

STATE ENERGY PLANNING BOARD:
RELIABILITY AND INFRASTRUCTURE NEEDS

December 11, 2008

1. INTRO

STAKEHOLDERS FROM UTILITIES AND GENERATORS TO BUSINESS INTERESTS STRESSED FUNDAMENTAL IMPORTANCE OF MAINTAINING THE RELIABILITY OF THE STATE'S ELECTRIC SYSTEM.

MANY STAKEHOLDERS – UTILITIES, ENVIRONMENTAL GROUPS AND OTHERS – POINTED TO THE NEED FOR NEW TRANSMISSION CAPACITY AS THE KEY TO UNLOCK THE STATE'S RENEWABLES POTENTIAL, REDUCE THE STATE'S CARBON EMISSIONS, AND REDUCE THE STATE'S COST OF ELECTRICITY.

FOCUS ON THESE TWO ISSUES: THE RELIABILITY OF THE BULK ELECTRIC SYSTEM AND THE NEED FOR NEW TRANSMISSION CAPACITY.

2. RELIABILITY OF BULK ELECTRIC SYSTEM

KEY ELEMENTS OF RELIABILITY: ADEQUACY AND SECURITY.

ADEQUACY: 1 MAJOR OUTAGE EVERY 10 YEARS.

SECURITY: THE SYSTEM WILL BE ABLE TO WITHSTAND SUDDEN DISTURBANCES AND/OR ANTICIPATED LOSS OF SYSTEM ELEMENTS, AND CONTINUE TO SUPPLY AND DELIVER ELECTRICITY. AMONG OTHER RULES, WE HAVE THE “MOB”, OR MINIMUM OIL BURN, RULE.

APPLYING THESE AND OTHER CRITERIA, THE NEW YORK INDEPENDENT SYSTEM OPERATOR’S 2009 RELIABILITY NEEDS ASSESSMENT (NYISO’S 2009 RNA; ABOUT TO BE ISSUED) FINDS NO STATEWIDE BULK SYSTEM RELIABILITY NEED FOR NEW GENERATION OR TRANSMISSION CAPACITY OVER THE 10-YEAR STUDY PERIOD BEYOND WHAT IS CURRENTLY BEING DEVELOPED.

THE IMPACT OF LOAD REDUCTIONS FROM IMPLEMENTATION OF 15X15 IS THE MAJOR FACTOR THAT DRIVES THE 2009 RNA RESULTS. SIGNIFICANTLY, THE 2009 RNA MODELS THE STATE ACHIEVING JUST 30% OF THE 15X15 GOAL.

THE NYISO’S UNDERLYING ANALYSIS WAS ALSO DONE BEFORE THE RECENT SEVERE ECONOMIC DOWNTURN.

3. KEY ASSUMPTIONS UNDERPINNING THE 2009 RNA

UTILITIES WILL CONTINUE TO MAINTAIN AND UPGRADE THEIR TRANSMISSION FACILITIES.

THE NATURAL GAS DELIVERY SYSTEM WILL BE ADEQUATE TO SUPPLY NEEDS OF GENERATORS, DURING THE WINTER AS WELL AS DURING THE SUMMER.

WE WILL NOT SEE PREVIOUSLY UNPLANNED RETIREMENTS OF CRITICAL GENERATORS TRIGGERED BY IMPOSITION OF STRICTER ENVIRONMENTAL REGULATIONS.

EACH ASSUMPTION DESERVES ATTENTION.

4. MAINTAINING AND UPGRADING THE STATE'S TRANSMISSION SYSTEM

SINCE 2007 THERE HAS BEEN INCREASING FOCUS ON ASSESSING THE CONDITION OF THE UTILITIES' TRANSMISSION AND DISTRIBUTION (T&D) SYSTEMS. THE RESULTS ARE MAJOR CAPITAL EXPENDITURE PROGRAMS UNDERWAY AT NATIONAL GRID AND CON EDISON.

CARRY VERY SUBSTANTIAL PRICE TAGS. BASED ON PLANS THE COMPANIES HAVE SUBMITTED, AN ESTIMATED \$10 – \$15 BILLION OVER NEXT 5 YEARS WILL NEED TO BE SPENT BY THESE TWO COMPANIES ON THEIR T&D

SYSTEMS. A SUBSTANTIAL PORTION OF THAT AMOUNT WILL BE DIRECTED TOWARD TRANSMISSION UPGRADES. IF APPROVED, COULD EXERT UPWARD PRESSURE ON RETAIL RATES.

5. CAPACITY OF NATURAL GAS DELIVERY SYSTEM

CAN IT MEET THE DEMANDS OF THE GENERATORS ON A PEAK DEMAND WINTER DAY AFTER TAKING CARE OF ITS CORE CUSTOMERS?

SINCE 2000, OVER 5500 MW OF GAS-FIRED CAPACITY HAS BEEN ADDED. THE NATURAL GAS DELIVERY SYSTEM WAS NOT DESIGNED TO MEET THEIR REQUIREMENTS. BUT UNTIL NOW AT LEAST WE HAVE ENJOYED A HAPPY CIRCUMSTANCE: GAS DEMAND PEAKED IN WINTER, ELECTRIC DEMAND IN SUMMER. NOW, WITH SO MUCH GAS-FIRED GENERATION OPERATING IN THE WINTER, THERE IS A CONCERN ABOUT THE ADEQUACY OF THE GAS DELIVERY SYSTEM TO MEET PEAK WINTER DEMAND, INCLUDING THE DEMAND FROM THE GENERATION SECTOR.

MANY ASSUMPTIONS GO INTO ANALYSIS – WHICH IS BY NO MEANS FINISHED. ASSUME THE GENERATORS CANNOT BURN OIL ON THAT PEAK WINTER DAY BECAUSE THEY HAVE USED UP THEIR HOURS OF PERMITTED OIL BURN UNDER THEIR AIR PERMITS. ASSUMPTIONS REGARDING PROGRESS ON ACHIEVING 15X15 THE AVAILABILITY OF INCREMENTAL RENEWABLES

CAPACITY, AND/OR THE IMPACT OF CLOSING INDIAN POINT 2 AND 3, ALL IMPACT THE DEMAND FOR GAS FOR ELECTRIC GENERATION OUT INTO THE PLANNING PERIOD. FINALLY, WE NEED TO ESTIMATE WHAT THE DEMAND OF CORE CUSTOMERS WILL BE ON THAT PEAK DAY. THIS ISSUE MUST BE EXAMINED UNDER A RANGE OF ASSUMPTIONS.

6. IMPACT OF ENVIRONMENTAL REGULATIONS

GAS GENERATORS – TO THE EXTENT THEY CAN BURN OIL – WILL GENERALLY OPT FOR A PERMIT THAT WILL ALLOW THEM TO BURN NO. 2 OIL FOR A LIMITED NUMBER OF HOURS – AS AN ALTERNATIVE TO SPENDING MONEY ON POLLUTION CONTROLS. THIS HIGHLIGHTS SIGNIFICANCE OF ADEQUACY OF NATURAL GAS DELIVERY SYSTEM.

NEW ENVIRONMENTAL REGULATIONS COULD WELL ACCELERATE RETIREMENTS OR DERATINGS OF PLANTS THAT NOW BURN NO. 6 OIL AND PLANTS THAT NOW BURN COAL.

7. TWO OBSERVATIONS

ELECTRIC AND GAS SYSTEM STUDIES MUST BE FULLY INTEGRATED.

NEED TO AVOID THE ELECTRIC SYSTEM BECOMING LESS RESILIENT – LESS ABLE TO WITHSTAND SUPPLY OR PRICE SHOCKS, OR EXTREME WEATHER. SIGNIFICANTLY REDUCED FUEL DIVERSITY DOWNSTATE; REDUCED DUAL FUEL CAPABILITY DOWNSTATE; FEWER LOAD-FOLLOWING UNITS SYSTEM WIDE; FEWER UNITS TO PROVIDE VOLTAGE SUPPORT.

8. NEED FOR NEW TRANSMISSION CAPACITY

FOR OVER A DECADE THERE WERE FEW IF ANY COMPREHENSIVE STUDIES OF THE STATE'S TRANSMISSION SYSTEM LOOKING FORWARD. NOW MANY STUDIES PROCEEDING SIMULTANEOUSLY LOOKING AT VARIOUS ISSUES, INCLUDING ECONOMICS AND DELIVERABILITY OF RENEWABLES. SOME WILL HAVE TIMELY RESULTS. (NYISO WIND STUDY, THIS MONTH; NYC TRANS STUDY, JAN-FEB 09; ENERGY EAST BOTTLED WIND, JUNE 09; TRANSMISSION OWNERS STUDY (STARS) PHASE 1 RESULTS, EARLY 09)

9. DEMONSTRATIONS OF NEED

THREE WAYS TO DEMONSTRATE NEED: RELIABILITY, ECONOMICS AND/OR PUBLIC POLICY. ACCEPTING THE NYISO'S CONCLUSION THAT THERE IS NO STATEWIDE BULK SYSTEM RELIABILITY NEED FOR THE PLANNING PERIOD, THE NEED FOR NEW TRANSMISSION MUST BE JUSTIFIED ON ECONOMIC OR PUBLIC POLICY GROUNDS.

ECONOMICS. SAVING MONEY ON THE STATE'S ELECTRICITY BILL, BY ELIMINATING TRANSMISSION CONSTRAINTS THAT CURRENTLY PREVENT CHEAPER POWER MOVING TO THE DOWNSTATE AREA. IN-STATE SOURCES OF GENERATION; PJM; HYDRO FROM QUEBEC. NYC TRANSMISSION PLANNING EFFORT IS FOCUSING ON THIS POSSIBILITY. THE STARS STUDY AND NYISO'S ECONOMIC PLANNING PROCESS WILL ALSO ADDRESS THIS ISSUE.

PUBLIC POLICY. FULLY DEVELOP RENEWABLES. MAKE SURE IT CAN BE DELIVERED TO LOAD CENTERS. FOR EXAMPLE, BY ADDRESSING BOTTLED WIND GENERATION UPSTATE. INCREASE IMPORTS OF HYDRO FROM QUEBEC. NEED TO BE MINDFUL OF COMPLEXITY AND COST.

SUGGESTS THE NEED TO RANK PROJECTS ON THE BASIS OF OVERALL BENEFITS. UPSTATE RENEWABLES AND HYDRO FROM QUEBEC COULD IN THEORY BE JUSTIFIED BOTH ON ECONOMICS AND PUBLIC POLICY GROUNDS.

10. A THIRD OBSERVATION

THE TRANSMISSION SYSTEM MAY WELL BE CALLED ON TO DO THINGS IT WAS NEVER EXPECTED TO DO BEFORE. IT WILL BE THE VEHICLE FOR IMPLEMENTING MAJOR PUBLIC POLICIES.

11. OUTSTANDING QUESTIONS REGARDING TRANSMISSION

WHETHER IT MAKES ECONOMIC SENSE TO DOWNSTATE ELECTRIC UTILITY CUSTOMERS – THOSE WHO WOULD DIRECTLY BENEFIT AND THEREFORE WHO WOULD LIKELY PAY – TO INCREASE TRANSMISSION CAPACITY TO THE DOWNSTATE AREA;

WHETHER BOTTLED WIND GENERATION IN THE NORTH COUNTRY OR IN WESTERN NEW YORK IS, OR COULD BE, A SIGNIFICANT PROBLEM, AND DOES IT MAKE ECONOMIC SENSE TO INVEST IN TRANSMISSION TO SOLVE IT;

WHAT MUST BE DONE TO IMPORT NEW CANADIAN HYDRO, ASSUMING THE PRICE IS RIGHT, AND WHO WILL PAY FOR THE REQUIRED TRANSMISSION UPGRADES TO GET IT TO THE LOAD CENTERS.

STUDIES THAT ARE UNDERWAY SHOULD START PROVIDING ANSWERS TO SOME OF THESE – AND OTHER – QUESTIONS.

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