

Leaving the Rearview Mirror Behind

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OBJECTIVES



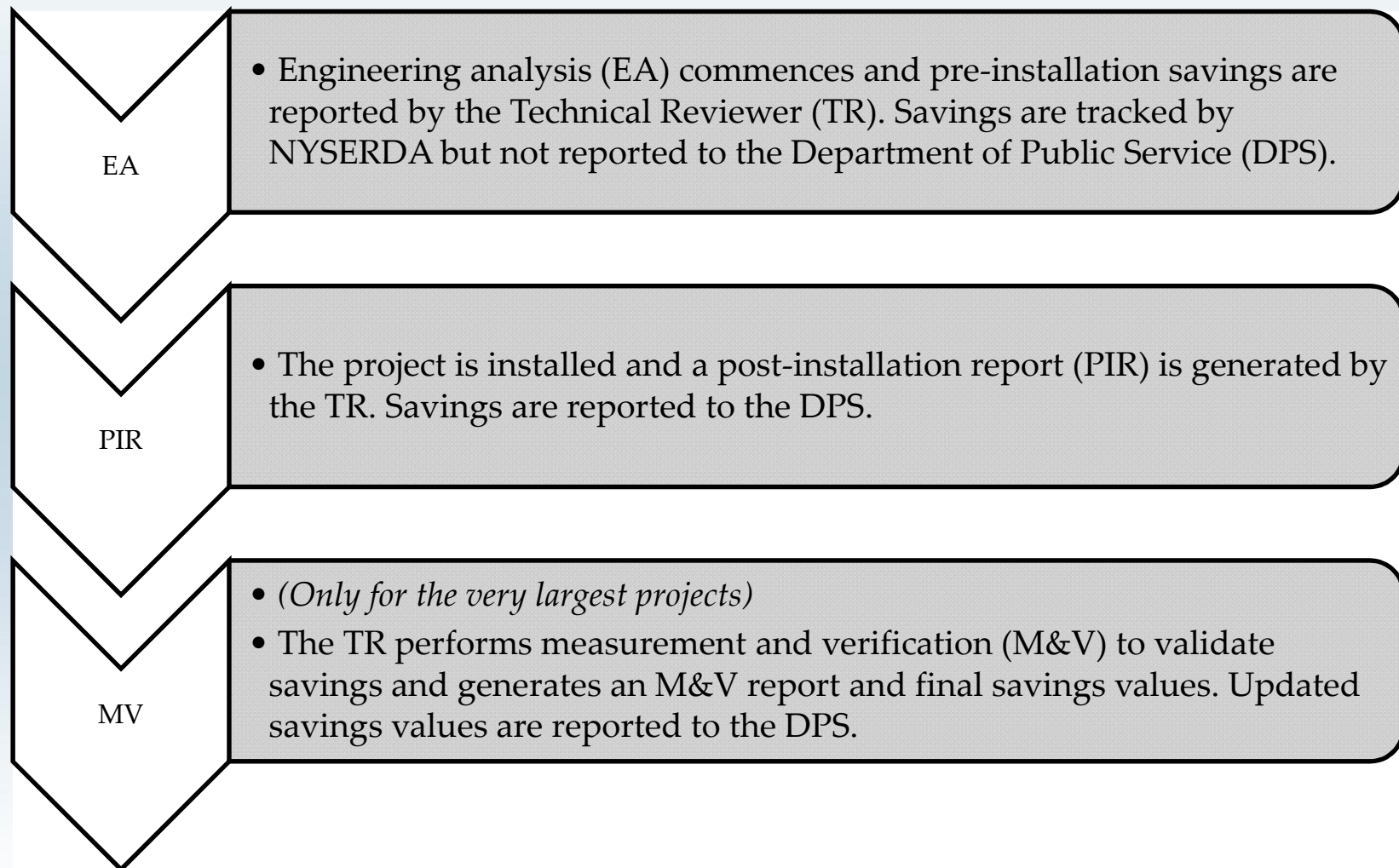
- ❑ Program background
- ❑ Discuss the effectiveness of the concurrent evaluation process through the lens of a recently completed impact evaluation of NYSERDA's IPE program
- ❑ Discuss lessons learned and the resulting modifications to the concurrent process
- ❑ Present perspectives of implementers and evaluators

WHAT IS CONCURRENT REVIEW?



- ❑ Real-time project engineering review from an evaluator's perspective, before savings are finalized
 - Baseline characterization
 - Measurement and verification plan review
- ❑ Applied to projects with >5,000,000 kWh/yr. of electricity and/or > 20,000 MMBtu/yr. of natural gas savings

NYSERDA IPE PROGRAM



WHY CONCURRENT REVIEW?



- ❑ Increase the level of engineering rigor
- ❑ Mitigate variability in results and provide greater confidence
- ❑ Fewer surprises during retrospective evaluation
- ❑ Less disturbance to customers (fewer touch points)

CONCURRENT REVIEW PROCESS



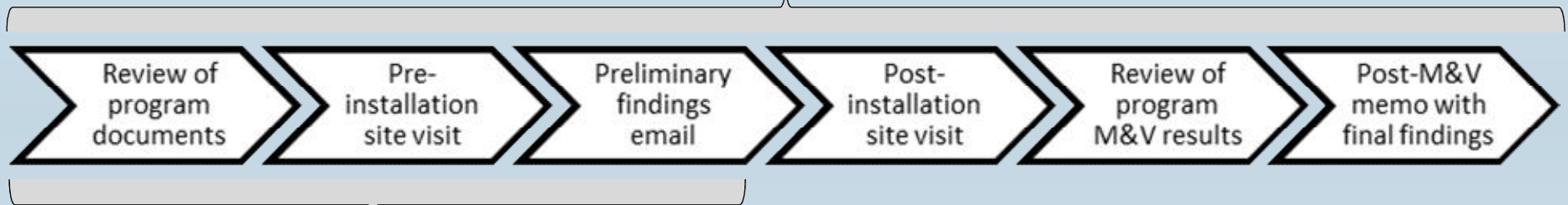
□ Two levels of review

- Focused baseline and M&V plan review
 - Large projects where the baseline is readily identifiable, and pre and post conditions are measureable
- Comprehensive Pre- and Post-Installation Review
 - Large projects with complex baseline characterization, complex measurement and verification requirements, capacity expansions (theoretical baseline)

CONCURRENT REVIEW PROCESS



Comprehensive Pre- and Post-Installation Review



Focused baseline and M&V plan review

CONCURRENT REVIEW PORTFOLIO



- ❑ 36 projects receiving concurrent review¹
 - 127,000 MWh/yr electrical savings
 - 6.1 MW demand reduction
 - 319,000 MMBtu/yr natural gas savings

¹ as of Spring 2015

RECENT EVALUATION FINDINGS



- ❑ 3 concurrent projects (a census) were included in the recent retrospective program evaluation
- ❑ RRs
 - 0.95
 - 1.0
 - 1.08

WHAT DID THE CONCURRENT REVIEW FIND?



- ❑ Differences most often noted during concurrent review
 - Comments on M&V planning and implementation
 - 88% of projects
 - Comments on calculation assumptions and methods
 - 72% of projects
 - Comments on baseline characterization
 - 61% of projects

DIFFERENCES NOTED - M&V PLANNING AND IMPLEMENTATION



- ❑ Recommendations included
 - Collecting additional data to triangulate whole-facility analysis results
 - Providing better resolution on M&V sampling, metering duration, and data collection strategies

DIFFERENCES NOTED - CALCULATION ASSUMPTIONS AND METHODS



- ❑ Most projects were large and complex capacity expansions requiring regression analysis against an independent variable
- ❑ Review of program M&V findings added to concurrent scope
 - Opportunity for evaluators to verify that recommendations were incorporated
 - Brought consistency to methodology by which capacity expansion projects were analyzed

DIFFERENCES NOTED - BASELINE CHARACTERIZATION



- ❑ Complex issue in industrial settings
- ❑ Capacity expansion provides additional complexity
 - Existing baseline equipment must be supplemented with theoretical baseline equipment to achieve the post-installation production volumes
 - Baseline characterization flow chart developed to bring consistency to program and evaluation perspectives
 - Industry/system specific research performed by evaluators to justify and document baseline

KEYS TO CONCURRENT PROCESS SUCCESS



- ❑ Supportive regulatory environment
- ❑ Collaborative review
- ❑ No commitment to accept evaluators concurrent review findings
- ❑ Open communication and timely feedback
- ❑ Early involvement
- ❑ Feedback loop to all parties

CHALLENGES AND PITFALLS



- ❑ Less formal feedback expedites the review
 - Formal feedback at each stage could not keep up with project pace
- ❑ Waiting too long to enroll a project to ensure it is a good fit (avoid sunk review costs)
 - This risks missing pre-installation metering opportunities

CHALLENGES AND PITFALLS



❑ Additional cost

- There are additional upfront costs
- The authors calculate the additional upfront costs will lower the cost of the next retrospective evaluation and reduce the sample size though improved error ratios

CHALLENGES AND PITFALLS



❑ Growing pains

- The process changes the nature of the interactions between program, evaluators and technical assistance providers

❑ Retrospective evaluation still has a place

- Concurrent evaluation must assume some variables, such as actual production volume. Retrospective would measure such a variable.

CHALLENGES AND PITFALLS



❑ Independent collaboration

- The process changes the nature of the interactions between program, evaluators and technical assistance providers
- The players must be able to articulate differences of an opinion in an open, constructive manner.

SUMMARY



- ❑ Concurrent evaluation is powerful tool to mitigate uncertainty associated with retrospective evaluation
- ❑ It must be timely
- ❑ It must be collaborative

SUMMARY



- ❑ The process as described is tailored for the review of a relatively small number of large industrial projects
- ❑ The concepts and principles are widely applicable, but the mechanisms will have to change to match program goals, structures, and funding.

THANK YOU!



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