

BLACK FLARE, INC.

Comments on Proposed Reliability Rule PRR #157

New Large Load Facilities and Under-Frequency
Load Shedding Requirements

Submitted to: New York State Reliability Council

Herb Schrayshuen, Executive Committee Secretary

From: Thomas McLaughlin, Founder & CEO, Black Flare, Inc.

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Re: PRR #157 - Integration of Large Loads into the NYCA Automatic UFLS Program

Black Flare, Inc. submits the following technical comments on PRR #157. The proposed rule would require qualifying new large-load facilities to participate in the New York Control Area automatic under-frequency load shedding (UFLS) program, including installation and maintenance of automatic under-frequency relaying and incorporation of UFLS obligations into interconnection agreements. Black Flare's comments focus on implementation and verification for integrated large-load facilities that may combine computational demand with behind-the-meter generation, UPS or storage systems, power electronics, and supervisory controls.

Black Flare is developing modular compute, generation, and supervisory-control architecture. These comments do not claim field-demonstrated UFLS performance, request a categorical exemption from PRR #157, propose a different megawatt threshold, or suggest replacing required under-frequency relaying with an unvalidated software function.

1. Applicability and Available Load Relief

PRR #157 appropriately establishes an applicability framework for qualifying large loads. For integrated facilities, however, the criteria used to determine whether the rule applies should remain distinct from the amount of load relief that may be credited during an actual UFLS event.

A temporary reduction in net grid import should not, by itself, establish that a facility is outside the rule. Conversely, total installed computational capacity should not automatically be treated as the amount of grid-facing demand available to shed at a particular operating point. NYISO and Transmission Owner implementation criteria should therefore identify the relevant electrical aggregation boundary and the quantity used to determine credited relief, including the treatment of multiple connections or material internal transfers where applicable.

2. Incremental Grid-Facing Response and Avoidance of Double Counting

For facilities with behind-the-meter generation, UPS systems, storage, or coordinated controls, the engineering study supporting UFLS program mapping should evaluate the incremental electrical effect of the UFLS action from the facility's actual operating state. If another resource or control action has already reduced grid import, the same reduction should not be counted again as UFLS relief.

The study should consider whether the UFLS action materially changes local generation, storage charging, auxiliary demand, or another grid connection. Retaining IT continuity behind a UPS does not, by itself, establish the amount of grid support provided. A relay operation or control command should therefore be distinguished from the measured net load relief that results at the relevant electrical boundary.

Where the governing criteria permit recognition of coordinated internal response, that response should receive credit only to the extent supported by accepted models, testing, and enforceable operating conditions. The relay-installation requirement should remain intact unless and until the applicable reliability process expressly provides otherwise.

3. Verification of the Complete Relevant Response Path

PRR #157 requires Transmission Owners to verify the operational readiness of automatic under-frequency relays. Where the amount of credited relief depends on additional facility behavior, verification should also establish the relevant electrical result rather than only demonstrate that a command was issued or that an individual component operated.

The supporting record should identify the applicable configuration, initial operating condition, relevant settings, measured result, and material limitations. Component certification may support this work, but it should not by itself establish a coordinated facility response that was outside the test boundary.

Material changes to equipment, controls, topology, generation, or UPS/storage configuration that affect the credited UFLS response should trigger an assessment of whether the verified response remains representative. Targeted re-verification may be sufficient for a bounded change; a change affecting aggregate response or a shared failure mode may warrant broader review. Existing relay-maintenance obligations should remain distinct from verification of any additional credited facility behavior.

4. Restoration and Recharge Where Materially Relevant

Where post-event restoration, restart, or UPS/storage recharge could materially affect the intended UFLS program response, the implementing criteria should clarify how that behavior is addressed. Successful initial shedding should not automatically establish that a relied-upon restoration trajectory is acceptable. Any controlled return that is credited for reliability purposes should be supported by evidence and an enforceable operating arrangement.

5. Compliance Framework and Protection of Proprietary Information

The proposed rule leaves several compliance-administration fields to be completed. Before implementation, the final framework should make the sequencing among statewide NYISO criteria, Transmission Owner technical requirements, interconnection-agreement obligations, testing, and compliance documentation unambiguous.

The reliability record should contain sufficient information to explain the applicable policy, credited response, and verification basis. Detailed technical evidence should be provided to authorized reviewers through the applicable process where necessary, without presuming that public disclosure of proprietary control logic, confidential OEM information, source code, or unrelated internal algorithms is required. If a claimed response cannot be supported with the evidence required by the governing process, that response should not receive reliability credit.

6. Conclusion

Black Flare supports a technically precise implementation of PRR #157 that incorporates qualifying large loads into the NYCA UFLS program while recognizing that modern large-load facilities may have materially different internal electrical architectures. The rule should distinguish applicability from the amount of relief actually available, prevent double counting, and ensure that any differentiated treatment of integrated generation, storage, UPS, or supervisory controls is based on verified and enforceable behavior rather than architectural claims alone.

This approach can preserve the public-safety and frequency-stability objectives of PRR #157 while giving NYISO and Transmission Owners a clear basis for evaluating concentrated large-load facilities as they actually operate.

Referenced materials

New York State Reliability Council, PRR #157, "Mandatory Under-Frequency Load Shedding (UFLS) Design Requirements for Large Load Facilities," fourth draft posted for public comment following Executive Committee approval on August 14, 2026.

NYSRC Reliability Rule Revisions posting for PRR #157, comments due October 1, 2026, comments directed to the NYSRC Executive Committee Secretary.

Respectfully submitted,



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NYISO Comments on Draft Proposed Reliability Rule 157 – Mandatory Under-Frequency Load Shedding (UFLS) Design Requirements for Large Load Facilities

Given the influx of large load proposals in New York and the anticipated impact on the reliability of the electric grid, the NYISO appreciates the efforts put forward by the New York State Reliability Council (NYSRC) in the development of Proposed Reliability Rule (PRR) 157. As discussed in various forums, there are significant efforts underway at the Federal Energy Regulatory Commission (FERC), the North American Electric Reliability Corporation (NERC), and the NYSRC to promote reliability due to increased amounts of large loads entering the interconnection queue. The NYISO supports the reliability objective of ensuring that large load facilities are capable of participating in Underfrequency Load Shedding (UFLS) programs where needed to meet UFLS design specifications.

The NYISO respectfully submits the following comments regarding PRR 157:

Comment 1:

PRR 157 Requirement R2 would require that the NYISO establish the necessary statewide criteria to ensure participation of qualifying large loads in the NYCA automatic UFLS program. The NYISO requests clarification regarding the proposed requirement that the NYISO “ensure participation” of qualifying large loads in the NYCA automatic UFLS program, as Transmission Owners are better situated to ensure the participation of qualifying large loads in the NYCA automatic UFLS program. PRR 157 Measure M2 would require qualifying new large load facilities, as a condition of interconnection, to participate in the NYCA automatic UFLS program and to reflect that obligation in their executed Interconnection Agreements. However, the NYISO is not a party to load Interconnection Agreements. Accordingly, Transmission Owners are in the best position to implement the existing UFLS program to ensure that qualifying new large load Interconnection Agreements require participation in the automatic UFLS program.

Requiring Transmission Owners, and not the NYISO, to ensure the participation of qualifying large loads in the automatic UFLS program is consistent with applicable NERC and NPCC standards. Under the applicable NERC and NPCC standards, program design is assigned to the Planning Coordinator, but implementation is placed with the applicable UFLS entities, including Transmission Owners and Distribution Providers. For instance, under NERC Standard PRC-006-5, the Planning Coordinator is responsible for developing and maintaining the UFLS program, including development of UFLS criteria (Requirement R1), identification of UFLS islands (Requirement R2), development of the UFLS program (Requirement R3), and performance of periodic UFLS design assessments (Requirement R4). Under PRC-006-5, implementation of the UFLS program is assigned to UFLS entities, including Transmission Owners and Distribution Providers. Similarly, NPCC Standard PRC-006-NPCC-2 Requirement R3 requires Transmission Owners and Distribution Providers to implement the UFLS program and maintain documentation identifying the location and amount of load included in that implementation. Requirement R4 further requires Transmission Owners and Distribution Providers that do not meet applicable UFLS program

parameters to develop corrective action plans or technical justifications to address those deficiencies. Requirement R9 of PRC-006-5 requires UFLS entities to provide automatic tripping of load in accordance with the UFLS program established by the Planning Coordinator. In consideration of these existing compliance requirements, implementation of the PRR 157 compliance obligation requiring qualifying large loads to participate in the automatic UFLS programs should rest with the respective Transmission Owner.

Accordingly, the NYISO respectfully requests that the NYSRC clarify Requirement R2 and Measure M2 to specify that Transmission Owners are the responsible entity for ensuring that qualifying large loads participate in the NYCA automatic UFLS program through the Interconnection Agreements between Transmission Owners and large loads.

Comment 2:

As the NYSRC is aware, in response to a FERC order to show cause, the NYISO is working with stakeholders on the development of new tariff to establish large load integration procedures and new withdrawal services for large loads. The NYISO recommends that any definitions and applicability thresholds in PRR 157 be consistent with the definitions ultimately accepted by FERC in any filing submitted by the NYISO or Transmission Owners related to the new large load integration procedures. Inconsistent definitions or thresholds could create uncertainty regarding which facilities are subject to the proposed rule.

Comment 3:

PRR 157 should preserve the performance-based design of UFLS programs. Every qualifying large load should be required to install and maintain the capability necessary to participate in UFLS, but a qualifying large load should be included in the active UFLS program only when the applicable Transmission Owner determines that participation is needed. Requiring every qualifying large load to participate could result in unnecessary or excessive load shedding, resulting in compliance issues at the NERC level. Instead, participation should be based on each Transmission Owner's UFLS design needs and the applicable NERC and NPCC performance criteria. In addition, the proposed rule's prioritization of large loads for UFLS participation may appear arbitrary unless a clear reliability basis for that prioritization is established.

Comment 4:

PRR 157 should address future load growth and material facility changes. As currently structured, the applicability of PRR 157 does not appear to account for facilities that initially fall below the applicable threshold but subsequently expand overtime. The implementation plan should therefore establish when an increase in load or other material modification triggers compliance with the rule.

The NYISO also provides the following additional observations on specific Transmission Owner requirements:

R1: Applicability and Large Load Participation

- “Essential government and community services” is insufficiently defined and may not provide measures for addressing changes to the purpose of large load data centers (for example, if a data center starts or stops providing critical data processing services for a hospital, police station, or emergency response service).
- The use of “new” may create an unsupported distinction because the reliability impact of a large load is not necessarily dependent on its in-service date.
- The exceptions may duplicate screening already performed when Transmission Owners determine whether load is suitable for inclusion in UFLS program implementation.

R1 should be revised to clarify the intent of integration into the UFLS program. Mandatory shedding of large load could exceed the percentage-based stage limits in PRC-006-NPCC. As such, the Transmission Owners should continue to purposefully select loads to participate in the program to meet the required program design parameters.

R4: Interconnection Requirements

- Consider reframing R4 to require Transmission Owners to incorporate necessary UFLS participation criteria and facility obligations into applicable technical requirements and interconnection agreements executed or materially modified after the rule’s effective date.

R5: Load-Shedding Priority and Coordination

- The reliability basis for prioritizing large loads over other available load should be stated. The load shed program dictated in the NERC PRC-006-NPCC standard is based on percentage of peak load in various stages and does not consider the type of load. UFLS integration should remain coordinated with required stage increments and total load-shed targets defined by the NERC PRC-006-NPCC standard.
- The rule should address cases in which a large load represents a substantial share of a Transmission Owner’s or Distribution Provider’s total load.

R6: Relay Testing

- R6 should clarify which UFLS relays are subject to meeting this standard. If interpreted to only be applicable to large loads, the justification in the standard is insufficient to explain why only large loads and not other Transmission Owners are required to verify the operational readiness.