



**NRG Appeal of Operating
Committee Action on Q#266
Berrians GT III SRIS**

April 23, 2009

Introduction - NRG Appeal

- NRG has filed a timely appeal of the February 27, 2009 vote by the Operating Committee on the Berrians GT III SRIS study
 - See posted notice of appeal and statements in support
- The issue on appeal is the approval of a technical study that is in accordance with applicable standards and procedures and should have been approved
- At the OC meeting the committee failed to approve the SRIS study even though NYISO staff had concluded in their written report that:
 - the project would not cause any adverse reliability impacts;
 - that all applicable reliability standards had been addressed;
 - that all SRIS Scope requirements had been met; and
 - that the SRIS should be approved by the OC
- These are the standards by which such technical studies are to be considered and the SRIS has met those standards

Why Does It Matter To You?

- Because the SRIS approval process should not be allowed to be politicized or used to artificially limit competition
- Because the actions here don't just affect the Project – it will affect a broad set of stakeholder interests by delaying approvals associated with a resource that will bring significant economic, reliability and environmental benefits to New York
 - It will provide 1040 MW of economic low heat-rate replacement/incremental power
 - It will result in the retirement of 31 1970's era GTs and dramatically lower both peak-day and annual on-site air emissions
 - These 1-on-1 combined cycle units are very flexible yet efficient resources that will provide 600 MW of 10-min quick start reserves
 - They are precisely the type of unit needed to support the efficient use of existing transmission, increased imports and a greater reliance on intermittent resources

Project Description - Berrians GT III

- The Project will be connected to the New York Power Authority ("NYPA") Astoria (Poletti) 345 kV bus between lines Q35L & Q35M
- The Project involves an interconnection of three 260 MW 1-on-1 combined cycle plants with a maximum potential generating capacity of 789 MW
- The proposed in-service date is June, 2012
- NRG already has an approved SRIS for a 4th unit to be connected at the Astoria 138kV substation, which together with the GT III project will support a site total of 1040 MW

Study Timeline and Review

09-04-08	Feasibility Study Issued
09-30-08	Feasibility Study review meeting with NYISO and affected TOs
12-04-08	Initial SRIS issued for review and comment by the NYISO, Connecting TO & Affected TOs
01-22-09	TPAS preliminary review
01-28-09	SRIS review meeting with NYISO, Connecting TO & Affected TOs
01-30-09	1st Revision issued incorporating comments
02-11-09	2nd Revision issued incorporating additional comments received
02-18-09	TPAS final review
02-20-09	3rd Revision and Supplemental Report incorporating additional analysis specified by NYISO
02-27-09	OC vote
03-25-09	MC Discussion of appeal
04-07-09	TPAS review of informational analysis performed to confirm NYISO conclusions on the SRIS and Supplemental Report
04-23-09	MC Action on appeal

SRIS History

- A SRIS study was performed in accordance with the approved SRIS scope and reviewed by TPAS on 2/18/2009
- The conclusions were that the Project was found to have no adverse impact on the New York state bulk power system, with the exception that the Project did raise short circuit current levels above the lowest individual breaker rating at Farragut and Rainey
- The SRIS proposed to mitigate the potential overduties in those two substations by placing the Farragut to Gowanus 345 kV series reactors in-service
- This was the solution utilized for the same condition in a SRIS approved by OC for another NYC project very recently, however Con Ed objected to its use here

SRIS History

- In an effort to be responsive to the concern, a supplemental study was performed and a report submitted on 2/20/2009 to identify an alternate solution to mitigate the breaker overduty issues at Farragut and Rainey
 - The alternate solution which avoided any reliance on placing the Gowanus reactors in-service was to incorporate higher impedance GSU transformers as part of the Project
- This study also addressed modeling discrepancies that were discovered in the cases provided by the NYISO following the analyses reported in the SRIS report
 - The discrepancies pertained to an incorrect outlet cable impedance that existed only in the short circuit cases
 - Additionally, in both the short circuit and the power flow cases, the NYISO had not modeled series reactors that had been an SUF associated with the higher queued TransGas project

SRIS History

- Per discussions with the NYISO, a subset of study components in the SRIS were repeated in the supplemental study using the new power flow cases and short circuit models, to see the effect of the above corrections and changes on the incremental impact of the Project
- The set of analyses performed included those deemed by the NYISO to be the ones most critical to showing whether the Project would have any negative impacts
- These included:
 - contingency analysis on the summer peak case
 - voltage transfer limits analysis (the limiting phenomena)
 - all of the short circuit analysis
 - stability analysis –all local and some design contingencies for the summer peak case, and
 - critical clearing time calculations for the summer and light load cases

Results & Conclusions

- This set of analysis showed that the incremental impact of the project with the new power flow cases and short circuit models was very similar to that seen in the SRIS study; that is, the addition of the Project does not have a negative impact on the system
 - In fact, the prior short circuit concerns were addressed with no adverse impact on other aspects of the analysis and the conclusions drawn from it
- Thus, both Siemens PTI and NYISO concluded from these results that performance for thermal, voltage, stability, and transfer limits would be similar to that reported in the SRIS for other system conditions

Results & Conclusions

- The use of such sensitivity analysis in SRISs is common and the approach here is consistent with prior studies and determinations made for those studies
- The original SRIS demonstrated that the Berrians GT III Project did not have a significant impact on the system for the portions of the study that were not repeated
- It is a reasonable engineering conclusion that the insertion of the TransGas 1% series reactors in the model would not cause the Project to have a material impact in the areas where the Project was found not to in the original SRIS cases without the series reactors modeled
- This was the determination of the NYISO staff in specifying what re-analysis was necessary to be performed for the SRIS Supplemental Report and it is the position that NYISO staff stated during the discussion at the OC on February 27, 2009

Further Analysis

- Concerns were raised by Con Edison at the Operating Committee meeting on 2/27/2009 about the conclusions in the SRIS Supplemental Report as to whether good engineering judgment could be used to make a conclusion from the sensitivity analysis specified by the NYISO, or whether it was necessary to re-perform all of the analysis listed in the SRIS scope
- In order to provide further evidence that the determination of the NYISO was correct, NRG undertook on its own accord, additional study work which was discussed as an informational presentation at the 4/7/09 TPAS meeting
- These studies confirm the conclusions of the February 20 report and the determination of the NYISO that the Project has no adverse impact on the reliability of the NY power system, as stated at the February OC meeting

Additional Considerations

- In considering the issue before us, it is worth noting that the NYISO Board has weighed in on a similar concern recently where they stated the following regarding a disputed SRIS study:

"the SRIS is a preliminary, non-binding study with a limited scope. It is not the final study of the impact of a project on the reliability of the transmission system. The Interconnection Facilities Study, which will be performed after the approval of the NYRI SRIS, will provide a detailed, comprehensive analysis of the overall system performance with inclusion of the NYRI Project and all other Class Year projects. The Interconnection Facilities Study will use modeling assumptions that have been updated from those used in the scope of the NYRI SRIS. Thus, because Appellants' concerns about updating study assumptions will be addressed in a subsequent study, they are not grounds for overruling the Management Committee's approval of the NYRI SRIS."

- Moreover, we know that the forward looking nature of an SRIS study and the conditions upon which it is based will undoubtedly be very different from those assumed in the binding Facilities Study (including the absence of numerous higher queued projects), and as such any concerns about the supposed "uncertainty" upon which the NYISO made its determinations should be weighed against the practical realities of the basis in which these studies are undertaken.

Conclusion

- The SRIS report fully evaluated and assessed the reliability impact of the proposed project in accordance with the objectives of the SRIS scope
- NYISO staff conducted a thorough review of those results and the study that was performed and concluded that that all applicable reliability standards have been addressed and all SRIS Scope requirements have been met in the SRIS for the Project and, as such, recommended the study for approval to the Operating Committee
- For these reasons and all of those stated above NRG Energy, Inc. respectfully appeal the negative decision arrived at by the Operating Committee and hereby requests the Management Committee's approval of the Berrians GT III SRIS Report