CARIS I 2011
Preliminary Results

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ESPWG

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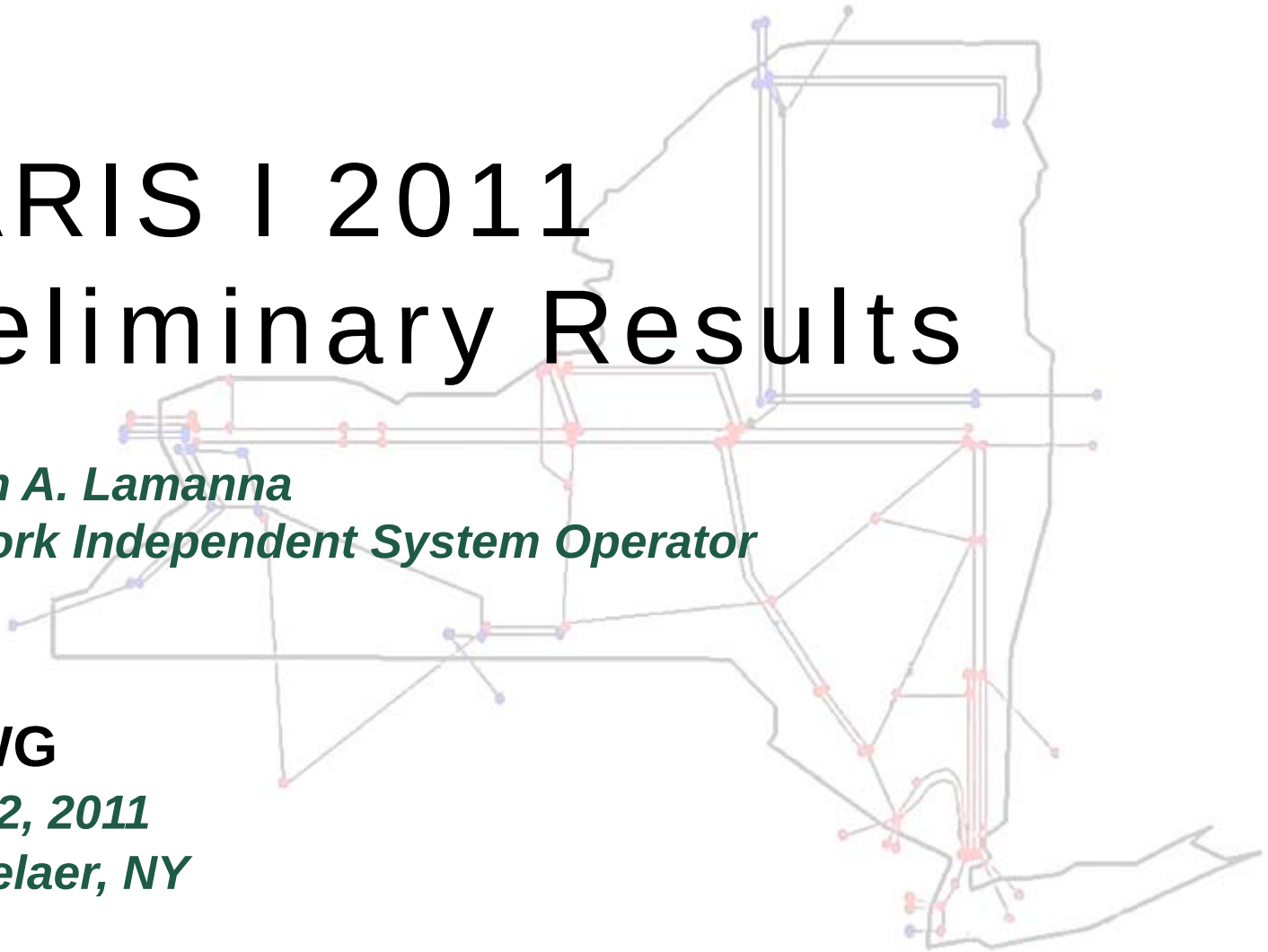

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Stage 1 Selection of Primary Elements

- **Step 1 - Prioritization**
  - ***Line up historic congested elements and projected elements for a fifteen year period based on Demand$ Congestion***
  - ***Identify elements that:***
    - **Are common to both**
    - **Are missing from one or the other (orphaned)**
    - **Show negative projected congestion**
    - **Are exceptions for diminishing returns**
  - ***Calculate Present Value of congestion (using Demand$ Congestion metric) for common elements, sort and identify top five for candidates for relaxing test***

- **Step 2 - Review the exceptions :**
  - ***Diminishing returns - if a congested element shows a significant decline, exclude from list***
  - ***Negative congestion – Rank on absolute value and add top two as candidates***
  - ***Orphaned – Compare ranking value to just the 10 years of projected above and if greater substitute***

- **Stage 1 provides for flexibility**
  - ***Given all of the considerations in the above, identify the top five elements as primary***

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Example of Common Elements

2010 Historic Congestion Reporting			
Monitored Facility	Common Elements	Contingency	Sum of Demand
CENTRAL EAST - VC	1	Base Case	$489,887,685
CENTRAL EAST	1	Base Case	$1,516,433
PLSNTVLY 345 LEEDS 345 1	2	ATHENS__-PLSNTVLY_345_91	$223,539,956
PLSNTVLY 345 LEEDS 345 1	2	LEEDS___-HURLYAVE_345_301	$5,837,957
LEEDS 345 HURLYAVE 345 1	2	MTN:RNS4 OR RNS5 O/S PV USB	$3,378,899
PLSNTVLY 345 LEEDS 345 1	2	MTN:RNS3 OR RNS4 O/S PV USB	$1,381,687
PLSNTVLY 345 ATHENS 345 1	2	LEEDS___-PLSNTVLY_345_92	$1,322,928
GREENWD 138 VERNON 138 1	3	TWR:GOETHALS 22 21 A2253	$61,788,738
GREENWD 138 VERNON 138 1	3	Base Case	$35,401,988
GREENWD 138 KENTAVE 138 1	3	Base Case	$20,060,836
FRESHKLS 138 WILLWBRK 138 1	3	Base Case	-$14,539,954
DUNWODIE 345 SHORE_RD 345 1	4	SPRNBRK-EGRDNCTR-Y49	$59,886,281
DUNWODIE 345 SHORE_RD 345 1	4	NEPTUNE HVDC TIE LINE	$59,068,288
DUNWODIE 345 SHORE_RD 345 1	4	NEPTUNE 501 W/ PJM LOAD	$19,592,382
DUNWODIE 345 SHORE_RD 345 1	4	Base Case	$16,783,058
SPRNBRK 345 EGRDNCTR 345 1	4	DUNWODIE-SHORE_RD_345_Y50	$16,260,173
EGRDNCTY 345 EGRDNCTY 138 1	4	NEPTUNE HVDC TIE LINE	$4,642,926
EGRDNCTY 138 VALLYSTR 138 1	4	FREEPORT-NEWBRDGE_138_461	$2,493,788
SPRNBRK 345 EGRDNCTR 345 1	4	NEPTUNE HVDC TIE LINE	$1,778,618
SHORE_RD 345 SHORE_RD 138 1	4	NEPTUNE HVDC TIE LINE	$1,430,085
RAINEY 138 VERNON 138 1	5	Base Case	$31,750,896
MOTTHAVN 345 DUNWODIE 345 2	6	DUNWODIE-MOTTHAVN_345_71	$18,620,215
MOTTHAVN 345 DUNWODIE 345 1	6	DUNWODIE-MOTTHAVN_345_72	$17,320,474
MOTTHAVN 345 RAINEY 345 2	6	MOTTHAVN-RAINEY___345_Q11	$13,172,692
MOTTHAVN 345 RAINEY 345 1	6	MOTTHAVN-RAINEY___345_Q12	$11,616,152
MOTTHAVN 345 DUNWODIE 345 1	6	Base Case	$7,268,516
W49TH_ST 345 SPRNBRK 345 1	6	SCB:SPBK (RS3): W75 99941	$6,432,065
MOTTHAVN 345 DUNWODIE 345 2	6	MTN:5 OR 6 O/S DUNWOODIE SCE	$3,446,119
MOTTHAVN 345 DUNWODIE 345 1	6	MTN:4 OR 7 O/S DUNW SCB 6 OR	$2,795,892
MOTTHAVN 345 RAINEY 345 1	6	Base Case	$2,738,098
MOTTHAVN 345 RAINEY 345 1	6	TWR:69 J3410 70 K3411 BK258	$1,643,442
LEEDS 345 N.SCTLND 345 1	7	N.SCTLND-LEEDS____345_94-LN	$17,639,250
LEEDS 345 N.SCTLND 345 1	7	TWR:UCC2-41 FCC-33	$13,186,089
LEEDS 345 N.SCTLND 345 1	7	GILBOA__-LEEDS____345_GL3	$1,694,240
RAMAPO 345 ROCKTVRN 345 1	8	TWR:PV F30 F31 W80 W81 BK1	$10,399,378
DUNWODIE 345 PLSNTVLE 345 1	8	TWR:PV F30 F31 W80 W81 BK1	$2,506,127
EFISHKIL 345 PLSNTVLY 345 1	8	TWR:PV F30 F31 W80 W81 BK1	$1,777,831
COOPERS 345 FRASER 345 1	9	TWR:31 UCC2-41	$3,277,437
DYSINGER EAST	10	Base Case	-$1,016,429
FARRAGUT 138 HUDS_AVE 138 1	11	Base Case	-$1,960,418
WESTERN_NY_EXPORT	12	Base Case	-$9,689,343
E179THST 138 HELLTP_W 138 1	13	Base Case	-$20,268,742

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Future Congestion Ranking

Demand Congestion $	Potential Common	2011	2015	2020
CENTRAL EAST		1	2	2
ATHENS_PLTVLLEY_345		2	1	1
Greenwood	1	3	3	3
FRKILLS_WILOWBK1_138	1	4	5	5
GOTHLSS_GOWANUSS_345	2	5	4	4
GOTHN_GOWANN_345	2	6	7	10
RAINY8W138_VERNW_138		7	8	8
DUNWOODIE_SHORRD_345		8	6	6
TWR:FRSHK_GOTLSN_345_3	2	9	10	7
E179 ST 138 15055 SR 138		10	9	9
SBK:FRSHK_GOTHLN_345	2	11	11	11
WEST CENTRAL-OP		12	12	12

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Stage 2:
Grouping Elements for CARIS Studies

- **In order to identify additional elements that may have a significant impact on congestion, each primary element being studied will be relieved independently of each other for a mid and horizon year (2015 and 2020).**

- **The primary element's constraint is relieved by replacing its limit with 9999, and any potential constraint duplicative or redundant with the primary constraint (e.g., two parallel circuits)**

- **The resultant list of top congested elements from the two years of analysis will be reviewed to determine:**
  - ***The effects on NYCA congestion***
  - ***If any additional new elements become congested***
  - ***Significant increase in the other primary elements' congestion***
  - ***Production cost savings from the relaxation***

Stage 2:
Grouping Elements for CARIS Studies

- ***The primary constraint will be assessed for grouping with a new element if the new element***
  - **is electrically adjacent/close to the primary element, or**
  - **Is in new top five of congested elements based on Demand$ Congestion**

- ***If passes above, the new element's limit will also be increased to 9999***
  - **Elements are grouped if the production cost savings increases**
  - **Repeat process if other additional elements pass above criteria**

- ***If after an initial grouping, the change in total NYCA production cost is not more than 3 million dollars, consider removing the original primary constraint from the list***

- **If more than three groupings are revealed, the three groupings with the highest improvement in production cost savings will be selected as the three studies.**

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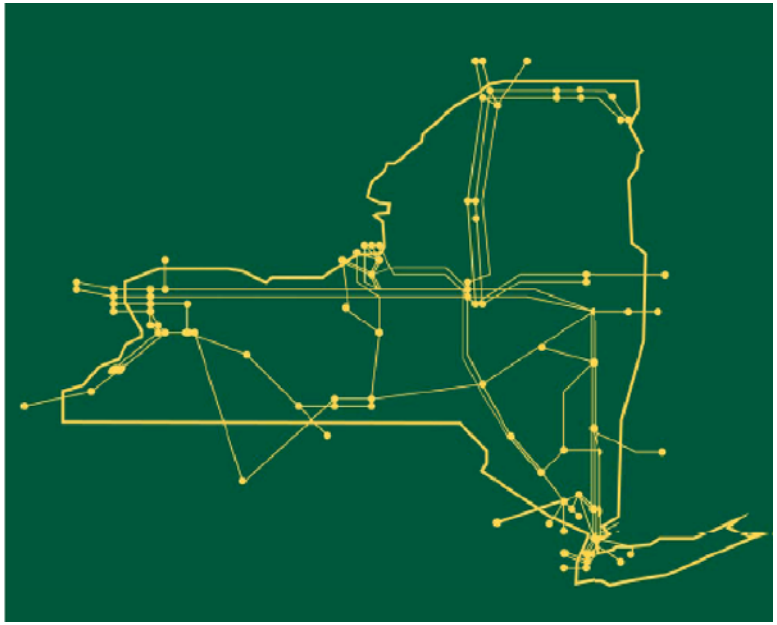

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