Please see I&M's responses to IURC staff questions below.

1. How many more Level 1 interconnections does I&M expect to process if the rule revises the Level 1 threshold to cap at 25 kW?

    a. This is to be determined. Please note the issue of cost transference to/subsidizing by customers at large (all ratepayers) applies to the entire population of Level 1 interconnections, not just this incremental delta group that is sized between 10-25 kW.

    As for how many interconnections sized to a maximum of 25 kW to expect, it is a difficult prediction to make due to many factors that influence customer demand for DERs. The adoption rate is on the rise in many parts of the service area American Electric Power (AEP) serves. It is likely Indiana will also see an increase in the coming years.

    AEP has observed that the increase can be a step change once developers move in with their sales force to develop the market. For reference, right next door to Indiana in AEP Ohio, application volumes rose significantly in the past year, and for the final 6 months of 2024, AEP Ohio had more DER interconnection requests than any other operating company, overtaking AEP Texas, which has traditionally seen more than 50% of AEP's total application volume across our 11-state footprint.

2. In the previous year, how many Level 2 applications did I&M receive/process that were for resources between 11-25 kW? What about in the previous 5 years?

    a. The table below demonstrates the actual volumes with the current 10 kW cap for Level 1, and then looks at the same application set if the Level 1 cap had been 25 kW. Ultimately, in 2024, 28 more applications would qualify as Level 1. For the 5-year period this would have impacted 315 applications that were larger than 10 kW but not larger than 25 kW.

    b.

		Applications	
Level 1 Upper Limit	**Level**	**2024**	**2020-2024**
10 kW	L1	196	1126
	L2	76	540
25 kW	L1	224	1441
	L2	48	225
Difference	L1	28	315

3. What would the difference have been in application fees received had these proposed revisions been in place in 2024?

    a. Sum of # @ ($50 + $1 per kW); also shown as [($50 x total count) + total kW]

	Level	**2024**	**2020-2024**

Level 1 Upper Limit		Applications	Capacity (kW)	Fees	Applications	Capacity (kW)	Fees
10 kW	L1	196	932	$ -	1,126	7,261	$ -
	L2	76	15,385	$ 19,185	540	54,773	$ 81,773
25 kW	L1	224	1,397	$ -	1,441	12,160	$ -
	L2	48	14,920	$ 17,320	225	49,875	$ 61,125
Difference	**Δ**	**28**	**465**	**$ 1,865**	**315**	**4,898**	**$ 20,648**

b. For the period 2020-2024, the lost revenue vs. received for the applications which would now be Level 1 vs. Level 2 is $20,648 to I&M. The other Indiana utilities will have their own piece of the total that impacts electric customers throughout the state.

4. How much money are we talking about?

a. It is important to note that the formula above, when applied to a typical residential DER, still falls short of the costs to intake and process the DER interconnection application. Many residential systems are sized between 7 and 12 kW. Let's use a 10 kW system as the example. Historically, all utilities in the state of Indiana receive no fees for this service. In Indiana, if we apply the current Level 2 fee formula it yields a $60 application fee for this 10 kW interconnection service request. For comparison, in Michigan, I&M receives $110 for that same 10 kW DER Level 1 application. Additionally, AEP Ohio fees are $50 + 1/kW for Level 1 DERs which are up to 25 kW nameplate capacity, and $100 +2/kW for Level 2 DER applications.

The costs for the utility to intake, review, and execute the interconnection request, regardless of size, include three primary categories of costs: Administrative, Processing, and Technology.

Administrative: Each DER interconnection requires communicating with the applicant/customer, executing an interconnection agreement, meter changes, updates to customer records to identify the hazard of energized equipment at the premises, billing system updates, and retaining records of the application, associated technical review, and permission to operate. Some require Study Agreements, invoicing, estimating upgrade costs, processing Contribution in Aid of Construction (CIAC) agreements and billing for customer-paid upgrade costs. Additionally, utilities are tasked with data management and reporting of DER metrics for regulators.

Processing: I&M has processing staff that perform customer record verification for completeness and conformity of the application/equipment details. For those that are approved, installation verification includes evidence of:

- any necessary state/local inspections
- installed equipment matching the reviewed and approved application details
- accessibility of the isolating device ("AC disconnect"), etc.

Engineers will also be involved in performing the technical review screens to ensure that the circuit, circuit breakers, and substation transformer can effectively handle this distributed energy resource operating in parallel with the grid and manage new risks introduced by increased fault current potential, backfeeding, power quality changes, and other parameters modified by the new interconnected DER at a given location.

The processors and engineers have management personnel that oversee the analysis and decisions to ensure compliance with state rules, technical standards, and other quality expectations. The processing staff also fields email, phone, and in-portal inquiries related to DER applications. Our data shows that on average, a processor will need to perform the customer record verification for each initial application 1.5-2 times before all necessary information and corrections are submitted by the applicant. This means typically two touches before any technical screening is completed. The utility's staff easily invests more than $60 of labor to process an interconnection application, even for those applicants that don't ultimately choose to complete the interconnection and operate the DER.

Technology: I&M incurs costs to operate and maintain the software application processing system (PowerClerk), its integrations with other corporate systems including the customer system, Geographic Information System (GIS) records, financial system, and engineering platforms used for systems modeling and asset details, as well as with email and DocuSign used to communicate with applicants, customers, and installers. I&M/AEP has staff that provide production support for PowerClerk and work to integrate on-going changes needed to stay aligned with state rules, new tariffs, new technologies (for the manufacturer/model details of common DER equipment in the marketplace), and general bugs that may occur in complex systems. These technologies are shared tools that all AEP operating companies are able to utilize as part of the AEP enterprise. I&M/AEP also maintain the DER Data Repository to support other enterprise systems such as real-time energy delivery operations that must know where the energized DERs are located on the grid. I&M/AEP support information feeds/technology to facilitate operational visibility with PJM and the other operators.

b. To examine the scope of costs associated with charging no fee for Level 1 applications let's take a closer look at the actual DER interconnection request volumes for the period 2020-2024. I&M processed 1,126 Level 1 applications with a total nameplate capacity of 7, 261 kW. If these were billed using the Level 2 fee formula as described above this pool of 1,126 requests would have application fee total of $ 63,561. [derived by (1126*50) + 7261; see Q3a]

i. For further comparison, the fee currently in place in the state of Michigan including I&M's service area is $100 + $1/kW nameplate capacity. This same set of 1,126 interconnection requests would have generated $119,861 toward the real costs of application processing.