#	Key Feature	PJM Package D	LS Power Package E
0	Issue	PJM is revising many of its planning assumptions for ELCC Resources in order to ensure the continued reliability of the system under increased renewable penetration.	As a result from switching from a UCAP to an ELCC methodology, it is apparent that PJM has been incorrectly calculating the accreditation of wind resources' capacity. PJM has calculated the deliverability of these resources using their average energy output, which, by not respecting deliverability limits, overstates their capacity. PJM has overstated such accredited UCAP such that more than half of the intermittent capacity sold in previous BRAs is not supported by deliverable energy (PJM confirms this by identifying approximately $100MM of transmission upgrades plus an unspecified amount of headroom to be awarded to make resources deliverable an amount of energy that would result in the impacted resources fully deliverable.) PJM is now proposing to inject 38% of wind resources ICAP in the deliverability test to identify necessary upgrades to reflect more accurately the actual expected peak period energy from wind resources The existing overstatement of accredited UCAP for wind resources means load has been over paying for capacity that is not deliverable and therefore should not be relied on as contributing to reliability.
1	Deliverability of UCAP	This package increases deliverability & load pays for required upgrades under Sch. 12	This package requires a separate queue request if additional deliverability is desired by any generator. Consistent with the status quo, resources requesting upgrades will pay for them. Priority requests will be available for existing generators and those that have cleared a BRA.

2	Relationship between CIRs and deliverability	The set of deliverability levels for each season and contingency type are linked to the CIR MW by a formula.	1 MW CIR is equal to 1 MW of summer Capacity Resource deliverability per status quo. Also, while the PC is discussing potential changes to the "light load" standard for interconnection, LS believes that, consistent with existing rules any existing resource may elect to add such transmission upgrades on a voluntary basis and at their own expense. In no way should these costs be charged to load. LS will separately consider pursuing whether mandatory light load upgrades should be part of any future deliverability test. Any situation where there is a "generation pocket", i.e., too much generation relative to load e.g., light load conditions, should be economically resolved through resource offers. LS recognizes that such an overall construct would require business rules regarding curtailment during light load conditions. THIS TO BE DISCUSSED IN PC.
3	Frequency of deliverability level update by PJM	As necessary to ensure reliability (load bears cost)	As necessary to ensure reliability (generators requesting and causing upgrades to support the increase in either Capacity or Energy Resource deliverability bear cost)
4	Ability to select CIRs and deliverability	No change to the existing CIR request policies but PJM would administratively set the default deliverability level using formula linked to the CIRs requested. All new generators would meet this default level of deliverability set by the PJM formula based on the CIRs they request. Baseline upgrades would be constructed as necessary to maintain existing CIRs at the higher deliverability levels, but requests for increased CIRs would need to be processed through the queue.	Can voluntarily select up to a maximum level of CIRs and Energy Deliverability administratively set by PJM, not to exceed maximum output. The cap will be a function of market power concerns, i.e. to prevent hoarding of transmission by parties with large or concentrated market shares.

5	Ability to request reductions to CIRs and deliverability	CIR reductions requests handled via tariff section 36.2A; deliverability levels linked to CIRs via formula	CIR/Deliverability reductions requests handled via Tariff section 36.2A
6	Ability to transfer CIRs and the associated deliverability	Same as status quo, i.e. the deliverability follows the CIRs. Deliverability associated with baseline upgrades required to support higher deliverability levels becomes the property right of the existing generator.	Same as status quo, i.e. the deliverability follows the CIRs. Under this Package, there is no question of who “owns” the CIRs and who receives the money if CIRs are sold. The generator has paid for all necessary upgrades. Under Package D, load has paid for all necessary additional upgrades and the resource received the additional CIRs at no cost, therefore load should receive some portion of the money from the sale of CIRs and increased deliverability.
7	CIR and deliverability retention policy	No change to the status quo	Output levels during summer peak must equal or exceed deliverability/CIR level "Y" percent of the time. PJM and IMM to determine Y consistent with a “no hoarding” criteria
8	Application of new rules to resources that have cleared the BRA	This package increases deliverability & load pays for required upgrades under Sch. 12	This package requires a separate queue request if additional deliverability is desired and requesting resources pay for upgrades Existing units that have cleared prior BRAs will have a one-time opportunity to request additional CIRs based on the new deliverability test by submitting a request to PJM. Those resources deliverability will be studied ahead of other resources and on a first-come/first-served basis. Any network upgrade requirements and associated cost allocation will be isolated on a generator basis for those in this special queue and the costs of the upgrades will be paid by the generator (not load as in Package D). Note that any existing “head room” in the transmission system will be awarded to these resources which may

			eliminate the need for upgrades and the cost. Such head room thus is allocated first to these resources. Prior to the implementation of the upgrades, for the purposes of class and unit accreditation under ELCC, only energy delivered up to the deliverability limit will be included. After the upgrade is made, energy will be recognized up to the new CIR/Deliverability level purchased. Recognition will be in the first BRA where upgrades are expected to be in service for the associated delivery year. If any other existing resource desires additional CIRs/Deliverability (e.g., increase in the resource's accredited output), the resource will not be prioritized for study purposes and will need to follow the regular interconnection queue process to obtain additional Capacity or Energy Resource deliverability as required under the current rules.
9	Application of new rules to resources that have not cleared the BRA but have ISAs	This package increases deliverability & load pays for required upgrades under Sch. 12	Resources need to get back into the regular queue to obtain additional CIRs and/or Energy Resource deliverability. Any transmission upgrades required for the increased CIRs will be paid for by the resource owner. Resources that do not request the additional CIRs/Deliverability will only have their current deliverable energy considered to establish class and unit accreditation in the ELCC evaluation.
10	Application of new rules to existing queue resources that do not have an ISA	Still under review, pending results of analysis. Standard planning assumption change protocols introduce changes into the first queue cycle that uses the baseline study where the new planning	Resources will remain in their queue position and managed in accordance with any changes coming out of the IPSTF process. PJM will conduct appropriate studies to meet any new deliverability standard and the

		assumptions have been applied and existing queue resources that do not have an ISA are studied under status quo rules (rules in place today)	costs of any transmission upgrades will be paid for by the resource (not load)
11	Application of new rules to new queue resources after new rules made effective	Follow new rules	Follow new rules (“end state”)
12	Application of CIRs and deliverability in ELCC studies	Use summer and winter deliverability levels used to cap ELCC hourly unit outputs in first BRA after new rules made effective. Existing and ISA units will be considered at the new higher deliverability levels while any necessary baseline upgrades are being constructed. **Note that the CIRs for the vast majority of existing and ISA intermittent resources are fully deliverable in the planning horizon under the proposed higher deliverability requirements.**	CIRs/deliverability used to cap unit outputs in ELCC resource adequacy studies used for UCAP accreditation and auction adequacy accreditation beginning now. Only deliverable energy will be recognized in the current and future accreditation process. Use of winter CIRs for intermittent resources to determine winter UCAP, should either be eliminated or expanded to include all other capacity resources.
13	Filing Requirements	Generator deliverability test changes will be handled by making changes to PJM manuals; ELCC changes will be handled via manual and governing document changes and a FERC filing.	In addition to manual changes, PJM governing document changes, particularly the Tariff and RAA, and a FERC filing are necessary to explain in detail and codify the relationship between CIRs and Capacity Resource deliverability, the concept of Energy Resource deliverability, the process for modification of CIRs and Energy Resource deliverability, and the application of CIRs in the ELCC calculation. This should be imbedded in the Tariff to prevent assumption changes or other type of changes from being implemented without FERC acceptance, and provide certainty for resource owners.