Comprehensive System Planning Process Review

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ESPWG/TPAS
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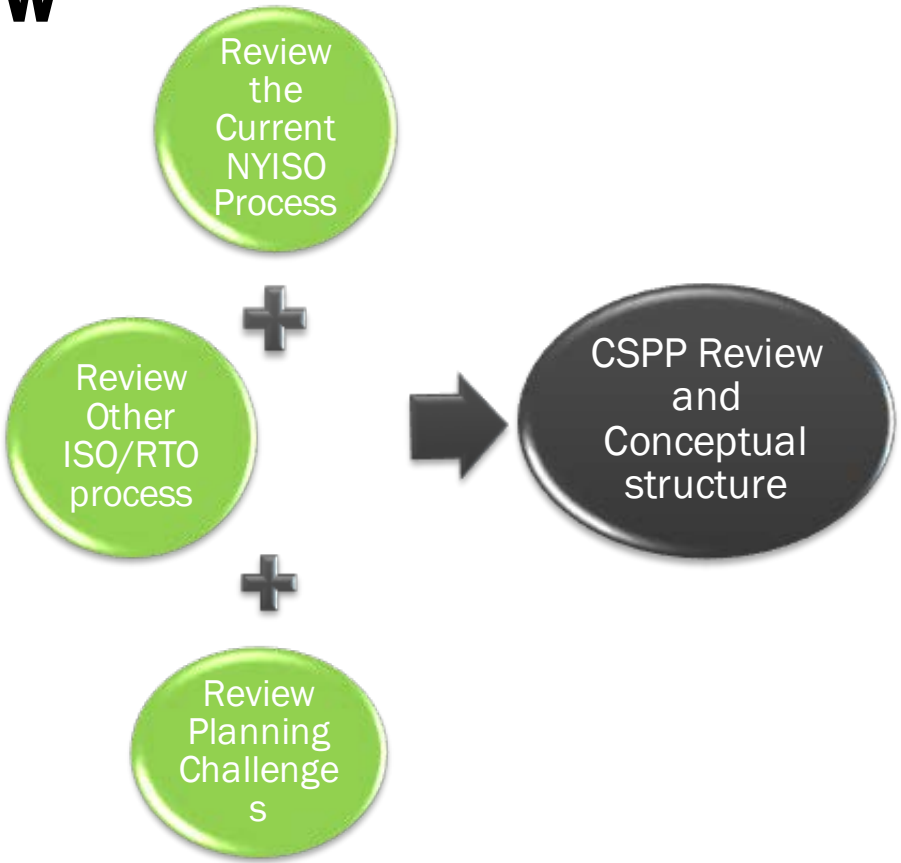
CSPP Review



Summary of ISO/RTO Planning Processes

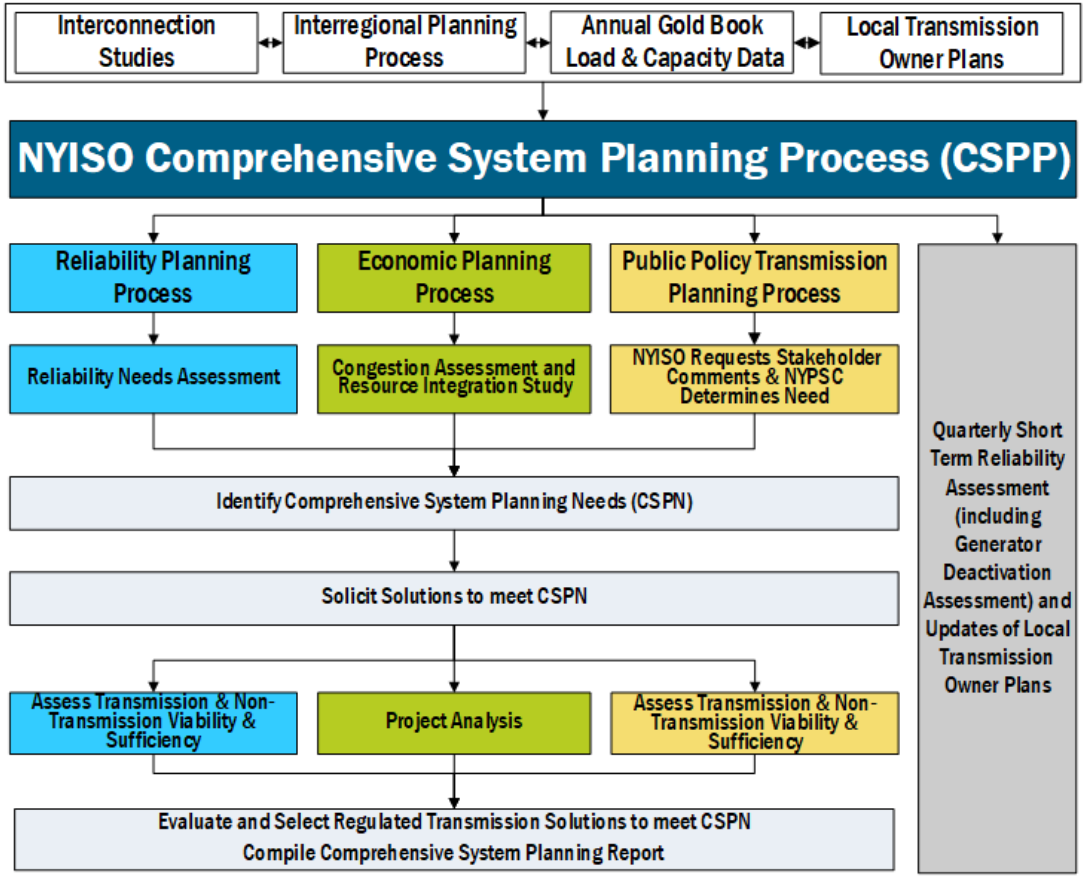
	Sources for Reliability Planning Criteria	Economic Benefits Evaluation Methods	Sources for/Recent Planning Activities involving Public Polices	Interregional Coordination Activities
California ISO (CAISO)	NERC, WECC	Staff leads an evaluation of up to five high-priority congested study areas to determine whether economic solutions in addition to reliability (and public- policy) projects are warranted; Production Cost and Capacity (Resource Adequacy) savings; 5- and 10-year study cases w/extrapolation to out-years.	Projects evaluated from perspective of compatibility with meeting state renewable portfolio standard requirements	WECC base cases augment local transmission models for reliability assessments. ISO economic planning starts with, but then modifies, the Transmission Expansion Planning Policy Committee (TEPPC) common case.
Florida Reliability Coordinating Council (FRCC)	NERC, FRCC	Third-party-led cost-benefit analysis of alternatives proposed by non-incumbent developers. Elements of planned economic analysis are not discussed in detail in documents available for review.	State, federal, local law or regulation mentioned.	Multiregional Modeling Working Group (MMWG) base case augments local transmission models for reliability assessments.
ISO New England (ISO-NE)	NERC, NPCC, Regional and Local reliability criteria	Market efficiency transmission upgrades primarily designed to reduce total net production costs; 10-year present worth period. Stakeholders provide input on transmission costs for projects that are subject to regional costs, especially for projects required within three years.	Regional System Plan	MMWG base case augments local transmission models for reliability assessments; Joint production-cost databases have been coordinated. Some production-cost studies have been conducted jointly with PJM and NYISO (2013); reliability studies are coordinated continuously with NYISO and PJM, including studies of generator interconnections, elective transmission upgrades, and regional transmission upgrades. Past studies examined interregional improvements, including tie facilities.

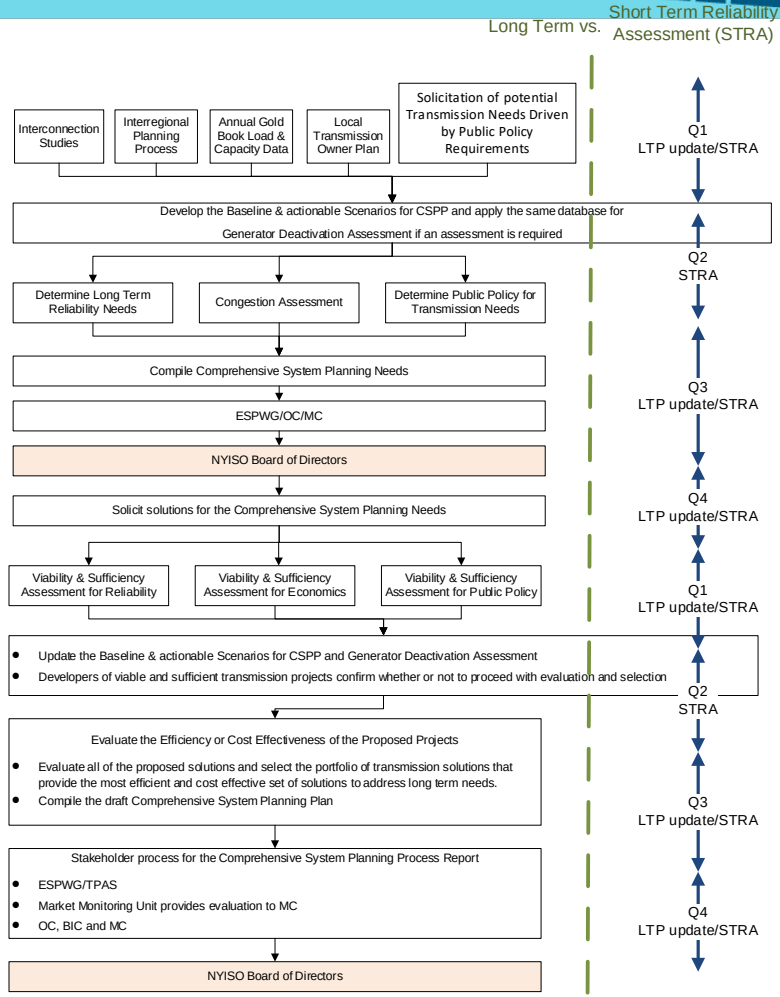
Source: Planning Electric Transmission Lines: A Review of Recent Regional Transmission Plans by Joseph H. Eto, Lawrence Berkeley National Laboratory, supported by U.S. Department of Energy, February 2017

Summary of ISO/RTO Planning Processes

	Sources for Reliability Planning Criteria	Economic Benefits Evaluation Methods	Sources for/Recent Planning Activities involving Public Polices	Interregional Coordination Activities
Midcontinent ISO (MISO)	NERC, Midwest Reliability Organization, Reliability First (RF),SERC, SPP	Multiple future scenarios; 20-year planning horizon.	MTEP15 reviews expected impacts of EPA CPP.	MMWG base case augments local transmission models for reliability assessments; joint evaluation of congested areas with PJM; production-cost-based economic analysis of RTO and stakeholder-recommended projects with SPP.
New York ISO (NYISO)	NERC, NPCC, New York State Reliability Council	Production-cost savings over a 10-year study horizon. Additional scenarios and metrics are evaluated for information only.	Established by the New York Public Service Commission.	Joint interregional planning is conducted with PJM and ISO-NE under the Northeast Coordination of Planning Protocol. MMWG base case augments local transmission models for reliability assessments; Joint production-cost studies have been conducted with ISO-NE and PJM (NCSP2013).
PJM	NERC, RF, SERC	As part of Market Efficiency analysis, production-cost modeling is conducted over a 15-year study horizon to assess extent to which projects mitigate congestion.	Based on State Agreement Approach;	MMWG base case augments local transmission models for reliability assessments; Joint production-cost studies have been conducted with ISO-NE and NYISO (2013); following request from NC Utilities Commission, PJM and NC Transmission Planning Collaborative studied impacts of expected imports from MISO (resulting from PJM auction). Joint economic assessment with MISO has been conducted of stakeholder requested projects
Southwest Power Pool (SPP)	NERC, SPP	A security-constrained economic dispatch and security -constrained unit- commitment-based economic analysis are conducted of congested facilities. Production-cost is modeled over 10- and 15-year horizons.	Incorporated into Integrated Transmission Planning Process.	State, federal, local law or regulation mentioned. Joint reliability and production-cost based analysis has been conducted with MISO; joint reliability evaluation of selected projects with AECI

Preliminary Conceptual Comprehensive System Planning Process





Preliminary Conceptual Comprehensive System Planning Process: Flow Chart

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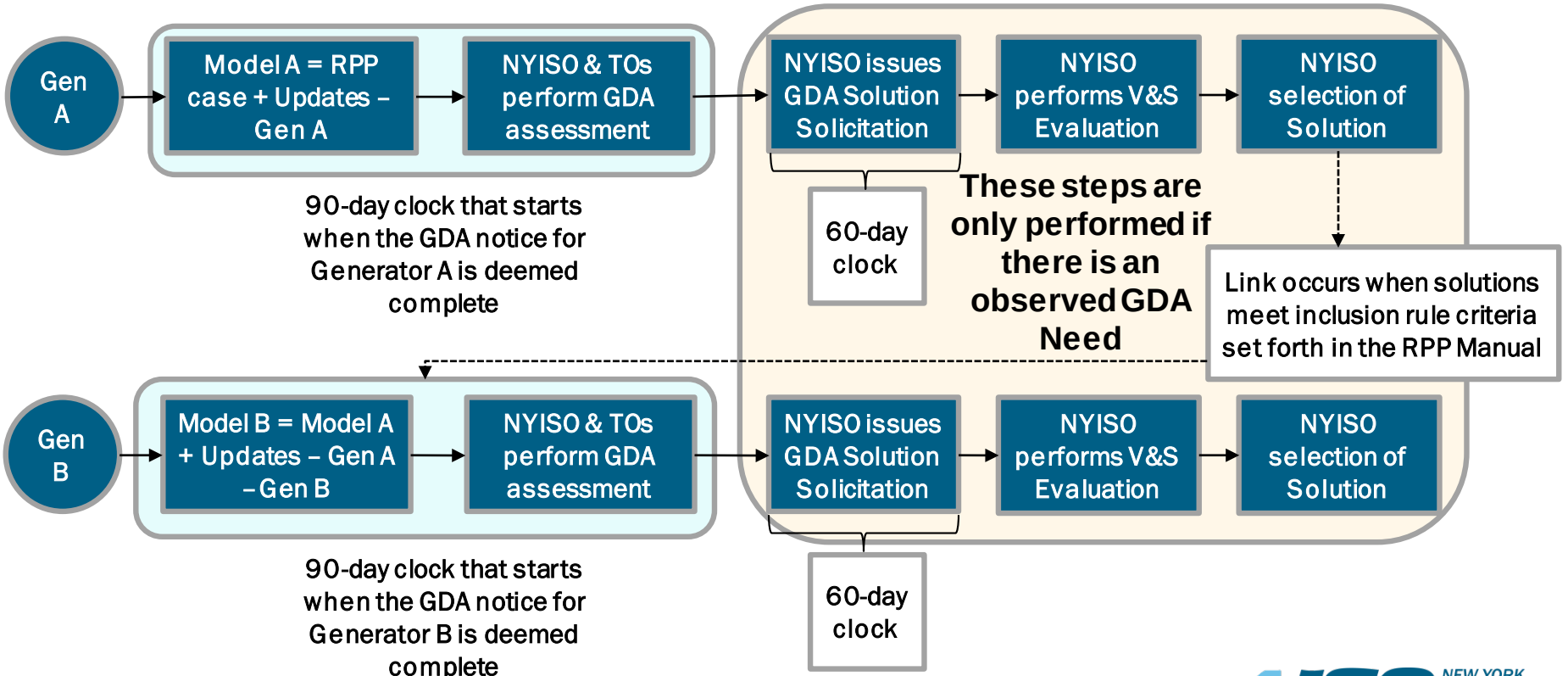
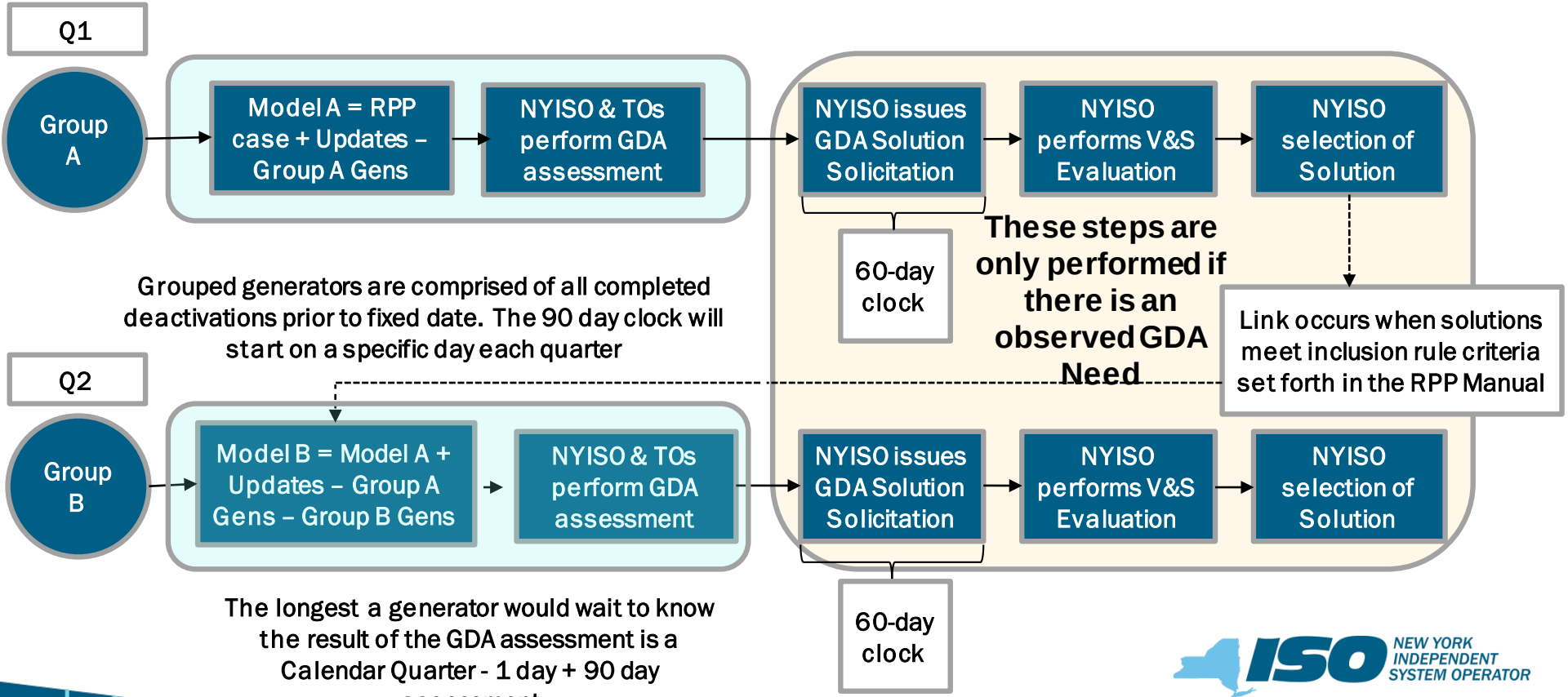
Short Term Reliability Assessment

- The proposed structure would require quarterly analyses using the most up-to-date information from the Transmission Owners' local transmission plans while relying on the RNA to focus on long-term reliability needs.
- Under the proposed process, Transmission Owners will continue to plan for their local systems, but will provide updates to their local transmission plans on a quarterly basis, in addition to the current biennial comprehensive overview.
- If short-term reliability needs (within three years) are identified and market-based solutions are not sufficient to meet those needs, the Transmission Owners would be responsible for resolving these needs by providing regulated backstop solutions, as opposed to going through a competitive process of transmission solicitation.
- Conversely, a long-term reliability need would be included in the Comprehensive System Planning Needs and addressed through the competitive process.
- The NYISO will continue to solicit market based solutions.

Timeline – Individual GDA



Timeline – Clustered GDA



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Quarterly Assessment Design Concepts

- Improved management of workload for NYISO and Transmission Owners
- Opportunity to address short-term reliability needs in a more comprehensive, holistic approach
- Stakeholders are more frequently notified of updates to Transmission Owners' local transmission plans
- Interested Developers have a more complete picture of the Needs and overall system outlook
- Work in progress: 1) balance transparency and competitiveness vs. time required; 2) generator deactivation notice completion; 3) timing of generator departure

Long Term Comprehensive System Planning Process Proposal Design Concepts

- Apply a consistent set of assumptions across the planning processes
- Single report to compile the needs from reliability, economic, and public policy transmission planning
- Opportunity to resolve needs comprehensively while ensuring reliability needs will still be resolved on a timely basis
- Interested Developers have a more complete picture of the Needs and overall system outlook, and could propose more efficient and cost-effective solutions
- Work in progress: 1) overall efficiency of the process; 2) stakeholder involvement and Board of Directors involvement; 3) cost allocation for solutions to multi-driver needs; 4) timing of each step; 5) treatment of local upgrades; and 6) cost containment

Next Steps

- Will follow up at the ESPWG/TPAS in early 2019.
- Please submit your comments to Leigh Bullock (lbullock@nyiso.com). Written comments will be posted for the upcoming ESPWG/TPAS discussion on this topic.

The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefits to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policy makers, stakeholders and investors in the power system

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