

Intermediate Term Security Constrained Economic Dispatch (IT SCED) Engine Overview

The Intermediate Term Security Constrained Economic Dispatch (IT SCED) engine is an economic dispatch and resource commitment tool used by PJM to perform various functions over a two hour look-ahead period. The latest available data for the look-ahead period is used to produce an economic dispatch solution with commitment recommendations. The input data to IT SCED includes load forecast projections, EES transaction data, current resource output, resource schedule updates, monitored transmission constraints, resource offer and operating parameters.

IT SCED Functions:

- Performs joint optimization of energy and reserves
- Provides CT commitment recommendations for energy and constraint control
- Performs the Energy Three Pivotal Supplier Test
- Commits Demand Resources for energy
- Re-dispatches energy demand resources
- Dispatches “dispatchable” EES Transactions
- Provides intra-hour commitment recommendations for Regulation and Reserve resources
- Calculates forward determination of reserve shortages
 - Reserve shortage must also be detected by the Real Time Security Constrained Economic Dispatch (RT SCED) engine in order for shortage pricing to be invoked in real time.
- *IT SCED does **NOT** produce:*
 - Dispatch rates and economic base points that are sent to generators
 - Financially binding LMPs or reserve market clearing prices

Time Horizon:

- Cases are executed every five minutes
- IT SCED solutions are synchronized with the clock ¼ hours (i.e. 00, 15, 30 and 45)
- IT SCED produces a multi-interval solution
 - Provides 4 solution intervals per case
 - The first interval looks ahead twenty to thirty minutes; the remaining intervals are spaced fifteen to forty-five minutes apart
 - Solution intervals are time coupled
- Three cases are executed for each set of solution intervals

IT SCED Solution Interval Time Horizon

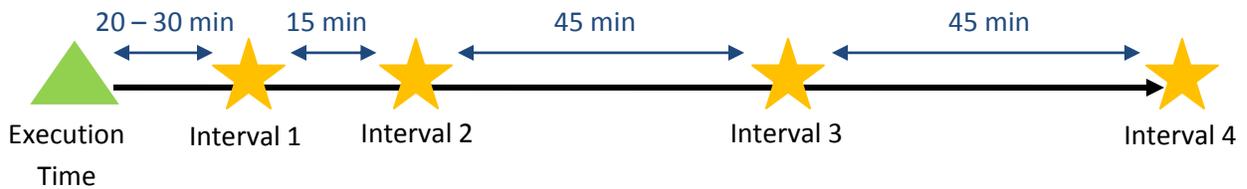


Illustration of IT SCED Case Execution					
Execution Time	Approximate Approval Time	Interval			
		1	2	3	4
7:50	7:57	8:30	8:45	9:30	10:15
7:55	8:02				
8:00	8:07				
8:05	8:12	8:45	9:00	9:45	10:30
8:10	8:17				

8:15	8:22				
8:20	8:27	9:00	9:15	10:00	10:45
8:25	8:32				
8:30	8:37				
8:35	8:42	9:15	9:30	10:15	11:00
8:40	8:47				
8:45	8:52				
8:50	8:57	9:30	9:45	10:30	11:15
8:55	9:02				
9:00	9:07				