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June 7, 2023

THE PUBLIC UTILITIES BOARD OF MANITOBA  
400-330 Portage Avenue  
Winnipeg, Manitoba  
R3C 0C4

ATTENTION: Dr. D. Christle, Board Secretary and Executive Director

Dear Dr. Christle:

**RE: MANITOBA HYDRO'S 2023/24 & 2024/25 GENERAL RATE APPLICATION – UNDERTAKINGS**

Please find enclosed Manitoba Hydro's undertakings 19-20, 23, 32, 39, 41, 43-44, 51-52, undertaking accepted at page 3194 of the transcript, and update to undertaking 7.

Should you have any questions with respect to the foregoing, please do not hesitate to contact the writer at 204-360-3257.

Yours truly,  
**MANITOBA HYDRO LEGAL SERVICES**  
Per:

  
for: Brent Czarnecki  
Senior Counsel

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2023/24 & 2024/25 GENERAL RATE APPLICATION

Manitoba Hydro Undertaking #7

Capacity marginal value is based on the deferral of a peaking type natural gas or the capacity value, the lesser of the two. Manitoba Hydro to advise which of the two it has chosen and when the test for the marginal cost had changed. If the answer falls under CSI, to file a response under CSI.

Response:

[REDACTED]

5a

The response to MIPUG/MH I-48-a-e indicates that starting in 2018/19 the marginal value of generation capacity is based on the lesser of the consensus capacity price forecast and the deferral of a thermal generation resource built in Manitoba.

**2023/24 & 2024/25 GENERAL RATE APPLICATION**

**Manitoba Hydro Undertaking #19**

Manitoba Hydro to provide the assumptions are used for both frequency and duration costs in Copperleaf

**Response:**

The Frequency Costs are determined by calculating the weighted average using the estimated average costs per event from the un-served energy study, and choosing the demographic of the area in question (i.e., is the area predominantly residential, commercial/industrial, or a mix of both).

Duration Costs are computed in a similar manner as the Frequency Costs. They are determined by taking the estimated average costs per un-served kWh from the study and again selecting the demographic of the area.

The values shown in the table below summarize the frequency and duration costs, by customer, that Manitoba Hydro uses as an input to its Corporate Value Framework (CVF).

	Primarily Residential (< 15% Commercial)	Mixed Residential & Commercial	Primarily Commercial (> 60% Commercial)	Critical Public Service (Hospital)
\$/kW (Frequency Cost)	\$15	\$61	\$127	\$169
\$/KWh (Duration Cost)	\$15	\$61	\$127	\$169

For reference, customer distribution percentages used in computation of **frequency** and **duration costs** are averages that are determined based on the selection of the customer type in Copperleaf. The selection consists of:

- Primarily Residential (<15% Commercial)
- Primarily Commercial (>60% Commercial)
- Mixed
- Critical Public Service

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## 2023/24 & 2024/25 GENERAL RATE APPLICATION

### Manitoba Hydro Undertaking #20

**Does Manitoba Hydro input different levels of value of lost load or different levels of voltage service when it comes to making investment decisions; if so, advise.**

#### Response:

Yes, Manitoba Hydro uses several variables to quantify the system impacts of outages to the system and to customers. The methodology depends on whether a direct customer impact is apparent and where the impact is expected.

When the direct impacts to customers are unknown (i.e. loss of transmission reliability without a clear associated customer outage), the value of the outage is quantified based on the expected unserved energy (load), measured as MWh and scaled based on a pre-determined cost per MWh. This does not include system voltage.

→ *Impact is considered under the Transmission Reliability Risk in the CVF.*

When the direct impact to customers is known, the value of the outage is quantified based on several variables including peak MVA (load), customer demographics (number of customers, and relative proportion of residential, commercial, industrial, or critical service), frequency of outages, duration of outages, and the expected improvement to the frequency and duration after the investment is in-service. This also does not include system voltage and is not restricted by the voltage of the connection.

→ *Impact is considered under the Distribution Reliability Benefit and Outage Recovery Benefit value measure in the CVF.*

When a failure or event will threaten the organization's ability to deliver power (load) in general, the value is quantified based on the ability to deliver load within pre-defined limits, the operating context of the equipment (i.e. overloaded) and the ability to maintain delivery voltages within standard.

→ *Impact is considered under the Electrical Delivery Capacity Risk in the CVF.*

The table provided in Manitoba Hydro Undertaking #19 further summarizes the frequency and duration costs, by customer, that Manitoba Hydro uses as an input to its Corporate Value Framework (CVF).

**2023/24 & 2024/25 GENERAL RATE APPLICATION****Manitoba Hydro Undertaking #23**

**MH to confirm the date of when the MHEB approved Q1 2021/22 report and when it was given to the minister.**

**Response:**

The Manitoba Hydro-Electric Board approved Q1 2021/22 report at the August 11, 2021 meeting.

As noted in the response to Undertaking #4, Manitoba Hydro provided the Manitoba Hydro-Electric Board O1 2021/22 to the Minister on August 13, 2021.

**2023/24 & 2024/25 GENERAL RATE APPLICATION**

**Manitoba Hydro Undertaking #32**

**Manitoba Hydro to confirm that pre-placement trades trainee programs are ramping up**

Manitoba Hydro has pre-placement programs in place to help both Indigenous applicants and women with trades-related experience and skills successfully compete for a position in the power line technician, power electrician and mechanical technical trainee programs. These pre-placement programs range from 6 to 12 months, depending on the apprenticeship program being pursued. Educational upgrading is provided to those that do not meet the minimum academic requirements through the pre-placement programs.

Please see the following table for information on the number of trainees hired into the pre-placement trainee programs from calendar year 2014-2022.

**Number of Trainees Hired into Pre-placement Programs (Calendar Year)**

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Pre-Placements	12	13	12	11	15	9	0	19	29
Total Indigenous*	12	13	12	11	15	9	0	14	21

\*Based on self-report data from the application process. Employees may not have self-declared as Indigenous upon hire.

The table above shows that the number of individuals being hired into the pre-placement programs is increasing in calendar years 2021 and 2022 in line with the increase in the recruitment of total trades trainees. This follows the 2020 year in which all trades trainee hiring was halted due to the hiring freeze as part of the government cost savings initiative associated with the COVID-19 pandemic.

**2023/24 & 2024/25 GENERAL RATE APPLICATION****Manitoba Hydro Undertaking #39**

**While VDP was a hydro initiative, was VDP reviewed by Government before it went ahead?**

**Response:**

Manitoba Hydro responded on the record on Wednesday, May 31, 2023. See page 2504 of the transcript.

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## 2023/24 & 2024/25 GENERAL RATE APPLICATION

### Manitoba Hydro Undertaking #41

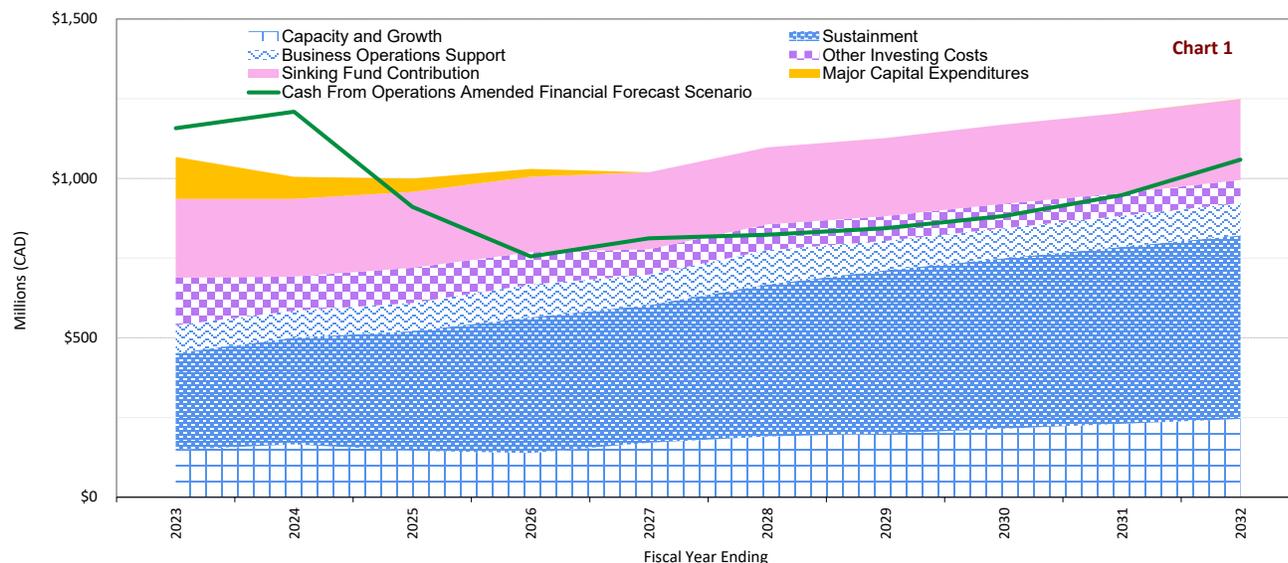
Manitoba Hydro to refile chart on page 41 exhibit 42

#### Response:

***Sinking Fund Provisions up to November 2022:*** Section 41 of *The Manitoba Hydro Act* required the corporation to make a minimum annual contribution to the sinking fund reserve equal to 1% of the debt outstanding at March 31 plus 4% of the sinking fund balance at March 31. The legislated contribution formula allowed the utility to set aside internally generated funds to retire debt borrowed over a period of approximately 42 years.

This long-standing section of *The Manitoba Hydro Act* was repealed in November 2022 but was replaced with other legislative provisions which provide for debt servicing costs to be included in revenue requirement. To note, debt servicing costs are **interest** and **principal payments** on debt over a particular period of time.

As indicated in slide 41 of Manitoba Hydro's direct evidence (MH Exhibit Number 42), the following should be included in revenue requirement and should be funded with internally generated funds in order for Hydro to remain self-supporting. Manitoba Hydro's **cash from operations**, should generally fund **business operations capital**, **other investing activities** and the **sinking fund contribution (funds toward principal debt payment)**. For comparative purposes, this represents the original graph on slide 41 but with the requested pattern differentiation for business operations capital and ongoing costs.



**Sinking Fund Provisions After November 2022:** Pursuant to section 15(1.1) of *The Manitoba Hydro Act* (the Corporation has the powers of a natural person) Manitoba Hydro has the ability to create reserves and sinking funds when they are required. In Section 39(1) of *The Manitoba Hydro Act*, the new definition of "Revenue Requirement", in relation to a rate period, is the amount of rate revenue required in each fiscal year within the rate period:

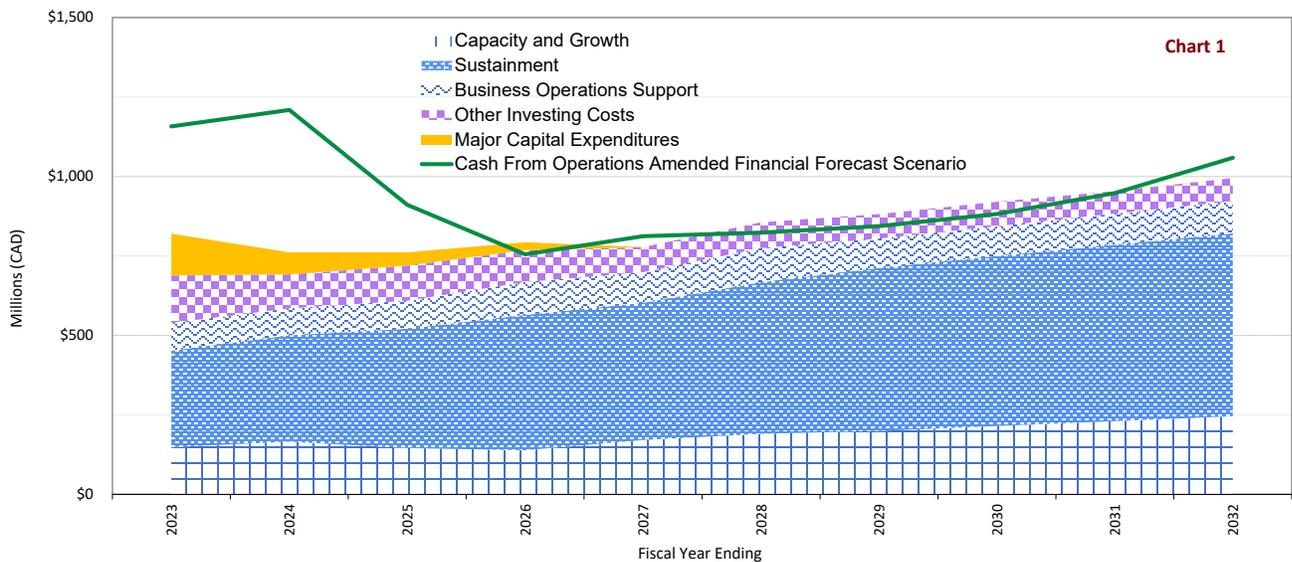
- (a) to pay the reasonable costs forecast by the corporation for that fiscal year, including
  - (i) the corporation's operating, maintenance and administrative expenses,
  - (ii) amounts in respect of capital expenditures,
  - (iii) **debt service costs**, and
  - (iv) power purchases, taxes, fees and other amounts required to be paid out of the corporation's revenue; and
- (b) to achieve, in accordance with the regulations, the financial targets set out or referred to in **subsection 39.1(1)** and address material risks that could affect the achievement of those targets.

Manitoba Hydro is currently providing advice and analysis to the Province of Manitoba to redefine the sinking fund and take the necessary steps to provide for the governance, if required.

In the interim, Manitoba Hydro's investment trust fund with the Province of Manitoba is intended to be used to make transfers of Manitoba Hydro funds equivalent to the minimum sinking fund contribution included in the Amended Financial Forecast Scenario for 2023/24 to retire debt in the same amount. This is permitted and enabled pursuant to section 42(1) of *The Manitoba Hydro Act*.

Act which stipulates: *If the corporation holds money in excess of the amount that is required for its immediate purposes, it may pay the excess to the Minister of Finance for investment for and on behalf of the corporation.*

MIPUG’s request for the removal of the sinking fund from the Financial Resilience graph on slide 41 is set forth below:



Please note that Manitoba Hydro will not be recovering 100% of business operations capital and ongoing costs in several years during the first decade of the forecast under the Amended Financial Forecast Scenario. In order to do so, the green line, cash from operations, must be entirely above the purple and blue sections.

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**2023/24 & 2024/25 GENERAL RATE APPLICATION****Manitoba Hydro Undertaking #43**

**Could you identify the positions or persons who are or will be on the new enterprise investment committee?**

**Response:****COMMITTEE CO-CHAIRS**

Aurel Tess, Chief Financial Officer

Alastair Fogg, Corporate Controller

**COMMITTEE MEMBERS**

Dave Bowen, Director – Integrated Resource Planning

Jim Pawluk, Director – Asset Management

Quinn Menec, Director – Generation Operations & Maintenance

Vicky Cole, Director – Indigenous & Community Relations

Shahzad Chaudhry, Director – Customer Strategy & Experience

**COMMITTEE SECRETARY**

Stephen Ramchandrar, Director – Strategy & Enterprise Planning

Jodie Juric, Financial Planning

**EX-OFFICIO ATTENDEES**

Sandra Amorim Dew, Financial Advisory Services Department Manager

**2023/24 & 2024/25 GENERAL RATE APPLICATION****Manitoba Hydro Undertaking #44**

**For slide 41, Manitoba Hydro to show the proportions allocated to business operations capital (sustainment, capacity growth, and business operations support). Breakdown of the three different categories.**

**Response:**

Please see response to undertaking #41.

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**2023/24 & 2024/25 GENERAL RATE APPLICATION**

**Manitoba Hydro Undertaking #51**

**MH to advise who exercised the professional judgement as to what level of componentization was required to the extent that there's a professional opinion underlying MH's position. For both the concentric 2019 depreciation study and the IFRS compliant ASL depreciation study (Taken under advisement).**

**Response:**

Manitoba Hydro responded on the record on Monday, June 5, 2023. See page 3143-3145 of the transcript.

2023/24 & 2024/25 GENERAL RATE APPLICATION

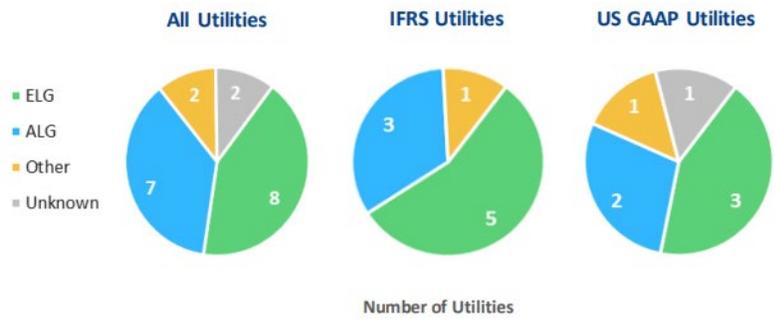
**Manitoba Hydro Undertaking #52**

Manitoba Hydro to provide a visual aid similar to slide 7 of Manitoba Hydro's Direct Evidence, identifying the utilities that use each method of depreciation.

**Response:**

The following chart was provided on slide 7 of Manitoba Hydro's direct evidence and depicts the depreciation procedures in use by the predominant electric utilities for each Canadian province based on the results of Manitoba Hydro's research as provided in the response to PUB/MH II-37:

Use of ELG in Canada is Now Well Established



*Based on Manitoba Hydro research PUB/MH II-37 (statistics exclude Manitoba Hydro)  
Separate pie chart not depicted for utilities using PSAS (2 utilities) or CPE GAAP (1 utility)*

The following table provides the source data for the "All Utilities" chart presented on slide 7 of Manitoba Hydro's direct evidence:

**PUB/MH II-37 - All Utilities**

Depreciation Procedure	Province / Territory	Utility	Accounting Standards	Note
Equal life group	Alberta	AltaLink	IFRS	
Equal life group	Alberta	ATCO Electric	IFRS	
Equal life group	Alberta	TransAlta	IFRS	
Equal life group	New Brunswick	New Brunswick Power Corporation	IFRS	
Equal life group	Yukon	ATCO Energy Yukon	IFRS	
Equal life group	Alberta	Fortis Alberta	US GAAP	
Equal life group	Newfoundland and Labrador	Newfoundland Power Inc	US GAAP	
Equal life group	Nova Scotia	Nova Scotia Power	US GAAP	
Average life group	Prince Edward Island	Maritime Electric	CPE GAAP	
Average life group	Newfoundland and Labrador	NALCOR Energy	IFRS	
Average life group	Saskatchewan	SaskPower	IFRS	
Average life group	Yukon	Yukon Energy	IFRS	
Average life group	Northwest Territories	Northwest Territories Power Corporation	PSAS	
Average life group	British Columbia	Fortis BC - Electricity	US GAAP	
Average life group	Ontario	Hydro One	US GAAP	
Item / individual unit	British Columbia	BC Hydro	IFRS	
Other	Ontario	Ontario Power Generation	US GAAP	2
Not found in the public domain	Nunavut	Qulliq Energy Corporation	PSAS	
Not found in the public domain	Quebec	Hydro Quebec	US GAAP	

**Explanatory Notes:**

- Ontario Power Generation (OPG) determines average service lives through depreciation studies. OPG develops depreciation rates by applying these service lives to assets on a straight-line basis, except for computers which use declining balance. From material found in the public record, OPG does not appear to use either the average life group or equal life group depreciation procedure in the development of depreciation rates.

The following table provides the source data for the "IFRS Utilities" chart presented on slide 7 of Manitoba Hydro's direct evidence:

**PUB/MH II-37 - Utilities Reporting Under IFRS**

Depreciation Procedure	Province / Territory	Utility	Accounting Standards	Note
Equal life group	Alberta	AltaLink	IFRS	
Equal life group	Alberta	ATCO Electric	IFRS	
Equal life group	Alberta	TransAlta	IFRS	
Equal life group	New Brunswick	New Brunswick Power Corporation	IFRS	
Equal life group	Yukon	ATCO Energy Yukon	IFRS	
Average life group	Newfoundland and Labrador	NALCOR Energy	IFRS	
Average life group	Saskatchewan	SaskPower	IFRS	
Average life group	Yukon	Yukon Energy	IFRS	
Item / individual unit	British Columbia	BC Hydro	IFRS	

The following table provides the source data for the "US GAAP Utilities" chart presented on slide 7 of Manitoba Hydro's direct evidence:

**PUB/MH II-37 - Utilities Reporting Under US GAAP**

Depreciation Procedure	Province / Territory	Utility	Accounting Standards	Note
Equal life group	Alberta	Fortis Alberta	US GAAP	
Equal life group	Newfoundland and Labrador	Newfoundland Power Inc	US GAAP	
Equal life group	Nova Scotia	Nova Scotia Power	US GAAP	
Average life group	British Columbia	Fortis BC - Electricity	US GAAP	
Average life group	Ontario	Hydro One	US GAAP	
Other	Ontario	Ontario Power Generation	US GAAP	2
Not found in the public domain	Quebec	Hydro Quebec	US GAAP	

**Explanatory Notes:**

- Ontario Power Generation (OPG) determines average service lives through depreciation studies. OPG develops depreciation rates by applying these service lives to assets on a straight-line basis, except for computers which use declining balance. From material found in the public record, OPG does not appear to use either the average life group or equal life group depreciation procedure in the development of depreciation rates.

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**Manitoba Hydro Undertaking Accepted at Transcript Page 3194**

MH to provide a schedule that breaks down into how much of those variances are due to change in service life assumptions versus removal of net salvage versus change to the ELG methodology.

**Response:**

The following schedule provides a continuity of accumulated depreciation variances from the 2005 Depreciation Study to the 2019 Depreciation Study, and summarizes the impacts of changes in depreciation assumptions (service lives and lowa curves), removal of net negative salvage, and the implementation of ELG:

Manitoba Hydro Electric Operations Historical Build-up of Accumulated Depreciation (AD) Variance	Manitoba Hydro		WPLP	
	ASL	ELG	ASL	ELG
<b>2005 Depreciation Study (with Salvage)</b>	<b>(117,278,021)</b>			
Changes in depreciation parameters (life extensions)	(434,914,494)			
<b>2010 Depreciation Study (with Salvage)</b>	<b>(552,192,515)</b>		-	
Impact of 1/2 year rule in determining calculated AD for Wuskwatim	(141,009)		(2,267,093)	
Changes in depreciation parameters (shortened lives)	78,346,289		(3,019,480)	
Subtotal before implementation of ELG	(473,987,235)	(473,987,235)	(5,286,573)	(5,286,573)
Implementation of ELG	-	490,182,199	-	5,269,280
<b>2014 Depreciation Study (with Salvage)</b>	<b>(473,987,235)</b>	<b>16,194,964</b>	<b>(5,286,573)</b>	<b>(17,293)</b>
Removal of Net Negative Salvage *	(541,062,726)	(618,819,390)	(3,749,459)	(4,279,747)
<b>2014 Depreciation Study (no Salvage)</b>	<b>(1,015,049,961)</b>	<b>(602,624,426)</b>	<b>(9,036,032)</b>	<b>(4,297,040)</b>
Changes in depreciation parameters (life extensions)	(233,944,117)	(242,888,507)	(3,826,851)	(6,879,682)
<b>2019 Depreciation Study (ALG/ELG no Salvage)</b>	<b>(1,248,994,078)</b>	<b>(845,512,933)</b>	<b>(12,862,883)</b>	<b>(11,176,722)</b>
<b><u>Cumulative Impact:</u></b>				
Impact of 1/2 year rule in determining calculated AD for Wuskwatim	(141,009)	(141,009)	(2,267,093)	(2,267,093)
Changes in depreciation parameters	(590,512,322)	(599,456,712)	(6,846,331)	(9,899,162)
Removal of net negative salvage *	(541,062,726)	(618,819,390)	(3,749,459)	(4,279,747)
Implementation of ELG	-	490,182,199	-	5,269,280
<b>Total Growth in AD Varance 2005 to 2019</b>	<b>(1,131,716,057)</b>	<b>(728,234,912)</b>	<b>(12,862,883)</b>	<b>(11,176,722)</b>

\* Net Negative Salvage was removed from depreciation rates pursuant to Directive 8 of Order 75/15:

"The removal of net salvage from the 2015/16 depreciation rates in the 2014 Depreciation Study **BE AND IS HEREBY APPROVED.**"