MANITOBA HYDRO
COST OF SERVICE METHODOLOGY REVIEW

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PREPARED FOR “THE COALITION”

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PURPOSE OF EVIDENCE

- TO PROVIDE AN INDEPENDENT AND OBJECTIVE REVIEW OF MANITOBA HYDRO'S PROPOSED COS METHODOLOGY
- EVIDENCE IDENTIFIES AREAS OF AGREEMENT AND DISAGREEMENT WITH MANITOBA HYDRO
- RECOMMENDATIONS INCLUDE:
  - CHANGES TO PROPOSED METHODOLOGY
  - AREAS FOR DATA IMPROVEMENT
  - AREAS FOR COS MODEL IMPROVEMENT
  - INPUT DATA CORRECTIONS

FOCUS OF PRESENTATION

- DEAL WITH SUBSTANTIVE ISSUES
- AREAS OF DISAGREEMENT
  - TREATMENT OF DSM
  - INCLUSION OF CAPACITY ADDER IN WEIGHTED ENERGY ALLOCATOR FOR GENERATION
  - ALLOCATION OF NON-TARIFFABLE TRANSMISSION
- AREAS OF AGREEMENT
  - TWO EXPORT CLASSES
  - TREATMENT OF BP III AND DORSEY
  - USE OF WEIGHTED ENERGY ALLOCATOR
  - TREATMENT OF INTERCONNECTIONS
  - TREATMENT OF URA AND AEF

TREATMENT OF DSM

- RECOMMENDATION:
  - ALLOCATE AS A SYSTEM BENEFIT BASED ON AVOIDED COST SAVINGS
- RATIONALE
  - DSM IS PART OF MANITOBA HYDRO'S INTEGRATED RESOURCE PLANNING
  - CUSTOMERS PARTICIPATE IN DSM BECAUSE MANITOBA HYDRO ENCOURAGES THEM
  - DIRECT ASSIGNMENT EFFECTIVELY "CLAWS BACK" INCENTIVE TO PARTICIPATE

TREATMENT OF DSM

- IMPLEMENTATION
  - BASE ON AVOIDED COSTS USED TO EVALUATE DSM
  - GENERATION 86% / TRANSMISSION 7% / DISTR 7%
- RESULTS

Customer Class	Total Cost ($000)	Class Revenue ($000)	Net Export Revenue ($000)	Total Revenue ($000)	RCC % Current Rates	RCC Change
Residential	632,412	588,630	35,514	624,143	98.7%	-1.3%
General Service - Small Non Demand	130,013	135,035	7,301	142,336	109.5%	1.6%
General Service - Small Demand	136,115	136,080	7,644	143,724	105.6%	1.3%
General Service - Medium	198,546	186,797	11,150	197,946	99.7%	0.4%
General Service - Large 0 - 30kV	98,819	84,956	5,549	90,505	91.6%	0.5%
General Service - Large 30-100kV*	61,515	57,808	3,488	61,296	99.6%	-0.4%
General Service - Large >100kV*	200,332	189,258	11,540	200,797	100.2%	1.9%
SEP	968	826	-	826	85.4%	0.0%
Area & Roadway Lighting	22,088	21,630	380	22,010	99.6%	-0.7%
Total General Consumers	1,480,806	1,401,019	82,565	1,483,584	100.2%	0.0%
Diesel	9,948	6,612	559	7,171	72.1%	-0.5%
Export	262,110	345,233	- 83,124	262,110	100.0%	0.0%
Total	1752863.98	1752864.037	0	1752864.037	1	0

GENERATION ALLOCATION CAPACITY ADDER

- RECOMMENDATION
  - INTRODUCTION PRE-MATURE FOR PCOSS14
- RATIONALE
  - HISTORICAL PERIOD USED LARGELY PRE-DATES THE PURPORTED “CHANGE IN MARKET CONDITIONS”
  - LOW CAPACITY MARKET PRICES
  - SIMULTANEOUS CHANGE IN ECONOMIC CONDITIONS AND NATURAL GAS MARKETS

GENERATION ALLOCATION CAPACITY ADDER

COMPARISON OF PEAK PERIOD WEIGHTS USED FOR GENERATION ALLOCATION			
	PCOSS06[1]	PCOSS08[2]	PCOSS14-Amended[3]
Spring Peak	2.684	2.513	3.657
Summer Peak	3.114	3.258	4.560
Fall Peak	2.229	2.624	3.860
Winter Peak	3.286	3.406	4.659

Notes: 1) PUB-MFR 7
2) Coalition/MH I-53 b)
3) PCOSS14-Amended Model – with Fall/Winter Correction and No Capacity Adder

NON-TARIFFABLE TRANSMISSION ALLOCATION

- RECOMMENDATION
  - ALLOCATE NON-TARIFFABLE TRANSMISSION COSTS JUST TO DOMESTIC CUSTOMERS (2CP)
- RATIONALE
  - BY DEFINITION NON-TARIFFABLE TRANSMISSION COSTS ARE FOR FACILITIES NOT USED TO EXPORT POWER

NON-TARIFFABLE TRANSMISSION ALLOCATION

- RESULTS

Customer Class	Total Cost ($000)	Class Revenue ($000)	Net Export Revenue ($000)	Total Revenue ($000)	RCC % Current Rates	RCC Change
Residential	628,486	588,630	40,150	628,780	100.0%	0.0%
General Service - Small N-Demand	132,830	135,035	8,249	143,284	107.9%	0.0%
General Service - Small Demand	138,799	136,080	8,608	144,688	104.2%	-0.1%
General Service - Medium	200,717	186,797	12,544	199,341	99.3%	0.0%
General Service - Large 0 - 30kV	100,088	84,956	6,240	91,196	91.1%	0.0%
General Service - Large 30-100kV*	61,755	57,808	3,915	61,723	99.9%	-0.1%
General Service - Large >100kV*	205,755	189,258	12,918	202,176	98.3%	0.0%
SEP	968	826	-	826	85.4%	0.0%
Area & Roadway Lighting	21,981	21,630	429	22,059	100.4%	0.1%
Total General Consumers	1,491,378	1,401,019	93,053	1,494,072	100.2%	0.0%
Diesel	9,948	6,612	642	7,254	72.9%	0.3%
Export	251,538	345,233	- 93,696	251,538	100.0%	0.0%
Total System	1,752,864	1,752,864	-	1,752,864	100.0%	0.0%

EXPORT CLASS
NEED AND DEFINITION

- AGREE WITH MANITOBA HYDRO'S USE OF TWO EXPORT CLASSES AND DEFINITIONS
- RATIONALE – NEED FOR EXPORT CLASS(ES)
  - EXPORTS SIGNIFICANT IN TERMS OF MANITOBA HYDRO'S REVENUES, OPERATION AND INVESTMENT PLANNING.
  - PURPOSE TO PERMIT A REASONABLE ASSIGNMENT OF COSTS FOR NER CALCULATION
  - CLEAR DIFFERENCES BETWEEN EXPORTS AND DOMESTIC LOAD IN TERMS OF RELIABILITY AND COSTS IMPOSED

EXPORT CLASS
NEED AND DEFINITION

- RATIONALE – NEED FOR TWO EXPORT CLASSES
  - CLEAR DIFFERENCES BETWEEN DEPENDABLE AND OPPORTUNITY EXPORTS FOR BOTH REVENUE BENEFITS AND COST/PLANNING IMPACTS
  - USE OF A SINGLE EXPORT CLASS REQUIRES ARBITRARY ASSUMPTIONS ON COST RESPONSIBILITY OF EXPORTS VS. DOMESTIC LOAD TO AVOID EXTREME RESULTS
  - TWO CLASS APPROACH NOT PERFECT BUT A WORKABLE/REASONABLE ALTERNATIVE

BIPOLE III FUNCTIONALIZATION/ALLOCATION

- AGREE WITH MANITOBA HYDRO'S TREATMENT AS GENERATION
- RATIONALE
  - PURPOSE OF BIPOLE III IS TO ADDRESS DELIVERABILITY OF SUFFICIENT GENERATION (SIMILAR TO BIPOLE I & II)
  - BIPOLE III IS NON-TARIFFABLE

  ("THE BOARD ACCEPTS HYDRO'S PROPOSED ASSIGNMENT OF ONLY THOSE TRANSMISSION FACILITIES WHICH WOULD BE RECOGNIZED FOR INCLUSION IN HYDRO'S TRANSMISSION TARIFF TO THE TRANSMISSION FUNCTION" BO 7/03)
  - INCREASED AWARENESS OF CONSEQUENCES
  - CONSIDER AS PART OF INTEGRATED HVDC SYSTEM

DORSEY (& RIEL) FUNCTIONALIZATION/ALLOCATION

- AGREE WITH MANITOBA HYDRO'S TREATMENT
  - CONVERTER AS GENERATION
  - AC FACILITIES AS TRANSMISSION
- RATIONALE
  - CONVERTER INTEGRAL PART OF HVDC SYSTEM
  - DORSEY CONVERTER IS NON-TARIFFABLE
  - TRANSMISSION BENEFIT VALUE ONE "MODEL ESTIMATE"
  - NOT PART OF RIEL PROJECT JUSTIFICATION

GENERATION CLASSIFICATION/ALLOCATION

- AGREE WITH MANITOBA HYDRO'S USE OF "WEIGHTED ENERGY" APPROACH
- RATIONALE
  - THERE IS NO INDUSTRY STANDARD/CONSENSUS
  - ALLOWS FOR A HOLISTIC APPROACH
  - USE OF MARGINAL COSTS (OR PROXY) ALIGNS WITH EFFICIENCY OBJECTIVE
  - SUFFICIENT TIME DIFFERENTIATION SHOULD ADDRESS BOTH CAPACITY AND ENERGY COST DRIVERS

INTERCONNECTIONS CLASSIFICATION/ALLOCATION

- AGREE WITH MANITOBA HYDRO'S TREATMENT USING "WEIGHTED ENERGY"
- RATIONALE
  - INTERCONNECTS SUPPORT BOTH DOMESTIC AND EXPORT LOAD
  - DOMESTIC BENEFITS - IMPROVED ENERGY AND CAPACITY RELIABILITY WITH ENERGY MORE CRITICAL
  - EXPORTS BENEFITS - SHORT-TERM OPPORTUNITY ENERGY SALES AND LONGER TERM FIRM CONTRACTS FOR "BLOCKS" OF POWER (E.G. 5X16 AND 7X16)

URA & AEF

- AGREE WITH MANITOBA HYDRO'S ASSIGNMENT TO EXPORTS

- URA
  - STATUTORY REQUIREMENT
  - GOVERNMENT POLICY BASED ON "BENEFITS GENERATED THROUGH EXPORT SALES" / "NOT ASKING MANITOBANS TO PAY MORE".
- AEF
  - STATUTORY REQUIREMENT – FUNDED BY EXPORTS / PROGRAMS DETERMINED WITH GOVERNMENT
  - ALSO SUPPORTS NON-ELECTRIC EFFICIENCY INITIATIVES

COST OF SERVICE STUDIES PRINCIPLES AND USE

- CONSENSUS
  - OVERALL RATE MAKING OBJECTIVES
  - PRIMARY COST OF SERVICE PRINCIPLES

- DEBATE
  - CONSIDERATIONS OTHER THAN “COST CAUSATION” (EFFICIENCY AND STABILITY)
  - USE OF COSS RESULTS