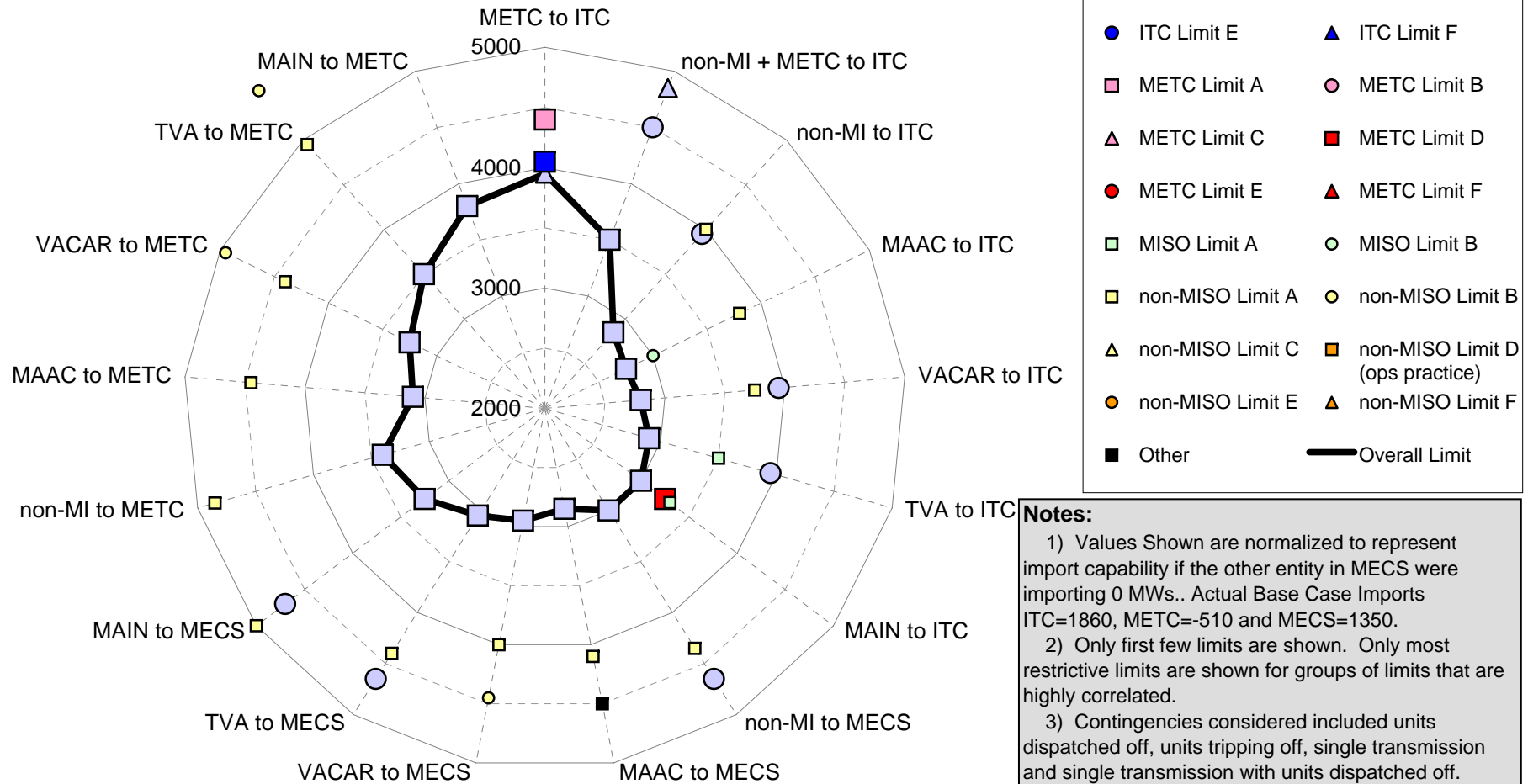


### Chart 1 Currently Planned System<sup>4</sup>

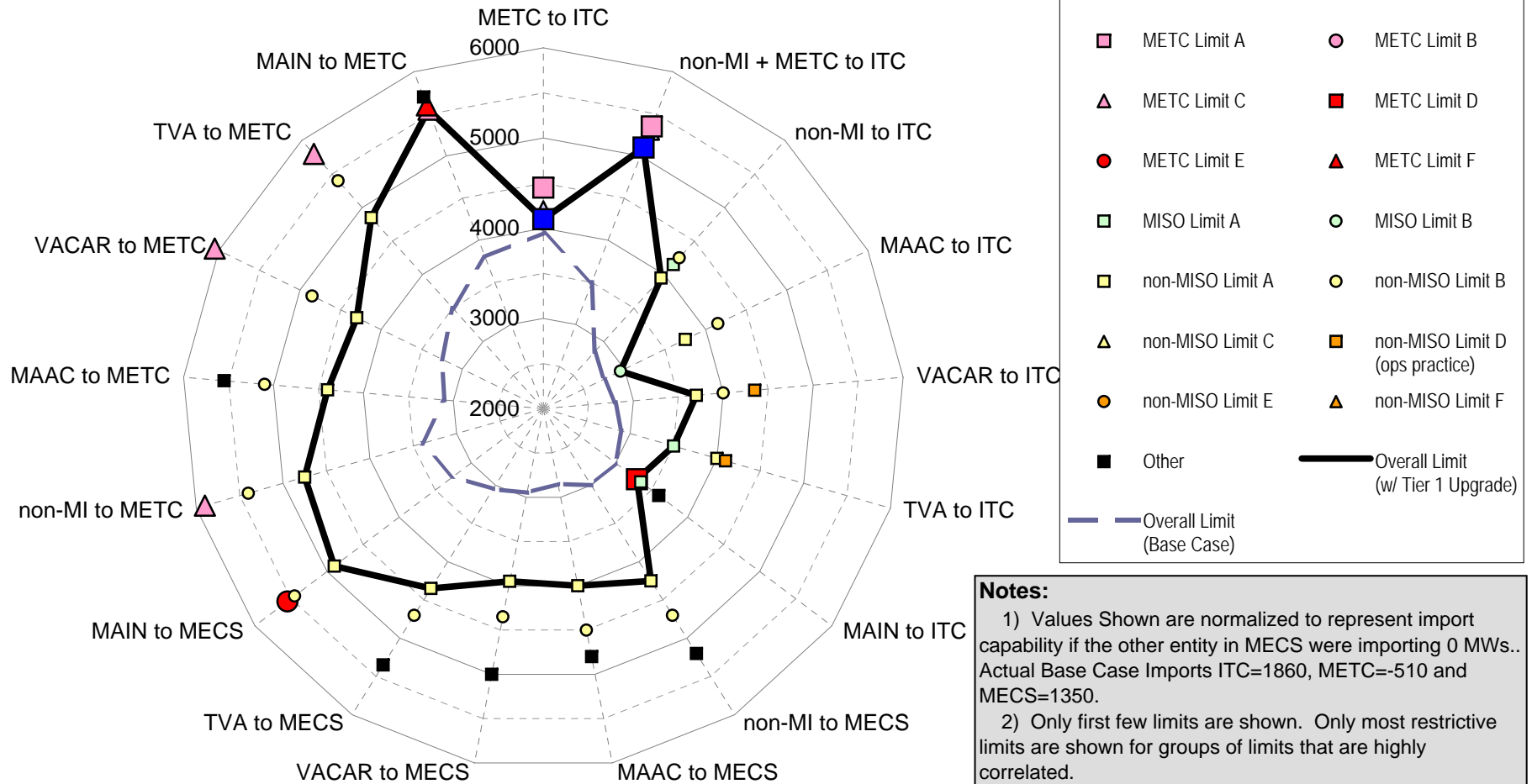
2009 Summer -- Total Normalized<sup>1</sup> Import Capabilities  
for Various Incremental Transfer Scenarios



**Notes:**

- 1) Values Shown are normalized to represent import capability if the other entity in MECS were importing 0 MWs.. Actual Base Case Imports ITC=1860, METC=-510 and MECS=1350.
- 2) Only first few limits are shown. Only most restrictive limits are shown for groups of limits that are highly correlated.
- 3) Contingencies considered included units dispatched off, units tripping off, single transmission and single transmission with units dispatched off.
- 4) Base Case has 0 MWs flowing between Michigan and Ontario controlled by phase shifting transformers.

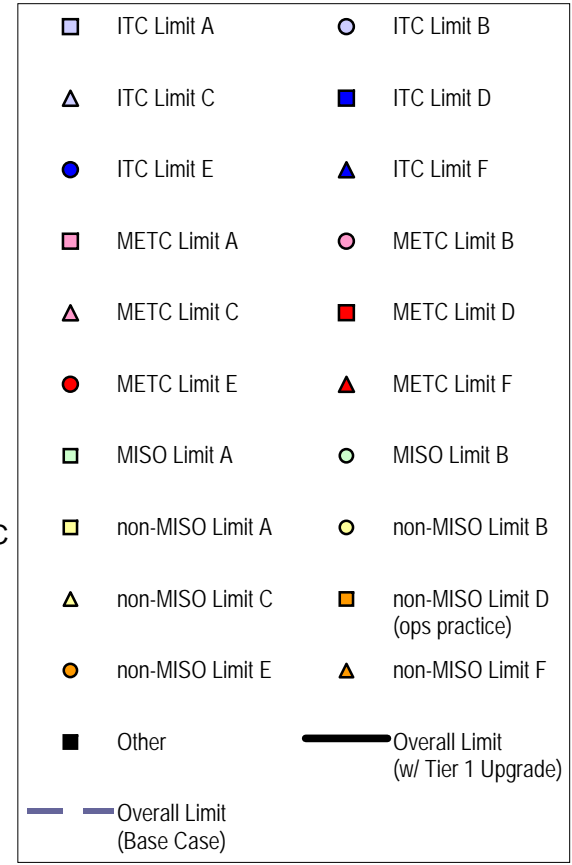
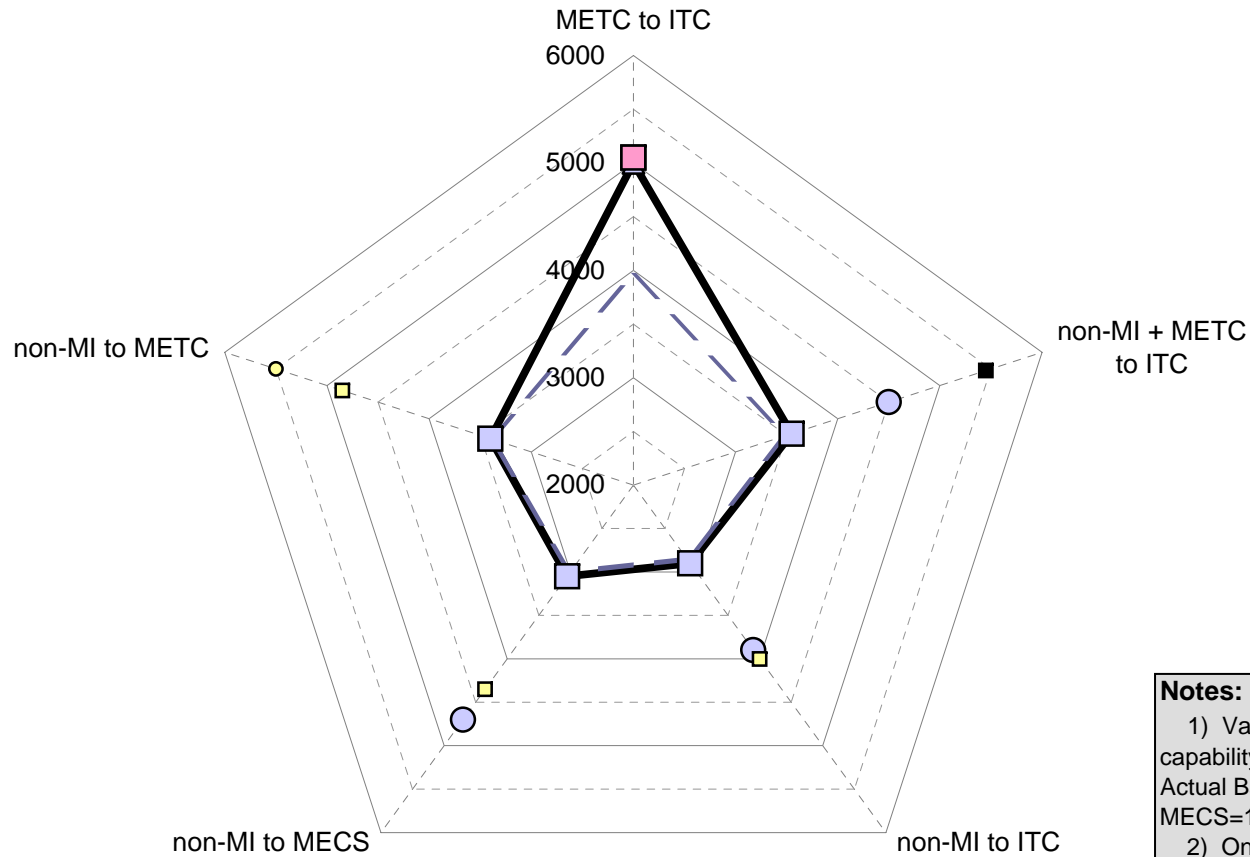
**Chart 2**  
**Tier 1 Upgrades for Transfers from South**  
 2009 Summer -- Total Normalized<sup>1</sup> Import Capabilities  
 for Various Incremental Transfer Scenarios



**Notes:**

- 1) Values Shown are normalized to represent import capability if the other entity in MECS were importing 0 MWs.. Actual Base Case Imports ITC=1860, METC=-510 and MECS=1350.
- 2) Only first few limits are shown. Only most restrictive limits are shown for groups of limits that are highly correlated.
- 3) Contingencies considered included units dispatched off, units tripping off, single transmission and single transmission with units dispatched off.

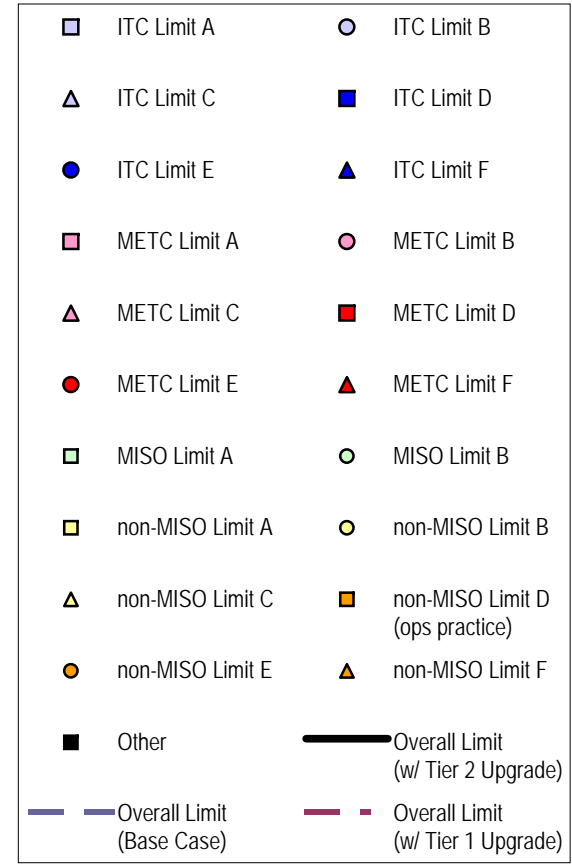
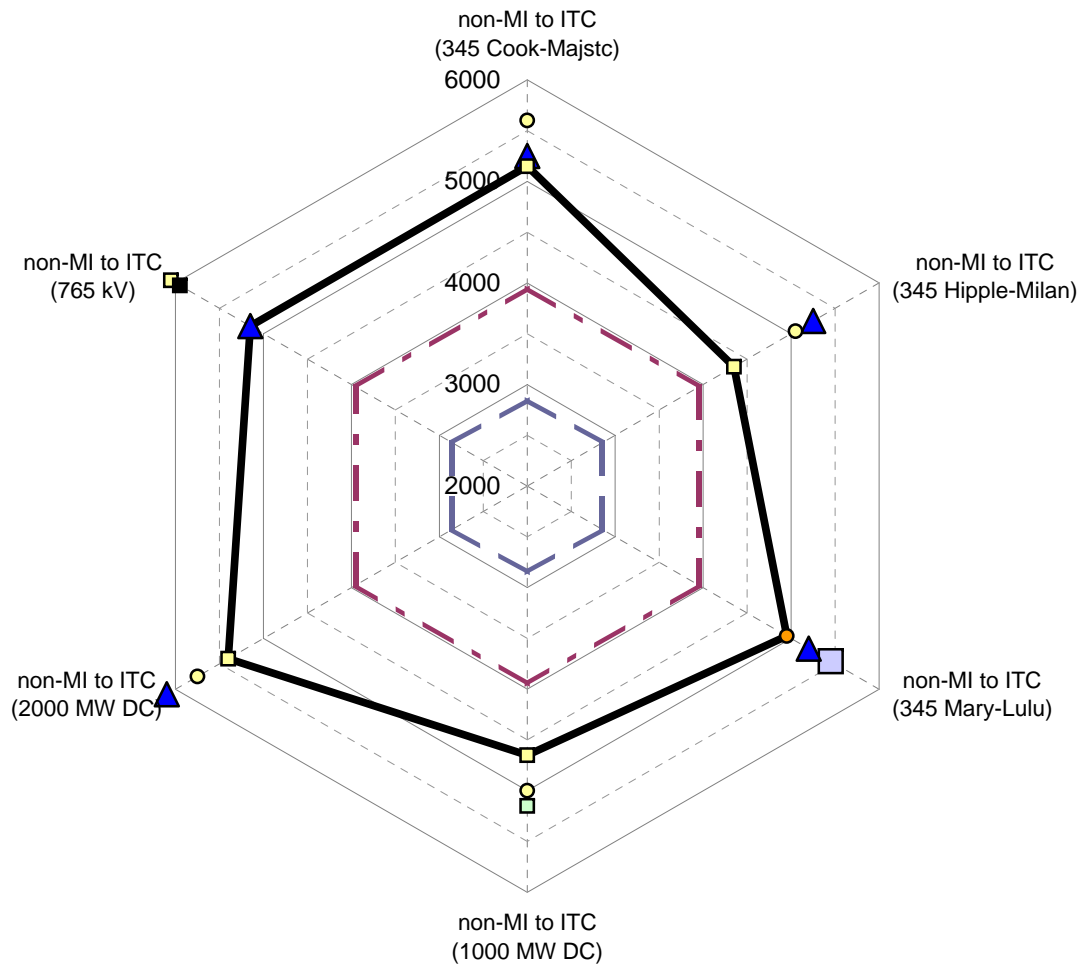
**Chart 3**  
**Tier 1 Upgrades for Cross State Transfers**  
 2009 Summer -- Total Normalized<sup>1</sup> Import Capabilities  
 for Various Incremental Transfer Scenarios



**Notes:**

- 1) Values Shown are normalized to represent import capability if the other entity in MECS were importing 0 MWs.. Actual Base Case Imports ITC=1860, METC=-510 and MECS=1350.
- 2) Only first few limits are shown. Only most restrictive limits are shown for groups of limits that are highly correlated.
- 3) Contingencies considered included units dispatched off, units tripping off, single transmission and single transmission with units dispatched off.

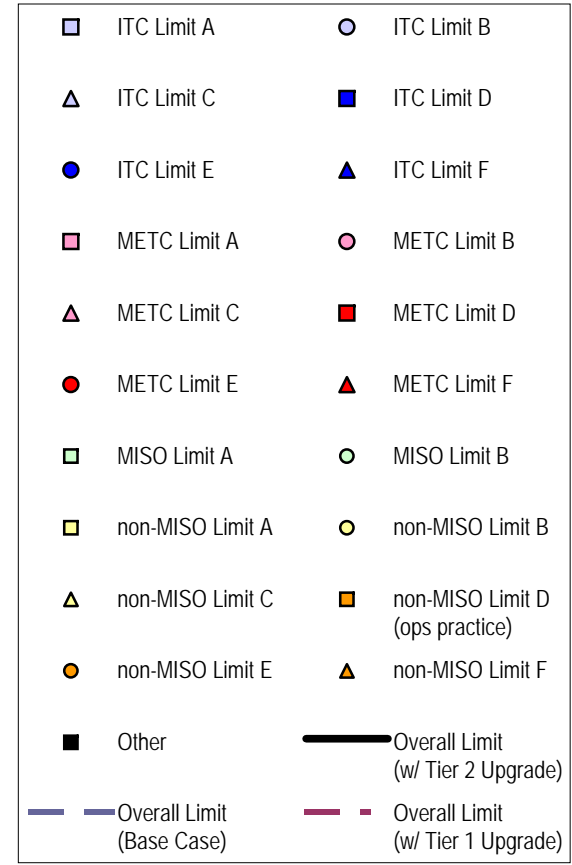
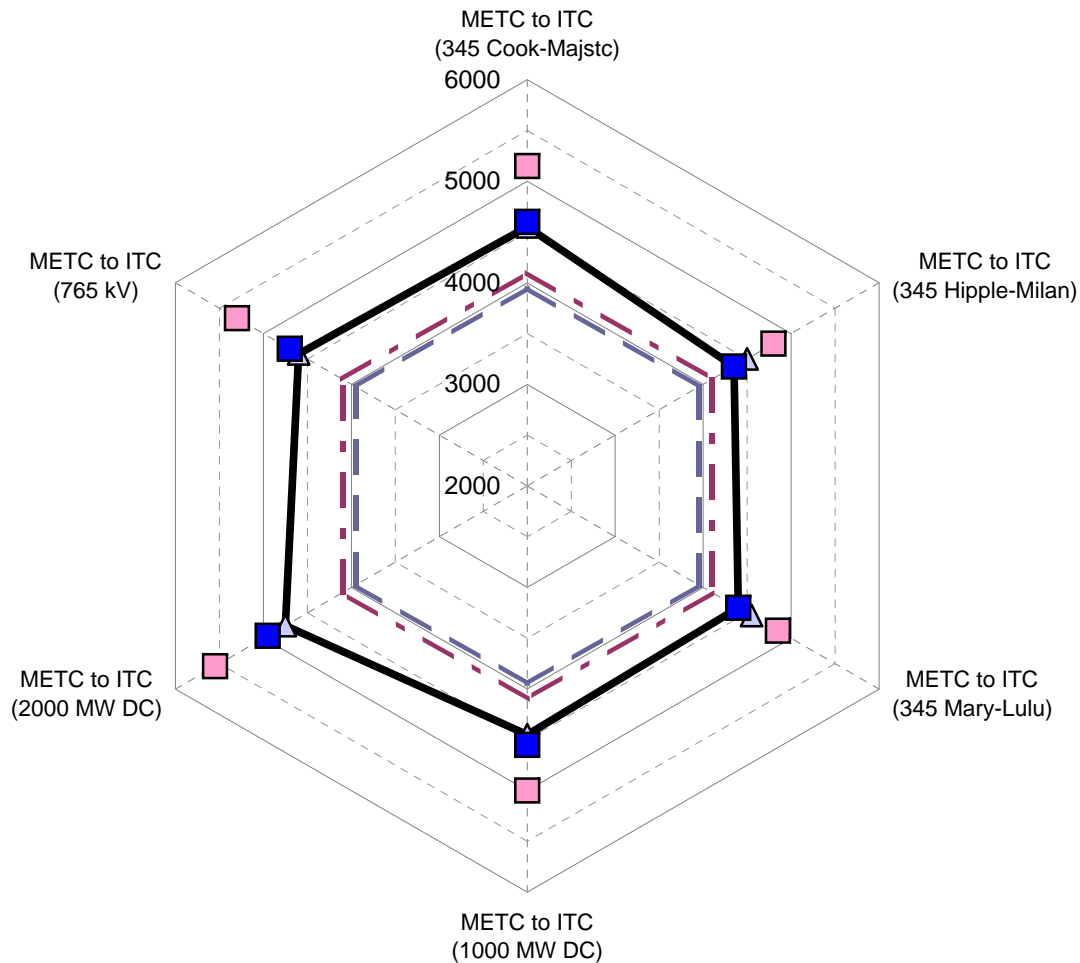
**Chart 4**  
**Tier 1 + Tier 2 Upgrades for Transfers from South**  
 2009 Summer -- Total Normalized<sup>1</sup> Import Capabilities  
 for non-MI to ITC Incremental Transfer Scenarios



**Notes:**

- 1) Values Shown are normalized to represent import capability if the other entity in MECS were importing 0 MWs.. Actual Base Case Imports ITC=1860, METC=-510 and MECS=1350.
- 2) Only first few limits are shown. Only most restrictive limits are shown for groups of limits that are highly correlated.
- 3) Contingencies considered included units dispatched off, units tripping off, single transmission and single transmission with units dispatched off.

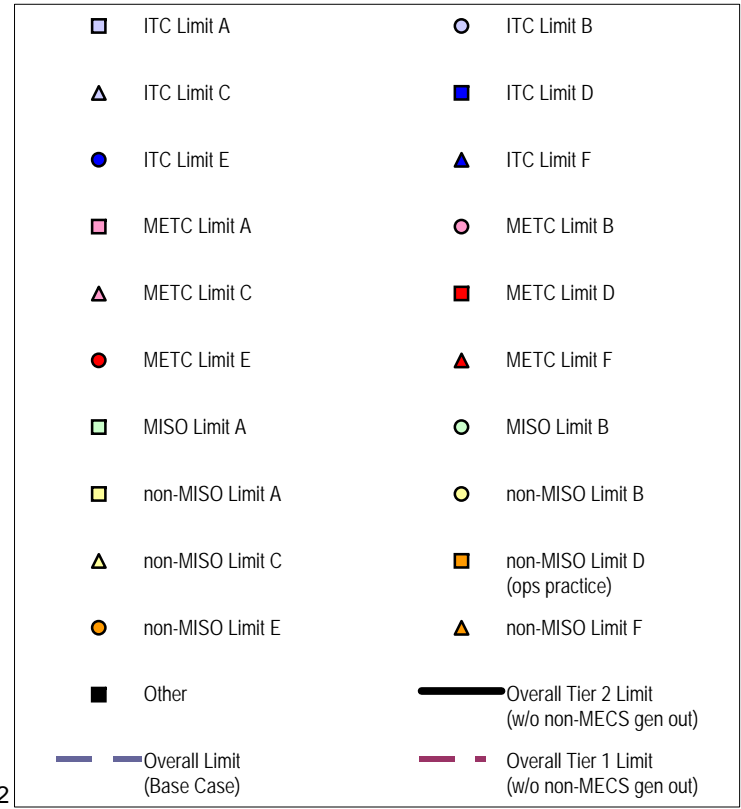
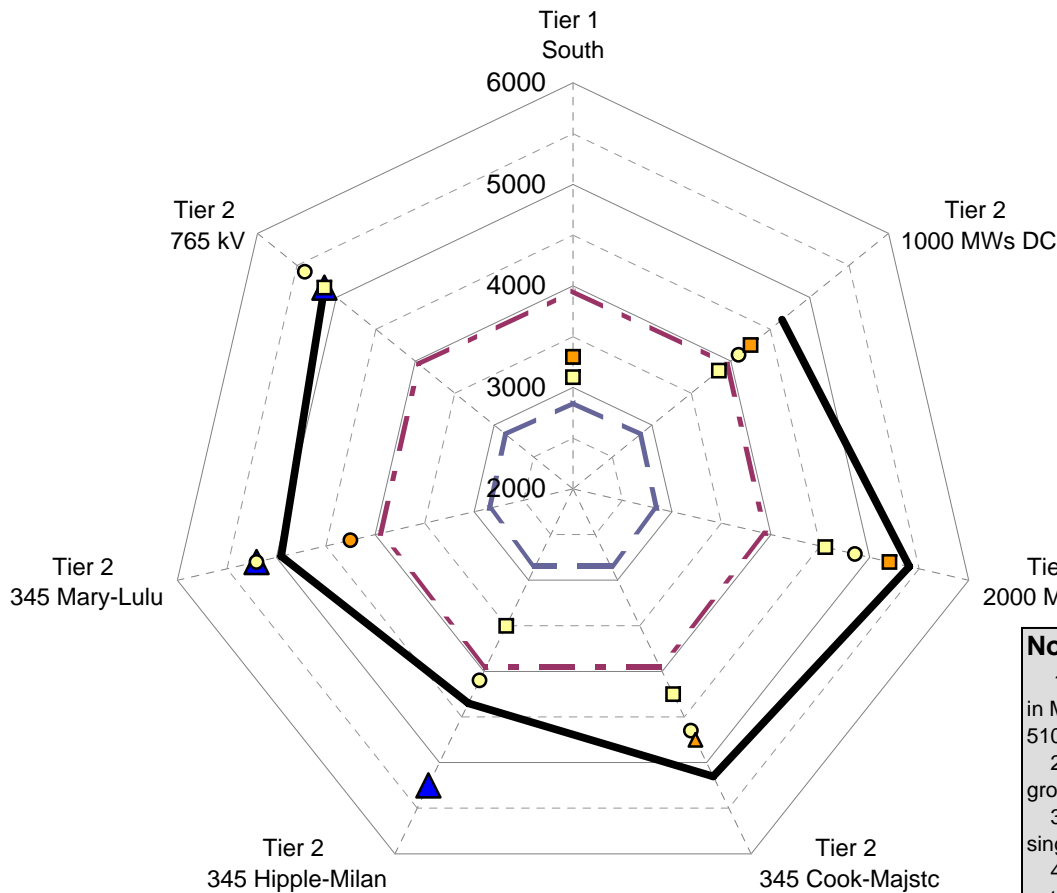
**Chart 5**  
**Tier 1 + Tier 2 Upgrades for Transfers from South**  
 2009 Summer -- Total Normalized<sup>1</sup> Import Capabilities  
 for METC-ITC Incremental Transfer Scenarios



**Notes:**

- 1) Values Shown are normalized to represent import capability if the other entity in MECS were importing 0 MWs.. Actual Base Case Imports ITC=1860, METC=-510 and MECS=1350.
- 2) Only first few limits are shown. Only most restrictive limits are shown for groups of limits that are highly correlated.
- 3) Contingencies considered included units dispatched off, units tripping off, single transmission and single transmission with units dispatched off.

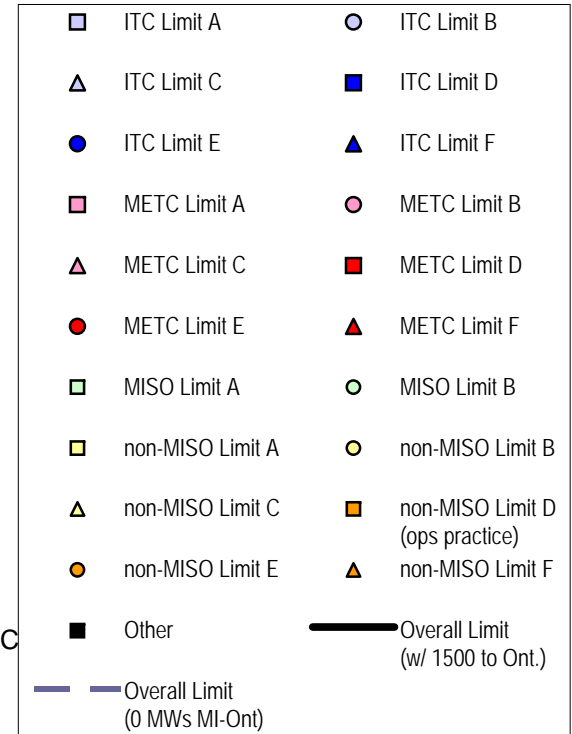
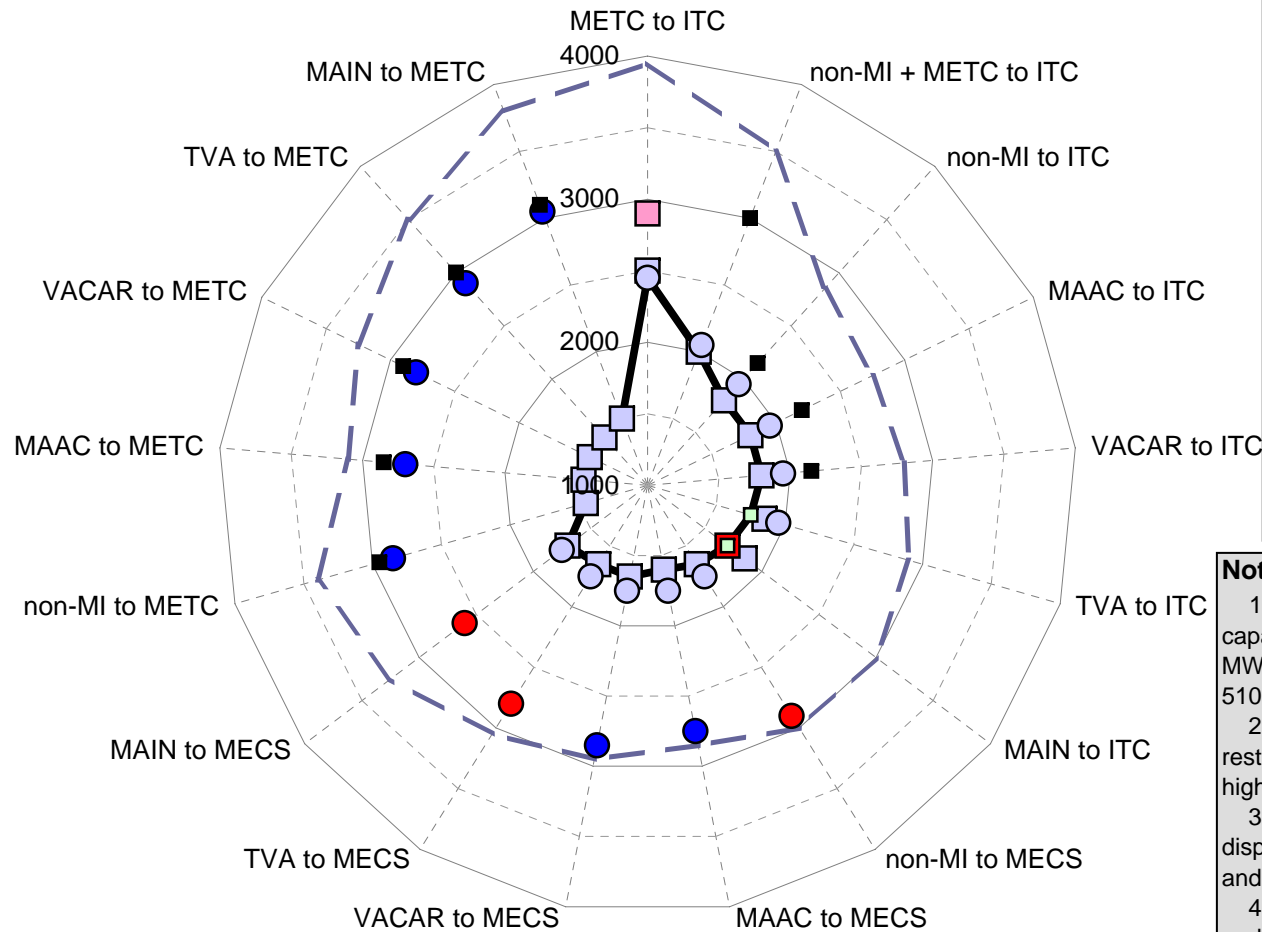
**Chart 6**  
**Sensitivity of Limits to non-MECS Generator Outages**  
*2009 Summer -- Total Normalized<sup>1</sup> Import Capabilities*  
*for non-MI to ITC Incremental Transfer Scenarios*



**Notes:**

- 1) Values Shown are normalized to represent import capability if the other entity in MECS were importing 0 MWs.. Actual Base Case Imports ITC=1860, METC=-510 and MECS=1350.
- 2) Only first few limits are shown. Only most restrictive limits are shown for groups of limits that are highly correlated.
- 3) Contingencies considered included units dispatched off, units tripping off, single transmission and single transmission with units dispatched off.
- 4) Overall limit in base case not impacted by a single generator dispatched off outside of MECS.

**Chart 7**  
**Impact of 1500 MWs Flow from Michigan to Ontario<sup>4</sup>**  
*2009 Summer -- Total Normalized<sup>1</sup> Import Capabilities*  
*for Various Incremental Transfer Scenarios*

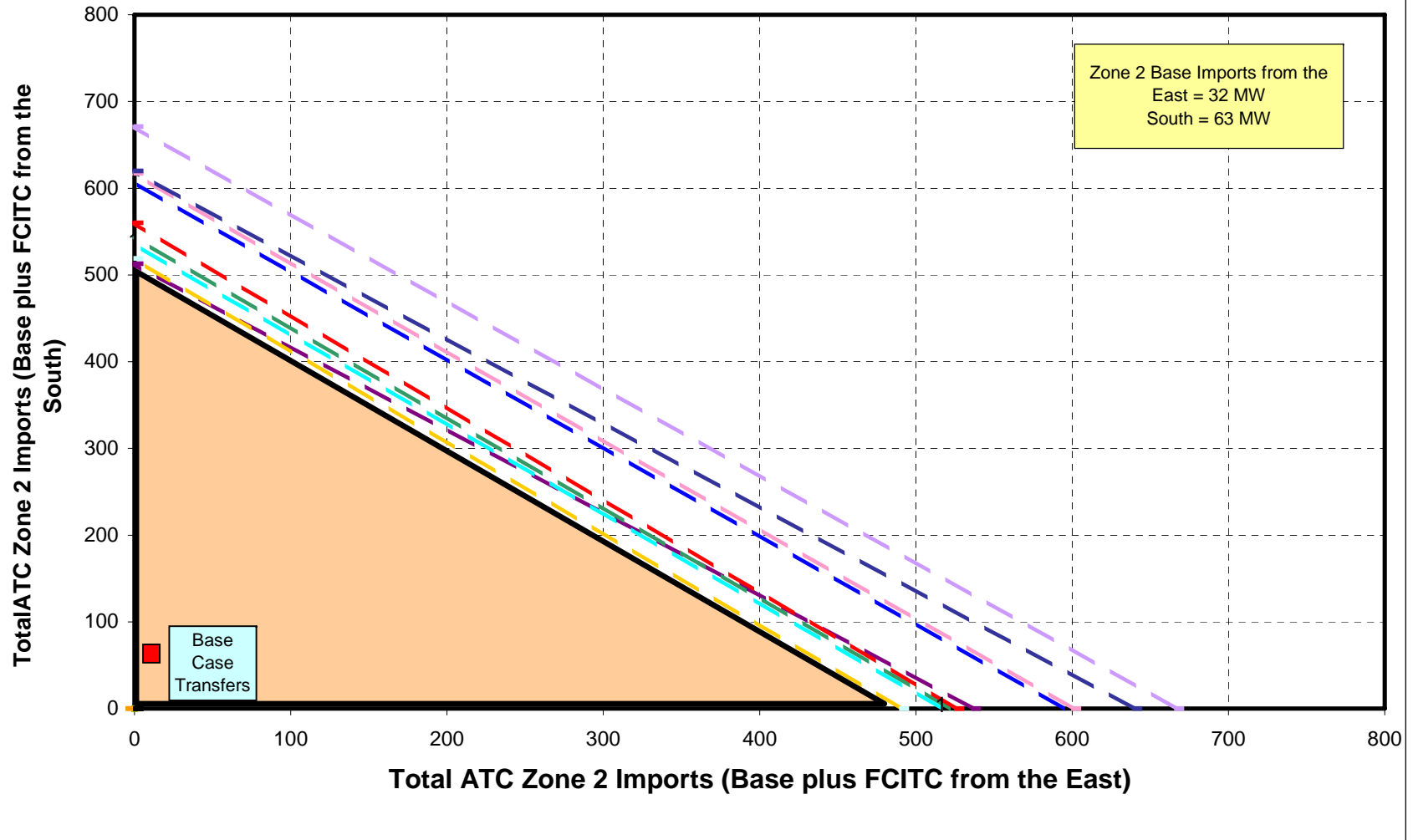


**Notes:**

- 1) Values Shown are normalized to represent import capability if the other entity in MECS were importing 0 MWs.. Actual Base Case Imports ITC=1860, METC=-510 and MECS=1350.
- 2) Only first few limits are shown. Only most restrictive limits are shown for groups of limits that are highly correlated.
- 3) Contingencies considered included units dispatched off, units tripping off, single transmission and single transmission with units dispatched off.
- 4) Base Case has 0 MWs flowing between Michigan and Ontario controlled by phase shifting transformers.

Chart 8

ATC Zone 2 Simultaneous Import Capabilities for 2009 Summer Peak

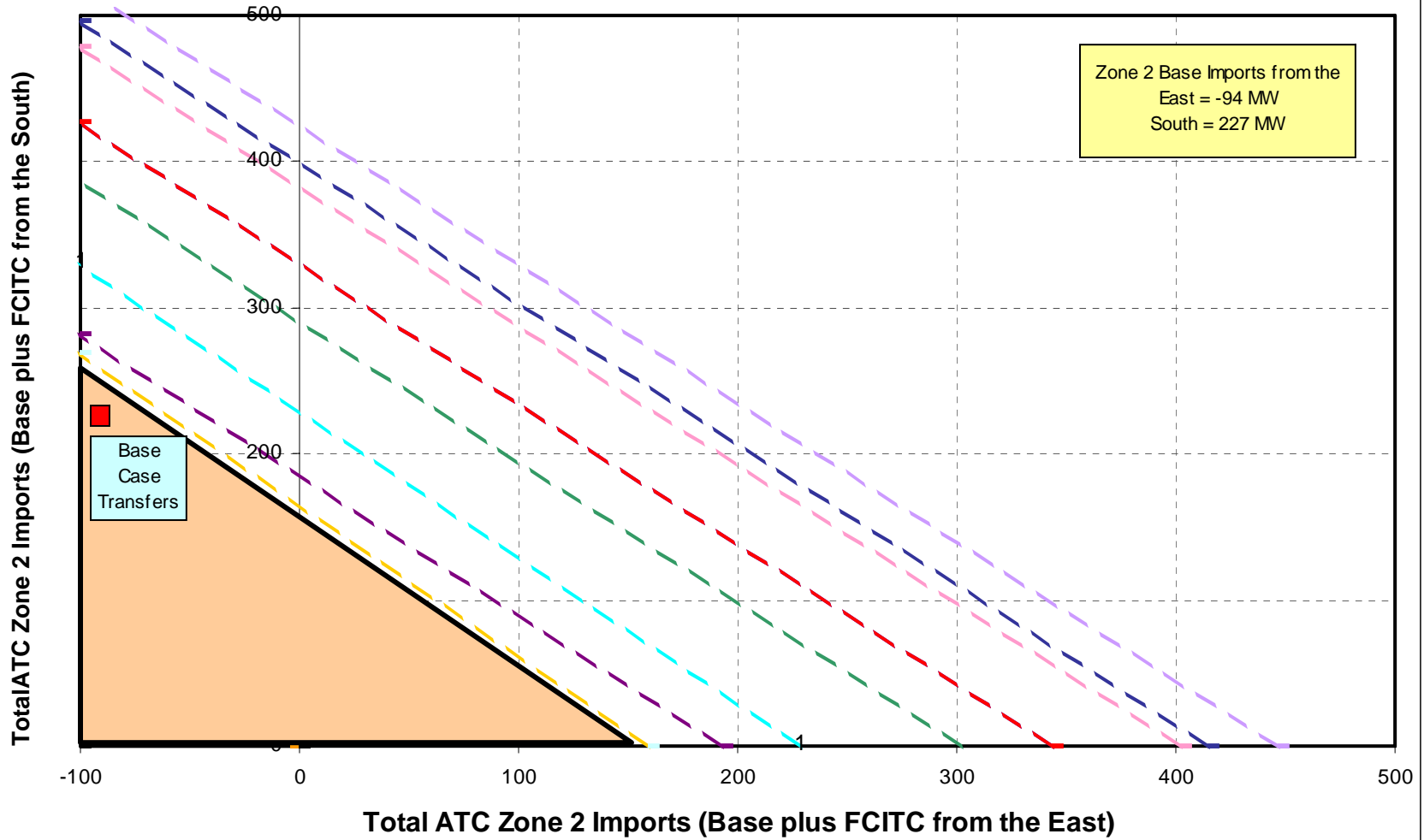


- 1 Lower Michigan Limit #1
- 2 ATC Limit #1
- 3 Lower Michigan Limit #2
- 4 Lower Michigan Limit #3
- 5 Lower Michigan Limit #4

- 6 ATC Limit #2
- 7 ATC Limit #3
- 8 ATC Limit #4
- 9 ATC Limit #5

Chart 9

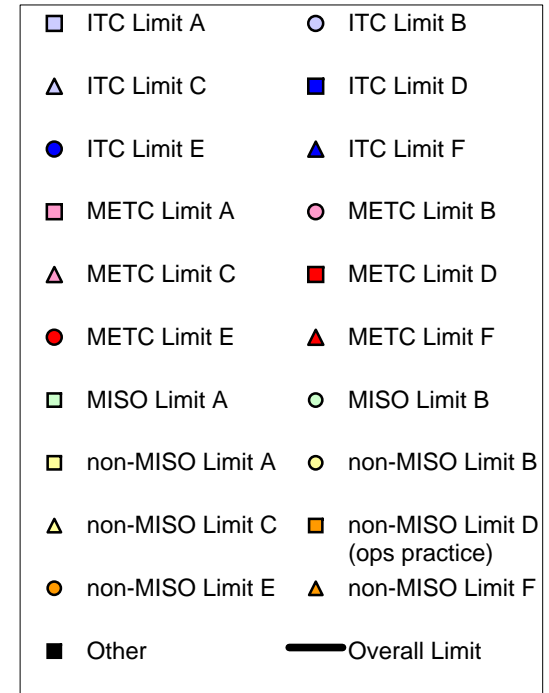
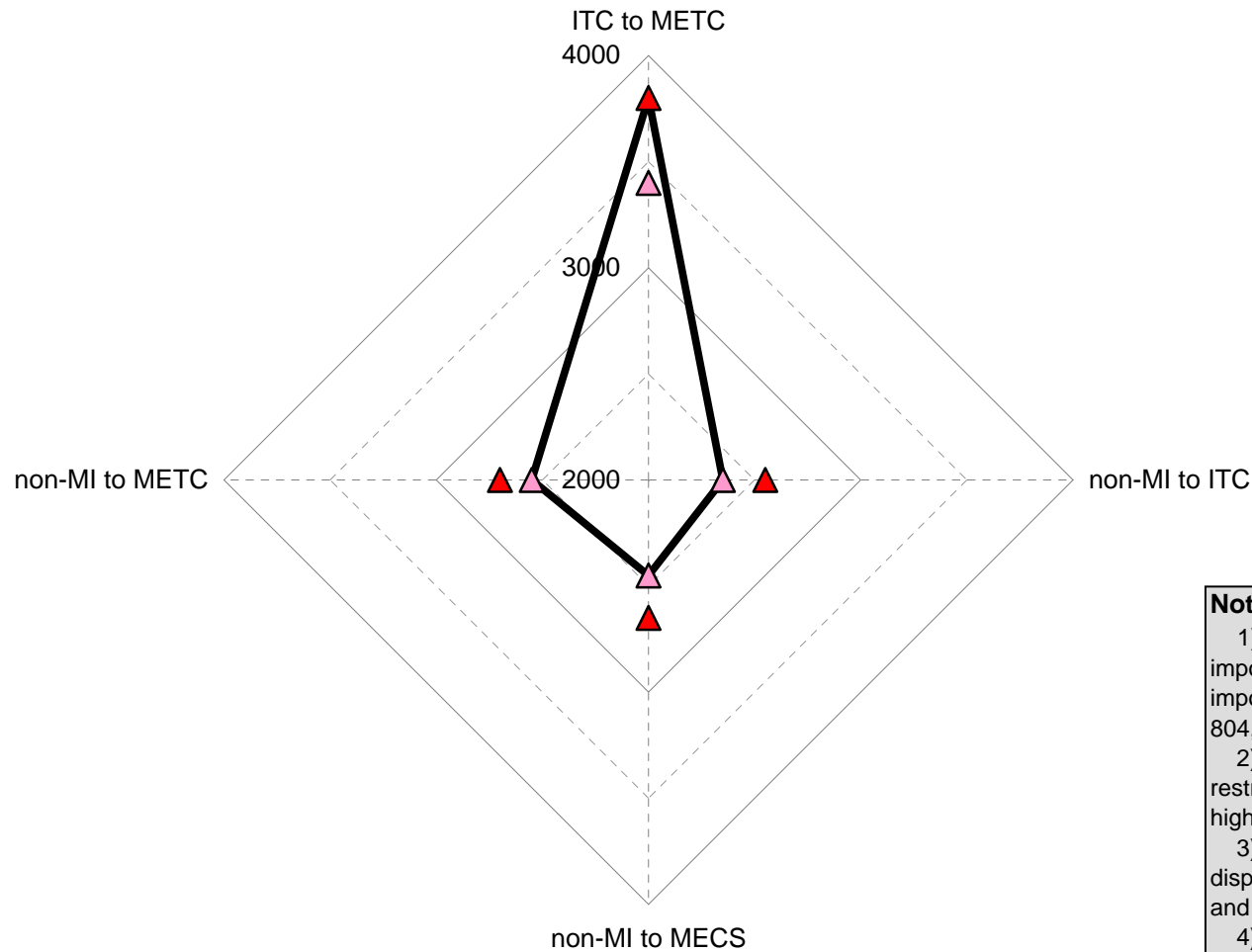
ATC Zone 2 Simultaneous Import Capabilities for 2009 70% Summer Peak



- 1 ATC Limit #1
- 2 ATC Limit #2
- 3 ATC Limit #3
- 4 ATC Limit #4

- 5 ATC Limit #5
- 6 ATC Limit #6
- 7 ATC Limit #7
- 8 ATC Limit #8

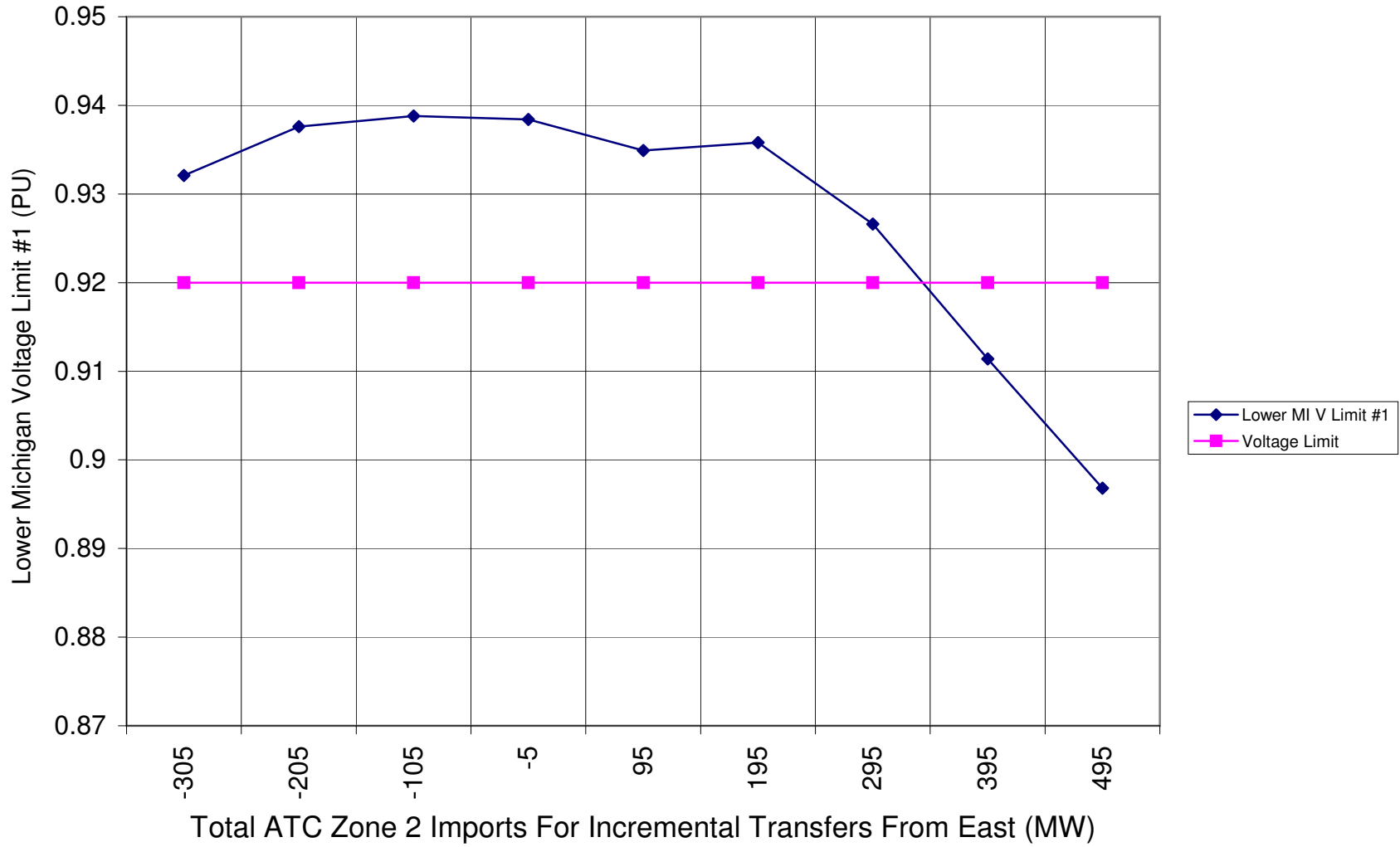
**Chart 10**  
**70% Peak Load with Ludington Pumping<sup>4</sup>**  
 2009 Summer -- Total Normalized<sup>1</sup> Import Capabilities  
 for Various Incremental Transfer Scenarios



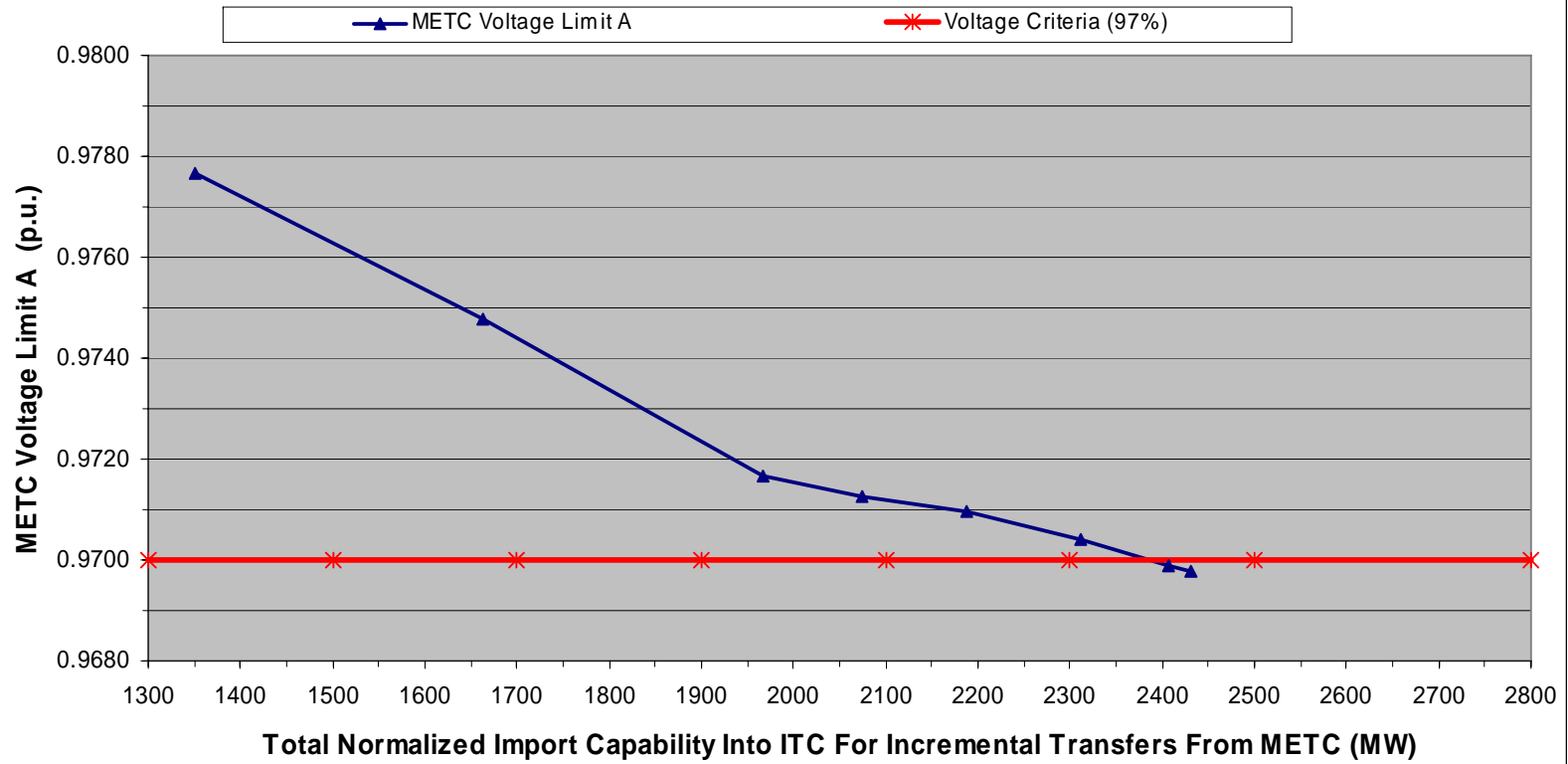
**Notes:**

- 1) Values Shown are normalized to represent import capability if the other entity in MECS were importing 0 MWs.. Actual Base Case Imports ITC=-804, METC=2951 and MECS=2147.
- 2) Only first few limits are shown. Only most restrictive limits are shown for groups of limits that are highly correlated.
- 3) Contingencies considered included units dispatched off, units tripping off, single transmission and single transmission with units dispatched off.
- 4) Base Case has 0 MWs flowing between Michigan and Ontario controlled by phase shifting transformers.

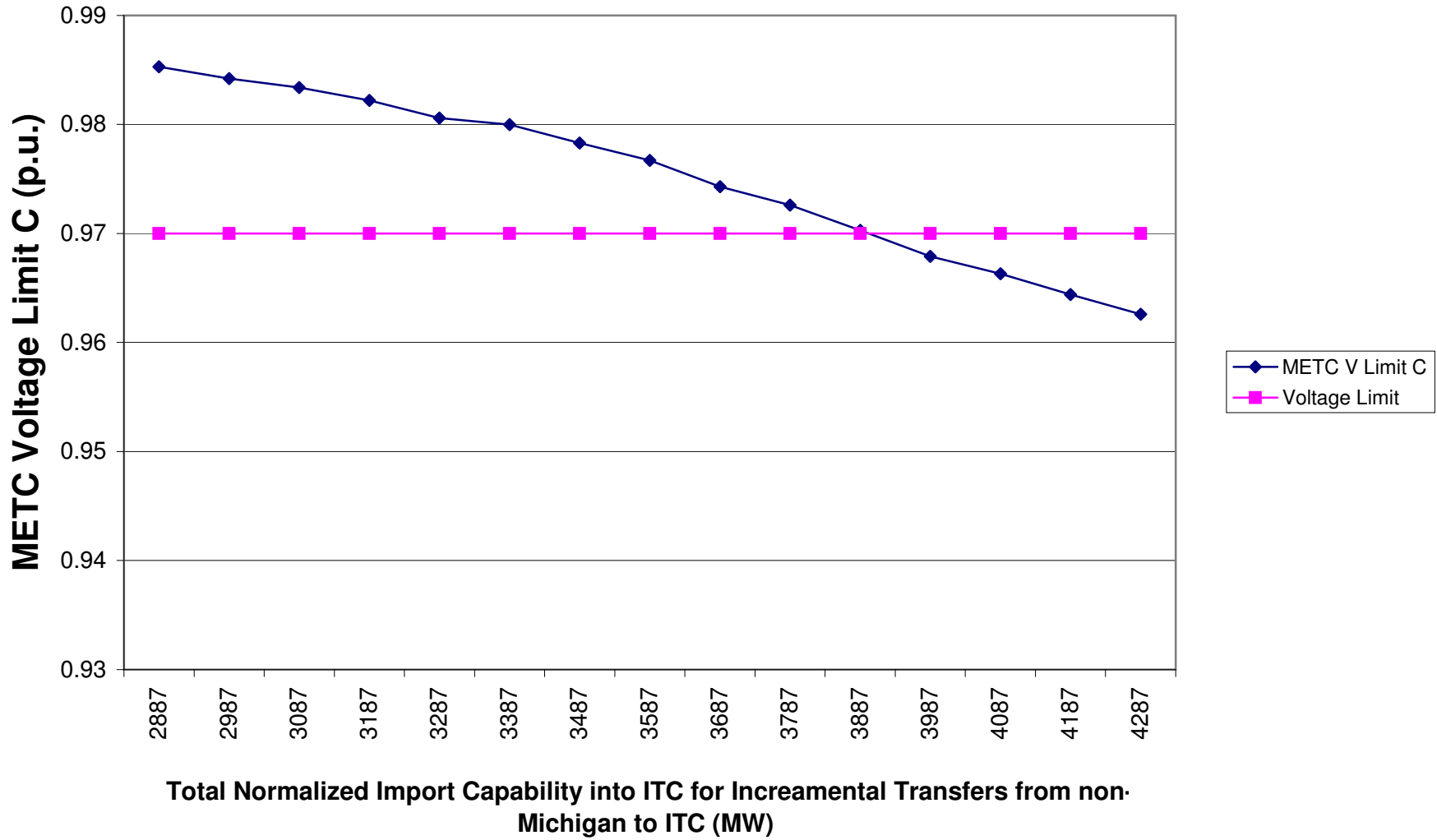
## ATC Zone 2 Import Capabilities for 2009 Summer Peak



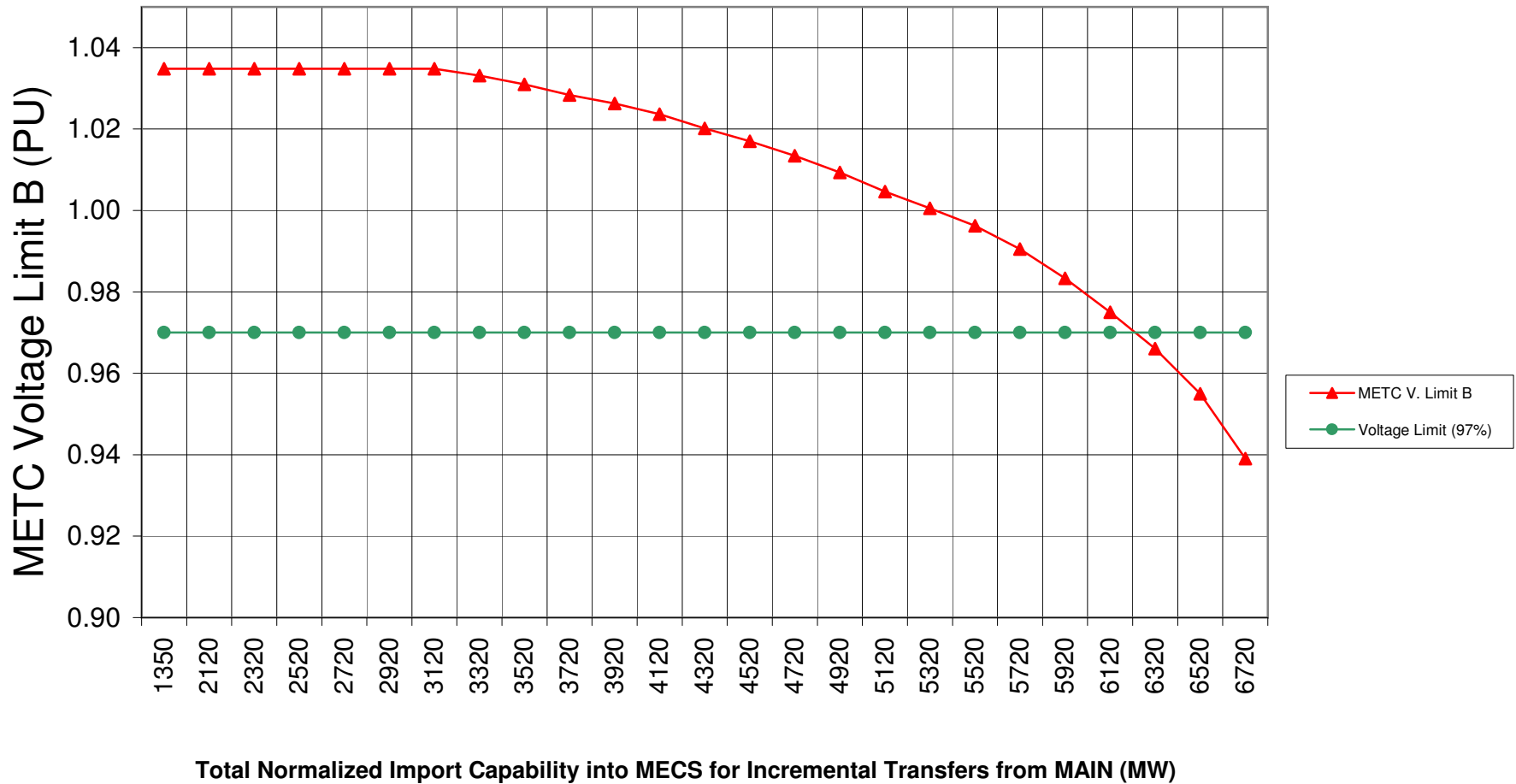
### Total Import Capability Into ITC for 2009 Summer Peak



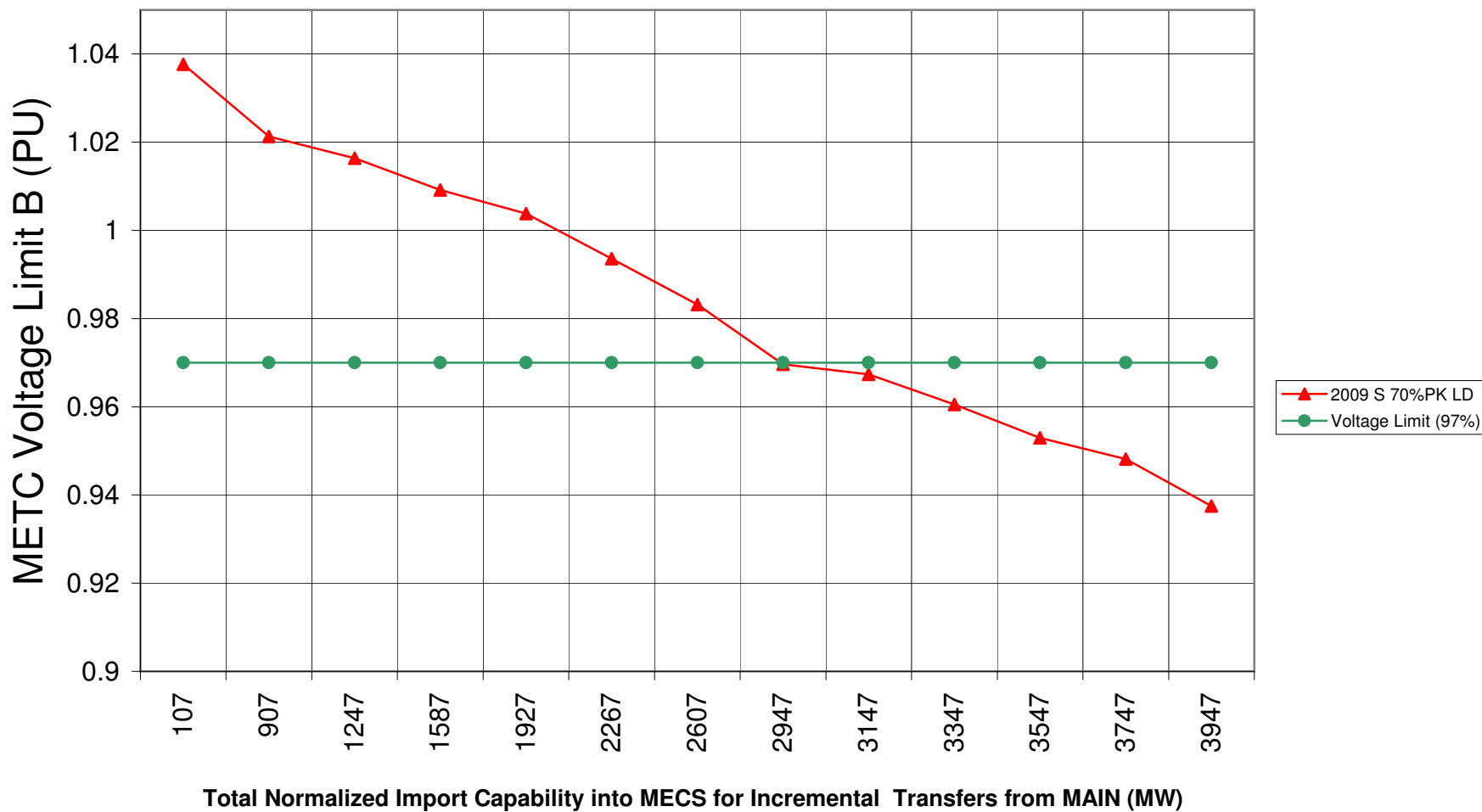
### Total Transfer Capability To ITC for 2009 Summer Peak



## Total Import Capability To MECS for 2009 Summer Peak



**Total Import Capability To MECS for 2009 Summer 70% Peak**



**Figure ???**  
**Capacity Needs Forum 2009 Summer Assessment of Transmission System Performance**  
**Central Ohio EHV Transformer Outaged plus Central Ohio Generation Outaged**

