LIBERTY GAS MID-STATES MISSOURI
APPENDIX D – REBUTTED NET SALVAGE PARAMETERS

The original study in my direct testimony presented data combined from all three states in which Liberty has gas operations. To comply with Staff's preference, I performed the same analysis using Missouri only information. Additionally, since net salvage data was available through 2017 and was used by Staff in its recommendations, I also used information through 2017 that has been compiled for each account. Below are my recommended changes from the Staff position.

LIBERTY MISSOURI				
NET SALVAGE PARAMETERS				
Acct	**Description**	**Original Proposed**	**Staff Proposed**	**Company Proposed Revised**
3670	T&D-Mains-STL-PLST-CI-Mixed	0	-1	0
3671	T&D-Mains-STL	-20	-1	-20
3672	T&D-Mains-PLST	N/A	-1	NA
3690	M & R Station Equipment	-10	0	-10
3760	Mains	0	-33	0
3810	Meters	-35	0	-35
3820	Meters Installations	-35	0	-35
3850	Industrial M&R Equip	-10	0	-10

FERC Account 367.0 Transmission Mains Cathodic Protection (0% net salvage)

Company Original	Staff Proposed	Company Revised
0	-33	0

This account consists of any gross salvage and removal cost associated with transmission mains such as anodes, ground beds, and rectifiers. These assets decay in place and there is generally no gross salvage or removal cost for anodes and other equipment in this account. The overall moving average for this account is zero percent

net salvage. Staff combined data from accounts 367.0, 367.1 and 367.2 to analyze both life and net salvage. As with the life analysis, I think it is more logical to view each subaccount separately on a stand-alone basis. It is also necessary to look at the costs that will occur in the future when removing assets in each subaccount, even if there is little historical activity to date. Since the assets in this subaccount will retire in place with no gross salvage or removal cost, I recommend retaining the zero percent net salvage for subaccount 3670.

FERC Account 367.1 Transmission Mains Steel (-20% net salvage)

Company Original	Staff Proposed	Company Revised
-20	-1	-20

This account consists of any gross salvage and removal cost associated with steel transmission mains and related assets. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. As I stated above, I think it is more logical to view each subaccount separately on a stand-alone basis and look at the costs that will occur in the future when removing assets in each subaccount, even if there is little historical activity to date. There has been limited retirement or net salvage activity over the study period. Typically, there are removal costs such as labor and the use of equipment associated with removing steel mains. Although not statistically significant, the small amount of removal cost equate to a negative 17 percent net salvage in the very recent bands. To model the fact that there will be removal cost in the future and recognizing that Staff recommends a negative 33 percent for distribution mains, I recommend retention of the negative 20 percent net salvage for this account.

FERC Account 367.2 Transmission Mains Plastic (NA)

Company Original	Staff Proposed	Company Revised
-20	-1	NA

This account consists of any gross salvage and removal cost associated with plastic transmission mains and related assets. All existing plant in this account will be transferred to account 367.1 and no future plant assets are planned to be booked in this account; therefore, no net salvage factor is needed.

FERC Account 369.0 M & R Station Equipment (-10% net salvage)

Company Original	Staff Proposed	Company Revised
-10	0	-10

This account consists of any gross salvage and removal cost associated with transmission metering and regulating station equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been one small retirement in this account during the study period and zero net salvage costs. Generally there is some removal cost associated with removing or replacing station equipment. Removal and salvage costs associated with removing and replacing station equipment, whether it's a distribution or transmission station, are comparable. Staff recommends negative 15 or 25 percent net salvage for distribution station equipment (DRS and City Gates, respectively) and zero percent for transmission stations. It is not logical to anticipate there will be no net salvage costs in the future for transmission station equipment given that distribution stations will incur removal cost. To model net salvage in the future, I recommend retaining the negative 10 percent net salvage for this account.

FERC Account 376.0 Distribution Mains Cathodic Protection (0% net salvage)

Company Original	Staff Proposed	Company Revised
0	-33	0

This account consists of any gross salvage and removal cost associated with cathodic protection equipment for distribution mains and associated equipment. These assets decay in place and there is generally no gross salvage or removal cost for anodes and other related equipment. The overall moving average for this account is zero percent net salvage. Staff combined data from accounts 376.0, 376.1 and 376.2 to analyze both life and net salvage. I think it is more logical to view each account separately and on a stand-alone basis. It is also necessary to look at the costs that will occur to remove assets in this account in the future, even if there is minimal historical

data. Since these assets will retire in place with no gross salvage or removal cost, I recommend retaining the zero percent net salvage for this account.

FERC Account 381.0 Meters (-35% net salvage)

Company Original	Staff Proposed	Company Revised
-35	0	-35

This account consists of any gross salvage and removal cost associated with electromechanical distribution meters. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account varies significantly between negative 40 and negative 776 percent net salvage. Additional detail discussing removal costs for meters can be seen in DR 0318. In the data response, the Company discusses a lag or "catch up" in retirements being recorded in 2016 and 2017, the timing of removal costs recorded while an automated process was put in place to record retirements, the discrete activities in removing meters that cause removal cost to be incurred as well as examples of actual projects where removal cost is charged. Based on the actual experience of Liberty in Missouri (which is expected to continue using the same operational methodology), I recommend retaining the negative 35 percent net salvage for this account.

FERC Account 382.0 Meter Installations (-35% net salvage)

Company Original	Staff Proposed	Company Revised
-35	0	-35

This account consists of any gross salvage and removal cost associated with equipment and installation costs related to meter installations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account varies

significantly between negative 54 percent net salvage to negative 349 percent. The removal and salvage costs for this account are also impacted by the activity relating to meters discussed above and there is generally as much effort (or more) to remove meter loops than the meters themselves. To model net salvage in the future, I recommend conservatively retaining the negative 35 percent net salvage for this account.

FERC Account 385.0 Industrial M&R Station Equip (-10% net salvage)

Company Original	Staff Proposed	Company Revised
-10	0	-10

This account consists of any gross salvage and removal cost associated with industrial measuring and regulating stations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. Generally there is a small amount of removal cost associate with these assets. This is supported by the net salvage recommendations for the reasonably similar district regulator stations (DRS) and City Gates (where Staff recommended a negative 15 and negative 25 percent net salvage, respectively). While there are some operational differences between Industrial M&R Stations and DRS/City Gates, the equipment is similar and removal cost would be required to remove or replace the assets in each of the three categories. To model net salvage in the future, I recommend retaining the 10 percent net salvage for this account.