT	1004	739	35.34
1703	1961	ANDNR	2231	1122	35.34
1704	1338	RWDHV	1905	1108	35.30
1705	#N/A	THORN	6812	115	35.29
1706	1552	DESHR	1203	1435	35.28
1707	686	WALST	0011	778	35.27
1708	2063	CRNRD	0004	514	35.27
1709	2281	CRLUD	1304	1943	35.23
1710	855	IRVNE	1304	656	35.18
1711	1845	BLKST	1762	1020	35.14
1712	202	TYWST	2003	1417	35.13
1713	3053	BEALS	9511	133	35.12
1714	1994	ROBNW	1503	1763	35.12
1715	784	MDWCK	0003	1863	35.08
1716	962	PKRVL	1052	3735	35.05
1717	3090	INAIR	1421	16	34.85
1718	749	OAKHL	3041	984	34.84
1719	1636	KILEN	1204	1661	34.82
1720	1733	SHNRW	1611	1002	34.70
1721	2183	ADISN	1605	1327	34.66
1722	2157	VALVW	1802	481	34.63
1723	86	MNWLL	1204	303	34.61
1724	3060	CGRSW	9811	36	34.52
1725	750	SPRTN	1802	1026	34.48
1726	275	IRVVV	2851	2988	34.45
1727	2391	RANGR	4311	937	34.42
1728	111	BEAST	4090	949	34.36

## Service Quality Report to the Public Utility Commission of Texas

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
1729	2693	TRNTY	7551	1585	34.34
1730	1031	BLKST	1711	2043	34.28
1731	774	BDFRD	8811	1687	34.28
1732	1114	CDHCR	2053	275	34.26
1733	1458	MESQN	1503	1850	34.23
1734	2542	WDGWD	1513	891	34.22
1735	641	DALLW	0006	2043	34.19
1736	1937	SHSTH	1301	2088	34.19
1737	279	MKNNY	1254	851	34.14
1738	1976	WDGWD	1523	299	34.08
1739	1007	SSPNG	1201	922	34.06
1740	1071	PLGRV	0001	1205	34.00
1741	2593	MDLNW	1552	782	33.98
1742	#N/A	FLAND	1311	95	33.97
1743	2389	MNWLL	1206	1160	33.95
1744	1991	RDOAK	1303	2484	33.94
1745	1112	WSOTH	1019	825	33.94
1746	1162	DAVIS	3741	1288	33.94
1747	2417	PFFRD	3472	1282	33.93
1748	2942	MESQT	1307	595	33.91
1749	654	WCOLO	1319	2093	33.88
1750	2215	MDLNW	1521	1826	33.82
1751	1974	HSKAV	0001	1094	33.76
1752	425	CAMRN	1202	1462	33.75
1753	2124	WNDWD	3611	502	33.73
1754	1356	PLKST	0002	896	33.72
1755	2623	BLMED	1621	627	33.71
1756	370	TMPLE	1206	711	33.65
1757	2143	TYBLR	2802	1003	33.64
1758	1874	FINKS	1801	1797	33.62
1759	1693	CLBRN	1202	1090	33.45
1760	753	BDFRD	8821	896	33.42
1761	1493	EDGCF	2272	1067	33.37
1762	2463	CRSCN	1202	634	33.23
1763	2736	KNOTT	5211	87	33.17
1764	1161	GRDPR	0881	1962	33.12
1765	597	LMESA	1531	625	32.91
1766	1159	LKMNT	0008	1221	32.87
1767	1986	PWEST	1302	988	32.80
1768	1384	CRLTR	2052	1570	32.79
1769	1196	WOVER	6122	1733	32.77
1770	2009	ELGIN	1003	3792	32.73
1771	408	DUVAL	0414	687	32.64
1772	1404	SPRDL	4812	1216	32.64
1773	452	MAYFD	5533	4959	32.62
1774	1181	SWDTN	1621	716	32.61
1775	374	DHIDE	2811	30	32.55
1776	#N/A	ATNRN	3431	2075	32.38

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### **Oncor Electric Delivery**

<b>2021 SAIDI Ranking</b>	<b>2020 SAIDI Ranking</b>	<b>Substation Identification</b>	<b>Feeder Identification</b>	<b>Number of Customers</b>	<b>2021 SAIDI Value</b>
1777	1981	ALDTU	9421	1129	32.37
1778	1877	DEALY	0005	1302	32.35
1779	699	HNYGR	2401	621	32.33
1780	2039	GRAHM	0721	1246	32.25
1781	694	WDGWD	1572	1484	32.22
1782	1183	BLMND	3213	3630	32.21
1783	2457	PRMED	4403	2623	32.17
1784	356	PKRMX	4703	3230	32.16
1785	2828	PALRD	2207	1120	32.15
1786	1067	TYSTH	1206	1266	32.12
1787	2565	GODRD	8132	2715	32.12
1788	2743	DCATR	1204	709	32.11
1789	2193	ODNTH	2035	690	32.09
1790	2739	MDLNW	1573	1036	32.02
1791	1437	RCLNS	1404	721	31.99
1792	2472	OAKHL	3052	771	31.93
1793	1681	RSPCK	2108	955	31.92
1794	2426	LNCST	1603	1932	31.91
1795	1494	BRLSN	2023	1853	31.88
1796	2125	BSPRG	1905	1622	31.85
1797	2789	DENDR	0008	125	31.84
1798	2620	THRNE	0005	1344	31.83
1799	2744	NHNSW	0003	737	31.79
1800	352	LIGSW	1607	1383	31.78
1801	2221	BLTON	1806	1020	31.67
1802	2296	PNTGO	7112	743	31.67
1803	1544	LWSNR	2221	935	31.66
1804	2816	HKBRY	1103	401	31.64
1805	1750	ROANW	9512	2298	31.63
1806	2330	DCVSO	1102	701	31.62
1807	481	HLSBR	1203	1747	31.61
1808	2907	WALST	0008	12	31.58
1809	1387	SPRDL	4821	1350	31.55
1810	462	LKBLT	2107	1169	31.55
1811	2673	GRLWS	1706	293	31.54
1812	722	FHLSW	1342	2269	31.52
1813	2525	PROAD	0007	245	31.35
1814	1158	LAVON	1452	2136	31.29
1815	1411	TYLNE	1623	882	31.19
1816	685	RCHRD	1202	823	31.18
1817	1174	CDCSW	0008	665	31.13
1818	2192	FLINT	3212	3700	31.12
1819	1439	COLNY	2404	1937	31.03
1820	2286	DAVIS	3723	345	31.01
1821	1637	RRNES	2403	2981	31.00
1822	3041	GRLTC	3803	1018	30.99
1823	2859	LFKHL	2101	162	30.99
1824	1220	SHDYG	7822	521	30.94

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
1825	2682	RCLNS	1407	1403	30.91
1826	2297	FRMBR	1801	1244	30.90
1827	178	AMMFG	5631	1562	30.85
1828	#N/A	WXHNW	2903	211	30.84
1829	2142	ARTHRR	0481	1238	30.81
1830	2140	ENNIS	1901	345	30.79
1831	1236	RHOME	2402	1380	30.78
1832	720	BDFWD	8941	1232	30.78
1833	1438	MEXIA	4012	1124	30.75
1834	250	LIGSW	1603	2517	30.72
1835	1815	CLBNR	1404	1318	30.65
1836	99	CRNTH	2404	2438	30.60
1837	1955	RCHHL	0311	980	30.59
1838	491	SYCRK	4522	3049	30.55
1839	1248	LOMAL	0001	715	30.53
1840	1463	FRNKF	0002	944	30.51
1841	2811	PJPTR	3212	40	30.50
1842	2050	FARON	4031	1153	30.49
1843	2214	WXHCH	1204	1924	30.48
1844	2100	FROKS	0003	647	30.45
1845	1775	KLNCC	1701	2342	30.45
1846	2205	WEAST	0620	2013	30.42
1847	2570	PCOIT	1003	1507	30.42
1848	763	FSTVW	0005	1778	30.37
1849	1504	HORNE	1943	1809	30.37
1850	230	CRTLD	4721	3062	30.33
1851	1710	GLNHV	3973	1554	30.31
1852	298	ODNTH	2044	2039	30.30
1853	604	MLFRD	2101	1699	30.29
1854	2228	PRCRK	0002	1584	30.15
1855	1335	CRLJL	1508	337	30.13
1856	1707	MLDR2	1601	398	30.11
1857	1182	KILEN	1203	785	30.11
1858	2712	DALWT	2941	304	30.11
1859	781	RDLML	2581	1224	30.11
1860	1503	CLBRN	1203	1588	30.10
1861	1534	GNSVL	1203	1648	30.05
1862	1708	BNTDR	0004	1930	30.01
1863	896	GRSLK	1103	698	29.99
1864	561	SMFLD	2311	1654	29.91
1865	2981	CKRHL	0004	436	29.89
1866	984	WXNTH	2304	874	29.80
1867	1321	HKHTS	1606	2027	29.79
1868	2211	MNSTR	1201	679	29.78
1869	2710	PPARK	1808	598	29.74
1870	956	CNTRD	0003	1389	29.69
1871	1305	RWDHV	1902	952	29.68
1872	2059	BOWEN	3112	889	29.67

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
1873	78	GNSVL	1205	912	29.67
1874	1609	PCOIT	1022	2127	29.60
1875	1210	FRMBG	1753	672	29.54
1876	1026	HLSES	0561	1823	29.54
1877	310	WHITE	3511	1319	29.49
1878	2831	WSANG	2801	1340	29.43
1879	1241	BRLSN	2013	1108	29.40
1880	225	MCGRG	0776	288	29.27
1881	2148	CLBRN	1201	1821	29.24
1882	252	WESTS	1601	1101	29.24
1883	1805	CMPWI	0005	1649	29.19
1884	668	IRVBL	2505	506	29.17
1885	482	CMINO	1202	1033	29.12
1886	2871	GVODS	3041	1447	29.10
1887	2615	GVODS	3011	2321	29.01
1888	2567	RSPVY	1703	986	28.98
1889	1964	RSPCK	2131	59	28.90
1890	#N/A	LDRAW	6623	172	28.89
1891	904	HLSBR	1202	1228	28.86
1892	1558	CRKSD	3103	844	28.77
1893	2212	MTLDA	0007	2470	28.75
1894	1530	DALRK	1354	1953	28.58
1895	2269	RDLML	2561	916	28.54
1896	#N/A	LKCRS	4231	1701	28.54
1897	3117	ROBNW	1501	397	28.48
1898	2310	EDWDS	5931	1049	28.48
1899	1036	BLKST	1742	1770	28.46
1900	2684	ROUGH	7422	21	28.45
1901	401	SIKES	2422	1166	28.41
1902	2455	WGROB	8422	3764	28.41
1903	2191	BLMND	3221	100	28.38
1904	217	HKBRY	1102	1708	28.34
1905	1956	TYSTH	1202	1046	28.34
1906	1857	FHLSW	1372	1551	28.31
1907	206	CMINO	1205	1087	28.25
1908	1590	WELRD	0003	403	28.20
1909	1453	MSLSW	0001	853	28.19
1910	307	LKBLT	2105	1260	28.16
1911	304	OKCLS	0004	1554	28.13
1912	2781	STERT	2706	2488	28.12
1913	1198	WEBBS	8614	2524	28.11
1914	748	MRLNS	4002	411	28.09
1915	#N/A	VENSW	2602	149	28.02
1916	1341	DAVIS	3772	1737	28.01
1917	2869	BLKST	1721	1015	27.98
1918	2812	PWEST	1312	2008	27.97
1919	2664	DNIWS	1601	1095	27.92
1920	992	THRNE	0003	1254	27.83

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
1921	1715	VANAL	2412	1948	27.75
1922	1810	LAVON	1401	1711	27.75
1923	2156	CMBTP	1201	270	27.73
1924	2116	RRNES	2404	4454	27.64
1925	224	TRNTH	1501	1865	27.63
1926	2110	WNRTH	1418	1780	27.61
1927	1201	BDFRD	8842	1448	27.60
1928	2351	EULTB	5731	652	27.56
1929	1523	HRSMD	1957	2462	27.54
1930	902	CRLUD	1305	1704	27.52
1931	2599	HKHTS	1608	1339	27.52
1932	2889	DAVIS	3733	1026	27.47
1933	1690	KILEN	1202	1731	27.46
1934	2253	LNCST	1601	1225	27.37
1935	2709	DALLW	0004	1388	27.25
1936	1969	WELRD	0008	1114	27.24
1937	269	LUFKN	1203	657	27.20
1938	1424	PRKRW	3341	287	27.16
1939	1059	MEXIA	4024	366	27.10
1940	1432	DNIWS	1603	1381	26.94
1941	1134	PSHIL	1602	1099	26.93
1942	921	CHALK	0911	64	26.92
1943	473	GLNHV	3953	1286	26.87
1944	333	SSPSW	1604	1299	26.86
1945	1938	SMPST	0006	843	26.78
1946	2783	PRMED	4401	2571	26.76
1947	1202	WGROB	8412	1006	26.74
1948	666	MESTE	1202	947	26.74
1949	235	GODRD	8151	796	26.71
1950	1699	WATCO	2605	4943	26.66
1951	2152	COMRC	1204	617	26.60
1952	2576	LIGSW	1621	44	26.60
1953	2317	RWALL	1201	1316	26.56
1954	1250	STNVL	1201	2591	26.54
1955	2926	ALLEN	2405	19	26.52
1956	2356	RNDRK	1509	1514	26.51
1957	1073	WTAUG	4613	1845	26.50
1958	1367	WCITY	2401	944	26.48
1959	2319	CRSCN	1205	763	26.47
1960	173	PCOIT	1024	2373	26.46
1961	539	WWDWY	2015	1255	26.44
1962	887	ODNTH	2053	2145	26.41
1963	1292	CRLFR	2157	2466	26.40
1964	2627	CNTRY	2824	3059	26.39
1965	1763	LOMAL	0006	1396	26.39
1966	1291	TYSTH	1201	1437	26.39
1967	485	RWDHV	1904	512	26.36
1968	834	DPCRK	1832	336	26.35

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
1969	1616	CDHIL	1805	621	26.34
1970	767	KEENE	1503	883	26.31
1971	1688	WSTHL	3652	3135	26.27
1972	2432	WEAST	0615	451	26.23
1973	706	CNTRY	2814	1115	26.22
1974	480	SCHRD	0001	1048	26.22
1975	2491	MLDR2	1603	556	26.21
1976	3105	PBELL	4821	464	26.20
1977	1298	CMINO	1207	709	26.15
1978	457	CNEXP	0004	649	26.12
1979	2458	RSNHT	1122	2082	26.08
1980	717	WLSPT	1001	2063	25.99
1981	1055	NLNVL	2001	542	25.97
1982	1644	BOWEN	3132	1811	25.94
1983	2428	EDGCF	2241	924	25.93
1984	194	HKBRY	1113	441	25.92
1985	975	EDDYS	0712	1174	25.91
1986	2515	CRLTN	1402	1075	25.89
1987	2218	BSPRW	2511	1012	25.82
1988	2526	TIODE	9621	200	25.82
1989	635	DNINR	1401	81	25.80
1990	1518	WHITE	3531	1919	25.76
1991	563	ANARN	1911	15	25.73
1992	2022	DESPR	1403	1840	25.71
1993	656	JKSNR	4107	320	25.66
1994	2749	WNDCR	0221	595	25.65
1995	2566	RCHHL	0394	240	25.64
1996	955	EDGWD	1101	646	25.61
1997	2878	PCUST	2007	1394	25.60
1998	803	WRTHM	5012	316	25.58
1999	1923	MSHLN	0008	689	25.56
2000	2065	GSTHW	1623	2479	25.51
2001	533	MSHLN	0001	1067	25.51
2002	2284	DUVAL	0441	1058	25.50
2003	2847	WXNTH	2305	354	25.45
2004	57	SLBLF	1201	131	25.38
2005	60	EDWDS	5921	15	25.37
2006	2045	WNTHW	1118	1527	25.34
2007	2180	EULSO	9111	1936	25.19
2008	2019	PTENN	2352	2478	25.17
2009	283	ITSCA	1701	773	25.17
2010	2451	ALNTH	2844	1890	25.13
2011	2716	FSCRK	6713	3565	25.13
2012	2162	CMTSW	0922	1584	25.11
2013	2189	WXNTH	2301	1316	25.08
2014	2155	LOMAL	0002	522	25.06
2015	2782	GSTHW	1615	35	25.05
2016	1978	ARTHR	0472	1358	25.04

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2017	2273	NHNSW	0004	545	24.98
2018	3091	IRVNR	1552	78	24.91
2019	123	GRDPR	0811	374	24.88
2020	1332	WNDWD	3641	1482	24.84
2021	2210	DALRK	1305	1207	24.76
2022	2964	FROKS	0006	980	24.72
2023	2233	HUDSN	1603	1530	24.72
2024	2429	BRHLW	7631	645	24.68
2025	981	MDTHS	1001	2274	24.66
2026	1496	ANDNR	2211	1133	24.59
2027	2478	WNDCR	0241	679	24.58
2028	54	JDKNS	0821	32	24.55
2029	2056	IRVBL	2501	378	24.54
2030	2000	CRLTR	2004	240	24.52
2031	996	WMRLD	0001	230	24.50
2032	1628	HUDSN	1602	1739	24.48
2033	917	LOMAL	0010	1496	24.47
2034	2661	HORNE	1914	1065	24.47
2035	2357	IRLBJ	3211	2704	24.41
2036	#N/A	SCATR	2501	59	24.41
2037	1823	LWRDR	0003	1689	24.39
2038	1115	EZACH	0002	1398	24.37
2039	1352	SYCRK	4532	1114	24.31
2040	1279	SHRSW	6611	1231	24.28
2041	2928	BNDRA	0002	444	24.28
2042	2927	SHDYG	7832	790	24.25
2043	3109	PRNTH	1403	17	24.11
2044	444	MRDCK	0001	2379	24.06
2045	2724	STNVL	1203	2553	24.03
2046	612	PLKST	0003	1279	24.00
2047	#N/A	GRADY	2107	174	24.00
2048	1841	WTAUG	4643	994	24.00
2049	925	WOVER	6131	2359	23.99
2050	2350	LKWOD	7442	734	23.96
2051	288	ECTHM	3322	2286	23.94
2052	2601	GNSVL	1204	510	23.94
2053	257	CTYVW	2221	1852	23.91
2054	#N/A	FLAND	1312	136	23.86
2055	2275	WDGWD	1512	822	23.85
2056	1610	BRCRK	6524	811	23.84
2057	757	CMPST	0001	426	23.84
2058	592	DALWT	2982	1036	23.82
2059	1764	SGOVL	1405	1275	23.80
2060	1979	CRNTH	2403	3177	23.79
2061	2147	DALLW	0002	68	23.78
2062	193	WMRLD	0004	1581	23.69
2063	1588	LEMON	0001	2337	23.65
2064	2251	FROKS	0001	1368	23.63



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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2065	1145	LIGSW	1602	1164	23.62
2066	742	WNDCR	0211	1288	23.61
2067	1206	SPRDL	4822	1241	23.53
2068	2133	RRSTH	1706	3127	23.48
2069	634	HRSHD	5821	123	23.39
2070	1716	RWDHV	1906	643	23.39
2071	1028	WDGWD	1522	1447	23.34
2072	1018	IRVNG	1407	1446	23.33
2073	#N/A	MDTHS	1004	611	23.31
2074	1044	WALST	0003	130	23.28
2075	1105	OAKHL	3072	2606	23.20
2076	1364	EDGCF	2231	866	23.18
2077	2645	LOMAL	0016	661	23.17
2078	1442	MESQN	1502	1092	23.14
2079	1502	PREST	1603	1521	23.12
2080	1794	CHNDW	1203	857	23.11
2081	1818	MKNGB	5352	2171	23.10
2082	2966	ATHNW	1402	540	23.07
2083	2034	BLTON	1802	1545	23.05
2084	1803	WDGWD	1561	1490	23.04
2085	1224	TRPMN	4001	787	23.01
2086	2258	FRMNT	0001	868	23.00
2087	2244	BLNKT	0701	280	22.93
2088	1819	PWEST	1304	1684	22.89
2089	1665	BLMND	3262	134	22.88
2090	1096	TMPNW	1104	1950	22.87
2091	177	NCWDN	1111	832	22.87
2092	1650	BRCRK	6521	1429	22.86
2093	701	HSKAV	0004	1349	22.80
2094	2734	JUDCT	0004	218	22.78
2095	957	GRLND	1606	974	22.73
2096	2427	CHSPG	2401	1758	22.71
2097	2057	HKBRY	1115	17	22.66
2098	2971	KNLTR	0004	1372	22.66
2099	1517	GLNHV	3911	1308	22.65
2100	823	DALWT	2962	478	22.61
2101	959	FRMBG	1702	63	22.57
2102	633	MESTE	1203	181	22.56
2103	2879	TRLSW	2401	22	22.55
2104	2229	LKBLT	2102	1555	22.47
2105	2086	ALPHA	0003	874	22.47
2106	1872	IRVBL	2503	1912	22.45
2107	1230	GRPVN	8222	2328	22.44
2108	468	PSHIL	1603	1861	22.42
2109	2122	WTAUG	4622	1004	22.40
2110	942	GRHWY	5522	1785	22.36
2111	1123	MESQT	1301	852	22.33
2112	1141	BKBNT	1842	585	22.24

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2113	2890	BRCRK	6511	1338	22.21
2114	3118	RRWES	1603	11	22.20
2115	2135	MESTE	1209	1444	22.20
2116	1656	PROAD	0002	846	22.19
2117	2519	PRKRW	3331	822	22.18
2118	1500	WELRD	0004	759	22.10
2119	1133	OKLND	0003	1446	22.03
2120	2252	BRNAV	0741	2057	22.02
2121	2081	WCOLO	1315	1685	22.01
2122	801	GVODS	3062	2389	21.98
2123	1049	MYPTX	2401	349	21.98
2124	1801	SSPNG	1203	1411	21.96
2125	2077	DUPUY	1219	936	21.96
2126	2372	HMPHL	2772	321	21.95
2127	1851	TMPLE	1202	1380	21.93
2128	2360	TYBLR	2805	2276	21.88
2129	2376	MEANS	4411	37	21.86
2130	2309	RSNHT	1152	1010	21.74
2131	840	DENAV	0641	38	21.74
2132	2776	LGVST	8522	1270	21.72
2133	2055	PALRD	2205	479	21.71
2134	861	MESFR	2104	177	21.69
2135	2687	SHRSW	6631	1297	21.69
2136	1272	BLMED	1617	347	21.67
2137	875	ACRLY	1711	173	21.67
2138	2067	WFALS	0193	2251	21.58
2139	2237	WHTRK	0002	1434	21.54
2140	983	GRDPR	0842	352	21.53
2141	1916	CLYVL	9323	1426	21.47
2142	203	DCDAM	2003	1347	21.43
2143	2530	PFFRD	3411	319	21.42
2144	2561	ARLNG	1282	841	21.42
2145	826	PPARK	1806	845	21.41
2146	477	BLTLN	0002	885	21.40
2147	1737	LNCST	1602	1932	21.34
2148	2691	HLSBR	1204	562	21.28
2149	708	RGLRW	0008	40	21.28
2150	276	PGSTH	7011	74	21.24
2151	1451	MDTHS	1003	1024	21.24
2152	1569	TYBLR	2803	798	21.21
2153	1855	RCLNS	1406	528	21.17
2154	2018	MDDTN	4321	1135	21.16
2155	1589	MDLNW	1522	1191	21.13
2156	2819	SORCY	0003	843	21.03
2157	1421	EULTB	5721	1634	21.00
2158	1657	ALLEN	2402	912	20.97
2159	2924	FATES	3003	2025	20.95
2160	676	CRLFR	2152	3568	20.93

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2161	1079	MNWLL	1205	442	20.93
2162	1898	CMTSW	0916	575	20.92
2163	2150	MABNK	2402	1085	20.88
2164	1369	SHDYG	7842	704	20.86
2165	2119	DAVIS	3731	763	20.80
2166	684	HRSMD	1955	2131	20.75
2167	1247	EZACH	0003	1286	20.74
2168	2234	MURPH	2753	1047	20.74
2169	926	NPKWY	0008	860	20.71
2170	544	IRVND	1203	445	20.69
2171	547	WELCH	4911	23	20.69
2172	572	MSHLN	0006	1097	20.68
2173	160	SYCRK	4512	4848	20.64
2174	2538	PRSTN	0001	871	20.62
2175	2298	GRMES	0511	1215	20.60
2176	1485	FRNKF	0005	1091	20.53
2177	2655	MKNNY	1253	159	20.53
2178	449	GODRD	8112	1440	20.46
2179	1261	LMESA	1512	1781	20.45
2180	2016	CDHIL	1801	1144	20.43
2181	2329	PSHIL	1604	1616	20.42
2182	794	GRHWY	5511	2381	20.41
2183	1671	VGCRK	8021	214	20.38
2184	2778	JUDCT	0008	146	20.37
2185	1280	CRSWS	1403	1963	20.35
2186	2179	IRVGS	1903	989	20.32
2187	261	MDTHN	1703	1048	20.32
2188	2337	PLSTH	1305	520	20.31
2189	672	ADISN	1603	198	20.29
2190	2208	DAVST	0006	1393	20.28
2191	458	HORNE	1924	831	20.20
2192	339	HMPHL	2743	1086	20.17
2193	2600	RNDRK	1505	1323	20.14
2194	2341	DAVST	0001	582	20.11
2195	1683	CHROW	0008	31	20.08
2196	502	MNHNS	1921	929	20.08
2197	2101	ODESA	0221	715	20.05
2198	1927	PRCTR	1601	198	20.04
2199	2635	CRLTR	2051	3918	20.01
2200	1891	EULES	8724	2411	19.99
2201	2355	ELMGV	3651	2510	19.99
2202	1470	WELRD	0006	703	19.91
2203	2289	BRHLW	7642	1005	19.84
2204	1400	PARIS	1206	1040	19.78
2205	958	GRDPR	0891	877	19.69
2206	2756	GRPVN	8213	295	19.68
2207	2775	SFTLK	4011	36	19.66
2208	1423	PAYNE	1203	876	19.66

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2209	1812	KLNTF	1801	1123	19.65
2210	878	LKHLD	0005	1343	19.64
2211	1429	NPKWY	0005	866	19.62
2212	510	KLNPS	1101	2453	19.56
2213	637	CAMRN	1201	1017	19.55
2214	365	MKNNY	1201	1342	19.54
2215	2506	MDLNW	1582	1518	19.43
2216	1051	FRMBR	1806	440	19.41
2217	2595	MESQT	1302	1634	19.38
2218	615	STAUG	0002	1426	19.35
2219	1915	DUVAL	0473	1933	19.32
2220	2456	WITTS	1703	1034	19.32
2221	653	PRKRW	3311	1142	19.28
2222	1358	MRTSP	1502	920	19.27
2223	247	CTYVW	2211	1514	19.27
2224	121	SANSM	3922	1574	19.26
2225	1435	MESTE	1211	1205	19.24
2226	1868	ARLNG	1251	553	19.20
2227	1692	RENSW	3124	2186	19.20
2228	#N/A	SSPNE	1405	487	19.20
2229	1925	FARON	4021	273	19.13
2230	2462	SMFLD	2343	723	19.13
2231	2695	FRSCW	3701	2181	19.12
2232	2672	PROAD	0008	1243	19.10
2233	317	CRLTR	2003	1357	19.09
2234	1975	PFFRD	3452	888	19.09
2235	3116	RNKSW	5413	37	19.04
2236	2733	BLKST	1752	1464	19.03
2237	2608	CKRHL	0002	430	19.00
2238	2663	WITTS	1701	1306	18.94
2239	1489	PRSTN	0004	674	18.92
2240	#N/A	HILCR	7321	2454	18.84
2241	1781	TMPLE	1203	133	18.82
2242	2292	CRKSD	3101	1483	18.79
2243	849	CURIE	7222	1025	18.72
2244	1929	FRMNT	0013	2760	18.70
2245	567	ANDRD	0921	79	18.67
2246	3003	MSLMN	4131	135	18.66
2247	1228	BUFLO	2603	6284	18.65
2248	2085	CDHCR	2051	2115	18.62
2249	2625	ARMST	0009	1161	18.59
2250	2629	ABRRD	0003	354	18.56
2251	2790	WTAUG	4642	1321	18.56
2252	1816	CLLVL	0003	813	18.52
2253	1553	BSPSW	0841	582	18.48
2254	1246	MCWHT	3522	3006	18.47
2255	2559	PNTIS	0211	298	18.47
2256	905	GVODS	3031	1384	18.46

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2257	2091	LIPAN	1303	307	18.43
2258	390	RRSTH	1708	4209	18.42
2259	470	VLORN	2957	606	18.35
2260	900	SHRSW	6622	1526	18.35
2261	3089	HUTCH	1505	26	18.34
2262	2388	CNTRY	2842	1147	18.28
2263	1788	COVEE	3403	1583	18.28
2264	1038	DNINR	1403	1250	18.28
2265	1165	EGFRD	0004	1872	18.27
2266	#N/A	KLRPR	9012	2419	18.20
2267	2617	MESQT	1303	841	18.18
2268	1949	CRNSO	3913	1856	18.16
2269	1293	BNDRA	0011	414	18.09
2270	1412	RYLTY	1421	386	18.08
2271	2066	BBTWN	1501	2129	18.08
2272	2112	PPARK	1802	598	18.00
2273	3130	WALST	0007	30	18.00
2274	1830	MDESA	4531	1814	17.99
2275	1581	COPEL	3053	2069	17.98
2276	1330	HUTTO	2713	2813	17.95
2277	817	CLYVL	9313	2055	17.94
2278	1705	EULES	8712	1071	17.94
2279	2038	AIRPK	8432	961	17.90
2280	2092	CMPWI	0003	662	17.88
2281	#N/A	ADMDS	6542	1224	17.82
2282	2035	PLKST	0005	1328	17.81
2283	941	MNWLL	1202	702	17.74
2284	611	WDGWD	1592	1122	17.73
2285	1850	FARON	4082	994	17.72
2286	1532	CMPBW	2102	711	17.70
2287	2336	MESFR	2103	422	17.68
2288	272	PCUST	2010	2261	17.63
2289	1706	LWSNR	2241	1068	17.58
2290	2584	LMBLN	0003	185	17.52
2291	1290	WSOTH	1021	2169	17.49
2292	3009	LEMON	0011	1378	17.48
2293	1282	ODNTH	2024	1494	17.47
2294	125	SHSTH	1305	507	17.44
2295	1627	ALPHA	0008	1239	17.43
2296	2722	MKNGB	5342	1301	17.40
2297	627	DENAV	0621	915	17.36
2298	223	IRVND	1205	214	17.35
2299	337	MSLSW	0008	173	17.33
2300	1022	HRSMD	1905	2814	17.31
2301	1560	FLMSO	3716	1699	17.26
2302	1464	WTAUG	4611	1381	17.24
2303	2184	BRHLW	7611	1613	17.23
2304	1209	LTVSB	5432	782	17.21

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2305	3127	STANT	1332	1215	17.17
2306	1110	DNISN	1201	1511	17.14
2307	2032	BOWIE	0621	11	17.05
2308	56	BNBOR	1203	345	17.03
2309	1999	GRSMN	4028	705	16.99
2310	2149	ADISN	1601	1020	16.97
2311	2675	RCHHL	0321	1727	16.92
2312	1594	INAIR	1423	735	16.90
2313	2755	ABBOT	1901	112	16.80
2314	1149	HHSTH	1503	2149	16.80
2315	2535	EGFRD	0002	26	16.78
2316	103	OAKCK	2211	34	16.68
2317	1163	WNRTH	1421	1502	16.67
2318	2855	REAST	1501	311	16.67
2319	1171	WTAUG	4652	805	16.64
2320	2546	LKMNT	0005	689	16.62
2321	1939	SHNRW	1614	1330	16.61
2322	2145	MESQN	1508	1761	16.59
2323	1061	WEBBS	8624	2380	16.58
2324	1570	ECTHM	3321	2504	16.57
2325	970	BRTRD	7312	2067	16.52
2326	2952	TMPNW	1102	664	16.49
2327	573	NHNSW	0005	479	16.49
2328	1120	ALPHA	0001	710	16.49
2329	2160	RNDRK	1503	3924	16.48
2330	2785	SHRSW	6641	1018	16.46
2331	1820	HLSES	0511	1915	16.41
2332	919	NHNSW	0008	583	16.41
2333	1584	IRVVV	2853	3902	16.40
2334	674	TYRSW	1701	2651	16.37
2335	1540	STNVL	1202	50	16.35
2336	966	WCOLO	1320	1445	16.33
2337	3027	MAPLE	0004	485	16.30
2338	1501	LGVST	8511	764	16.29
2339	974	WNDCR	0232	975	16.25
2340	2353	HSKAV	0002	1759	16.24
2341	2968	LOMAL	0008	452	16.22
2342	1274	PARIS	1201	1075	16.18
2343	2523	ROWLT	1101	1251	16.18
2344	117	CRTLD	4734	817	16.17
2345	2314	WEAST	0621	301	16.16
2346	507	ODESA	0261	2670	16.14
2347	1366	TYOMN	1402	1603	16.10
2348	2511	PPARK	1807	1023	16.06
2349	1618	SMFLD	2333	1068	16.05
2350	1046	DUVAL	0462	1060	16.04
2351	2262	WMMMR	2702	1885	16.01
2352	874	TXHRV	1621	100	16.01

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2353	3021	INWRD	0002	1176	15.94
2354	1839	MURPH	2751	2375	15.90
2355	2903	MSLSW	0005	861	15.89
2356	2612	CHROW	0002	105	15.80
2357	2003	CMNCH	1402	1165	15.75
2358	3100	NAVCO	0001	31	15.73
2359	1041	KRUMS	1202	800	15.71
2360	964	OAKHL	3062	2446	15.70
2361	2987	ALDTU	9412	1028	15.69
2362	341	CNTRY	2833	1256	15.68
2363	2856	DESHR	1206	2316	15.67
2364	251	WINKS	0511	737	15.64
2365	1329	RCHRD	1206	698	15.59
2366	3046	PTENN	2357	1213	15.58
2367	2306	CRLFR	2159	1519	15.54
2368	1859	PFLGV	2003	3888	15.54
2369	811	HSKAV	0006	869	15.54
2370	2531	DALLW	0007	1487	15.52
2371	899	ADISN	1608	369	15.50
2372	808	SLAKE	8312	3321	15.39
2373	1638	PSHIL	1605	136	15.35
2374	2983	RRSTH	1707	634	15.32
2375	2090	ELKTN	2501	736	15.32
2376	724	MRNFD	2311	58	15.29
2377	632	ARLNG	1271	2237	15.25
2378	519	THORN	6821	2419	15.23
2379	3119	RSPCK	2132	74	15.20
2380	2479	CPLSO	4312	1821	15.17
2381	1943	HKHTS	1605	1475	15.15
2382	321	BLMND	3282	96	15.14
2383	2643	PRKWY	1521	2401	15.13
2384	2439	FARON	4052	1672	15.08
2385	1632	GAVSW	0007	1531	15.03
2386	2047	IRVNR	1510	557	15.03
2387	#N/A	SHPWK	5713	127	15.02
2388	2419	MURPH	2754	2629	15.00
2389	1749	WNTHW	1121	753	14.99
2390	267	CLYVL	9321	820	14.98
2391	2590	WNTHW	1119	1303	14.98
2392	997	CNEXP	0006	1325	14.93
2393	2226	PRKWY	1542	540	14.93
2394	570	PRNTH	1401	1310	14.88
2395	287	EULES	8722	2137	14.86
2396	1838	TMSTH	1403	1579	14.86
2397	2507	GRFRD	1002	403	14.85
2398	2642	BRIRV	6912	819	14.81
2399	1633	JREST	2102	1118	14.80
2400	1879	COLNY	2406	814	14.77

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2401	1755	IRVND	1206	111	14.76
2402	#N/A	GODRD	8142	815	14.74
2403	2754	MSTLT	1032	20	14.74
2404	1741	DESPR	1408	1925	14.72
2405	562	PFFRD	3462	1810	14.72
2406	1526	WALST	0004	76	14.68
2407	2371	FINKS	1803	1486	14.64
2408	675	WEBBS	8611	2693	14.63
2409	312	IVANS	1621	64	14.62
2410	2583	EMPCT	0001	32	14.49
2411	1309	REYST	4051	1134	14.45
2412	2044	THRNE	0002	1745	14.44
2413	323	RBNSN	2503	1070	14.44
2414	1078	CRLTR	2053	1716	14.43
2415	363	ADMDS	6521	2103	14.41
2416	2354	MDLNW	1513	2556	14.37
2417	2875	COMSO	1403	455	14.36
2418	1888	HURST	1872	2213	14.35
2419	2920	TMPNW	1103	968	14.34
2420	2161	DEALY	0002	1499	14.32
2421	2603	RGFTW	6813	27	14.28
2422	865	RRSTH	1702	1783	14.27
2423	2434	RCHHL	0344	1261	14.27
2424	1175	BSPSW	0832	1034	14.27
2425	590	PCOIT	1002	734	14.26
2426	1796	PARIS	1204	1140	14.24
2427	#N/A	OWLHL	7122	43	14.24
2428	2912	MKNSW	2604	2073	14.24
2429	2930	SSPNE	1402	65	14.24
2430	88	ODESW	5932	577	14.21
2431	2363	DPCRK	1831	1442	14.17
2432	2369	MESTE	1215	1534	14.15
2433	1676	CRTLD	4711	3213	14.12
2434	1735	BAKKE	6912	1522	14.12
2435	3025	RDRSE	2605	752	14.10
2436	3087	GSTHW	1613	52	14.06
2437	2956	GAVSW	0012	828	14.06
2438	2187	BLKST	1771	1456	14.05
2439	2840	LOMAL	0009	1015	14.03
2440	1242	BNDRA	0003	735	14.02
2441	1509	SHAMP	0004	1170	14.01
2442	2700	BKWST	0007	1780	13.98
2443	187	MDLNE	0172	383	13.94
2444	1301	OKCLS	0006	1696	13.94
2445	702	ODESW	5922	2488	13.93
2446	1010	VGCRK	8041	1034	13.92
2447	1677	BSPRW	2532	1608	13.92
2448	2688	FSCRK	6724	1406	13.91



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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2449	2578	EDGCF	2282	1057	13.88
2450	2447	FLGRV	4711	202	13.86
2451	2007	WCOLO	1317	1260	13.83
2452	988	EXPKY	8142	29	13.83
2453	234	MEXIA	3015	118	13.80
2454	658	CRTLD	4732	3109	13.79
2455	471	PFLGV	2007	1673	13.78
2456	412	RRSTH	1705	4382	13.72
2457	1914	CDHIL	1613	2687	13.71
2458	1717	SMPST	0005	206	13.69
2459	2243	ALNSW	2652	3673	13.64
2460	148	GRLRD	0001	1805	13.63
2461	330	MNHNS	1912	458	13.62
2462	2689	TRLSW	1204	579	13.61
2463	756	TMSTH	1406	1128	13.52
2464	1757	WNDWD	3682	787	13.52
2465	1245	MCKMY	0812	1995	13.52
2466	2105	MSTLT	1084	1171	13.48
2467	1052	REAST	1503	596	13.47
2468	2573	ADISN	1602	228	13.44
2469	1394	CMPWI	0004	1042	13.44
2470	639	GDNVL	1202	64	13.43
2471	1996	BDFRD	8812	760	13.40
2472	404	PERIN	1511	685	13.39
2473	1076	GVODS	3072	2250	13.36
2474	506	ELKTN	2502	1738	13.36
2475	3012	EULSO	9141	61	13.32
2476	38	LOVNG	2521	17	13.29
2477	2984	DFWSE	2710	107	13.29
2478	1260	JUDCT	0001	1778	13.24
2479	969	WHTRK	0001	2761	13.17
2480	2076	GRHWY	5512	3119	13.15
2481	729	WFALS	0184	948	13.10
2482	1573	HORNE	1934	1652	13.06
2483	707	WTAUG	4612	1354	13.06
2484	359	TRLWD	7711	2668	13.05
2485	420	WALNT	0001	1455	13.04
2486	1963	WMRNR	0002	427	13.03
2487	2430	ARLNG	1232	1263	13.02
2488	2902	BNMNW	1101	201	12.99
2489	2773	SORCY	0001	2769	12.96
2490	2650	IRLBJ	3231	2942	12.92
2491	2715	KNEDL	6314	2115	12.89
2492	773	BKWST	0005	954	12.87
2493	1263	BRKNR	1211	117	12.86
2494	2288	IRVVV	2804	1056	12.86
2495	#N/A	KNEDL	6323	4018	12.85
2496	1486	GRPVN	8211	147	12.81

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2497	2316	BLMED	1622	1029	12.74
2498	2053	DCATR	1201	1345	12.71
2499	1019	MEXIA	4040	854	12.69
2500	2939	LMBLN	0008	120	12.68
2501	3134	YARBR	5011	24	12.67
2502	1225	ATHNW	1405	912	12.65
2503	2965	DFWSE	2712	47	12.64
2504	1157	DESHR	1202	1616	12.63
2505	2088	MESTE	1206	1287	12.59
2506	2503	DLEON	0131	732	12.58
2507	2588	KNLTR	0005	2375	12.58
2508	2118	SALSW	3004	1369	12.57
2509	1995	WELRD	0001	1205	12.55
2510	2219	BOWEN	3161	1557	12.51
2511	918	FHLSW	1361	984	12.46
2512	2405	DUVAL	0452	1559	12.44
2513	1436	TAYLR	1203	1336	12.44
2514	631	HMPHL	2711	1080	12.42
2515	2075	CTYVW	2212	157	12.41
2516	1251	MDWCK	0001	801	12.41
2517	663	CRLTR	2001	2500	12.39
2518	1218	ALLNC	6411	50	12.38
2519	1288	REAST	1506	1207	12.37
2520	2318	MOSSW	4611	1067	12.31
2521	2474	GVODS	3052	657	12.16
2522	2737	SANSM	3911	2048	12.15
2523	2670	MDWPK	9241	2105	12.12
2524	2095	RENTL	2204	1665	12.10
2525	914	GNSVN	1401	31	12.07
2526	1397	LOMAL	0013	1065	12.07
2527	888	WEAST	0629	1597	12.04
2528	2791	RTHGB	1411	696	12.01
2529	2195	TMPNW	1101	2777	12.01
2530	1362	PCUST	2012	1808	11.89
2531	79	PWEST	1308	859	11.88
2532	783	FRMNT	0004	2042	11.83
2533	1582	WATSN	5331	1136	11.78
2534	1053	SANSM	3913	2899	11.78
2535	2540	SMFLD	2352	612	11.76
2536	1784	ATNRN	3421	688	11.73
2537	2023	BLTON	1801	849	11.71
2538	2555	TMPNW	1106	1173	11.69
2539	1997	CMTSW	0987	402	11.68
2540	693	DGNST	0002	477	11.68
2541	2657	ROLTR	2912	2290	11.66
2542	#N/A	VENSW	2604	995	11.63
2543	711	PRKWY	1511	1346	11.60
2544	2996	RYSSW	2801	1598	11.59

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2545	#N/A	PAULN	2501	720	11.57
2546	400	MOSSW	4621	2457	11.57
2547	1023	MRSES	4005	762	11.57
2548	1787	GRMES	0512	1206	11.57
2549	2897	IRLBJ	3221	1080	11.47
2550	1403	HKBRY	1105	192	11.46
2551	132	MDDTN	4322	21	11.43
2552	2082	SMFLD	2341	989	11.41
2553	2132	RRNES	2402	5122	11.38
2554	2813	HMPHL	2752	422	11.37
2555	1265	ODNTH	2025	1192	11.36
2556	1599	CRKSD	3105	868	11.35
2557	2784	FROKS	0005	1423	11.32
2558	2295	GAVSW	0004	847	11.31
2559	516	CRLTN	1452	3385	11.30
2560	221	BRHLW	7622	1092	11.28
2561	3102	ODNTH	2073	1608	11.28
2562	1416	MESQW	1804	1356	11.28
2563	2416	PRKWY	1532	2301	11.26
2564	2848	CDHIL	1614	1310	11.20
2565	1860	BRNSO	1805	801	11.10
2566	2896	HUTTO	2721	5118	11.07
2567	566	FHLSW	1382	117	11.06
2568	901	FSHSW	2121	1733	11.06
2569	1972	GORMN	0421	348	11.02
2570	421	REAST	1504	1324	10.98
2571	2759	CDCSW	0003	770	10.97
2572	1907	LKHLD	0003	1353	10.91
2573	1259	IRVND	1208	167	10.90
2574	557	WKATY	1718	1753	10.90
2575	2418	BSPRG	1901	591	10.84
2576	1508	GRPVN	8223	2084	10.84
2577	361	THRDN	1901	660	10.83
2578	1619	ROWLT	1102	1169	10.82
2579	2217	BRHLW	7651	1154	10.80
2580	2607	ALPHA	0007	1466	10.76
2581	2667	WFALS	0174	1205	10.76
2582	2706	DALRK	1303	1365	10.73
2583	303	KNLTR	0003	625	10.68
2584	1351	NPKWY	0014	6052	10.68
2585	2024	ODESW	5912	282	10.66
2586	2741	TYSTH	1208	245	10.66
2587	3084	GAVSW	0008	86	10.62
2588	1565	WBOSE	1103	1020	10.60
2589	721	WALNT	0005	974	10.50
2590	3011	SYCRK	4531	1655	10.49
2591	2094	WXNTH	2302	1757	10.47
2592	1427	DENDR	0005	480	10.42

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2593	2113	CRLTR	2007	1504	10.42
2594	1947	WOVER	6162	1089	10.36
2595	2685	BRYAN	0007	588	10.34
2596	2029	DESHR	1208	454	10.31
2597	2993	BRNAV	0774	209	10.30
2598	#N/A	PNTIS	0241	383	10.27
2599	948	LOMAL	0014	593	10.25
2600	1813	ROWLT	1104	1456	10.23
2601	2937	KLELM	2202	1402	10.16
2602	1776	RSNHT	1181	2492	10.09
2603	856	TYWST	2013	1024	10.08
2604	1320	KLRPR	9011	2755	10.06
2605	2441	DPCRK	1821	1611	10.05
2606	2846	NPKWY	0012	2251	10.03
2607	1886	LKBLT	2104	961	10.02
2608	1233	CMTSW	0957	1215	10.02
2609	2305	NCSTH	1504	67	10.01
2610	2231	CLBNR	1411	592	10.00
2611	2652	DESPR	1401	1855	10.00
2612	436	KFMNW	1202	1030	9.98
2613	1240	THRNE	0001	1483	9.96
2614	624	MCDMT	2552	721	9.95
2615	2876	DAVST	0002	734	9.92
2616	2482	MKNSW	1603	1900	9.91
2617	1513	STNVL	1207	1179	9.90
2618	2727	WRIDG	3054	2431	9.88
2619	2980	FHLSW	1332	574	9.84
2620	2637	BRNSO	1808	716	9.82
2621	2740	DUPUY	1222	188	9.80
2622	2266	ARMST	0006	1872	9.80
2623	1150	DGNST	0005	160	9.78
2624	2795	TYLNE	1613	467	9.78
2625	375	FRNKF	0001	969	9.70
2626	1802	DAVST	0007	533	9.63
2627	427	LKTMS	2412	40	9.54
2628	2604	LWRDR	0002	1010	9.54
2629	500	CRNRD	0001	728	9.50
2630	1077	EULSO	9131	1986	9.50
2631	285	ODESW	5211	146	9.50
2632	1928	EDGCF	2221	888	9.49
2633	2025	TMPTV	2402	5008	9.49
2634	1622	PNTGO	7111	729	9.48
2635	1460	OKLND	0002	1363	9.47
2636	2495	WALST	0002	53	9.47
2637	1714	PTENN	2354	553	9.46
2638	2803	DFWSW	2322	28	9.44
2639	2265	RDLML	2571	360	9.44
2640	1296	TRNTH	1503	1981	9.44

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2641	1866	MKNSO	3613	3331	9.43
2642	700	FARON	4072	1560	9.36
2643	2534	CKRHL	0008	1831	9.36
2644	1524	BRNSO	1801	1644	9.36
2645	877	PLKST	0001	790	9.35
2646	2779	BRNAV	0723	1368	9.30
2647	2568	MESQN	1504	1357	9.27
2648	2437	FRMNT	0010	2598	9.27
2649	2659	FSTVW	0006	1217	9.26
2650	1016	ENNIS	1905	58	9.22
2651	3032	DEALY	0004	1244	9.21
2652	2411	ODESA	0252	781	9.20
2653	1417	ROANW	9511	2274	9.19
2654	2072	BRNWD	1206	1400	9.17
2655	1083	CNTRY	2862	708	9.16
2656	1405	MKNSW	1602	885	9.14
2657	354	WCOLO	1318	1643	9.13
2658	1748	PWEST	1303	1518	9.13
2659	2084	MSLSW	0007	400	9.13
2660	1021	DUPUY	1211	1017	9.09
2661	2550	ROLTR	2922	2882	9.08
2662	2293	WCOLO	1316	2098	9.05
2663	3018	MTLDA	0003	1922	9.04
2664	2913	BDFWD	8911	942	9.02
2665	2518	BLMND	3211	16	8.99
2666	300	FSTVW	0002	140	8.98
2667	2385	WHTRK	0008	1559	8.97
2668	1605	PNTGO	7121	1496	8.96
2669	1208	RSPVY	1704	1408	8.96
2670	2200	LKHLD	0002	1519	8.95
2671	2947	FRNKF	0007	1810	8.90
2672	2768	WFALS	0124	158	8.89
2673	1483	DALRK	1309	908	8.88
2674	3122	SHDYG	7821	96	8.87
2675	229	MKNNY	1203	1185	8.84
2676	#N/A	CNLRD	2107	272	8.81
2677	951	MLKF2	1202	454	8.81
2678	1414	BRTRD	7322	983	8.77
2679	2648	SANSM	3921	1500	8.76
2680	1856	WHITE	3532	2156	8.74
2681	1651	WEBBS	8613	2301	8.67
2682	1542	SYCRK	4511	1863	8.58
2683	2172	KNOTT	5221	61	8.58
2684	2959	PLSTH	1303	579	8.52
2685	2422	CPLSO	4321	181	8.50
2686	1871	AMLIA	0008	137	8.48
2687	1454	ARLNG	1261	1383	8.48
2688	2658	DALRK	1326	2940	8.43

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2689	2958	WALNT	0002	1241	8.40
2690	309	LMBLN	0001	2028	8.39
2691	1847	CRNRD	0002	367	8.35
2692	824	BSPRW	2542	568	8.34
2693	2111	FRSCW	3703	3075	8.34
2694	2765	PRKWY	1561	1792	8.33
2695	2610	MCKMY	0811	1776	8.32
2696	1239	EDGCF	2262	1043	8.31
2697	2793	MDWPK	9211	1320	8.28
2698	2639	MCDMT	2531	2455	8.24
2699	1238	KLELM	2201	2491	8.23
2700	2870	PFFRD	3421	841	8.23
2701	1574	RVRFT	0004	114	8.21
2702	237	FARON	4062	1124	8.21
2703	2058	PRSTN	0008	760	8.20
2704	2769	PBELL	4831	2179	8.19
2705	2616	GRMES	0521	553	8.16
2706	258	BKWST	0001	389	8.12
2707	2130	CMTSW	0946	871	8.09
2708	329	LWSNR	2232	2544	8.09
2709	2668	LVBRD	0002	517	8.06
2710	1008	EULES	8713	1697	8.06
2711	870	COLNY	2402	2423	8.01
2712	2862	BLUEA	2104	15	8.00
2713	218	MESQW	1806	1327	7.96
2714	1192	GSMTH	1731	38	7.94
2715	1911	ARLNG	1241	624	7.94
2716	2917	EMPCT	0002	100	7.91
2717	2704	ITSCA	1702	249	7.85
2718	2311	RSPCK	2104	2627	7.84
2719	2182	WEBBS	8622	1701	7.83
2720	979	PRKRW	3372	654	7.83
2721	2865	RWALS	1854	556	7.79
2722	1608	BLMED	1618	26	7.74
2723	2524	KRUMS	1201	526	7.74
2724	1682	HKBRY	1106	1856	7.72
2725	513	ENTOH	0001	876	7.72
2726	864	PWEST	1311	1305	7.69
2727	2504	GSTHW	1636	43	7.68
2728	2644	DAVIS	3752	507	7.67
2729	1953	PNTGO	7122	874	7.65
2730	2901	AMLIA	0003	27	7.62
2731	2558	DALRK	1307	628	7.55
2732	2580	ALPHA	0016	1990	7.53
2733	1951	WESTS	1602	876	7.53
2734	368	IRVNE	1305	242	7.51
2735	3044	IRLBJ	3222	1037	7.47
2736	1900	PAYNE	1213	1517	7.43

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2737	302	PRKRW	3321	172	7.42
2738	1119	PLKST	0006	837	7.40
2739	1615	NCRST	2203	532	7.39
2740	907	TYSTH	1203	427	7.26
2741	2569	CLBNR	1406	110	7.23
2742	2454	WSTHL	3621	1262	7.16
2743	2528	SMFLD	2322	41	7.14
2744	1378	EULSO	9112	1074	7.11
2745	2536	VLYRN	2954	2729	7.10
2746	2609	COYNW	8122	83	7.07
2747	2509	VGCRK	8031	1791	7.05
2748	#N/A	STERT	2704	15	7.03
2749	2052	BSPRW	2521	597	6.99
2750	893	LVBRD	0005	1284	6.92
2751	2821	FROKS	0007	1528	6.92
2752	2809	LWSNR	2212	1451	6.89
2753	1434	CURIE	7221	920	6.85
2754	2827	ADMDS	6532	253	6.80
2755	2703	BRLSN	2062	815	6.75
2756	1930	TRNTH	1504	852	6.73
2757	659	EMPCT	0004	1100	6.69
2758	478	PEGAS	2311	68	6.68
2759	1625	WATCO	2604	767	6.68
2760	2060	SORCY	0004	599	6.67
2761	1319	REGST	0004	936	6.66
2762	2647	HMPHL	2781	385	6.64
2763	2986	FRMNT	0002	651	6.55
2764	1186	PLANO	1101	411	6.50
2765	2895	ENTOH	0004	1284	6.49
2766	2718	SHMNE	1405	830	6.48
2767	2662	WATSN	5352	1894	6.47
2768	2421	CRLJL	1504	1309	6.45
2769	961	WEAST	0627	170	6.45
2770	1779	CLBNR	1402	1908	6.41
2771	854	WNRTH	1420	1190	6.41
2772	2707	RRNES	2407	3740	6.39
2773	3022	PNTIS	0282	2063	6.37
2774	973	ODESA	0231	564	6.32
2775	2014	DGNST	0008	130	6.31
2776	1790	SCHRD	0004	1872	6.29
2777	1555	MESFR	2105	1041	6.28
2778	2852	GODRD	8161	1050	6.26
2779	2027	ZEPHR	2404	200	6.22
2780	2893	RSPCK	2107	899	6.16
2781	2030	IRVNR	1507	1603	6.14
2782	2881	MDLNW	1531	234	6.12
2783	2227	RWDHV	1908	2425	6.12
2784	2224	PROAD	0005	124	6.11

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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2785	2068	RCHHL	0353	1721	6.06
2786	798	TYOMN	1401	785	6.05
2787	2944	HKBRY	1104	124	6.01
2788	550	BARNW	4522	92	6.00
2789	2460	RCHHL	0374	546	5.97
2790	3031	WEAST	0619	1163	5.97
2791	1959	COLDG	4048	10	5.97
2792	1821	SHMNE	1407	792	5.96
2793	2873	STNVL	1204	841	5.95
2794	2374	TYEST	1509	429	5.90
2795	2196	CRLUD	1306	25	5.90
2796	1474	SCHRD	0008	449	5.89
2797	2582	WATSN	5342	2034	5.85
2798	3120	RSPCK	2141	18	5.83
2799	463	CNEXP	0008	286	5.79
2800	85	GRLTC	3801	926	5.70
2801	2323	FRNKF	0004	1602	5.69
2802	2850	MESQT	1306	991	5.67
2803	2349	HMPHL	2721	634	5.66
2804	2414	LEMON	0004	924	5.63
2805	2721	KLELM	2204	3555	5.62
2806	2544	MAYFD	5531	1472	5.48
2807	277	MSTLT	1042	793	5.43
2808	759	FROKS	0004	116	5.43
2809	2338	SMFLD	2372	640	5.41
2810	1195	RSPVY	1702	539	5.40
2811	2220	PALRD	2208	1014	5.28
2812	2093	BLKST	1732	1491	5.28
2813	2469	ALLEN	2408	3488	5.25
2814	2115	JUDCT	0006	2560	5.25
2815	2345	KERNS	2402	383	5.23
2816	1336	MDLNE	0151	311	5.16
2817	2501	PRSTN	0003	2964	5.14
2818	2955	ARMST	0002	2042	5.10
2819	2549	BLMED	1619	607	5.08
2820	1583	CRLTR	2005	675	4.99
2821	2080	ARMST	0003	373	4.98
2822	3078	EXPKY	8112	18	4.93
2823	1271	HOLDY	0911	719	4.91
2824	2539	HMPHL	2792	687	4.86
2825	2325	DAVIS	3713	967	4.85
2826	1726	HORNE	1912	1816	4.85
2827	1993	MTLDA	0002	1891	4.85
2828	2992	JNKNS	0005	671	4.85
2829	2910	HRSMD	1953	1008	4.84
2830	2680	CMHBL	8121	61	4.79
2831	895	BEAST	4088	154	4.78
2832	2829	VENSW	2603	22	4.73



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2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2833	3013	ABBOT	1902	122	4.72
2834	2713	ARMST	0005	1513	4.71
2835	2249	IRVVV	2801	2686	4.70
2836	2435	WNRTH	1416	733	4.69
2837	2842	MDESA	4521	1454	4.68
2838	1065	TIODE	9622	711	4.66
2839	2151	BLMGR	1902	189	4.62
2840	1844	WTAUG	4641	576	4.61
2841	2698	GRAHM	0713	383	4.60
2842	2705	LENSW	0321	69	4.59
2843	2763	RSPCK	2133	2238	4.50
2844	2499	MKNGB	5331	1094	4.50
2845	638	SHDYG	7831	101	4.49
2846	2173	ROLTR	2911	1796	4.41
2847	945	PRSTN	0002	1349	4.38
2848	2844	WSOTH	1022	2239	4.35
2849	2121	PLANO	1106	683	4.35
2850	554	PRCRK	0004	1147	4.32
2851	2948	PRMED	4402	871	4.25
2852	3024	MCDMT	2553	2266	4.22
2853	2245	EMPCT	0007	97	4.22
2854	#N/A	BRTRD	7321	2657	4.21
2855	2280	CRWLY	7012	3786	4.18
2856	545	TNSCL	1104	215	4.15
2857	2342	LKWOD	7421	43	4.15
2858	431	CLBNR	1401	22	4.12
2859	762	REGST	0003	1424	4.11
2860	2188	MRDCK	0004	839	4.04
2861	1322	ARLNG	1212	113	4.01
2862	2577	BRYAN	0005	2003	3.94
2863	1908	GSTHW	1626	21	3.93
2864	2651	ALNTH	2851	2381	3.93
2865	#N/A	TYLGE	1313	2056	3.92
2866	141	BLUEA	2105	199	3.91
2867	2216	LKMNT	0004	2202	3.88
2868	2004	FRMBG	1705	275	3.85
2869	2069	WNDWD	3631	308	3.84
2870	2051	FRMBG	1751	800	3.83
2871	384	TRLSW	1201	1235	3.82
2872	1554	BLTLN	0004	626	3.81
2873	2343	MKNGB	5311	864	3.78
2874	1144	DALWT	2972	259	3.71
2875	1899	PRHLL	2402	57	3.71
2876	2366	ARTHR	0422	1038	3.68
2877	208	LIGSW	1604	717	3.67
2878	736	MSHLN	0007	726	3.65
2879	490	MDLNE	0121	428	3.63
2880	2742	LWSNR	2211	1581	3.60

## Service Quality Report to the Public Utility Commission of Texas

### Oncor Electric Delivery

2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2881	2394	BSPRG	1904	1680	3.56
2882	1396	RDRSE	2601	3742	3.54
2883	282	WDGWD	1552	303	3.46
2884	2857	FRMBR	1808	682	3.46
2885	868	RRSTH	1704	3623	3.45
2886	2854	HLTOM	2411	1473	3.43
2887	3002	CKRHL	0003	484	3.42
2888	1488	ARMST	0004	1205	3.42
2889	2399	ALNTH	2842	2558	3.40
2890	2909	DENAV	0612	61	3.39
2891	1286	ABRRD	0006	474	3.35
2892	2514	TMPSE	1503	631	3.33
2893	603	NNTWK	0006	948	3.31
2894	1410	WFALS	0114	419	3.27
2895	541	WXHCH	1205	1006	3.25
2896	1909	TMSTH	1404	1320	3.22
2897	1128	RDLML	2591	1588	3.22
2898	2708	FRMNT	0008	1407	3.20
2899	2564	BRKRG	0211	317	3.20
2900	1846	ARMST	0011	786	3.20
2901	1828	BRYAN	0004	2716	3.17
2902	2807	GRHWY	5521	2222	3.15
2903	1826	ARLNG	1222	96	3.15
2904	2916	LOMAL	0007	152	3.15
2905	3004	KLNTF	1803	1032	3.10
2906	1957	BNDRA	0001	858	3.01
2907	779	LTVSB	5451	1264	3.01
2908	1870	ROWLT	1106	1344	3.00
2909	2242	DUPUY	1216	255	2.99
2910	2046	TMNTH	1604	58	2.99
2911	2970	MESQW	1805	85	2.98
2912	2904	BRKRG	0242	25	2.98
2913	1285	ELZCK	4921	2822	2.96
2914	2995	RENSW	3122	1640	2.91
2915	1982	SHRSW	6612	1924	2.84
2916	857	SYCRK	4521	3454	2.82
2917	2493	DUPUY	1217	104	2.80
2918	2746	IRVNE	1310	379	2.79
2919	#N/A	KLNSO	4512	2408	2.78
2920	1082	HKBRY	1117	144	2.76
2921	2991	WMMMR	2705	1232	2.73
2922	#N/A	TYLNW	19*4	1100	2.71
2923	2106	FROKS	0008	1501	2.70
2924	1630	GAVSW	0002	1190	2.69
2925	1180	RWDHV	1903	1249	2.68
2926	#N/A	BULDG	1108	854	2.63
2927	1477	MSTLT	1073	172	2.63
2928	2772	CLLVL	0006	1437	2.62

## Service Quality Report to the Public Utility Commission of Texas

### Oncor Electric Delivery

2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2929	3039	HKBRY	1107	1007	2.60
2930	2403	BNDRA	0005	1267	2.59
2931	2923	CRNSO	3911	422	2.58
2932	2711	ROBNW	1505	1039	2.56
2933	411	RECCR	0001	178	2.55
2934	733	DENDR	0003	2238	2.49
2935	2891	FRMBR	1853	65	2.49
2936	3014	FRMNT	0007	816	2.48
2937	2906	HMPHL	2713	531	2.44
2938	3132	WMRNR	0004	370	2.43
2939	418	ELKTN	2503	1106	2.42
2940	426	CRNRD	0006	356	2.40
2941	2898	TMSTH	1407	236	2.35
2942	2246	ROWLT	1103	1090	2.35
2943	786	HMPHL	2742	897	2.34
2944	2877	TRLSW	1202	64	2.32
2945	3092	KNLTR	0007	13	2.31
2946	2978	HMPHL	2723	52	2.31
2947	2974	EULSO	9121	104	2.29
2948	802	COMRC	1202	50	2.26
2949	2653	WFALS	0163	348	2.21
2950	3075	ENTOH	0003	13	2.20
2951	1448	GSTHW	1616	187	2.17
2952	2799	PRKWY	1552	570	2.15
2953	2586	NPKWY	0011	4123	2.15
2954	2886	CNTRD	0004	1073	2.14
2955	2953	FRMNT	0012	346	2.13
2956	2915	SHNRW	1601	584	2.12
2957	1143	MSHLN	0004	1294	2.12
2958	1862	MNSTR	1202	284	2.11
2959	583	ENTOH	0007	1021	2.10
2960	2998	BLTON	1804	475	2.03
2961	2413	PROAD	0006	139	2.02
2962	2701	BNDRA	0009	600	2.02
2963	862	CKRHL	0007	67	2.01
2964	793	FORSW	2053	2445	2.01
2965	#N/A	WITTS	1704	22	1.98
2966	595	HMPHL	2733	156	1.95
2967	1456	FSCRK	6714	1928	1.95
2968	582	IRVNG	1403	531	1.87
2969	376	WTAUG	4651	653	1.82
2970	2810	HORNE	1932	2441	1.80
2971	3006	CURIE	7241	797	1.79
2972	2960	ENTOH	0002	1288	1.75
2973	3005	LUFKN	1204	29	1.74
2974	2261	KNLTR	0001	2202	1.73
2975	3020	WATSN	5372	1340	1.72
2976	2726	SMFLD	2323	613	1.72

## Service Quality Report to the Public Utility Commission of Texas

### Oncor Electric Delivery

2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
2977	380	PRKRW	3382	292	1.71
2978	2982	HKBRY	1109	546	1.70
2979	1325	PLANO	1105	70	1.69
2980	2853	AMLIA	0006	71	1.69
2981	472	FRMNT	0014	767	1.69
2982	2825	MSTLT	1021	1097	1.66
2983	871	MRSES	3016	42	1.66
2984	1092	WEAST	0628	271	1.60
2985	1635	CNEXP	0001	261	1.59
2986	3019	SCHRD	0003	382	1.59
2987	3030	ALLEN	2401	3542	1.57
2988	1510	DUPUY	1220	201	1.57
2989	3034	WALNT	0008	879	1.56
2990	2486	STNVL	1205	459	1.54
2991	2760	JKSNR	4105	86	1.53
2992	1091	ROANW	9522	83	1.49
2993	692	CURIE	7231	1073	1.49
2994	1920	RGFTW	6822	27	1.48
2995	2975	GAVSW	0010	494	1.47
2996	1917	MORHD	4105	949	1.45
2997	1032	FRNKF	0003	1160	1.44
2998	648	RNKSW	5412	31	1.43
2999	2963	BRKTN	1202	135	1.43
3000	1603	HURST	1852	1587	1.39
3001	1639	LOMAL	0005	405	1.37
3002	2861	ARTHR	0411	729	1.36
3003	#N/A	TMPSE	1512	160	1.35
3004	2626	MDLNW	1511	839	1.34
3005	1380	LIGSW	1623	802	1.34
3006	#N/A	KNEDL	6324	3326	1.32
3007	306	CRLTR	2054	104	1.30
3008	2686	LOMAL	0003	1037	1.29
3009	#N/A	GAMMA	2203	1205	1.24
3010	835	BKWST	0004	1085	1.22
3011	741	GODRD	8141	853	1.20
3012	3048	ALPHA	0004	36	1.18
3013	3015	JUDCT	0002	1408	1.18
3014	2838	HMPHL	2791	25	1.17
3015	40	HORNE	1921	315	1.13
3016	990	WALST	0013	383	1.12
3017	2690	CHROW	0006	95	1.08
3018	2537	COLNY	2405	1684	1.06
3019	2868	TYBLR	2806	202	1.04
3020	2636	MAPLE	0008	217	1.03
3021	1444	DAVIS	3762	51	1.03
3022	2997	ALPHA	0005	119	1.02
3023	1773	IRLBJ	3212	3655	0.96
3024	2949	HUTTO	2723	3407	0.94

## Service Quality Report to the Public Utility Commission of Texas

### Oncor Electric Delivery

2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
3025	2762	WTAUG	4632	1337	0.92
3026	2730	BRIRV	6922	3406	0.91
3027	1960	SCHRD	0002	294	0.90
3028	2832	KNLTR	0009	859	0.88
3029	53	DGNST	0006	452	0.87
3030	2940	BRYAN	0002	218	0.82
3031	2638	DCATR	1205	117	0.80
3032	1234	LSCOL	2138	2654	0.80
3033	1686	BRKRG	0213	403	0.73
3034	2979	HURST	1841	1329	0.69
3035	3000	DGNST	0004	1815	0.68
3036	2954	TYLGE	1314	1014	0.68
3037	2613	BNDRA	0006	682	0.64
3038	3016	ABRRD	0008	2421	0.63
3039	2401	CLLVL	0004	50	0.62
3040	2552	HLTOM	2461	848	0.59
3041	1057	DGNST	0007	525	0.58
3042	2751	LFSTH	1405	207	0.56
3043	2918	ARMST	0012	1776	0.50
3044	3038	GLNHV	3992	2553	0.50
3045	2839	PLHWY	3703	15	0.50
3046	1984	NHNSW	0002	395	0.49
3047	740	PCOMM	3314	857	0.48
3048	2774	HKBRY	1101	748	0.46
3049	1601	FRNKF	0006	1700	0.46
3050	#N/A	MIDNT	3712	5480	0.45
3051	2013	FLMSO	3711	2427	0.43
3052	3112	PWEST	1306	700	0.42
3053	180	WEBBS	8634	1596	0.42
3054	2303	WHITE	3541	949	0.42
3055	2732	LEMON	0002	988	0.40
3056	2459	PROAD	0009	138	0.38
3057	2932	JNKNS	0006	695	0.37
3058	3040	NNTWK	0002	1135	0.37
3059	#N/A	SMPST	0008	453	0.37
3060	2957	CNEXP	0005	465	0.36
3061	829	LSCOL	2148	1713	0.32
3062	2717	DALWT	2952	660	0.30
3063	393	SCHRD	0006	521	0.29
3064	3007	RECCR	0005	159	0.28
3065	1365	PCOIT	1023	413	0.27
3066	3072	DFWSW	2323	43	0.25
3067	3055	BKWST	0006	146	0.20
3068	2798	ALPHA	0011	1161	0.20
3069	3017	NNTWK	0008	1912	0.17
3070	3023	WRTHM	5017	162	0.17
3071	3008	IRVRS	4411	979	0.16
3072	#N/A	MRSDO	9622	3605	0.16

## Service Quality Report to the Public Utility Commission of Texas

### Oncor Electric Delivery

2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
3073	1349	IRVRS	4413	1701	0.14
3074	2424	DEALY	0003	656	0.14
3075	3065	COTRD	0008	1177	0.14
3076	489	LSCOL	2137	805	0.13
3077	2977	ALNTH	2832	1177	0.13
3078	2476	WMRNR	0003	811	0.13
3079	910	FRMBG	1706	66	0.11
3080	2976	EULES	8714	982	0.10
3081	#N/A	PRSPR	4703	686	0.10
3082	894	FLMSO	3712	935	0.09
3083	2656	RCLNS	1402	904	0.08
3084	3076	ENTOH	0008	265	0.07
3085	#N/A	FATES	3001	2265	0.06
3086	#N/A	BRHLW	7623	1546	0.05
3087	1168	INAIR	1414	2621	0.02
3088	1153	FRNKF	0008	773	0.01
3089	#N/A	STAGE	3811	4434	0.01
3090	3037	PWEST	1310	1117	0.01
3091	2453	AIRPK	8422	29	-
3092	#N/A	ALCAT	1222	32	-
3093	2771	ALKLK	4221	24	-
3094	3049	ALPHA	0012	10	-
3095	3051	ARLNG	1291	86	-
3096	3056	BLMND	3272	15	-
3097	3057	BRHLW	7641	52	-
3098	3058	BRNSO	1804	13	-
3099	#N/A	BRYAN	0008	11	-
3100	1392	CHYNE	9121	20	-
3101	2883	COTRD	0001	342	-
3102	3062	COTRD	0004	105	-
3103	3064	COTRD	0007	177	-
3104	1498	CRLFR	2153	468	-
3105	2033	CRLTR	2006	50	-
3106	1808	CRLUD	1301	21	-
3107	3068	DFWNW	2402	11	-
3108	3069	DFWNW	2403	20	-
3109	1482	DFWNW	2408	28	-
3110	2919	DFWSE	2713	18	-
3111	3071	DFWSE	2715	10	-
3112	2943	DFWSW	2325	14	-
3113	2962	DFWSW	2326	42	-
3114	3035	DGNST	0003	1427	-
3115	2999	DNINR	1402	396	-
3116	2786	DUPUY	1221	32	-
3117	#N/A	EDGCF	2224	124	-
3118	3074	ENSSE	3011	11	-
3119	#N/A	EXPKY	8111	10	-
3120	2880	EXPKY	8122	74	-

## Service Quality Report to the Public Utility Commission of Texas

### Oncor Electric Delivery

2021 SAIDI Ranking	2020 SAIDI Ranking	Substation Identification	Feeder Identification	Number of Customers	2021 SAIDI Value
3121	2485	EXPKY	8131	15	-
3122	3079	EXPKY	8141	30	-
3123	71	FORSN	5611	10	-
3124	3081	FRMBG	1708	43	-
3125	#N/A	FRMNT	0005	82	-
3126	#N/A	FRMNT	0015	234	-
3127	#N/A	GAMMA	2201	69	-
3128	#N/A	GRLTC	3805	10	-
3129	#N/A	GRVPT	7522	46	-
3130	3088	GSTHW	1625	46	-
3131	273	GSTHW	1634	15	-
3132	2802	GVODS	3021	16	-
3133	3001	HORNE	1944	710	-
3134	#N/A	IRVVV	2852	162	-
3135	#N/A	IRVVV	2854	17	-
3136	2936	JKREA	1201	28	-
3137	2945	JNKNS	0001	246	-
3138	3042	JNKNS	0002	641	-
3139	2973	KIMBL	5011	186	-
3140	3094	LSCOL	2142	16	-
3141	184	LTMAN	1511	63	-
3142	#N/A	LTVSB	5422	16	-
3143	2834	LVBRD	0001	40	-
3144	1797	MDAIR	2921	123	-
3145	2631	MESQN	1506	78	-
3146	2723	MESTE	1201	25	-
3147	#N/A	MIDNT	3711	892	-
3148	2694	MKNNY	1204	38	-
3149	3098	MNWLL	1201	30	-
3150	#N/A	MRSDO	9612	148	-
3151	2929	MRSES	4014	22	-
3152	2994	MSTLT	1011	61	-
3153	1556	NCRST	2202	35	-
3154	1355	NCSTH	1505	19	-
3155	2301	NPKWY	0007	159	-
3156	#N/A	OWLHL	7121	11	-
3157	3104	PARIS	1205	24	-
3158	#N/A	PAULN	2502	15	-
3159	#N/A	PBELL	4841	99	-
3160	3106	PJPTR	3231	28	-
3161	2934	PLANO	1108	487	-
3162	2557	PLHWY	3701	498	-
3163	#N/A	PNTIS	0231	14	-
3164	3110	PROAD	0001	125	-
3165	2933	PSHIL	1606	20	-
3166	#N/A	PSHIL	1613	528	-
3167	3111	PTENN	2356	13	-
3168	3113	PWEST	1309	48	-

## Service Quality Report to the Public Utility Commission of Texas

### **Oncor Electric Delivery**

<b>2021 SAIDI Ranking</b>	<b>2020 SAIDI Ranking</b>	<b>Substation Identification</b>	<b>Feeder Identification</b>	<b>Number of Customers</b>	<b>2021 SAIDI Value</b>
3169	2985	REAST	1509	138	-
3170	886	RGLRW	0006	32	-
3171	3115	RNGMG	8421	11	-
3172	3033	ROLTR	2913	2005	-
3173	3036	RSNHT	1111	353	-
3174	3043	RSPCK	2103	166	-
3175	3121	RVRFT	0001	27	-
3176	2541	SACRC	5521	119	-
3177	2719	SHSTH	1302	20	-
3178	3123	SLTLK	3511	19	-
3179	622	SMFLD	2362	63	-
3180	3125	SORCY	0002	66	-
3181	655	STERT	2702	19	-
3182	#N/A	STERT	2705	13	-
3183	626	TMNTH	1607	14	-
3184	2225	TMPSE	1501	541	-
3185	3128	VLYRN	2958	249	-
3186	2780	WMMMR	2704	18	-
3187	2404	WMMMR	2706	26	-
3188	3131	WMMMR	2708	24	-

2020's customer count was used due to feeder reconfiguration:

BLSRA1601  
 ELZCK4922  
 GLNHV3911  
 GYVLM8611  
 MABNK2403  
 NYLDV1202  
 RRWES1623  
 TYLGE1306  
 WICKT0411  
 MIDNT3721\*

\* This feeder uses the earliest available customer count in 2021 because the feeder was not in service in 2020



Service Quality Report to the Public Utility Commission of Texas

**Oncor Electric Delivery**

**INTERRUPTION CAUSES**

Provide the percentage of interruptions attributable to each cause.

2021 Reporting Year

<b>Causes of Forced Interruptions</b>	<b>Percentage</b>
Utility-Owned Equipment	46%
Animals and Birds	15%
Vegetation	15%
Weather (Including Lightning)	11%
Unknown	7%
People (Including Cars and Farm Equipment)	4%
Other	2%

**ADDENDUM OF ONCOR ELECTRIC DELIVERY COMPANY TO ITS  
SERVICE QUALITY REPORT FOR THE 2021 REPORTING YEAR**

The Public Utility Commission of Texas (Commission), in Ordering Paragraph No. 5 in its April 18, 2019 Order in Docket No. 48841, *Agreed Notice of Violation and Settlement Agreement Relating to Oncor Electric Delivery Company’s Violation of PURA § 38.005 and 16 TAC 25.52, Concerning Reliability and Continuity of Service*, requires Oncor Electric Delivery Company LLC (Oncor) to “file a report regarding actions to bring feeders that are found to be in violation of any of its system-wide service quality standards for two or more consecutive years into compliance with the Commission's service quality standards, and this report must be filed as an addendum to Oncor's required annual service quality reports, as prescribed by 16 TAC § 25.81.” This Addendum is filed to comply with that requirement.

Oncor would stress that its capital and maintenance projects remain fluid over the course of a calendar year, and the projects set out below that are designated as “planned” or “scheduled” are subject to change and may not take place in the stated year due to changes in customer loading on the feeder, the impact of storms and storm repairs locally and across the Oncor system, load growth elsewhere on the Oncor system, equipment repairs/replacement elsewhere on the Oncor system, and other factors.

Included in the information provided for each violation feeder is a summary table grouped by project category for the work done for years 2019 through 2021. The type of projects included in each category are shown in the table below with a brief description.

Project Category	Description of projects included
Planned Feeder Maintenance	Includes planned feeder maintenance activities to improve reliability such as pole inspection and treatment, pole restoration and replacement, and the patrolling and identification of deteriorated facilities in need of repair and/or replacement
Planned Vegetation Management	Includes planned vegetation management activities to improve reliability such as right-of-way tree trim, hazard tree mitigation (addresses dead or dying trees adjacent to the right-of-way), and herbicide application (mitigation of vegetation growth in the right-of-way)
Planned Distribution Automation	Includes planned automation activities to improve reliability such as vacuum recloser upgrades equipped with SCADA to enhance remote operability, installation of vacuum reclosing fuses to replace single-operation line fuses, installation of automated feeder switches to establish feeder ties for automatic isolation of impacted areas on a feeder to minimize customer outage times
Planned Distribution System Improvement	Includes feeder capacity improvement activities with positive reliability impact such as upgrading poles, wires, and other facilities, and establishing new feeders to enable backstand
Planned Substation System Improvement	Includes substation capacity improvement activities with positive reliability impact such as substation transformer upgrades and establishing new substations to enable backstand to feeders on the existing substations. These types of projects will impact multiple feeders in the area.
Reactive Feeder Maintenance	Includes reactive maintenance activities with reliability impact such as replacement of deteriorated and/or damaged facilities identified during an outage or other activity
Reactive Vegetation Management	Includes reactive vegetation management activities with reliability impact such as tree trimming and hazard tree mitigation identified during an outage or other activity

### **Explanation of Distribution Automation and SCADA as used in the Addendum:**

Oncor has deployed, and plans to continue to deploy, various Distribution Automation technologies, which include reclosers, automated feeder switches (AFS's), and reclosing fuses, to reduce customer outage time. As of December 31, 2021, Oncor has installed Distribution Automation devices on 72% of distribution feeders.

One distribution automation solution frequently mentioned in this Addendum is the term "automated feeder ties". This term refers to the use of AFS's that are installed on at least two adjacent feeders to monitor the real time system conditions. These AFS's constantly communicate with other devices to detect adverse system conditions and automatically reconfigure the feeder to minimize impacted customers and outage time. Implementing this automated feeder tie capability requires a significant investment. Associated costs may include rebuilding and installing new sections of the feeder, upgrades at the substation, installing required communication equipment, plus the expense of the AFS's themselves.

The term "SCADA" mentioned in this Addendum stands for Supervisory Control and Data Acquisition. This references equipment on our system that is equipped with technology that allows for the remote monitoring and control of devices on the distribution and transmission systems. Equipment with this capability is designed to provide real time monitoring and control to improve system and feeder reliability.

### **Nine Year Violation (Ten Consecutive Years)**

#### **a. DHIDE-2821**

- i. This feeder is 69.9 miles long and currently serves 100 customers in rural West Texas. The nearest service center is about 47 miles away. The terrain is low scrub brush and desert sands with limited paved road access and about 10% vegetation density.
- ii. The feeder violations were due to SAIDI (9-Year) and SAIFI (1-Year). In 2021, the protective devices worked well and sectionalized the outage events on the feeder keeping the feeder breaker from locking out. The majority of the outage events were caused directly or indirectly by adverse weather events such as high winds and lightning. Sustained winds and recorded wind gusts up to 50 mph in the months of February, March, May, and July caused reclosers to lockout due to conductor to conductor contacts. Also

the constant swinging of the conductors during these windy conditions caused damage to insulators, crossarms and downed conductor during the year. Outage events on two days in February, two days in March, two days in May, one day in July, and one day in December accounted for 81% of the SAIDI and 78% of the SAIFI values

- iii. In 2019, the feeder was patrolled several times after adverse weather events damaged facilities and follow-up reactive maintenance projects repaired and replaced those damaged facilities. In 2019 and 2020, planned distribution automation projects replaced single operation line fuses at key locations on the feeder with vacuum reclosing fuses. In 2020, a planned pole replacement project was completed that replaced seventy-one (71) deteriorated poles and seventy-seven (77) crossarms on many sections of the feeder that had been identified by a pole inspection contractor.
- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

<b>Project Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Subtotals</b>
Planned Feeder Maintenance	\$ -	\$ 594,000	\$ -	\$ 780,000
Planned Vegetation Management	\$ -	\$ -	\$ -	
Planned Distribution Automation	\$ 17,000	\$ 14,000	\$ -	
Planned Distribution System Improvement	\$ 50,000	\$ -	\$ -	
Planned Substation System Improvement	\$ 40,000	\$ -	\$ 65,000	
Reactive Feeder Maintenance	\$ -	\$ -	\$ 1,000	\$ 1,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
<b>TOTAL</b>				<b>\$ 781,000</b>

- v. In 2022, a planned substation system improvement project is in progress to upgrade communications equipment at the substation. Also, a distribution plan item is under consideration to establish automated feeder ties between DHIDE-2821 and GSMTH-1742 and between DHIDE-2821, MIDWY-0611, and GSMTH-1732. Implementation of this plan requires over twenty-one (21.0) miles of the existing feeders to be reconducted with larger wire to handle the added load transfers during outage events and up to ten (10) AFS's will need to be installed. Due to the large scope of this proposed plan, the

work will be broken up into several phases. In 2022, Phase I of work would reconductor about 4.2 miles of the existing feeder with larger wire and install four (4) AFS's.

#### **Four Year Violation (Five Consecutive Years)**

b. RSKMN-3057

- i. This feeder is 63.5 miles long and currently serves 1,159 customers in rural East Texas. The nearest service center is about 15.1 miles away. The terrain is pine forests with trees greater than 100 feet tall in loose sandy soils with about 100% vegetation density.
- ii. The feeder violation was due to SAIDI (4-Year). In 2021, the protective devices worked well and sectionalized the outage events on the feeder keeping the feeder breaker from locking out. Outage events mostly due to adverse weather (such as high winds and lightning) in March, April, May, June, October and November accounted for 81% of the SAIDI minutes. A public vehicle caused event accounted for 5% of the SAIDI minutes and occurred on one day in April. Vegetation caused events accounted for 10% of the SAIDI minutes and mostly occurred in April, May, September, and October.
- iii. In 2019, reactive maintenance projects replaced damaged poles and conductor identified during patrols of the feeder mostly after adverse weather events. Reactive tree trimming was done by vegetation management during the year after these adverse weather events. A planned distribution system improvement project replaced a section of overloaded conductor and improved voltage support on the feeder. A planned distribution automation project replaced single operation line fuses at key locations on the feeder with vacuum reclosing fuses. Phase I of a planned distribution system improvement project was started in 2019 that converted sections of the feeder serving the town of Alto from the older non-standard 2.4kV primary voltage to the newer 24.9kV primary voltage. This project replaced about thirty-nine (39) older poles and crossarms, forty-two (42) older transformers and installed three new step-down transformers and upgraded several voltage regulators. Phase I of the conversion project was completed in November 2020. Also in 2020, a planned distribution automation project replaced single operation line fuses at more key locations on the feeder with vacuum reclosing fuses. Several reactive maintenance projects replaced deteriorated poles and facilities at multiple locations on

the feeder. A planned vegetation management project performed right-of-way maintenance. In 2021, a planned distribution system improvement project reconstructed an older section of the feeder and installed new poles and facilities. A planned distribution automation upgrade project replaced an existing older oil-filled recloser with a new vacuum recloser equipped with SCADA for remote monitoring and control. Another planned distribution automation project replaced single operation line fuses at key locations on the feeder with vacuum reclosing fuses. Phase II of the planned distribution system improvement projects to convert sections of the feeder serving the town of Alto from the older 2.4kV primary voltage to the newer 24.9kV voltage was completed in 2021. Over eighty (80) taller and stronger poles with all new facilities were installed to replace the older poles and non-standard facilities. A planned substation system improvement project upgraded communications and SCADA equipment at the substation. A planned vegetation management project trimmed the mainline sections of the feeder and reactive vegetation management project after adverse weather events were completed in 2021.

- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

<b>Project Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Subtotals</b>
Planned Feeder Maintenance	\$ -	\$ -	\$ -	\$2,537,000
Planned Vegetation Management	\$ -	\$ 8,000	\$ 34,000	
Planned Distribution Automation	\$ 14,000	\$ 16,000	\$ 135,000	
Planned Distribution System Improvement	\$ 13,000	\$ 883,000	\$ 1,299,000	
Planned Substation System Improvement	\$ -	\$ -	\$ 135,000	
Reactive Feeder Maintenance	\$ 40,000	\$ 18,000	\$ 24,000	\$ 134,000
Reactive Vegetation Management	\$ 7,000	\$ 2,000	\$ 43,000	
			<b>TOTAL</b>	<b>\$2,671,000</b>

- v. In 2022, three planned distribution system improvement projects designed in 2021 are scheduled to be worked to improve reliability on sections of the feeder due to increased summer loading. These projects involve replacing older poles and equipment and voltage conversions from 12.47kV to 24.9kV by installing new transformers and associated equipment. Also, a planned distribution system improvement project is being designed

to establish an automated feeder tie between RKMN-3057 and RSKMN-3046 in order to provide two separate feeds going south to supply power to the town of Alto. When this project is fully implemented, automated fault isolation and service restoration to the town of Alto can minimize the number of customers outaged and reduce the outage minutes.

### **Three Year Violation (Four Consecutive Years)**

#### **c. CRNES-2711**

- i. This feeder is 35.3 (was 55.6 in 2020) miles long and currently serves 118 customers in West Texas. The nearest service center is about 37.1 miles away. The terrain is low scrub brush and desert sands with limited paved road access and about 10% vegetation density.
- ii. The feeder violation was due to SAIDI (3-Year). In 2021, the majority of the outage events were caused directly or indirectly by adverse weather events such as high winds. Sustained winds and recorded wind gusts up to 44 mph in the months of March, April, and September caused breaker and recloser lockouts and outage events due to swinging conductors, broken wire ties, and downed conductor. Four of these events accounted for 68% of the SAIDI value. On one day in May, the overhead to underground feeder exit termination at the substation failed locking out the feeder breaker for 152 minutes until repairs could be made and accounted for 23% of the SAIDI value.
- iii. In 2019, a planned feeder maintenance project replaced deteriorated poles and other facilities identified during patrols of the feeder. A planned distribution automation project replaced single operation line fuses at a key location on the feeder with vacuum reclosing fuses. A planned substation system improvement project installed a second 28MVA transformer bank with a new feeder breaker to correct overloads on CRNES feeders. In 2020, a planned distribution automation project replaced single operation line fuses with vacuum reclosing fuses at key locations on the feeder.

- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

Project Category	2019	2020	2021	Subtotals
Planned Feeder Maintenance	\$ 24,000	\$ -	\$ -	\$2,131,000
Planned Vegetation Management	\$ -	\$ -	\$ -	
Planned Distribution Automation	\$ 17,000	\$ 37,000	\$ -	
Planned Distribution System Improvement	\$ 184,000		\$ -	
Planned Substation System Improvement	\$ 1,869,000	\$ -	\$ -	
Reactive Feeder Maintenance	\$ -	\$ -	\$ -	\$ -
Reactive Vegetation Management	\$ -	\$ -	\$ -	
<b>TOTAL</b>				<b>\$ 2,131,000</b>

- v. In 2022, a distribution plan item to establish a new feeder out of CRNES substation and establish automated feeder ties between CRNES-2711, the new CRNES feeder, and CRANE-0311 has been proposed. Due to the size of this project, it will be implemented in several phases. Phase I would reconductor about three miles of the existing feeder with larger wire, install two vacuum reclosers, and six AFS's. Future phases would build about 6.8 miles of new feeder to fully implement the planned automation scheme between all three feeders. When this distribution plan item is fully implemented, automated fault isolation and service restoration to viable sections of each feeder can minimize the number of customers outaged and reduce the outage minutes.

d. MASON-3412

- i. This feeder is 53.6 miles long and currently serves 102 customers in rural West Texas. The nearest service center is about 114 miles away. The terrain is low scrub brush and desert sands with limited paved road access and about 5% vegetation density.
- ii. The feeder violation was due to SAIDI (3-Year). In 2021, the protective devices worked well and sectionalized the outage events on the feeder keeping the feeder breaker from locking out. The majority of the outage events were caused directly or indirectly by adverse weather events such as high winds and lightning. Sustained winds with recorded wind gusts up to 38 mph and lightning during adverse weather caused recloser lockouts and outage events. Three of these events accounted for 82% of the SAIDI value. On one day in May during high winds, a broken crossarm caused event accounted for 65% of the



SAIDI. On one day in July during adverse weather, wire broke away at an overhead connection that caused downed overhead conductors and accounted for 12% of the SAIDI. On one day in August during adverse weather, a lightning caused event accounted for 5% of the SAIDI value. The remote location of this feeder and the long distance to the nearest service center contributed to the extended time required to restore power.

- iii. In 2019, a reactive maintenance project replaced damaged crossarms and conductor after a patrol of the feeder following adverse weather events. A planned distribution automation project replaced single operation line fuses with reclosing vacuum fuses at a key location on the feeder. A system improvement project rebuilt about 23,000 feet (4.3 miles) of the existing feeder by installing larger wire, taller and stronger poles, and fiberglass crossarms. In December 2019, a planned substation system improvement project that established the new substation Horsehead Draw (HRSHD) was placed in service to relieve loading on the adjacent ELMAR and MASON substations and their feeders. A planned distribution system improvement project also completed in December 2019 established a new feeder tie between the new feeder HRSHD-5831 and MASON-3412. In December 2020, a planned substation system improvement project that established the new substation Kyle Ranch (KRNCH) was placed in service to also relieve loading on the adjacent ELMAR and MASON substations and their feeders. In 2020, planned distribution system improvement projects rebuilt about 29,600 feet (5.6 miles) of the existing feeder by installing larger wire, taller and stronger poles where needed, and fiberglass crossarms. In 2021, planned distribution system improvement projects installed about 9,000 feet (1.7 miles) of new construction and rebuilt about 38,000 feet (7.2 miles) of the existing feeder by installing larger wire, taller and stronger poles, and fiberglass crossarms. A planned substation system improvement project upgraded communications equipment at the substation.

- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

Project Category	2019	2020	2021	Subtotals
Planned Feeder Maintenance	\$ -	\$ -	\$ -	\$16,362,000
Planned Vegetation Management	\$ -	\$ -	\$ -	
Planned Distribution Automation	\$ 30,000	\$ -	\$ -	
Planned Distribution System Improvement	\$1,795,000	\$ 1,107,000	\$ 2,731,000	
Planned Substation System Improvement	\$4,400,000	\$ 6,190,000	\$ 109,000	
Reactive Feeder Maintenance	\$ 20,000	\$ 7,000	\$ 29,000	\$ 56,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
<b>TOTAL</b>				<b>\$ 16,418,000</b>

- v. In 2022, a distribution plan item to establish automated feeder ties between MASON-3412 and HRSHD-5822 and between MASON-3412 and MASON-3431 is planned. Four new AFS's will need to be installed to establish these two automated feeder ties. This plan also includes a permanent transfer of some of the load from MASON-3412 to HRSHD-5822. When this distribution plan item is fully implemented, automated fault isolation and service restoration to viable sections of each feeder can minimize the number of customers outaged and reduce the outage minutes.

e. ELMAR-3232

- i. This feeder is 41.7 (was 87.9 in 2019) miles long and currently serves 75 (was 183) customers in rural West Texas. The nearest service center is about 84 miles away. The terrain is low scrub brush and desert sands with limited paved road access and about 10% vegetation density.
- ii. The feeder violations were due to SAIDI (3-Year) and SAIFI (1-Year). In 2021, the majority of the outage events were caused directly or indirectly by prevailing high wind conditions mostly during the months of March and June. Sustained winds with recorded wind gusts up to 44 mph caused outage events on two days in March and two days in June. The events on these four days locked out the feeder breaker or a recloser and accounted for 99% of the SAIDI and 84% of SAIFI values. The remote location of this feeder and the long distance to the nearest service center contributed to the extended time

required to restore power.

- iii. In 2019, reactive maintenance projects replaced damaged poles, crossarms, and conductor identified by feeder patrols that were damaged during adverse weather events. In December of 2019, a planned substation system improvement project that established the new substation Horsehead Draw (HRSHD) was placed in service to relieve loading on the adjacent ELMAR and MASON substations and their feeders. Additional planned distribution system improvement projects completed in December 2019 installed new poles and larger wire to establish feeder ties with two of the new HRSHD feeders. In 2020, two planned distribution system improvement projects rebuilt 22,000 feet (about 4.2 miles) of the existing feeder by installing larger wire and taller and stronger poles with fiberglass crossarms. (Note: These rebuilt sections of the feeder have been transferred over to the new feeder HRSHD-5821.) Two other planned distribution system improvement projects rebuilt 7,800 feet (about 1.5 miles) of the existing feeder with larger wire, taller and stronger poles, and fiberglass crossarms. (Note: In 2021, a 6,000 feet rebuilt section of the feeder on one of these projects was transferred over to the new feeder KRNCH-9021.) In December 2020, a planned substation system improvement project that established the new substation Kyle Ranch (KRNCH) was placed in service to relieve loading on the adjacent ELMAR and MASON substations and their feeders. A planned distribution system improvement project was started in 2020 and completed in 2021 that established new feeder ties between the new feeder KRNCH-9011 and both ELMAR-3232 and MASON-3413. In 2021, a planned distribution automation upgrade project replaced an existing oil-filled recloser at a key location on the feeder with a new electronic vacuum recloser equipped with SCADA for remote monitoring and control. The feeder reconfiguration of ELMAR-3232 by transferring segments of the feeder and customer load to feeders out of the new HRSHD and KRNCH substations was completed in 2021.
- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

Project Category	2019	2020	2021	Subtotals
Planned Feeder Maintenance	\$ -	\$ -	\$ -	\$13,186,000
Planned Vegetation Management	\$ -	\$ -	\$ -	
Planned Distribution Automation	\$ -	\$ -	\$ 52,000	
Planned Distribution System Improvement	\$ -	\$ 1,458,000	\$ 1,086,000	
Planned Substation System Improvement	\$ 4,400,000	\$ 6,190,000	\$ -	
Reactive Feeder Maintenance	\$ 30,000	\$ 30,000	\$ -	\$ 60,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
<b>TOTAL</b>				<b>\$13,246,000</b>

v. In 2022, a distribution plan item to establish an automated feeder tie between ELMAR-3232 and LOVNG-2511 has been proposed. This plan will involve converting several miles of ELMAR-3232 from the primary voltage of 12.5kV to 22kV, building 2.6 miles of new feeder in order to create a tie to LOVNG-2511, and installing five new AFS's. Due to the size of this project, it will be implemented in several phases. When this distribution plan item is fully implemented, automated fault isolation and service restoration to viable sections of each feeder can minimize the number of customers outaged and reduce the outage minutes.

f. LMESA-2813

- i. This feeder is 73.0 miles long and currently serves 118 customers in rural West Texas. The nearest service center is about 57 miles away. The terrain is low scrub brush and desert sands with limited paved road access and 10% vegetation density.
- ii. The feeder violation was due to SAIDI (3-Year). In 2021, the majority of the outage events were caused directly or indirectly during adverse weather by prevailing high wind conditions early in the year and by lightning in the summer months. Sustained winds with recorded wind gusts up to 54 mph caused outage events on one day in January and two consecutive days in March and lightning was the cause on one day in August. The events on these four days locked out the feeder breaker or a recloser and accounted for 88% of the SAIDI value. The remote location of this feeder and the distance from the nearest service center contributed to the time required to restore power.
- iii. In 2019, reactive maintenance projects replaced damaged poles, crossarms, and

conductor identified by feeder patrols that were damaged during adverse weather events. Targeted vegetation management was done during the year. Two planned distribution feeder maintenance projects were done by a pole inspection contractor that inspected and treated about two-hundred (200) poles on the feeder and restored forty-four (44) poles by installing steel trusses. A planned distribution feeder maintenance project replaced five (5) deteriorated poles and other facilities identified during a feeder patrol. A planned distribution automation project replaced single operation line fuses with vacuum reclosing fuses at key locations on the feeder. In 2020, reactive maintenance projects replaced eighteen (18) damaged poles, crossarms, and conductor identified by feeder patrols that were damaged during adverse weather events. A planned distribution automation project replaced an older oil-filled recloser with a vacuum recloser and installed a new vacuum recloser at two key locations on the feeder to improve sectionalizing during future outage events. Both of these vacuum reclosers are equipped with SCADA for remote monitoring and control. The feeder was patrolled to identify deteriorated equipment that needed to be replaced. A planned distribution feeder maintenance project followed which replaced twenty-one (21) deteriorated poles with new taller and stronger poles and new fiberglass crossarms. In 2021, reactive maintenance projects replaced a damaged pole, crossarm, and conductor and removed idle facilities identified during feeder patrols. A planned distribution feeder maintenance project had a pole inspection contractor inspect and treat the poles on a section of the feeder.

- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

Project Category	2019	2020	2021	Subtotals
Planned Feeder Maintenance	\$ 83,000	\$ 80,000	\$ 4,000	\$ 7,213,000
Planned Vegetation Management	\$ 3,000	\$ -	\$ -	
Planned Distribution Automation	\$ -	\$ 124,000	\$ -	
Planned Distribution System Improvement	\$ 11,000	\$ -	\$ -	
Planned Substation System Improvement	\$ -	\$ -	\$ 6,908,000	
Reactive Feeder Maintenance	\$ 13,000	\$ 57,000	\$ 25,000	\$ 95,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
<b>TOTAL</b>				<b>\$ 7,308,000</b>

- v. In 2022, a planned substation system improvement project that was designed and materials purchased in 2021 is in progress that will replace the three existing smaller 69-12.5kV substation transformers with two new 138-12.5kV 47MVA transformers and seven new feeder breakers. This project will also convert the LMESA substation from the older 69kV to the newer 138kV transmission voltage and upgrade all line termination and associated equipment to meet or exceed an increased 3,200 amp load capacity. This planned substation system improvement project is scheduled for completion in May 2023. Also, a distribution plan item to establish an automated feeder tie between LMESA-2813 and LMESA-2833 is under consideration. This plan will involve reconductoring about 9.0 miles of the existing LMESA-2813 feeder to larger wire, building 2.3 miles of new feeder in order to create a tie to LMESA-2833, and installing three new AFS's. Due to the size of this project, it will be implemented in several phases. When this distribution plan item is fully implemented, automated fault isolation and service restoration to viable sections of each feeder can minimize the number of customers outaged and reduce the outage minutes.

**Two Year Violation (Three Consecutive Years)**

g. ELMAR-3212

- i. This feeder is 15.2 miles long and currently serves 34 customers in rural West Texas. The nearest service center is about 84 miles away. The terrain is low scrub brush and desert sands with limited paved road access and about 10% vegetation density.
- ii. The feeder violations were due to SAIDI (3-Year) and SAIFI (3-Year). In 2021, outage

events on one day in May, one day in June, and one day in December accounted for 99% of the SAIDI and 96% of the SAIFI values. In May, a customer caused outage locked out a recloser for a long duration outage. After patrolling the feeder and finding no problems, company personnel determined that the customer did not use the proper fuse size to protect their equipment. This event accounted for 8% of the SAIDI and 18% of the SAIFI values. In June during reported tornadic activity, the breaker locked out and all customers on the feeder were outaged for almost thirty-nine hours. Most of the feeders out of the ELMAR substation were affected and a number of damaged poles, crossarms, and wire had to be replaced on adjacent feeders before power could be restored. The June event accounted for 90% of the SAIDI and 40% of the SAIFI values. In December, a utility crew working on the feeder had a connector fail which caused the breaker to lockout for about 20 minutes and accounted for 1% of the SAIDI and 39% of the SAIFI values. The remote location of this feeder and the long distance to the nearest service center contributed to the extended time required to restore power.

- iii. In 2019, reactive maintenance projects replaced damaged poles, crossarms, and conductor identified by feeder patrols that were damaged during adverse weather events. A planned distribution system improvement project rebuilt about 8,000 feet (1.5 miles) of the existing feeder by installing larger wire and stronger poles with fiberglass crossarms. In 2020, a reactive maintenance project replaced damaged conductor identified by feeder patrol. A planned distribution system improvement project rebuilt about 5,400 feet (1.0 mile) of the existing feeder by installing larger wire and stronger poles with fiberglass crossarms. In 2021, a planned distribution automation upgrade project replaced an older oil-filled recloser with a new vacuum recloser equipped with SCADA for remote monitoring and control. A reactive maintenance project relocated a three-phase air-brake switch on the feeder to improve sectionalizing on the feeder. A planned distribution system improvement project started in late 2021 is rebuilding about 11,500 feet (about 2.2 miles) of the existing feeder by installing larger wire and taller and stronger poles with new fiberglass crossarms is nearing completion.
- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

Project Category	2019	2020	2021	Subtotals
Planned Feeder Maintenance	\$ -	\$ -	\$ -	\$ 1,240,000
Planned Vegetation Management	\$ -	\$ -	\$ -	
Planned Distribution Automation	\$ -	\$ -	\$ 52,000	
Planned Distribution System Improvement	\$ 391,000	\$ 360,000	\$ 437,000	
Planned Substation System Improvement	\$ -	\$ -	\$ -	
Reactive Feeder Maintenance	\$ 8,000	\$ 6,000	\$ 29,000	\$ 43,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
<b>TOTAL</b>				<b>\$ 1,283,000</b>

v. In 2022, the planned distribution system improvement project started in late 2021 to rebuild about 11,500 feet of the existing feeder was completed and placed in service in January 2022. A distribution plan item to establish an automated feeder tie between ELMAR-3212 and LOVNG-2511 is under consideration. This plan will involve reconductoring about 1.85 miles of the existing feeder to larger wire on ELMAR-3212, building 1.5 miles of new feeder in order to create a tie to LOVNG-2511, and installing two new AFS's. Due to the size of this project, it will be implemented in several phases. When this distribution plan item is fully implemented, automated fault isolation and service restoration to viable sections of each feeder can minimize the number of customers outaged and reduce the outage minutes.

h. KEYSB-2621

- i. This feeder is 16.0 miles long and currently serves 14 customers in rural West Texas. The nearest service center is about 64 miles away. The terrain is low scrub brush and desert sands with limited paved road access and about 10% vegetation density.
- ii. The feeder violation was due to SAIDI (2-Year). In 2021, one event in January and one event in April accounted for 96% of the SAIDI value. In January during sustained winds with recorded wind gusts up to 38 mph an outage event was caused by a broken wire connection. In April during foggy conditions a pole top caught on fire and locked out the feeder breaker. The cause of this event probably resulted from a flashover across one of the wet insulators on the pole which caught the pole top on fire. The damaged pole was



a corner pole located at a farm road crossing and resulted in a long duration outage (over 11 hours for some customers) before a new pole could be installed and power restored. The remote location of this feeder and the distance from the nearest service center contributed to the time required to restore power.

- iii. In 2019, a planned distribution automation upgrade project replaced an older oil-filled recloser with a new vacuum recloser equipped with SCADA for remote monitoring and control. In 2020, reactive maintenance projects replaced damaged poles and crossarms after patrols of the feeder following adverse weather events. A planned feeder maintenance project replaced fifteen (15) deteriorated poles with taller and stronger poles with fiberglass crossarms that had been identified by a pole inspection contractor.
- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

Project Category	2019	2020	2021	Subtotals
Planned Feeder Maintenance	\$ -	\$ 75,000	\$ -	\$ 134,000
Planned Vegetation Management	\$ -	\$ -	\$ -	
Planned Distribution Automation	\$ 59,000	\$ -	\$ -	
Planned Distribution System Improvement	\$ -	\$ -	\$ -	
Planned Substation System Improvement	\$ -	\$ -	\$ -	
Reactive Feeder Maintenance	\$ -	\$ 63,000	\$ 1,000	\$ 64,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
<b>TOTAL</b>				<b>\$ 198,000</b>

- v. The major outage events in 2020 and 2021 were either caused by Acts of Public (public vehicle hit pole) or by adverse weather (lightning and high winds). The feeder will continue to be monitored and evaluated for opportunities to improve reliability.

i. LOVNG-2512

- i. This feeder is 35.8 miles long and currently serves 38 customers in rural West Texas. The nearest service center is about 67 miles away. The terrain is low scrub brush and desert sands with limited paved road access and about 5% vegetation density.
- ii. The feeder violation was due to SAIDI (2-Years). In 2021, on three different days in June, transformers were failing at a customer's point of delivery and accounted for 14%

of the SAIDI value. This problem was resolved when the three-phase transformer bank was converted from a 277/480 Volt secondary to a 240/489 Volt secondary. In September, the underground feeder exit cable failed just outside the substation and locked out the feeder breaker. This outage event accounted for 70% of the SAIDI value. In October the feeder breaker locked out while a construction crew was working on the feeder. This outage event accounted for 14% of the SAIDI value. The remote location of this feeder and the distance from the nearest service center contributed to the time required to restore power.

- iii. In 2019, a reactive maintenance project replaced three poles damaged during adverse weather. A planned distribution system improvement project installed a new underground feeder exit that eliminated the overhead primary crossing the road that was located just south of the substation. A planned feeder maintenance project replaced deteriorated facilities identified during patrolling of the feeder which included seven (7) deteriorated poles and twelve (12) deteriorated crossarms. In 2020, reactive maintenance projects replaced damaged facilities identified after patrols of the feeder. A planned distribution system improvement project rebuilt about 9,500 feet (1.8 miles) of the existing feeder by installing larger wire, taller and stronger poles where needed, and new fiberglass crossarms. In 2021, a reactive maintenance project replaced a damaged pole identified after a patrol of the feeder. A planned substation system improvement project upgraded the two existing substation transformers from 28MVA to 47MVA and replaced two of the existing feeder breakers.
- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

<b>Project Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Subtotals</b>
Planned Feeder Maintenance	\$ 42,000	\$ -	\$ -	\$ 3,418,000
Planned Vegetation Management	\$ -	\$ -	\$ -	
Planned Distribution Automation	\$ -	\$ -	\$ -	
Planned Distribution System Improvement	\$ 212,000	\$ 298,000	\$ -	
Planned Substation System Improvement	\$ -	\$ -	\$ 2,866,000	
Reactive Feeder Maintenance	\$ 8,000	\$ 14,000	\$ 9,000	\$ 31,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
			<b>TOTAL</b>	<b>\$ 3,449,000</b>

v. After evaluating the outage causes in 2020 and 2021, another patrol of the feeder is planned in 2022 to identify areas that require maintenance or other action to improve feeder reliability. A planned feeder maintenance project will be initiated to make the needed repairs and replacements that were identified by the patrol. A 2023 distribution plan item is being proposed to establish an automated feeder tie with an adjacent feeder out of the new HRSHD substation. In order to accomplish this, over eleven (11.0) miles of the existing feeder will need to be reconducted with larger wire, new taller and stronger poles with fiberglass crossarms, and at least three new AFS's will need to be installed. Due to the size of this project, it will be implemented in several phases. If this distribution plan item is fully implemented, automated fault isolation and service restoration to viable sections of each feeder can minimize the number of customers outaged and reduce the outage minutes.

j. CRKET-2402

- i. This feeder is 53.9 miles long and currently serves 1,720 customers in rural Central Texas. The nearest service center is about 30 miles away. The terrain is sandy soils with areas of tall trees and about 95% vegetation density.
- ii. The feeder violation was due to SAIFI (2-Years). In 2021, the protective devices worked well and sectionalized the outage events on the feeder keeping the feeder breaker from locking out. The four major events occurred in May, September, and two days in November, accounting for 86% of the SAIFI value. A patrol of the feeder after each of these four events found no definitive causes, however the November events occurred during adverse weather which could have contributed to causing these events.
- iii. In 2019, a planned distribution automation project installed three automated vacuum reclosers equipped with automatic service restoration communications and software. This automation project provides automated switching between CRKET-2402 and CRKET-2401. During the year multiple reactive maintenance projects after patrols of the feeder replaced fourteen (14) deteriorated or storm damaged poles, one damaged recloser, and six (6) spans of overhead wire. In 2020, a planned distribution automation project upgraded an older oil-filled recloser with a new vacuum recloser equipped with SCADA for remote monitoring and control. During the year after patrols of the feeder

reactive maintenance projects replaced four (4) deteriorated poles and other deteriorated overhead facilities. A planned distribution feeder maintenance project had a pole inspection contractor inspect and treat over four-hundred (400) poles on the feeder. In 2021, a planned distribution system improvement project rebuilt about 2,100 feet (0.4 miles) of the existing feeder by installing larger wire, taller and stronger poles, and new fiberglass crossarms. The purpose of this project was to establish an upgraded feeder tie between CRKET-2402 and CRKET-2403 to allow both feeders to backstand each other during outage events. Two planned distribution feeder maintenance projects replaced eight (8) deteriorated poles and twenty-seven (27) deteriorated crossarms identified during patrols of the feeder the previous year. A planned distribution automation project replaced fourteen (14) single operation line fuses at key locations on the feeder with vacuum reclosing fuses.

- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

<b>Project Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Subtotals</b>
Planned Feeder Maintenance	\$ -	\$ 29,000	\$ 342,000	\$ 1,240,000
Planned Vegetation Management	\$ -	\$ -	\$ -	
Planned Distribution Automation	\$ 113,000	\$ 61,000	\$ 101,000	
Planned Distribution System Improvement	\$ -	\$ -	\$ 594,000	
Planned Substation System Improvement	\$ -	\$ -	\$ -	
Reactive Feeder Maintenance	\$ 88,000	\$ 48,000	\$ 24,000	\$ 192,000
Reactive Vegetation Management	\$ -	\$ 14,000	\$ 18,000	
			<b>TOTAL</b>	<b>\$ 1,432,000</b>

- v. In 2022, a planned distribution automation project is scheduled to replace single operation line fuses at five key locations on the feeder with vacuum reclosing fuses. Two planned distribution system improvement projects are scheduled to improve reliability on the feeder. One project will install about 5,800 feet (1.1 miles) of new larger wire on thirty-three (33) taller and stronger poles with fiberglass crossarms. The other project will install a 900 feet underground dip on the feeder and eight new poles with fifteen fiberglass crossarms, large wire, and one new air break switch. Materials have been purchased for these projects and all work should be completed this year. A planned

distribution system improvement project will be designed to rebuild about 3,400 (0.7 miles) of the existing feeder by installing larger wire, taller and stronger poles with fiberglass crossarms, and installing two (2) new air break switches in order to improve reliability during peak summer load conditions.

### **One Year Violation (Two Consecutive Years)**

#### **k. CHRNO-1201**

- i. This feeder is 75.2 miles long and currently serves 530 customers in rural East Texas. The nearest service center is about 36 miles away. The terrain is pine forests with trees greater than 100 feet tall in loose sandy soils with about 90% vegetation density.
- ii. The feeder violations were due to SAIDI and SAIFI. In 2021, four major events on one day in January, one day March, one day May, and one day in July accounted for 86% of the SAIDI and 85% of the SAIFI values. In January during a day of sustained winds with wind gusts up to 26 mph, a wire-down caused event locked out a recloser and accounted for 10% of both SAIDI and SAIFI values. In March, a wire-down caused event at a location inaccessible to Oncor line trucks locked out a recloser and accounted for 21% of the SAIDI and 17% of the SAIFI values. In May, another wire-down caused event at a location inaccessible to Oncor line trucks locked out a recloser and accounted for 19% of the SAIDI and 33% of the SAIFI values. In July - during adverse weather - a lightning caused event locked out a recloser and accounted for 32% of the SAIDI and 24% of the SAIFI values.
- iii. In 2020, reactive maintenance projects initiated after patrols of the feeder replaced three (3) deteriorated poles. In 2021, reactive maintenance projects initiated after patrols of the feeder replaced eight (8) deteriorated poles and two damaged reclosers. Additional reactive maintenance projects initiated after adverse weather events replaced ten (10) damaged poles and a span of damaged wire. Reactive vegetation management projects were initiated throughout the year mainly as a result of several adverse weather events causing trees and limbs to fall onto the overhead wire. In addition, planned vegetation management projects were completed that trimmed 12.4 miles of the right-of-way and identified and removed two-hundred and seventy eight (278) hazard trees adjacent to the right-of-way of the feeder. These hazard trees are a result of a pine tree beetle infestation

in the pine forests of east Texas that bore into the pine trees and in a short time cause the trees to die. Then the trees dry up and over time start shedding dead limbs and eventually the main trunk will break and fall to the ground. This planned vegetation program attempts to mitigate these hazard trees before they can fall into Oncor lines and cause an outage event. Also, in 2021 a planned substation improvement project upgraded the communications and SCADA equipment at the substation to improve remote monitoring and control.

- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

<b>Project Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Subtotals</b>
Planned Feeder Maintenance	\$ -	\$ -	\$ -	\$ 357,000
Planned Vegetation Management	\$ -	\$ -	\$ 185,000	
Planned Distribution Automation	\$ 113,000	\$ -	\$ -	
Planned Distribution System Improvement	\$ -	\$ -	\$ -	
Planned Substation System Improvement	\$ -	\$ -	\$ 59,000	
Reactive Feeder Maintenance	\$ 22,000	\$ 22,000	\$ 61,000	\$ 325,000
Reactive Vegetation Management	\$ -	\$ 4,000	\$ 216,000	
<b>TOTAL</b>				<b>\$ 682,000</b>

- v. In 2022, a planned feeder maintenance project is scheduled to rebuild about 23,000 feet (4.6 miles) of the existing feeder by installing larger wire on taller and stronger poles with fiberglass crossarms. The feeder will continue to be monitored and evaluated during the year for additional opportunities to improve reliability.

1. MASON-3431

- i. This feeder is 14.2 miles (was 26.6 in 2020) long and currently serves 50 customers in rural West Texas. The nearest service center is about 114 miles away. The terrain is low scrub brush and desert sands with limited paved road access with about 5% vegetation density.
- ii. The feeder violation was due to SAIDI (1-Year) and SAIFI (1-Year). In 2021, 84% of the SAIDI and 79% of the SAIFI were outage events caused by swinging conductors during days with sustained winds and wind gusts ranging from 24 to 54 mph, by lightning during storms, or by cold weather conditions. These events occurred in the months of

January, March, June, October, and November. The remote location of this feeder and the distance from the nearest service center contributed to the time required to restore power.

- iii. In 2020, reactive maintenance projects replaced two damaged poles identified during feeder patrols. Multiple planned distribution system improvement projects reductedored or rebuilt about 48,800 feet (9.2 miles) of the existing feeder. In 2021, a reactive maintenance project replaced a damaged pole identified after a feeder patrol. Three planned distribution system improvement projects reductedored/rebuilt about 20,000 feet (3.8 miles) of the existing feeder. In December 2021, a planned substation improvement project that established the new substation Alcatraz (ALCAT) was placed in service to relieve loading on the adjacent MASON and KYLE substations and their feeders. After reconfiguration of MASON-3431 late in 2021 about 12.3 miles of the existing feeder was moved to the adjacent feeders SBEAN-6012 (about 1.0 miles), MASON-3421 (about 2.9 miles), and the new feeder ALCAT-1222 (about 8.4 miles).
- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

<b>Project Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Subtotals</b>
Planned Feeder Maintenance	\$ -	\$ -	\$ -	\$12,273,000
Planned Vegetation Management	\$ -	\$ -	\$ -	
Planned Distribution Automation	\$ -	\$ -	\$ -	
Planned Distribution System Improvement	\$ 2,966,000	\$ 2,004,000	\$ 937,000	
Planned Substation System Improvement	\$ -	\$ -	\$ 6,366,000	
Reactive Feeder Maintenance	\$ 11,000	\$ 14,000	\$ 5,000	\$ 30,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
			<b>TOTAL</b>	<b>\$12,303,000</b>

- v. The major outage events in 2020 and 2021 were mostly caused by adverse weather (lightning and high winds). In 2021, some of the load on MASON-3431 was transferred to feeder ALCAT-1222 out of the new ALCAT substation. This reduced the miles of overhead primary wire on MASON-3431 that is exposed to adverse weather. With this reconfiguration of MASON-3431, no actionable items have been identified for 2022. The

feeder will continue to be monitored and evaluated during the year for additional opportunities to improve reliability.

m. EMMAS-4022

- i. This feeder is 33.6 miles long and currently serves 54 customers in rural West Texas. The nearest service center is about 36 miles away. The terrain is low scrub brush and desert sands with limited paved road access and about 10% vegetation density.
- ii. The feeder violation was due to SAIDI (1-Year). In 2021, 85% of the SAIDI minutes were due to one outage event that occurred on one day in July during adverse weather when two poles failed and locked out the feeder breaker. The time required to dig and set the new poles and restore power resulted in an almost 10 hour duration outage.
- iii. In 2020, a reactive maintenance project replaced a damaged pole identified during a patrol of the feeder after adverse weather. In 2020, a planned distribution system improvement project at the substation upgraded some of the communication equipment to improve remote monitoring. In 2021, a reactive maintenance project replaced two damaged poles identified during a patrol of the feeder. A planned distribution automation project replaced single operation line fuses at a key location on the feeder with reclosing fuses.
- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

<b>Project Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Subtotals</b>
Planned Feeder Maintenance	\$ 67,000	\$ -	\$ -	\$ 166,000
Planned Vegetation Management	\$ -	\$ -	\$ -	
Planned Distribution Automation	\$ -	\$ -	\$ 5,000	
Planned Distribution System Improvement	\$ -	\$ -	\$ -	
Planned Substation System Improvement	\$ -	\$ 43,000	\$ 51,000	
Reactive Feeder Maintenance	\$ -	\$ 2,000	\$ 11,000	\$ 13,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
<b>TOTAL</b>				<b>\$ 179,000</b>

- v. In 2022, a planned substation system improvement project upgraded communication equipment at the substation to further improve remote monitoring. The one major outage



event in 2021 was caused by two poles damaged during adverse weather that locked out the feeder breaker. These poles had been inspected by a contract pole inspection company in 2019 with no indications of failure. In 2022, another pole inspection project is being considered to re-inspect the poles both at and above the pole ground line in order to mitigate future pole caused outage events. The feeder will continue to be monitored and evaluated during the year for additional opportunities to improve reliability.

n. HNTNG-1301

- i. This feeder is 101.4 miles long and currently serves 1,456 customers in rural East Texas. The nearest service center is about 13 miles away. The terrain is pine forests with trees greater than 100 feet tall in loose sandy soils and about 100% vegetation density.
- ii. The feeder violation was due to SAIDI (1-Year). In 2021, most of the outage events were directly or indirectly caused by adverse weather events. On one day in June and one day in July lightning caused events accounted for 12% of the SAIDI value. Numerous tree caused outage events in March, April, and June during or after adverse weather and accounted for 22% of the SAIDI value. On three days in July wire down caused outage events during adverse weather accounted for 41% of the SAIDI. All of these various events accounted for 75% of the total SAIDI value.
- iii. In 2020, a reactive maintenance project initiated after a patrol of the feeder replaced one (1) deteriorated pole. Additional reactive maintenance projects initiated after adverse weather events replaced two (2) storm damaged poles. In 2021, reactive maintenance projects initiated after patrols of the feeder after adverse weather events replaced seven (7) damaged poles, a span of damaged wire, and a damaged recloser. The older oil-filled recloser that was damaged during a storm was upgraded to a new vacuum recloser equipped with SCADA for remote monitoring and control and three single operation line fuses were replaced with reclosing vacuum fuses. After a careful investigation of some of the recurring outage events on the feeder, a one mile section of the feeder where numerous wire down caused outage events had occurred over several years was identified. A plan was proposed to rebuild the existing one mile section by installing taller and stronger poles with new fiberglass crossarms where needed and all new larger wire. Multiple phases to implement this plan are planned. Phase I was a planned

distribution feeder maintenance project that replaced about 1,400 feet of small wire with larger wire, replaced seventeen (17) existing deteriorated poles with taller and stronger poles, and replaced twenty-one (21) existing deteriorated wood crossarms with new fiberglass crossarms.

- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

Project Category	2019	2020	2021	Subtotals
Planned Feeder Maintenance	\$ 664,000	\$ -	\$ 418,000	\$ 1,201,000
Planned Vegetation Management	\$ -	\$ 12,000	\$ -	
Planned Distribution Automation	\$ -	\$ -	\$ -	
Planned Distribution System Improvement	\$ 107,000	\$ -	\$ -	
Planned Substation System Improvement	\$ -	\$ -	\$ -	
Reactive Feeder Maintenance	\$ 20,000	\$ 12,000	\$ 79,000	\$ 111,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
			<b>TOTAL</b>	<b>\$ 1,312,000</b>

- v. In 2022, Phase II of the previously mentioned planned feeder maintenance project in paragraph “iii” will continue the one mile rebuild and is scheduled to relocate about 1,000 feet of the feeder closer to the road for better access and rebuild another 600 feet of the feeder by installing larger wire. A total of twenty-four (24) new taller and stronger poles and twenty-five (25) new fiberglass crossarms will be installed along with the larger wire. A planned vegetation management project is scheduled to trim about 18.9 miles of the feeder right-of-way. Also, a distribution plan item to establish an automated feeder tie between HNTNG-1301 and HNTNG-1307 is under consideration. This plan will involve reconductoring a total of about 14.2 miles of the existing feeder to larger wire, building about 1.8 miles of new feeder, installing four new AFS’s, five new air break switches, and two new vacuum reclosers. Due to the size of this project, it will be implemented in several phases. If this distribution plan item is fully implemented, automated fault isolation and service restoration to viable sections of each feeder can minimize the number of customers outaged and reduce the outage minutes.

- o. INAIR-1442

- i. This feeder is 2.4 miles long and currently serves 125 customers in the Dallas - Fort Worth Metroplex. The nearest service center is about 6.3 miles away. This is a suburban feeder consisting of 90% residential and 10% commercial customers.
- ii. The feeder violation was due to SAIDI (1-Year). In 2021, an outage event caused when a large public vehicle carrying hazardous fuel damaged two poles, crossarms, and the overhead conductor and caused the breaker to trip and lock out on a late Sunday afternoon in April. The majority of customers were out for over eleven hours due to the time required to install two new poles and to replace damaged conductor during the weekend. This one event accounted for 100% of the SAIDI value.
- iii. In 2021, a reactive maintenance project replaced the two (2) poles, crossarms, and overhead conductor damaged by the large public vehicle mentioned in paragraph "ii" above.
- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

<b>Project Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Subtotals</b>
Planned Feeder Maintenance	\$ -	\$ -	\$ -	\$ 173,000
Planned Vegetation Management	\$ -	\$ -	\$ 18,000	
Planned Distribution Automation	\$ -	\$ -	\$ -	
Planned Distribution System Improvement	\$ 155,000	\$ -	\$ -	
Planned Substation System Improvement	\$ -	\$ -	\$ -	
Reactive Feeder Maintenance	\$ -	\$ -	\$ 30,000	\$ 30,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
			<b>TOTAL</b>	<b>\$ 203,000</b>

- v. The one outage event in 2021 was caused by an act of public and is unlikely to reoccur. After consideration of this and the normally good reliability of this feeder no actionable items have been identified. The feeder will continue to be monitored and evaluated during the year for additional opportunities to improve reliability.
- p. NCSTH-1503
- i. This feeder is 58.0 miles long and currently serves 965 customers in East Texas. The nearest service center is about 22.3 miles away. The terrain is pine forests with trees

greater than 100 feet tall in loose sandy soils with about 90% vegetation density.

- ii. The feeder violation was due to SAIDI (1-Year) and SAIFI (1-Year). In 2021, outage events in January, April, May, and August accounted for 78% of the SAIDI and 80% of the SAIFI values. In January, the feeder breaker locked out due to a public vehicle caused event and accounted for 67% of the SAIDI and 30 % of the SAIFI values. In April and May, lightning caused events locked out reclosers and accounted for 10% of the SAIDI and 37% of the SAIFI values. In August, a tree caused event locked out a recloser and accounted for 6% of the SAIDI and 15% of the SAIFI values.
- iii. In 2020, multiple reactive maintenance projects initiated after patrols of the feeder (some after adverse weather events) replaced five (5) damaged poles and several damaged crossarms. A planned distribution system improvement project replaced an oil-filled recloser with a vacuum reclosing fuse equipped with SCADA for remote monitoring and control. A planned substation improvement project upgraded deteriorated equipment at the substation. Another planned substation system improvement project upgraded communications equipment to improve remote monitoring and control. In 2021, two reactive maintenance projects were initiated after adverse weather events, and replaced twenty-five (25) damaged poles with taller and stronger poles with fiberglass crossarms. Two planned distribution feeder maintenance projects replaced three (3) deteriorated poles and installed one (1) new pole and a new vacuum recloser equipped with SCADA for remote monitoring and control. A planned distribution automation project replaced three single operation line fuses with new vacuum reclosing fuses at key locations on the feeder.
- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

Project Category	2019	2020	2021	Subtotals
Planned Feeder Maintenance	\$ -	\$ -	\$ 90,000	\$ 434,000
Planned Vegetation Management	\$ -	\$ 44,000	\$ -	
Planned Distribution Automation	\$ 56,000	\$ -	\$ 17,000	
Planned Distribution System Improvement	\$ 69,000	\$ 6,000	\$ -	
Planned Substation System Improvement	\$ -	\$ 90,000	\$ 62,000	
Reactive Feeder Maintenance	\$ 17,000	\$ 12,000	\$ 47,000	\$ 195,000
Reactive Vegetation Management	\$ 8,000	\$ 12,000	\$ 99,000	
			<b>TOTAL</b>	<b>\$ 629,000</b>

- v. In 2022, a planned distribution feeder maintenance project has been proposed to reconductor about 23,000 feet (4.4 miles) of the existing feeder by installing larger wire with new taller and stronger poles and fiberglass crossarms as needed. Due to the scope of this project, the work will be broken up into multiple projects. Phase I of this plan is being designed and scheduled to start this year with additional phases following. A planned substation system improvement project is scheduled to upgrade microwave communications equipment at this substation. Materials for this project were purchased in 2021. The feeder will continue to be monitored and evaluated during the year for additional opportunities to improve reliability.
- q. KMASB-1721
- i. This feeder is 57.7 miles long and currently serves 92 customers in the rural North Texas area. This feeder serves 94% commercial and 6% residential customers. The nearest service center is about 33.6 miles away. The terrain consists of changing elevations with a river crossing and about 10% vegetation density.
  - ii. The feeder violation was due to SAIDI (1-Year). In 2021, multiple events during adverse weather in October accounted for 79% of the SAIDI value
  - iii. In 2021, multiple reactive maintenance projects initiated after patrols of the feeder during the year replaced thirteen (13) deteriorated poles, four (4) deteriorated, and two (2) spans of wire. Three of these poles were replaced after an adverse weather event. Two planned substation system improvement projects replaced deteriorated equipment in the substation. In 2021, multiple reactive maintenance projects replaced ten (10) deteriorated poles initiated after patrols of the feeder during the year. Two of these poles were

replaced after an adverse weather event. Two planned substation system improvement projects upgraded equipment to improve remote communications at the substation. Another planned substation improvement project installed wildlife mitigation equipment at the substation to mitigate snakes crawling onto the substation equipment and causing long duration outages.

- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

<b>Project Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Subtotals</b>
Planned Feeder Maintenance	\$ -	\$ -	\$ -	\$ 371,000
Planned Vegetation Management	\$ -	\$ -	\$ -	
Planned Distribution Automation	\$ 61,000	\$ -	\$ -	
Planned Distribution System Improvement	\$ -	\$ -	\$ -	
Planned Substation System Improvement	\$ -	\$ 158,000	\$ 152,000	
Reactive Feeder Maintenance	\$ 76,000	\$ 42,000	\$ 22,000	\$ 141,000
Reactive Vegetation Management	\$ -	\$ 1,000	\$ -	
			<b>TOTAL</b>	<b>\$ 512,000</b>

- v. A detailed analysis of the locations and causes of recurring outage events on the feeder in previous years was done in 2021 which resulted in projects to patrol three segments of the feeder totaling about 22.0 miles. In 2022, the poles, crossarms, and other facilities on these sections will be inspected to identify deteriorated or damaged facilities. A planned feeder maintenance project will follow to repair or replace those facilities.
- r. FLGRV-4721
  - i. This feeder is 30.9 miles long and currently serves 143 customers in rural West Texas. The nearest service center is about 21 miles away. The terrain is low scrub brush and desert sands with mostly paved road access and about 5% vegetation density.
  - ii. The feeder violation was due to SAIDI (1-Year). In 2021, 80% of the SAIDI minutes occurred on December 12th when a gas pipeline explosion burned down six poles and five spans of primary wire.
  - iii. In 2019, a planned system improvement project established the new FLGRV substation with two new feeder breakers to take load off of the existing legacy Sharyland substations BROWN, LUTHR, and VMOOR. The load transferred to new feeders FLGRV-4711 and

FLGRV-4721 was from some of the feeders on these former legacy Sharyland substations. In 2021, a reactive maintenance project replaced a damaged pole and two crossarms identified during a patrol of the feeder after adverse weather. A planned distribution system improvement project converted a 32,000 feet section of the feeder to a more reliable 25kV primary voltage and replaced twelve older poles and installed fifteen (15) new taller and stronger poles and seventy-five (75) new fiberglass crossarms. A reactive maintenance project was worked on December 12, 2021 to replace five poles and other facilities damaged by fire after a nearby gas pipeline explosion.

- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

<b>Project Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Subtotals</b>
Planned Feeder Maintenance	\$ -	\$ -	\$ -	\$ 4,085,000
Planned Vegetation Management	\$ -	\$ -	\$ -	
Planned Distribution Automation	\$ -	\$ -	\$ -	
Planned Distribution System Improvement	\$ -	\$ -	\$ 354,000	
Planned Substation System Improvement	\$ 3,661,000	\$ -	\$ 70,000	
Reactive Feeder Maintenance	\$ -	\$ -	\$ 45,000	\$ 45,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
<b>TOTAL</b>				<b>\$ 4,130,000</b>

- v. The major outage event in 2021 was caused by the nearby gas pipeline explosion and is very unlikely to happen again. No actionable items have been identified for 2022, but the feeder will continue to be monitored and evaluated for opportunities to improve reliability.

s. CSHNG-1201

- i. This feeder is 94.3 miles long and currently serves 925 customers in rural East Texas. The nearest service center is about 44.5 miles away. The terrain is pine forests with trees greater than 100 feet tall in loose sandy soils with about 90% vegetation density.
- ii. The feeder violation was due to SAIDI (1-Year). In 2021, events in January, June, August, November, and December accounted for 83% of the SAIDI value. In January, August, and November, tree caused events locked out reclosers and accounted for 43%

of the SAIDI value. In January and December, during adverse weather with wind gusts of up to 32mph, weather caused events accounted for 34% of the SAIDI value. In June, wire down caused event accounted for 6% of the SAIDI value.

- iii. In 2020, multiple reactive maintenance projects initiated after four adverse weather events replaced six (6) damaged poles and several crossarms. Additional patrols of the feeder during the year initiated reactive maintenance projects that replaced thirty-six (36) deteriorated poles and multiple crossarms. A planned distribution feeder maintenance project replaced ten (10) deteriorated poles, several crossarms, and open wire secondary wire with newer bundled secondary wire. Another planned distribution feeder maintenance project installed overhead faulted circuit indicators to help troubleshooters isolate outage events past these devices. In 2021, reactive maintenance projects replaced one deteriorated pole and a damaged recloser with a vacuum reclosing fuse and a damaged oil-filled recloser with a new vacuum recloser equipped with SCADA for remote monitoring and control. A planned distribution automation project replaced five (5) single operation line fuses with vacuum reclosing fuses, and relocated one existing vacuum recloser to key locations on the feeder to improve outage sectionalizing. A planned distribution system improvement project reconducted about 2,300 feet (0.4 miles) of the existing feeder with larger wire, and replaced sixteen (16) older poles with taller and stronger poles with new fiberglass crossarms.
- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

Project Category	2019	2020	2021	Subtotals
Planned Feeder Maintenance	\$ -	\$ 79,000	\$ 12,000	\$ 945,000
Planned Vegetation Management	\$ -	\$ 435,000	\$ -	
Planned Distribution Automation	\$ 18,000	\$ -	\$ 47,000	
Planned Distribution System Improvement	\$ -	\$ -	\$ 263,000	
Planned Substation System Improvement	\$ -	\$ 7,000	\$ 84,000	
Reactive Feeder Maintenance	\$ 24,000	\$ 310,000	\$ 64,000	\$ 432,000
Reactive Vegetation Management	\$ 26,000	\$ 4,000	\$ 4,000	
<b>TOTAL</b>				<b>\$ 1,377,000</b>

- v. In 2022, a planned system improvement project will install fuses and new solid blade



disconnects to handle increased summer loading. The feeder will continue to be monitored and evaluated during the year for additional opportunities to improve reliability.

t. LMESA-2833

- i. This feeder is 12.2 miles long and currently serves 22 customers in rural West Texas. The nearest service center is about 56.7 miles away. The terrain is low scrub brush and desert sands with limited paved road access and about 10% vegetation density.
- ii. The feeder violation was due to SAIDI (1-Year). In 2021, 98% of the SAIDI minutes occurred on two days - one day in March caused by swinging conductor during sustained high winds and one day in April caused by overhead primary conductor during very foggy conditions. Both of these events locked out the feeder breaker. The remote location of this feeder and the distance from the nearest service center contributed to the time required to restore power.
- iii. In 2020, a reactive maintenance project replaced two damaged poles identified during a feeder patrol after adverse weather. In 2021, reactive maintenance projects replaced thirteen (13) damaged crossarms identified during feeder patrols after adverse weather. A planned distribution feeder maintenance project replaced three single-operation line fuses with a set of reclosing vacuum fuses and replaced two line fuse positions with different size fuses to improve fuse coordination and feeder reliability.
- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

Project Category	2019	2020	2021	Subtotals
Planned Feeder Maintenance	\$ -	\$ -	\$ 18,000	\$ 6,930,000
Planned Vegetation Management	\$ 4,000	\$ -	\$ -	
Planned Distribution Automation	\$ -	\$ -	\$ -	
Planned Distribution System Improvement	\$ -	\$ -	\$ -	
Planned Substation System Improvement	\$ -	\$ -	\$ 6,908,000	
Reactive Feeder Maintenance	\$ -	\$ 14,000	\$ -	\$ 14,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
<b>TOTAL</b>				<b>\$ 6,944,000</b>

- v. In 2022/2023: A planned substation system improvement project has been designed and

material purchased to replace the three existing smaller 69-12.5kV substation transformers with two new 138-12.5kV 47MVA transformers and seven new feeder breakers. This project will also convert the LMESA substation from the older 69KV to the more reliable 138KV transmission voltage and upgrade all line termination and associated equipment to meet or exceed 3,200 amp load capacity. This system improvement project is scheduled for completion in May 2023. The feeder will continue to be monitored and evaluated during the year for additional opportunities to improve reliability.

u. CSHNG-1202

- i. This feeder is 41.9 miles long and currently serves 68 customers in rural East Texas. The nearest service center is about 44.5 miles away. The terrain is pine forests with trees greater than 100 feet tall in loose sandy soils with about 100% vegetation density.
- ii. The feeder violation was due to SAIDI (1-Year). In 2021, events on one day in January and one day in December accounted for 89% of the SAIDI value. In January, a tree limb fell onto overhead wire resulting in a long duration outage for five customers and accounted for 21% of the SAIDI value. In November, an outage event caused by adverse weather downed overhead wire and accounted for 68% of the SAIDI value.
- iii. In 2019, a planned vegetation management project trimmed 16.3 miles of the feeder right-of-way. In 2020, a patrol after an adverse weather event initiated a reactive maintenance project to replace two (2) damaged poles and several damaged crossarms. A planned distribution feeder maintenance project replaced three (3) deteriorated poles and fourteen (14) deteriorated crossarms. A planned vegetation management project was completed to maintain undergrowth on 28.4 miles of the feeder right-of-way. In 2021, a planned distribution automation project replaced a single operation line fuse with a reclosing vacuum fuse along with a new pole and fiberglass crossarm.
- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

<b>Project Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Subtotals</b>
Planned Feeder Maintenance	\$ -	\$ 67,000	\$ -	\$ 310,000
Planned Vegetation Management	\$ 149,000	\$ 3,000	\$ -	
Planned Distribution Automation	\$ -	\$ -	\$ 7,000	
Planned Distribution System Improvement	\$ -	\$ -	\$ -	
Planned Substation System Improvement	\$ -	\$ -	\$ 84,000	
Reactive Feeder Maintenance	\$ 12,000	\$ 5,000	\$ -	\$ 17,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
<b>TOTAL</b>				<b>\$ 327,000</b>

v. In 2022, a planned substation improvement project will upgrade the communications and the SCADA equipment at the substation to improve remote monitoring and control. The materials for this project were purchased in 2021. The feeder will continue to be monitored and evaluated during the year for additional opportunities to improve reliability.

v. MKNSW-2601

- i. This feeder is 103.1 miles long and currently serves 3,841 customers in the Dallas - Fort Worth Metroplex. The primary miles consist of 79.0 miles of overhead primary and 24.1 miles of underground primary. The nearest service center is about 7.0 miles away. This is a suburban feeder with both developed and undeveloped areas with about 80% vegetation density.
- ii. The feeder violation was due to SAIFI (1-Year). In 2021, events caused by adverse weather or wildlife in January, June, and August accounted for 68% of the SAIFI value.
- iii. In 2020, reactive maintenance projects initiated after patrols of the feeder replaced three (3) damaged poles. Two planned distribution automation projects replaced five (5) single operation line fuses with vacuum reclosing fuses at key locations on the feeder. In 2021 after patrols of the feeder, reactive maintenance projects replaced three (3) deteriorated or damaged poles. Five planned distribution system improvement projects rebuilt about 22,570 feet (4.3 miles) of the feeder with small wire and older poles by installing larger wire and one hundred seventy-four (174) taller and stronger poles with fiberglass crossarms. To improve sectionalizing on the feeder, these projects also installed one (1)

new air break switch, and two (2) new vacuum reclosers equipped with SCADA for remote monitoring and control. A planned substation system improvement project installed telecommunication equipment at the substation to establish control and communications with the AFS's on the MKNSW feeders and other adjacent substation's feeders.

- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

<b>Project Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Subtotals</b>
Planned Feeder Maintenance	\$ 128,000	\$ -	\$ 17,000	\$ 2,936,000
Planned Vegetation Management	\$ -	\$ 5,000	\$ 429,000	
Planned Distribution Automation	\$ -	\$ 38,000	\$ -	
Planned Distribution System Improvement	\$ -	\$ -	\$ 1,720,000	
Planned Substation System Improvement	\$ -	\$ -	\$ 599,000	
Reactive Feeder Maintenance	\$ 31,000	\$ 5,000	\$ 18,000	\$ 585,000
Reactive Vegetation Management	\$ 5,000	\$ 80,000	\$ 446,000	
<b>TOTAL</b>				<b>\$ 3,521,000</b>

- v. A planned substation system improvement project to upgrade the protective relaying on this feeder and three other MKNSW feeders was started in 2021 and is scheduled to be completed in the first quarter of 2022. A planned distribution system improvement project will rebuild about 13,200 feet (2.5 miles) of the existing feeder by replacing the small wire and older poles with larger wire and new taller and stronger poles with fiberglass crossarms. A planned distribution automation project is scheduled to install AFS's on MKNSW-2601 and the adjacent feeder MKNSO-3614 to implement automated outage restoration.

w. DALLW-0001

- i. This feeder is 10.2 miles long and currently serves 1,019 customers in DFW area. The primary miles consist of 4.7 miles of overhead primary and 5.5 miles of underground primary. The nearest service center is about 4.8 miles away. This is a suburban feeder with both residential and commercial customers with about 50% vegetation density.
- ii. The feeder violation was due to SAIFI (1-Year). In 2021, the major outage events occurred on five days during the year and accounted for 79% of the SAIFI value. On one

cold weather event day in January, the breaker and an AFS on the feeder tripped and locked out multiple times due to suspected weather related issues. This accounted for 28% of the SAIFI value. On one day in March and one day in April, public vehicle caused events locked out the breaker on the feeder, accounting for 38% of the SAIFI value.

- iii. In 2020, reactive maintenance projects replaced two (2) deteriorated poles identified after patrolling the feeder. A planned distribution automation project installed AFS's on this feeder and two adjacent feeders to implement automated outage restoration. A planned vegetation maintenance project trimmed the mainline section (4.8 miles) of the feeder. In 2021, a planned substation system improvement project installed telecommunication equipment to establish control and communications with the AFS's on the three feeders (DALLW-0001, DALLW-0003, and DALLW-0006). Multiple planned distribution feeder maintenance projects patrolled the feeder, inspected and treated about fifty-seven (57) poles, restored two (2) poles by installing steel trusses, and replaced two (2) deteriorated wood crossarms with stronger fiberglass crossarms.
- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

<b>Project Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Subtotals</b>
Planned Feeder Maintenance	\$ 60,000	\$ -	\$ 20,000	\$ 899,000
Planned Vegetation Management	\$ -	\$ 25,000	\$ -	
Planned Distribution Automation	\$ -	\$ 382,000	\$ -	
Planned Distribution System Improvement	\$ -	\$ -	\$ -	
Planned Substation System Improvement	\$ -		\$ 412,000	
Reactive Feeder Maintenance	\$ 2,000	\$ 13,000	\$ 2,000	\$ 17,000
Reactive Vegetation Management	\$ -	\$ -	\$ -	
<b>TOTAL</b>				<b>\$ 916,000</b>

- v. The major outage events in 2021 were caused by either temporary weather event conditions or acts of public (vehicle hitting poles). The feeder will continue to be monitored and evaluated during the year for additional opportunities to improve reliability.
- x. TYLGE-1311
    - i. This feeder is 55.2 miles long and currently serves 889 customers in East Texas. The

primary miles consist of 49.2 miles of overhead primary and 6.0 miles of underground primary. Although the nearest service center is about 2.3 miles away from the substation, this feeder is on the outskirts of the city of Tyler and serves mostly rural areas going southeast to Lake Tyler. The terrain in the rural areas of this feeder consists of pine trees greater than 100 feet tall in loose sandy soils with about 75% vegetation density.

- ii. The feeder violation was due to SAIFI (1-Year). In 2021, events in July, August, September, October, and December accounted for 86% of the SAIFI. In July, during adverse weather with wind gusts up to of 32mph a recloser locked out and accounted for 6% of SAIFI. In August, an event due to undetermined causes locked out the feeder breaker for 20 minutes and accounted for 29% of SAIFI. In September, a tree limb fell onto overhead conductor causing the feeder breaker to lock out and accounted for 28% of SAIFI. In October, a tree made contact with overhead conductors, causing a recloser to lock out and accounted for 17% of the SAIFI. In December, during adverse weather with wind gusts up to 38mph, a recloser locked out and accounted for 6% of SAIFI.
- iii. In 2020, multiple reactive maintenance projects after patrols of the feeder replaced six (6) deteriorated poles and several deteriorated crossarms. A planned distribution automation project replaced a single operation line fuse with a vacuum reclosing fuse at a key location on the feeder. Multiple reactive vegetation management projects were worked during the year, including after adverse weather events. In 2021, two reactive maintenance projects initiated after adverse weather events replaced six (6) damaged poles. Another reactive maintenance project replaced a damaged vacuum recloser and upgraded the SCADA control unit. A planned distribution system improvement project to improve sectionalizing on the feeder installed two new air break switches, one new vacuum recloser, and relocated another vacuum recloser to a different location. Multiple reactive vegetation management projects were worked, including after adverse weather events.
- iv. The spend amounts for work on this feeder in years 2019 to 2021 is summarized by project category in the table below:

<b>Project Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Subtotals</b>
Planned Feeder Maintenance	\$ -	\$ -	\$ -	\$ 1,025,000
Planned Vegetation Management	\$ -	\$ 5,000	\$ -	
Planned Distribution Automation	\$ -	\$ 6,000	\$ -	
Planned Distribution System Improvement	\$ -	\$ -	\$ 1,014,000	
Planned Substation System Improvement	\$ -	\$ -	\$ -	\$ 168,000
Reactive Feeder Maintenance	\$ 23,000	\$ 40,000	\$ 63,000	
Reactive Vegetation Management	\$ 15,000	\$ 15,000	\$ 12,000	
			<b>TOTAL</b>	<b>\$ 1,193,000</b>

- v. In 2022, a planned vegetation management project to trim 17.5 miles of the feeder is scheduled to be worked in the first quarter. Three planned distribution system improvement projects to improve feeder reliability are scheduled to be completed by the end of the third quarter. A total of 10,300 feet (about 2.0 miles) will be rebuilt by installing fifty-nine (59) taller and stronger poles with fiberglass crossarms and larger wire. Year-to-date all three projects have been designed and materials have been purchased for two of these projects. The feeder will continue to be monitored and evaluated during the year for additional opportunities to improve reliability.