

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results
1	Implemented shutdown process for lighting, equipment, and ventilation system	Procedures and methods were updated to improve equipment shutdown in the old 4 speed rear wheel driver transmission manufacturing area. Job Element Sheets and Shutdown Checklists were developed by IET, Inc. a contracted Industrial Engineer to be used by machine operators, supervisors and maintenance trades. Daily Electric Demand Charts were created and shared at 8:30 AM Production Staff Meetings to report to management the effectiveness of the change to the shutdown process. Increased third shift audits were performed by the Site Energy Conservation Engineer to identify additional opportunities for shutdown improvement. Daily checks were performed to insure proper shutdowns were performed by supervisor or designee and weekly checks to submit report to the Energy Conservation Engineer for review and sharing with Manufacturing. Changes in shutdown process has resulted a 60% improvement in consistent shutdown of production, lighting and ventilation equipment. See attached for charts, Job Element Sheets, check lists, and Energy Conservation Engineer audits.	Savings calculated based on daily differences between electric demand during 3rd shift 17,280 kWd on Sept 16, 2006 and actual demand up until Oct 2008. See supporting table and daily demand file.
2	Installed Energy Management system (EMS) 6RWD Area	A major facility upgrade was conducted to accommodate the new product line of the 6 speed rear wheel drive transmission. This upgrade included 20 new air supply houses, Four 1500 Ton chillers, and 1400 Metal Halide light fixtures, with intelligent lighting panels. Production had started up, and the facility equipment mentioned above was being controlled manually, resulting in inconsistent and poor shutdown during non production times. This project incorporated control of the above systems into the Energy Management System (EMS) with scheduling capabilities. The Energy Conservation Engineer coordinates schedules with departments, and enters the schedules into the EMS. The savings as a result of this project are due to consistent automatic shutdown of Air Supply Houses, and non-emergency lighting. Chillers are able to be monitored to ensure that excess chiller capacity is not being operated. Additional savings are realized through switching air supply houses to un-occupied mode with increased summer and lower winter temperature set points, further minimizing blower operation.	Demand: (15) AHU have 75 Hp motor, (4) AHUs have 40 Hp motor, (1) AHU 25 Hp, (1,400) light fixtures, each light 350W => $(75*15+4*40+25)*0.7457+1400*0.35=1,467$ kWd 60% of the units were left ON prior EMS => 24 months, 8 days/mo, 24 hr/day => $24*8*24*1,467*0.60 = 4,055,961$ kWh
3	GF6 Area Energy Management System (EMS) Installation	A major facility upgrade was conducted to accommodate the new product line of the 6 speed Front Wheel Drive (GF6) transmission. This upgrade included 13 new air supply houses, Three 1500 Ton chillers, and 900 Metal Halide fixtures, with intelligent lighting panels. Production had started up, and the facility equipment mentioned above was being controlled manually, resulting in inconsistent and poor shutdown during non production times. This project incorporated control of the above systems into the Energy Management System (EMS) with scheduling capabilities. The Energy Conservation Engineer coordinates schedules with departments, and enters the schedules into the EMS. The savings as a result of this project are due to consistent automatic shutdown of Air Supply Houses, and non-emergency lighting. Chillers are able to be monitored to ensure that excess chiller capacity is not being operated. Additional savings are realized through switching air supply houses to un-occupied mode with increased summer and lower winter temperature set points, minimizing blower operation.	Demand: (12) AHU have 75 Hp motor, (1) AHUs have 25 Hp motor, (900) each light 350W => $(75*12+25)*0.7457+900*0.35=1,005$ kWd 60% of the units were left ON prior EMS => 12 months, 8 days/mo, 24 hr/day => $12*8*24*1,005*0.60 = 1,388,998$ kWh
4	Creation of the Shutdown Task Specific Instructions for all Production Equipment Shutdown in 6RWD	Shutdown Instructions (Job Element Sheets, and Checklists) were created for the production machines in the recently installed 6 speed Rear Wheel Drive Transmission Manufacturing area. The equipment shutdown performance was not consistent, due to new process equipment, new people in the department. The Job Element Sheets are part of the package for the machine operators use as a guide in operating a group of machines. Layered audits are conducted by team leaders after the production is over, to ensure the operators performed proper equipment shutdown. The Energy Conservation Engineer conducted weekend audits to identify non-conformance, and drive improvement and consistency. A 36% reduction in non production electric demand was realized in this area by implementing this initiative.	29 months, 5 days/mo, 24 hr/day => $29*5*24*1100 = 3,828,000$ kWh
5	Non-Production weekends Power House Compressed Air System Pressure Reduction	The pressure set point for compressed air during non-production periods was changed from 90psig to 65psig resulting in energy savings.	60 month, 4 days/mo, 24 hr/day => $60*4*24*100 = 576,000$ kWh
6	Spring/Summer/Fall Weekend Boiler Shutdown	Shutdown all Power House Boilers during the non-production weekends, when Outside air temperature was >50F. Previously, the Power House Boilers operated continuously.	Boiler electrical equipment: 50 Hp draft blower, 50 Hp feed water pump. Total: 100 Hp = 74.5 kW/hr. 50 months, 4 days/month, 24 hr./day => $50*4*24*74.5 = 357,000$ kWhr.
7	Limited usage for aeration blowers in WWTP	There are two aeration high pressure blowers for two influent waste water 330,000 gal tanks. Two blowers previously ran 24/7/365. In order to save energy blowers are now turned on only for 8 hrs during the time the waste water is processed.	2 years * 2 units * 100Hp * 0.7457 kW/HP * (16Hrs * 220 work days + 24 hrs * 145 days WE and Holidays) = 2,087,960 kWhr

Exhibit 2

Customer Legal Entity Name: General Motors LLC
Site Address: GM Powertrain Toledo Transmission
Principal Address: 1455 W Alexis Rd

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh @ Note 1
2009	65,350,584	65,350,584	75,685,288
2008	70,143,360	70,143,360	77,405,829
2007	115,596,888	115,596,888	121,043,498
Average	83,696,944	83,696,944	91,378,205

Project Number	Project Name	In-Service Date	Project Cost \$	50% of Project Cost \$	KWh Saved/Year (D) counting towards utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW (E)	Eligible Rebate Amount \$ Note 2	Commitment Payment \$
1	Implemented shutdown process for lighting, equipment, and ventilation system	8/15/06	\$341,788	\$170,894	5,394,098	-	2,333	\$0	\$ 26,970
4	Creation of the Shutdown Task Specific Instructions for all Production Equipment Shutdown in 6RWD	7/1/08	\$159,900	\$79,950	1,584,000	-	1,100	\$0	\$ 7,920
5	Non-Production weekends Power House Compressed Air System Pressure Reduction	1/1/06	\$24,115	\$12,058	9,600	-	100	\$0	\$ 48
6	Spring/Summer/Fall Weekend Boiler Shutdown	1/1/06	\$14,885	\$7,443	42,912	-	75	\$0	\$ 215
7	Limited usage for aeration blowers in WWTP	1/1/09	\$86,153	\$43,077	1,043,980	-	200	\$0	\$ 5,220
Total			\$626,841		8,074,590	0	3,808	\$0	\$ 40,373

- Notes
- (1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.
- (2) The eligible rebate amount is based upon \$0.06/kWh for all energy savings eligible for a cash rebate as defined in the PUCO order in Case NO.10-834-EL-EEC dated 9/15/2010, not to exceed the lesser of 50% of the project cost or \$250,000 per project. The rebate also cannot exceed \$500,000 per customer per year, per utility service territory.

Exhibit 2B - Rider Exemption Calculation

Customer Legal Entity Name: General Motors LLC

Site: GM Powertrain Toledo Transmission

Principal Address: 1455 W Alexis Rd

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C)	Note 1
2009	65,350,584	65,350,584	75,685,288	
2008	70,143,360	70,143,360	77,405,829	
2007	115,596,888	115,596,888	121,043,498	
Average	83,696,944	83,696,944	91,378,205	

Project Number	Project Name	In-Service Date	Project Cost	\$ KWh Saved/Year (D)	Utility Peak Demand Reduction Contribution, KW (E)
2	Installed Energy Management system (EMS) 6RWD Area	7/1/08	\$203,000	2,027,980	1,467
3	GF6 Area Energy Management System (EMS) Installation	11/1/09	\$58,000	1,388,998	1,005
				Total	3,416,978
					2,472

Savings as percent of
usage (F) = **3.7%** Note 2
= Total (D) divided by
Average (C)

Customer Eligible Exemption Period: **47 Month(s)** Note 3

Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission. Depending on the Commission's order, periods greater than 24 months may be capped at 24 months.

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Case No(s). 10-2127-EL-EEC

Summary: Exhibit - Amended Exhibit to Application to Commit Energy Efficiency/Peak Demand Reduction Programs of The Toledo Edison Company and General Motors LLC electronically filed by Ms. Jennifer M. Sybyl on behalf of The Toledo Edison Company and General Motors LLC