Appendix 4B

Attachment 4: X2 Results (CalSim 3)

Appendix 4B

Attachment 4: X2 Results (CalSim 3)

The following results of the CalSim 3 model are included for X2 position conditions for the following scenarios:

- Baseline Conditions (072623)
- Proposed Project (021624)

Title	Model Parameter	Table Numbers	Figure Numbers
X2 Position	X2_PRV	4B-4-1-1a to 4B-4-1-1c	4B-4-1a to 4B-4-1r

Report formats:

- Monthly tables comparing two scenarios (exceedance values, long-term average, and average by water year type).
- Monthly pattern charts (long-term average and average by water year type) including all scenarios.
- Monthly exceedance charts (all months) including all scenarios.

Table 4B-4-1-1a. X2 Position, Baseline Conditions 072623, Monthly Distance (Km)

Statistic	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
10% Exceedance	93.9	92.8	91.0	86.4	79.2	77.3	78.4	81.4	85.4	89.1	91.5	92.7
20% Exceedance	92.0	91.9	89.8	83.9	74.3	71.8	74.7	78.4	82.1	85.6	88.9	91.0
30% Exceedance	91.5	90.8	88.2	80.8	68.3	65.9	71.0	76.7	81.0	85.1	88.1	90.3
40% Exceedance	90.1	89.7	86.9	72.8	65.6	64.6	67.3	72.2	80.4	83.4	86.4	88.9
50% Exceedance	88.7	86.4	84.0	70.0	61.5	62.1	64.5	68.2	77.5	82.6	85.9	87.7
60% Exceedance	80.1	85.2	78.5	64.5	58.2	58.6	61.7	66.1	75.6	80.1	84.1	80.1
70% Exceedance	80.0	84.2	69.2	59.3	54.7	55.8	60.2	63.1	71.5	79.4	82.8	80.0
80% Exceedance	80.0	82.4	63.1	54.3	52.8	53.3	56.6	58.8	63.8	74.9	82.2	79.7
90% Exceedance	79.9	76.0	55.8	52.6	51.8	52.1	53.2	55.4	59.2	73.3	81.0	79.6
Full Simulation Period Average[a]	85.8	85.3	78.1	69.4	63.6	62.9	65.5	68.8	75.0	81.2	85.3	85.5
Wet Water Years (30%)	83.1	80.0	64.8	57.0	53.6	54.5	56.7	59.2	64.9	74.0	80.1	78.3
Above Normal Water Years (11%)	86.4	86.8	79.6	61.7	56.8	56.4	59.9	63.9	71.2	78.4	83.1	79.9
Below Normal Water Years (21%)	85.1	85.2	82.1	72.4	64.7	62.7	64.9	68.4	76.6	82.3	85.9	88.2
Dry Water Years (22%)	86.2	87.5	84.4	78.7	70.3	68.4	71.6	75.4	81.1	85.4	88.3	90.4
Critical Water Years (16%)	90.9	91.6	87.8	81.4	76.4	75.9	78.2	82.0	85.9	89.3	91.7	92.9

Table 4B-4-1-1b. X2 Position, Proposed Project 021624, Monthly Distance (Km)

Statistic	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
10% Exceedance	93.9	92.9	91.2	86.1	78.3	76.8	77.8	81.5	85.6	89.2	91.6	92.8
20% Exceedance	92.1	91.8	90.0	84.3	74.0	71.6	74.6	78.3	82.1	85.7	89.1	91.2
30% Exceedance	91.5	90.5	88.2	80.5	68.2	65.6	70.7	76.7	81.1	85.2	88.3	90.6
40% Exceedance	90.3	89.5	87.0	72.7	65.4	64.2	67.2	72.7	80.5	83.1	86.1	89.3
50% Exceedance	89.1	86.3	83.9	69.8	61.5	62.0	64.5	69.5	77.9	82.0	85.5	88.0
60% Exceedance	80.1	85.1	78.9	64.4	58.2	58.6	62.0	67.2	75.7	80.2	83.5	80.1
70% Exceedance	80.0	84.0	69.3	59.3	54.7	55.9	60.2	63.7	71.4	78.7	82.8	80.0
80% Exceedance	80.0	82.4	63.1	54.3	52.8	53.3	56.7	59.1	63.6	74.8	82.4	79.7
90% Exceedance	79.9	76.2	55.8	52.5	51.8	52.1	53.2	55.7	59.3	72.6	81.8	79.7
Full Simulation Period Average[a]	85.9	85.3	78.1	69.3	63.3	62.7	65.5	69.3	75.0	80.9	85.4	85.7
Wet Water Years (30%)	83.3	80.0	64.9	57.0	53.6	54.5	56.9	59.8	64.9	73.9	80.5	78.6
Above Normal Water Years (11%)	86.5	86.5	80.0	61.8	56.7	56.3	60.0	64.4	71.2	77.3	82.7	79.8
Below Normal Water Years (21%)	85.1	85.2	82.0	72.2	64.5	62.3	64.7	69.1	76.7	81.7	85.5	88.3
Dry Water Years (22%)	86.2	87.5	84.5	78.7	70.0	67.8	71.2	75.4	81.1	85.4	88.4	90.7
Critical Water Years (16%)	91.0	91.5	87.7	80.8	75.5	75.7	78.4	82.2	86.1	89.3	91.8	93.0

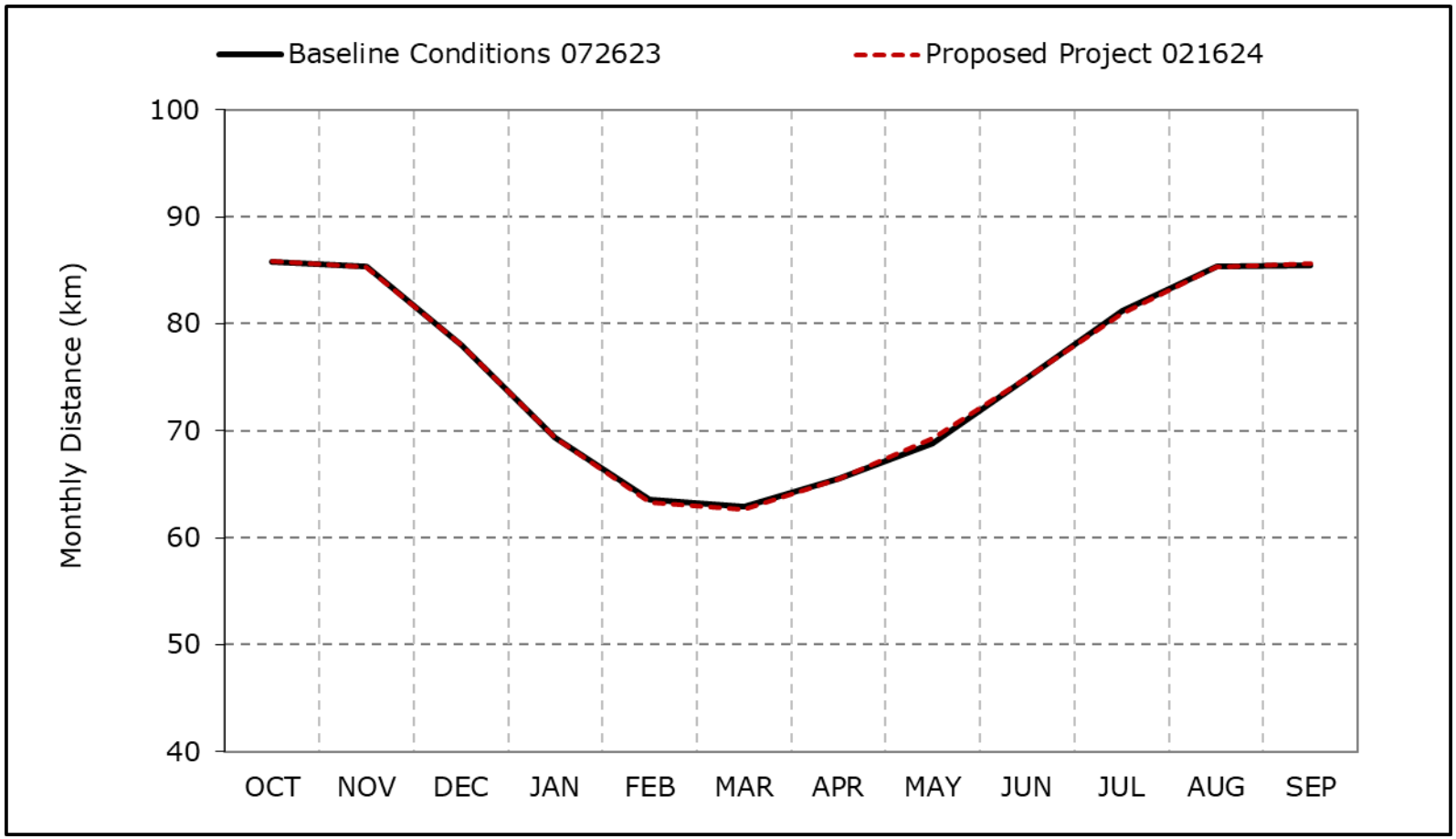
Table 4B-4-1-1c. X2 Position, Proposed Project 021624 minus Baseline Conditions 072623, Monthly Distance (Km)

Statistic	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
10% Exceedance	0.0	0.1	0.2	-0.2	-0.9	-0.5	-0.6	0.1	0.3	0.1	0.1	0.0
20% Exceedance	0.1	-0.2	0.2	0.4	-0.3	-0.1	0.0	-0.1	0.0	0.1	0.2	0.2
30% Exceedance	-0.1	-0.3	-0.1	-0.3	-0.1	-0.3	-0.3	0.1	0.0	0.1	0.2	0.3
40% Exceedance	0.2	-0.1	0.1	-0.1	-0.3	-0.3	-0.1	0.4	0.1	-0.3	-0.3	0.4
50% Exceedance	0.5	-0.1	-0.2	-0.1	-0.1	-0.1	0.0	1.3	0.4	-0.5	-0.4	0.2
60% Exceedance	0.0	-0.2	0.4	-0.1	0.0	0.0	0.3	1.1	0.1	0.1	-0.5	0.0
70% Exceedance	0.0	-0.2	0.1	-0.1	0.0	0.1	0.0	0.6	-0.1	-0.7	0.1	0.0
80% Exceedance	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.3	-0.2	-0.1	0.2	0.0
90% Exceedance	0.0	0.2	0.0	0.0	0.0	0.0	-0.1	0.3	0.1	-0.7	0.8	0.0
Full Simulation Period Average[a]	0.1	0.0	0.1	-0.1	-0.3	-0.3	0.0	0.4	0.1	-0.3	0.0	0.2
Wet Water Years (30%)	0.2	0.0	0.1	0.0	0.0	0.0	0.2	0.6	0.0	0.0	0.4	0.3
Above Normal Water Years (11%)	0.2	-0.3	0.4	0.1	0.0	-0.1	0.1	0.6	0.0	-1.1	-0.4	0.0
Below Normal Water Years (21%)	0.0	0.0	0.0	-0.2	-0.2	-0.4	-0.1	0.7	0.1	-0.6	-0.4	0.2
Dry Water Years (22%)	0.0	-0.1	0.0	0.0	-0.3	-0.6	-0.3	-0.1	0.0	0.0	0.2	0.3
Critical Water Years (16%)	0.1	-0.1	-0.1	-0.6	-1.0	-0.2	0.1	0.2	0.1	0.1	0.1	0.0

[a] Based on the 100-year simulation period.

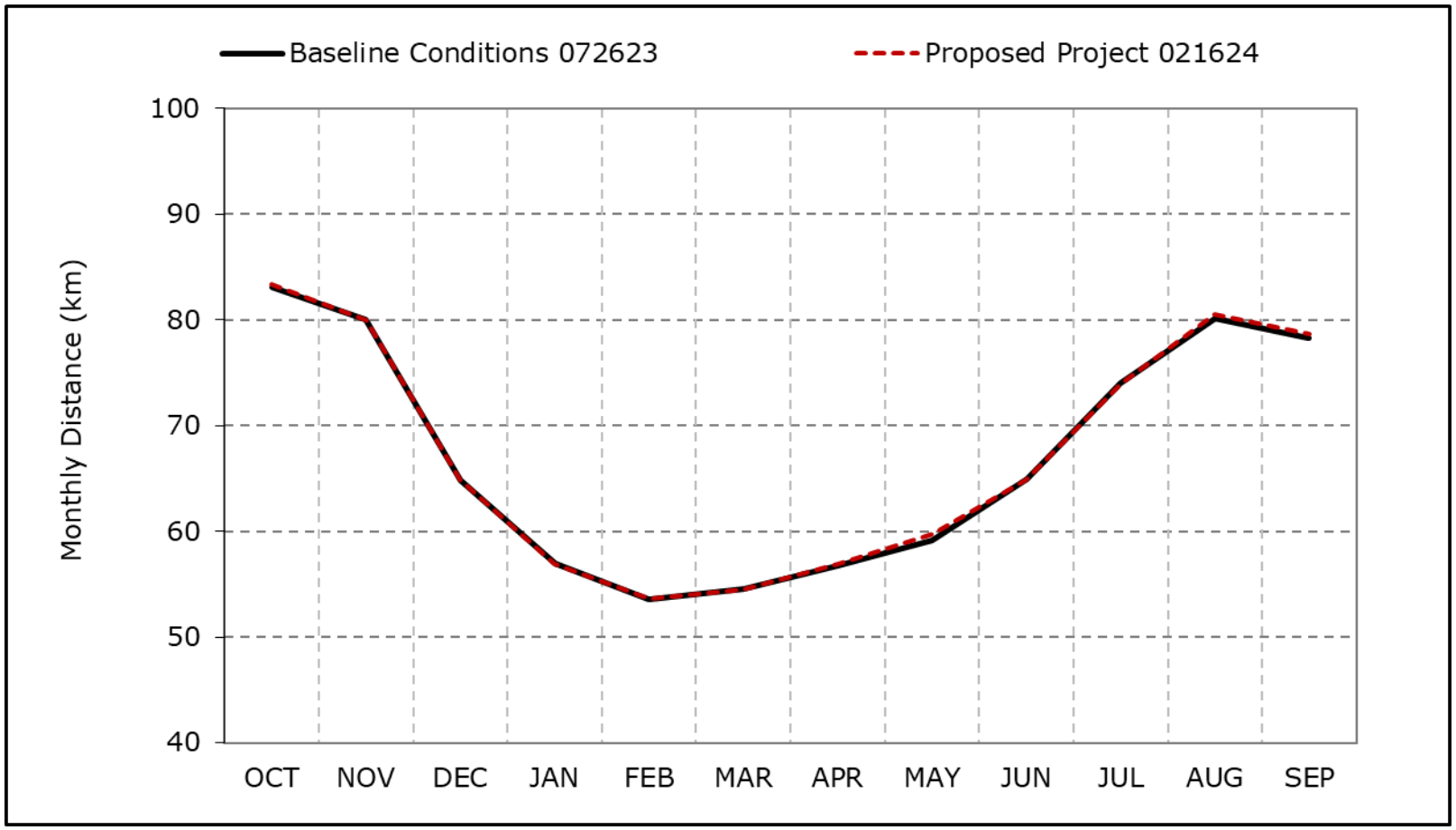
* All scenarios are simulated at current climate condition and 0 cm sea level rise.
* Water Year Types defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999).
* Water Year Types results are displayed with water year - year type sorting.

Figure 4B-4-1a. X2 Position, Long-Term Average Distance



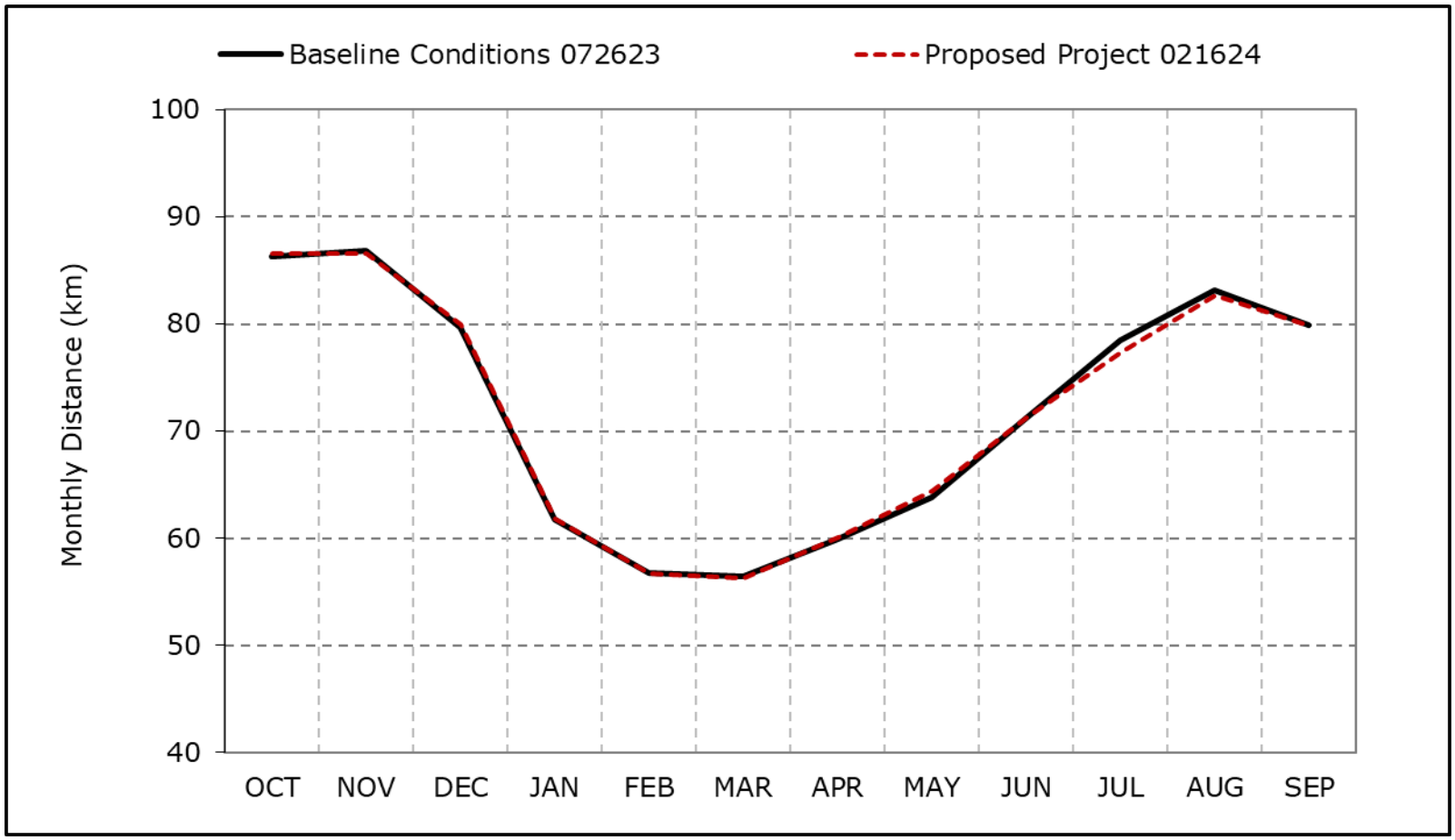
*As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999).
*These results are displayed with water year - year type sorting.
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1b. X2 Position, Wet Year Average Distance



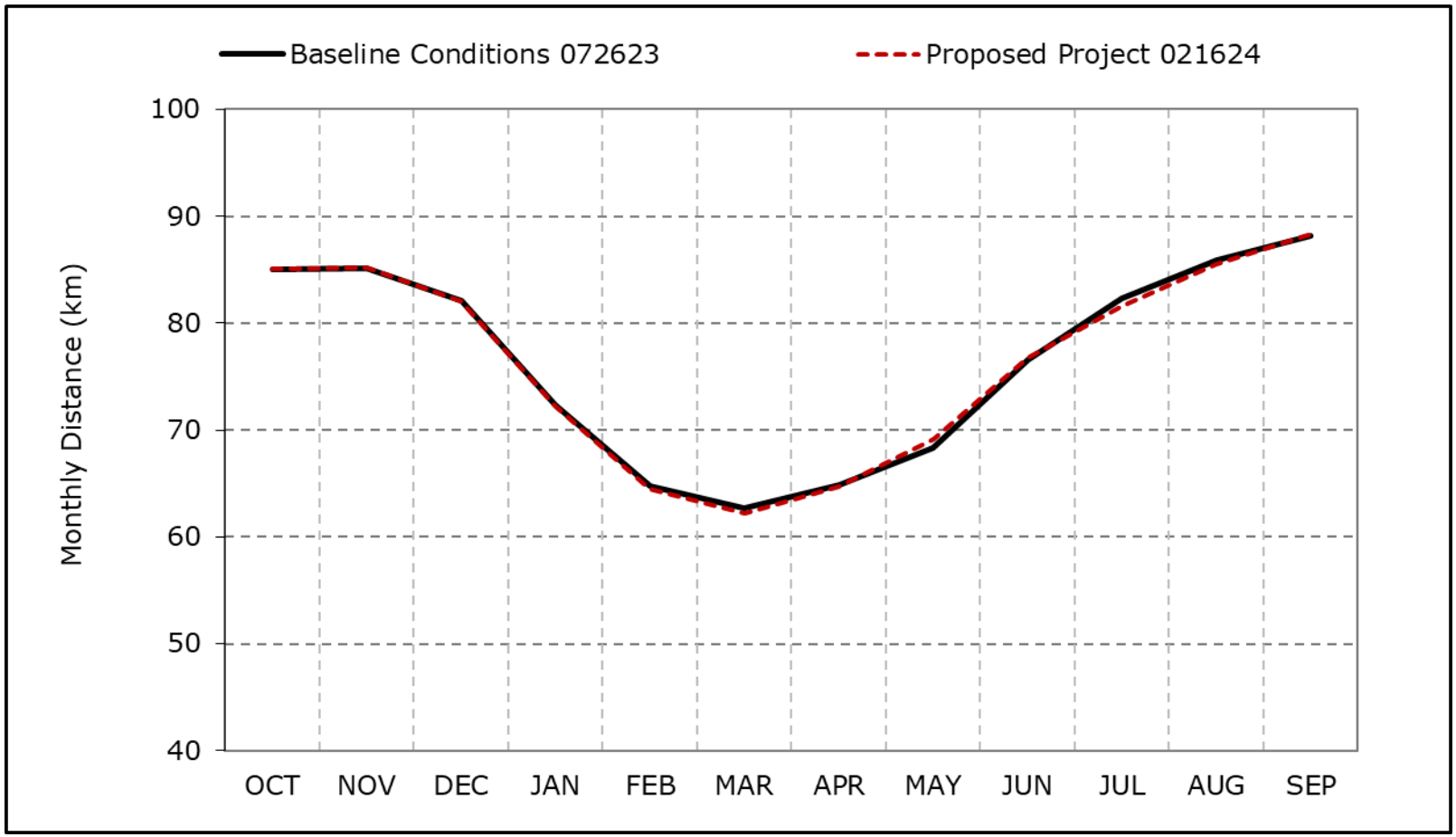
*As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999).
*These results are displayed with water year - year type sorting.
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1c. X2 Position, Above Normal Year Average Distance



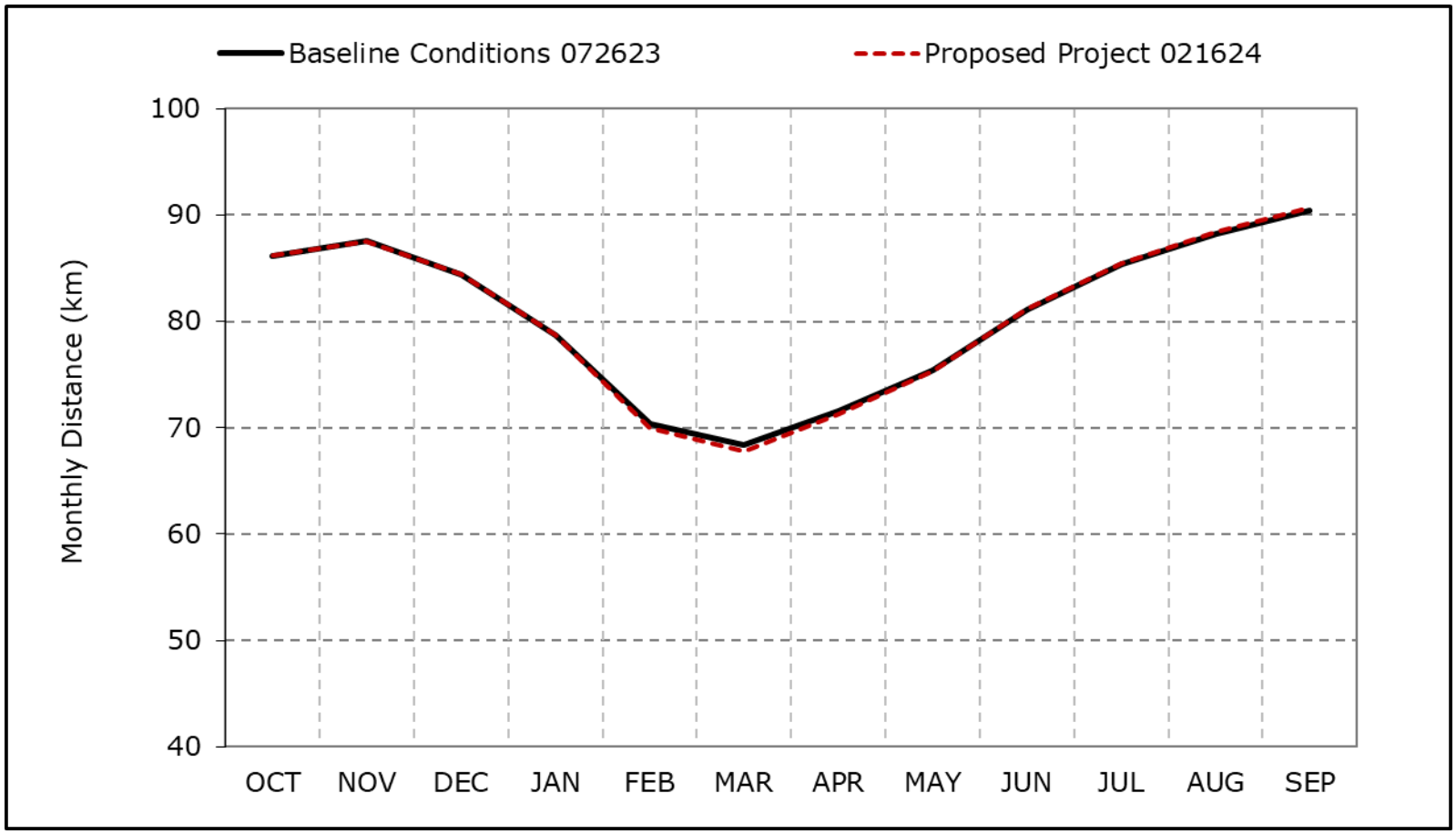
*As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999).
*These results are displayed with water year - year type sorting.
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1d. X2 Position, Below Normal Year Average Distance



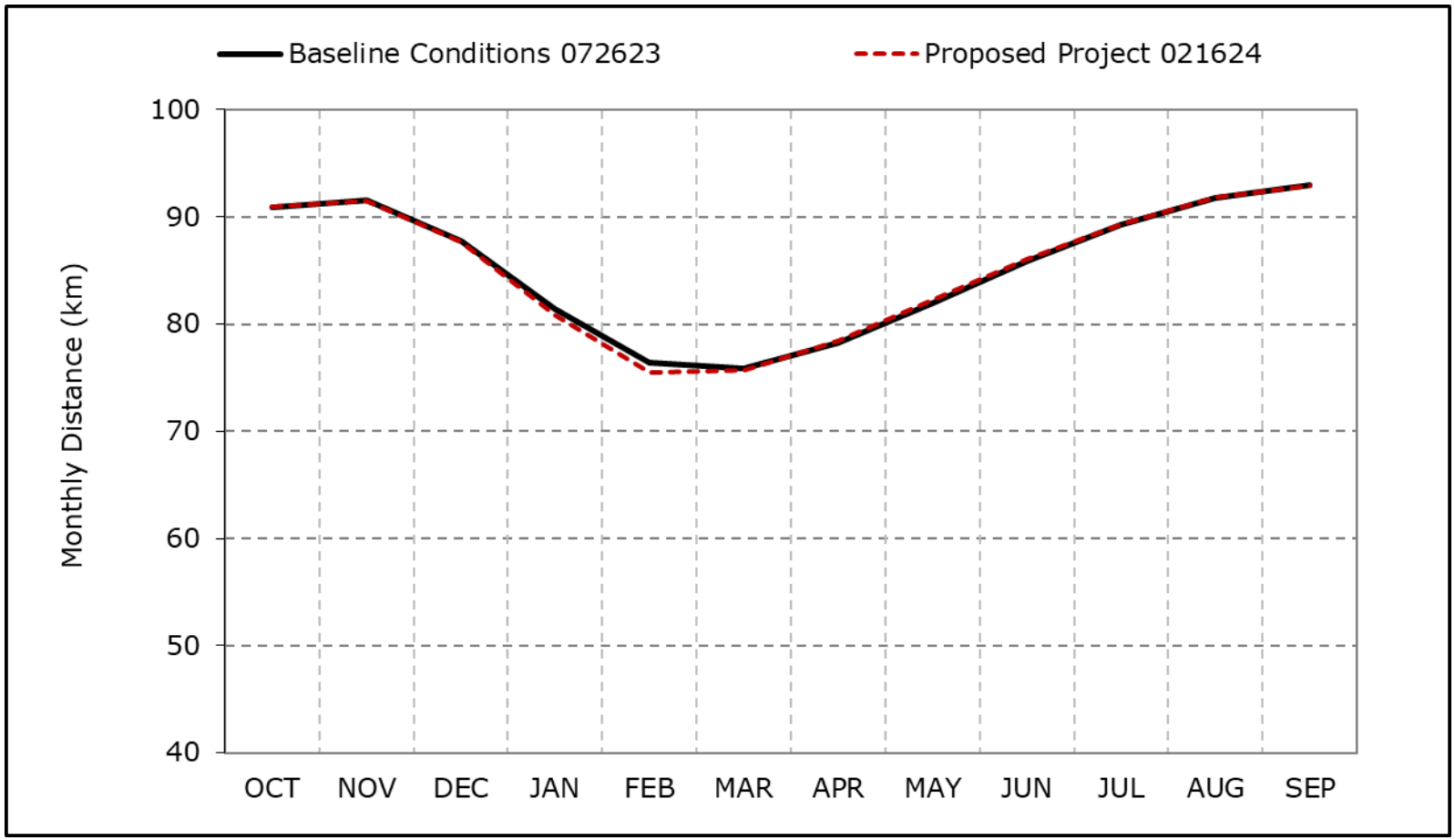
*As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999).
*These results are displayed with water year - year type sorting.
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1e. X2 Position, Dry Year Average Distance



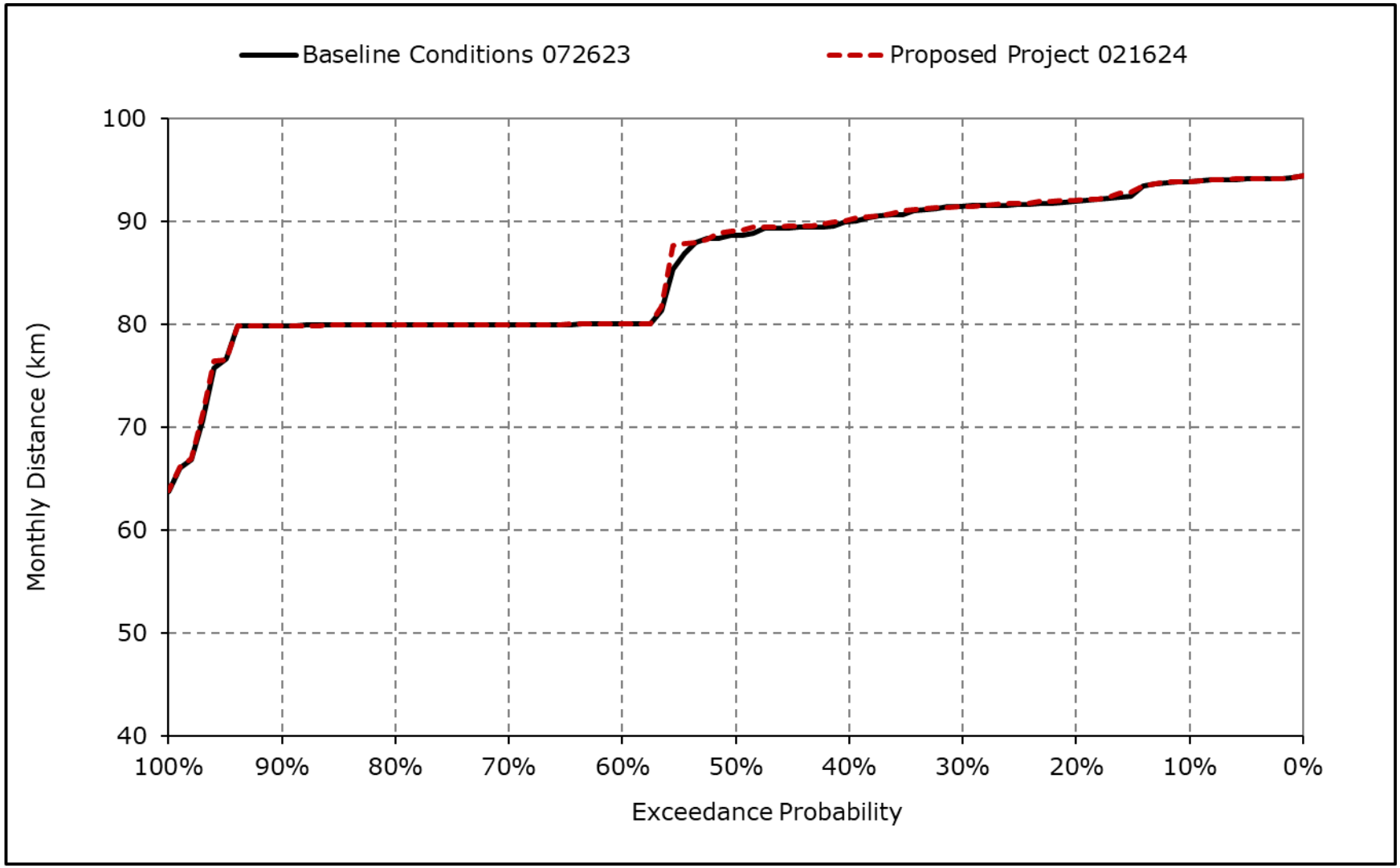
*As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999).
*These results are displayed with water year - year type sorting.
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1f. X2 Position, Critical Year Average Distance



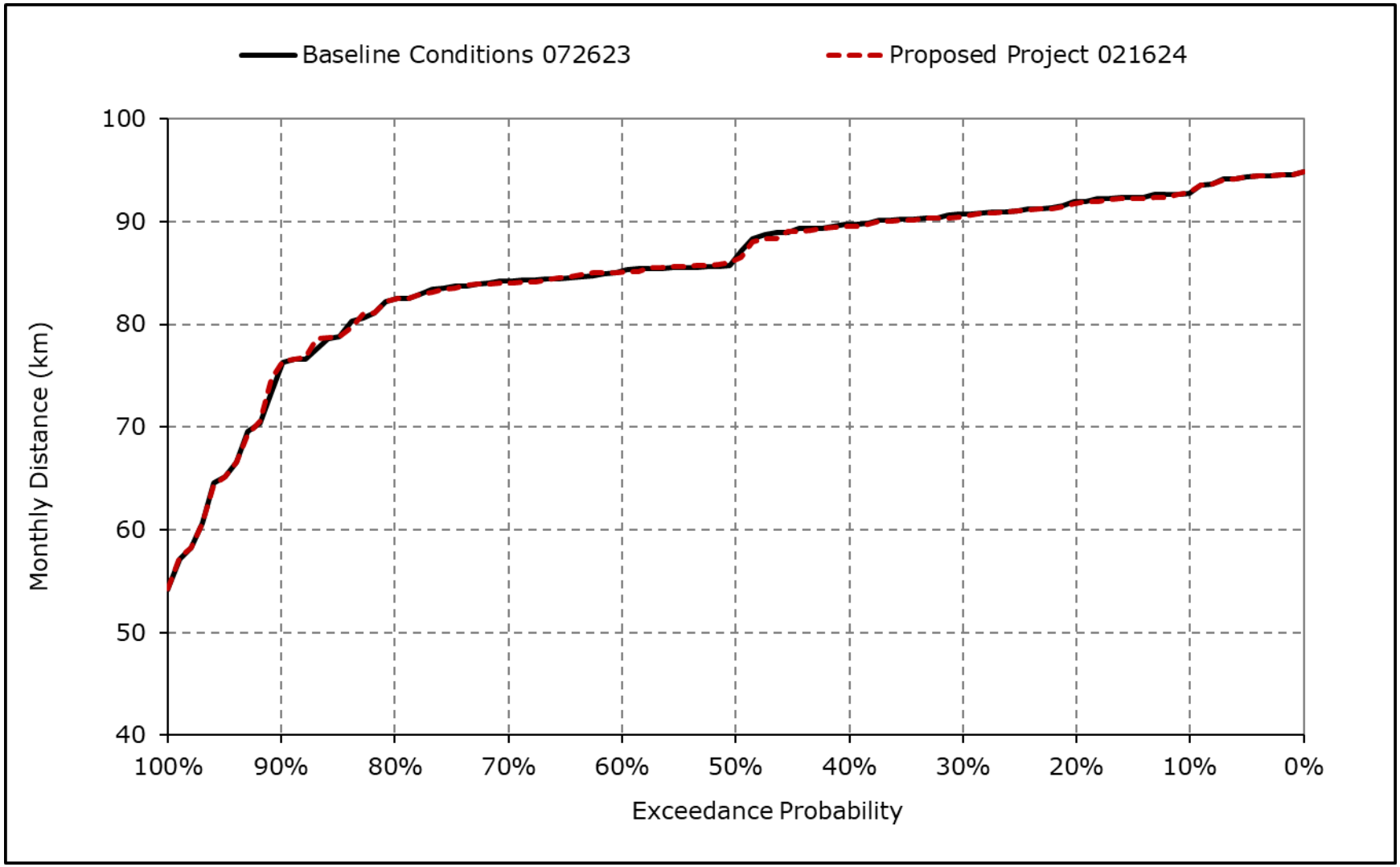
*As defined by the Sacramento Valley 40-30-30 Index Water Year Hydrologic Classification (SWRCB D-1641, 1999).
*These results are displayed with water year - year type sorting.
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1g. X2 Position, October



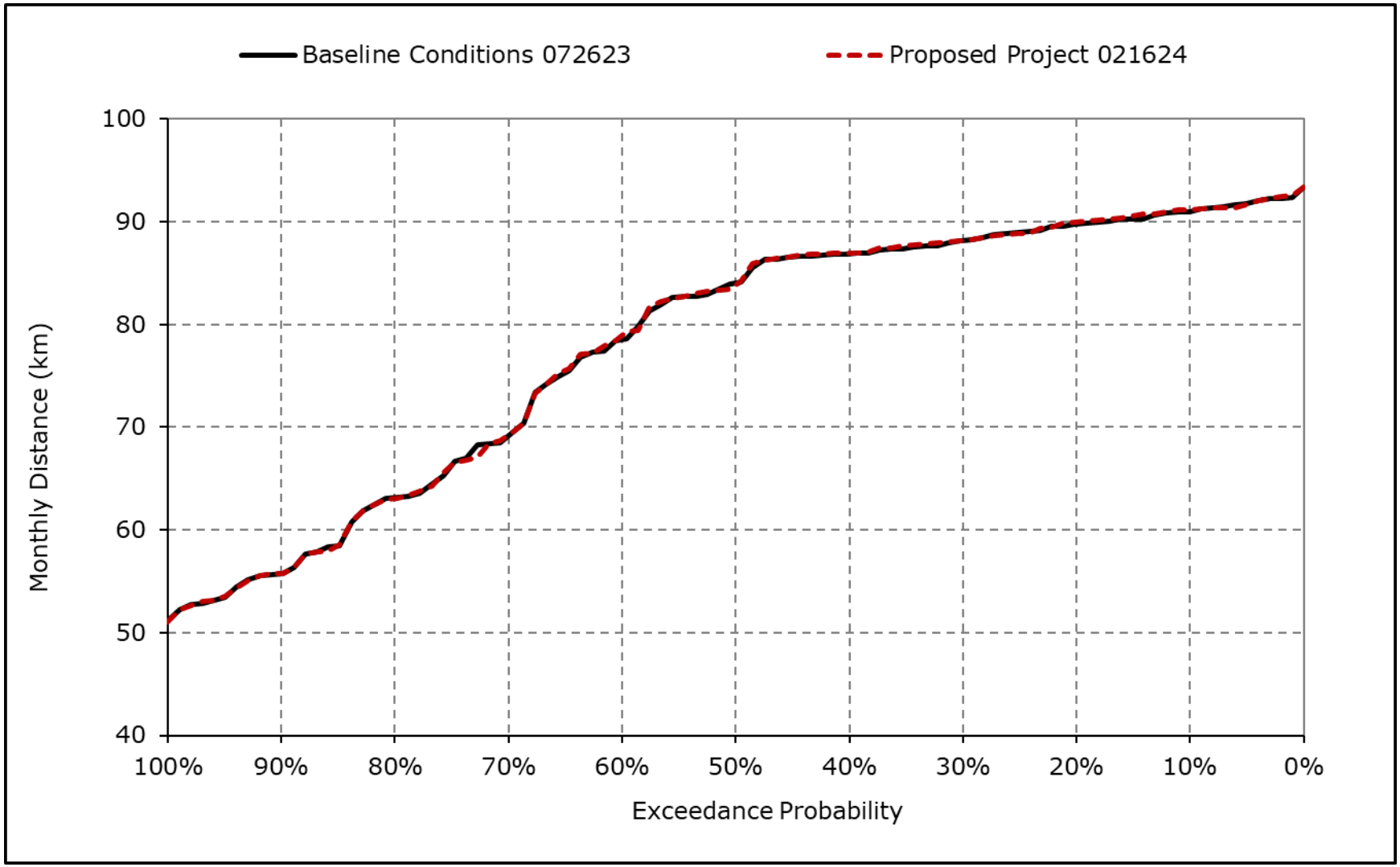
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1h. X2 Position, November



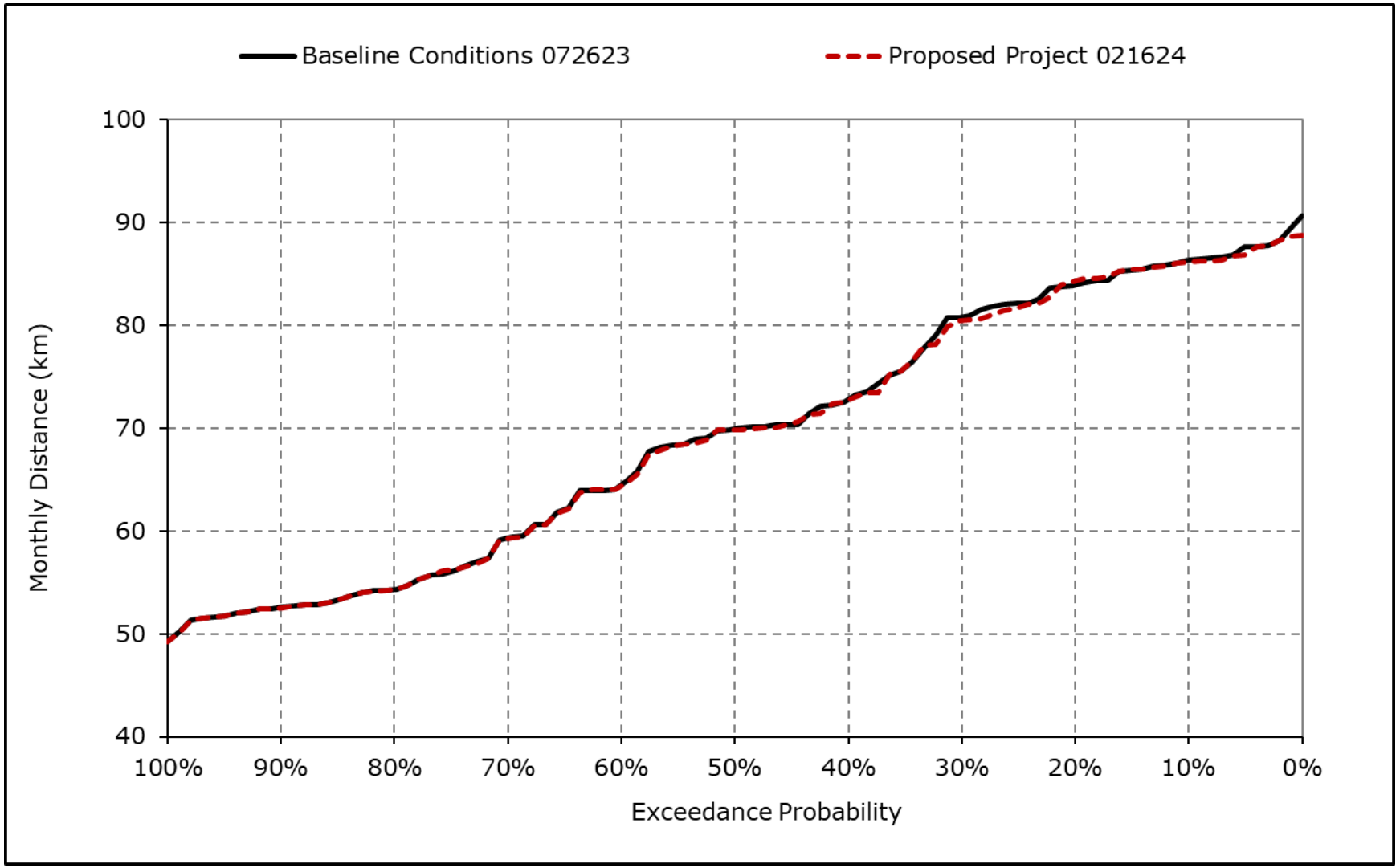
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1i. X2 Position, December



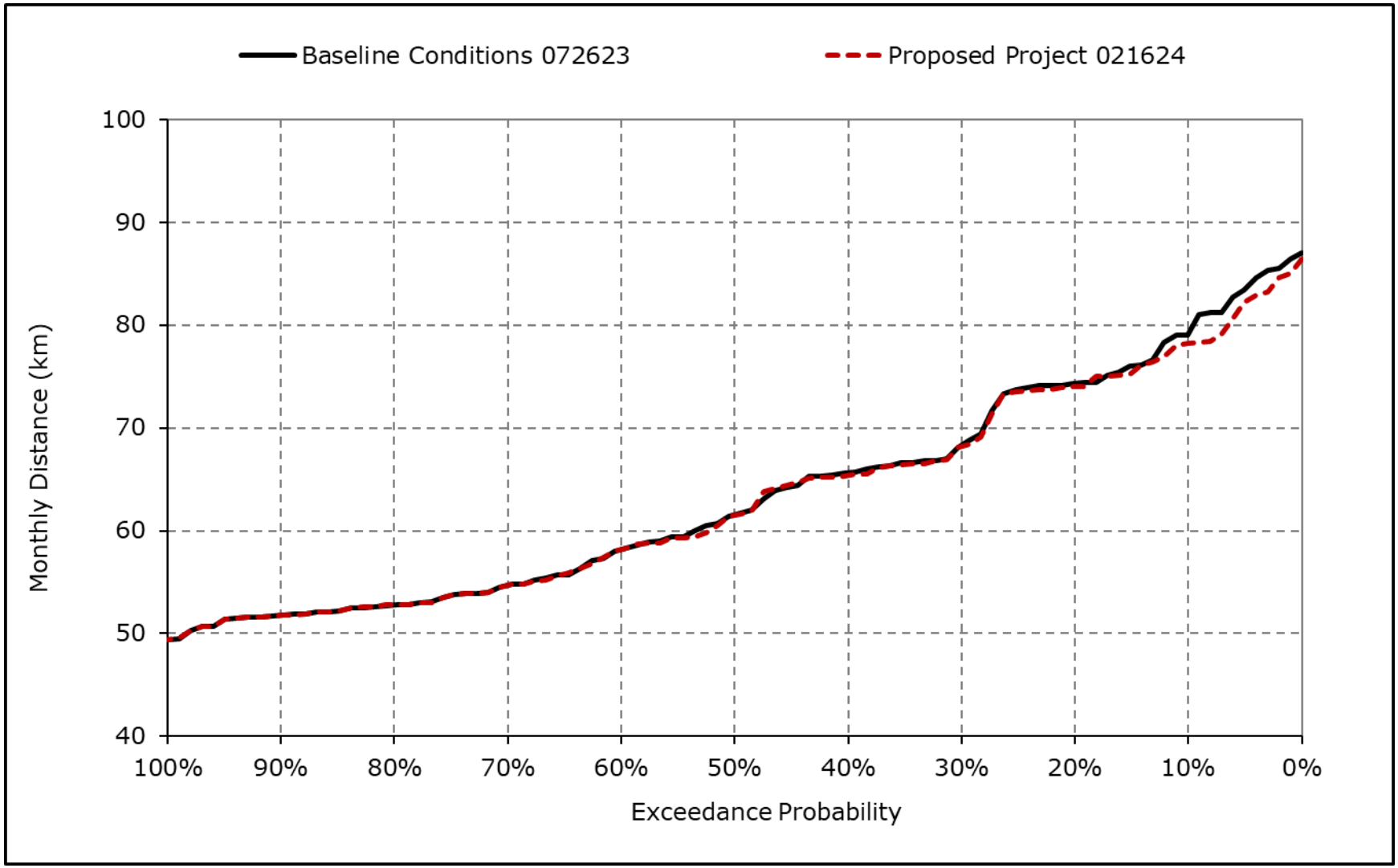
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1j. X2 Position, January



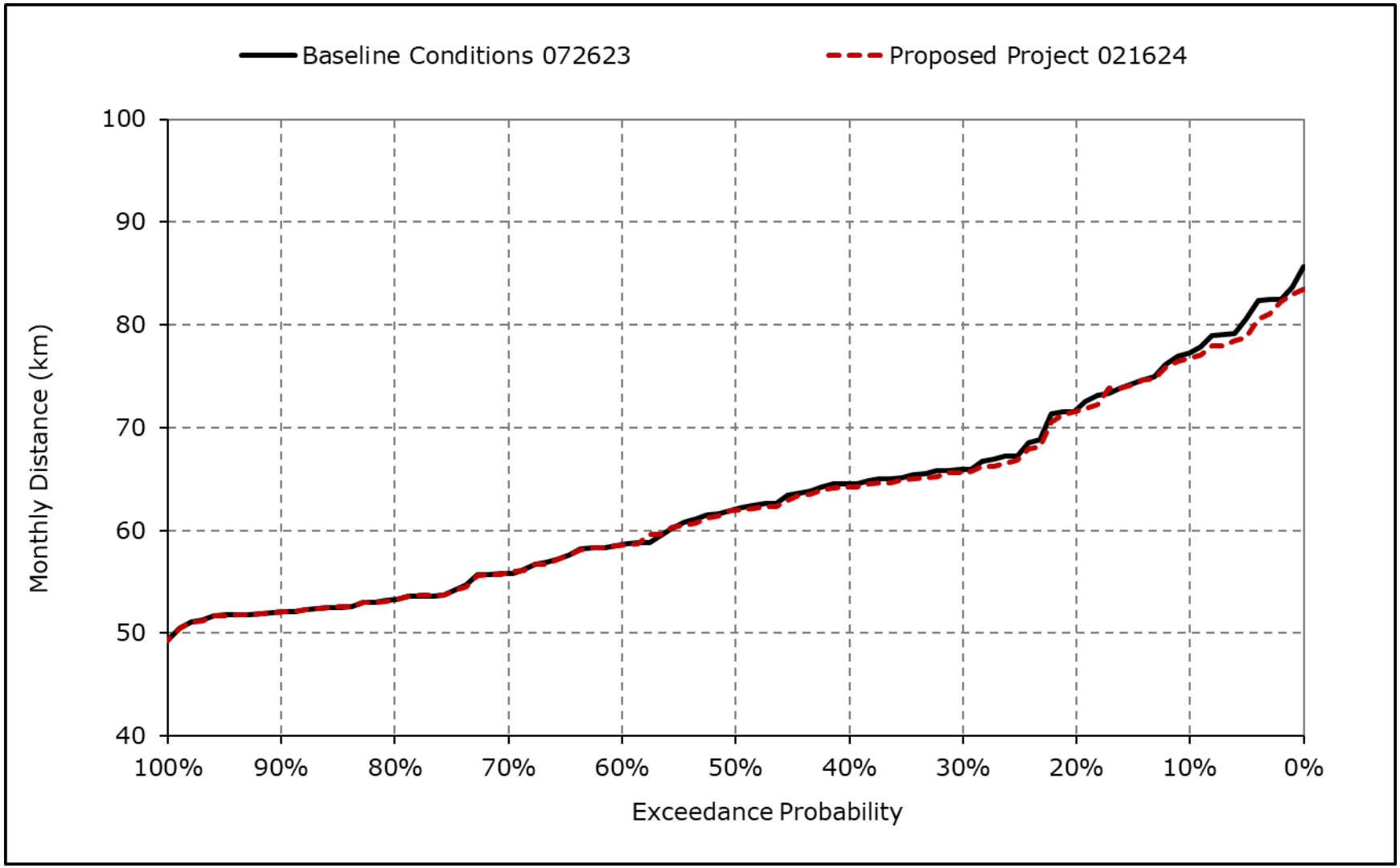
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1k. X2 Position, February



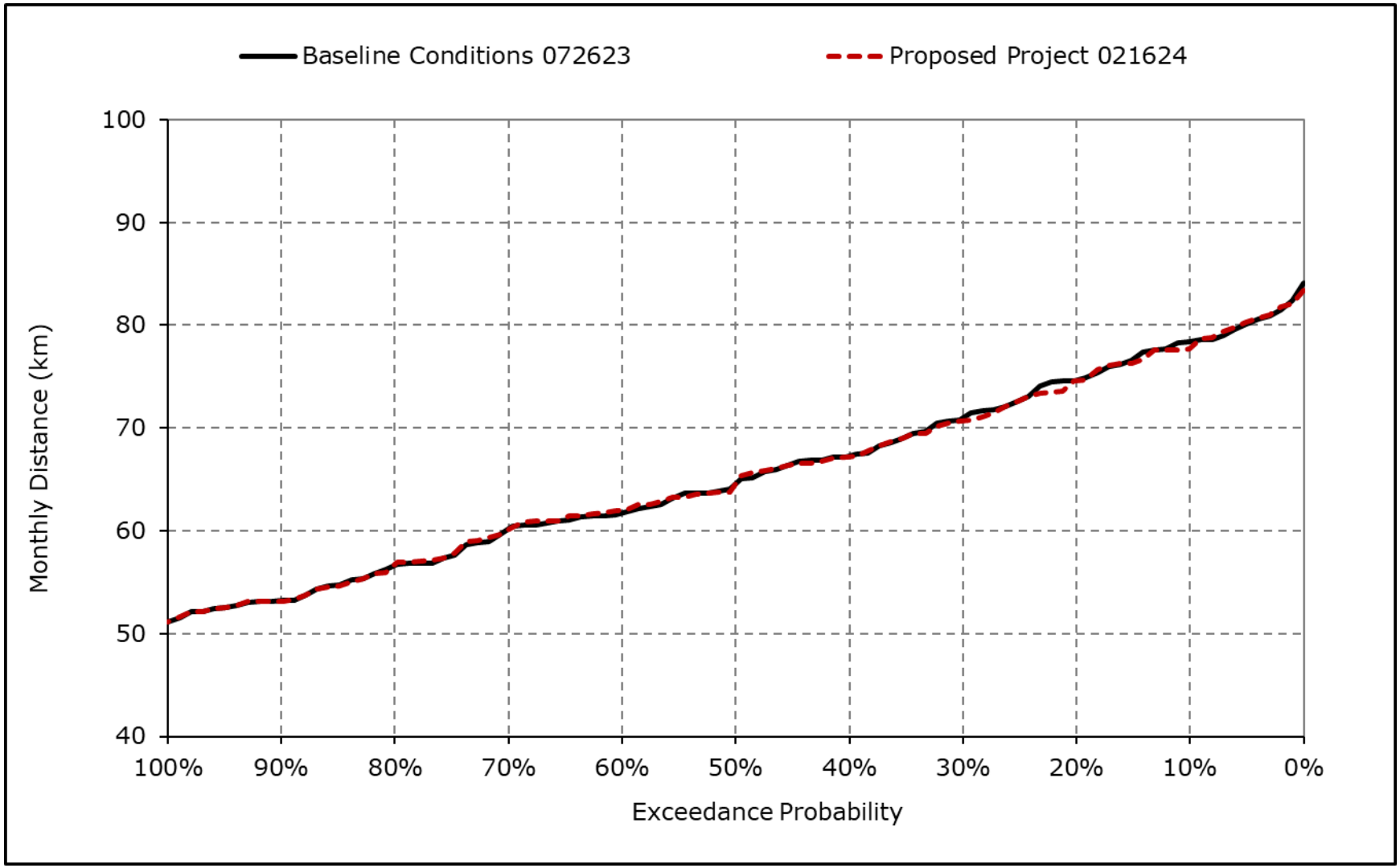
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1l. X2 Position, March



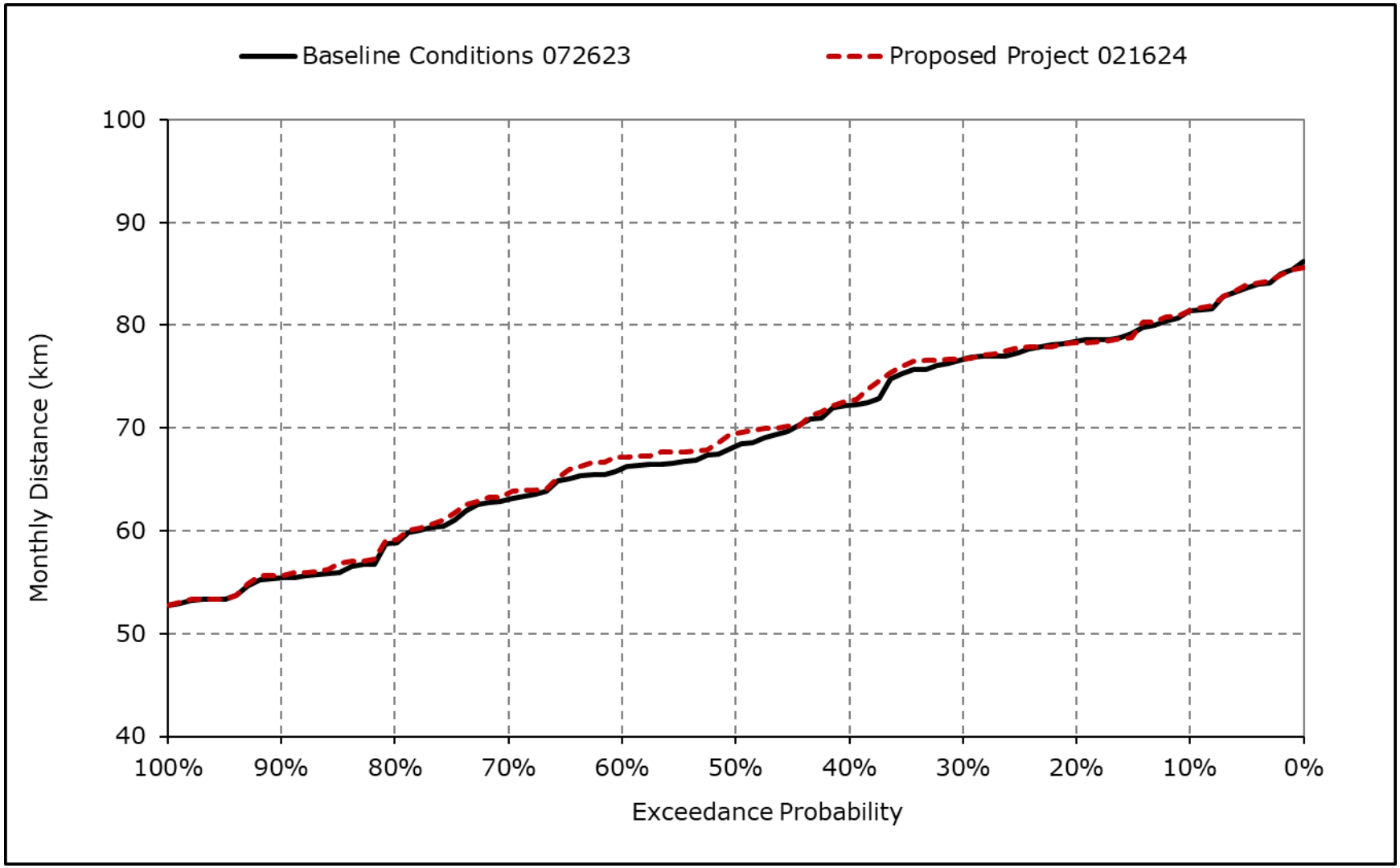
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1m. X2 Position, April



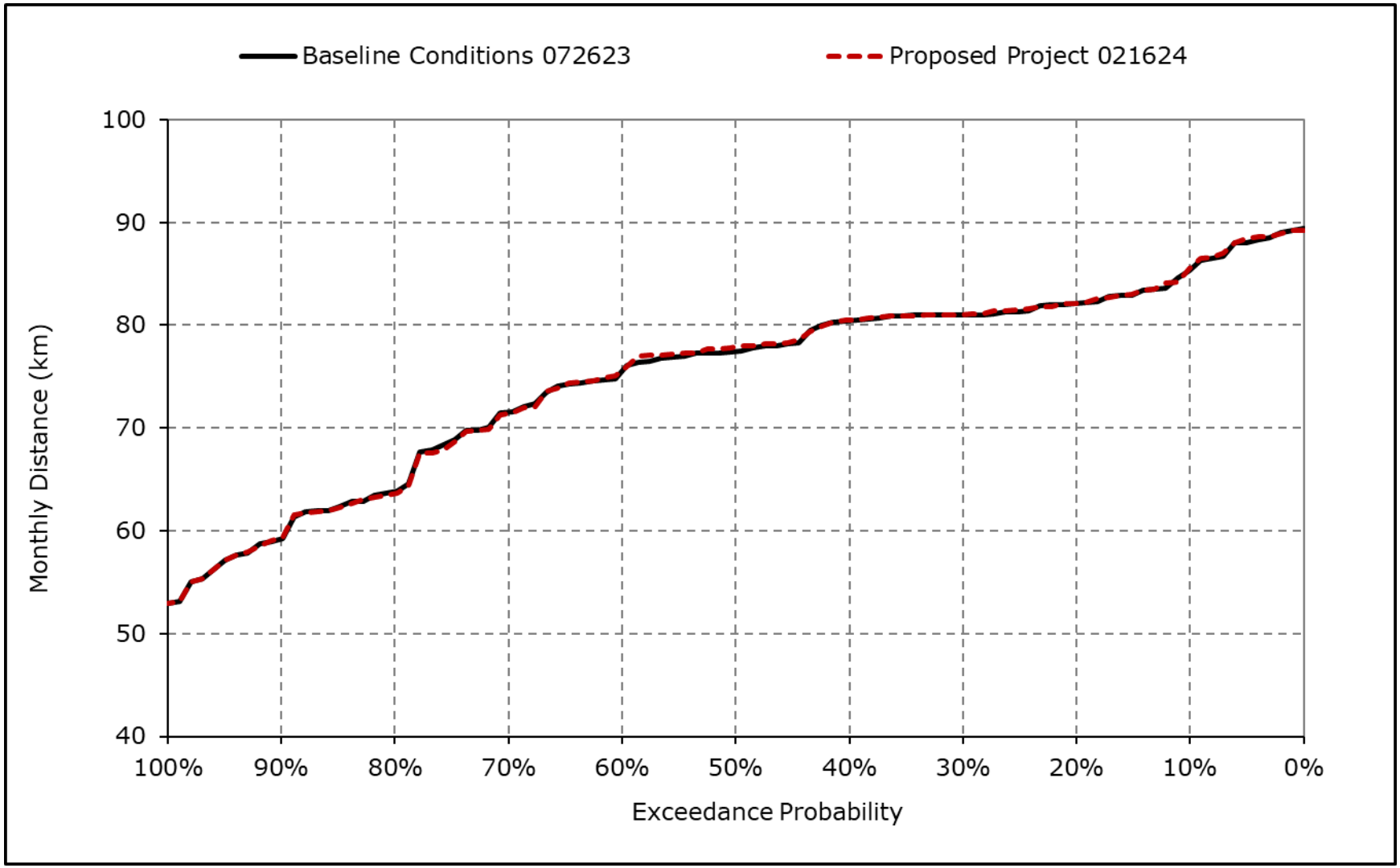
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1n. X2 Position, May



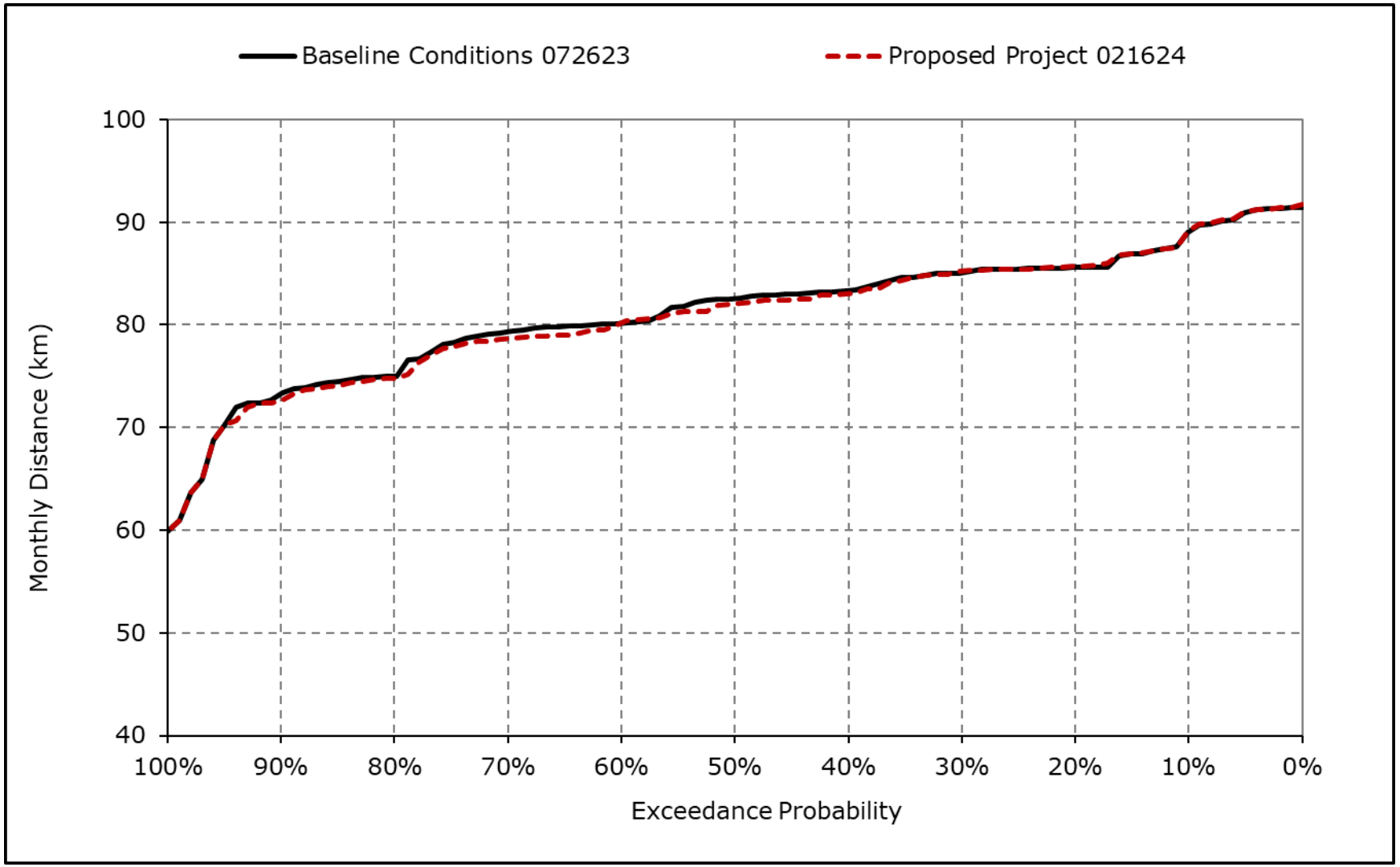
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1o. X2 Position, June



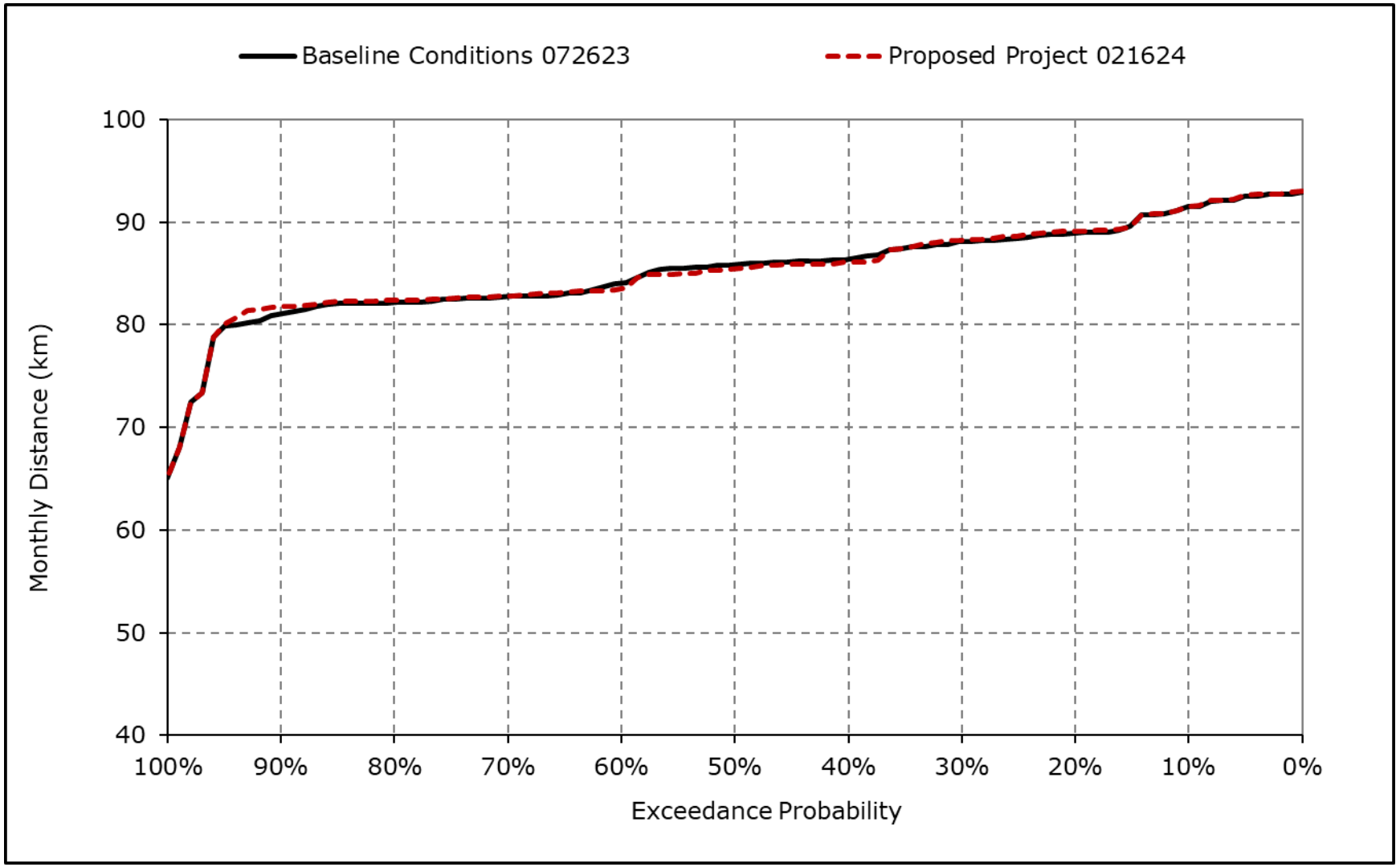
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1p. X2 Position, July



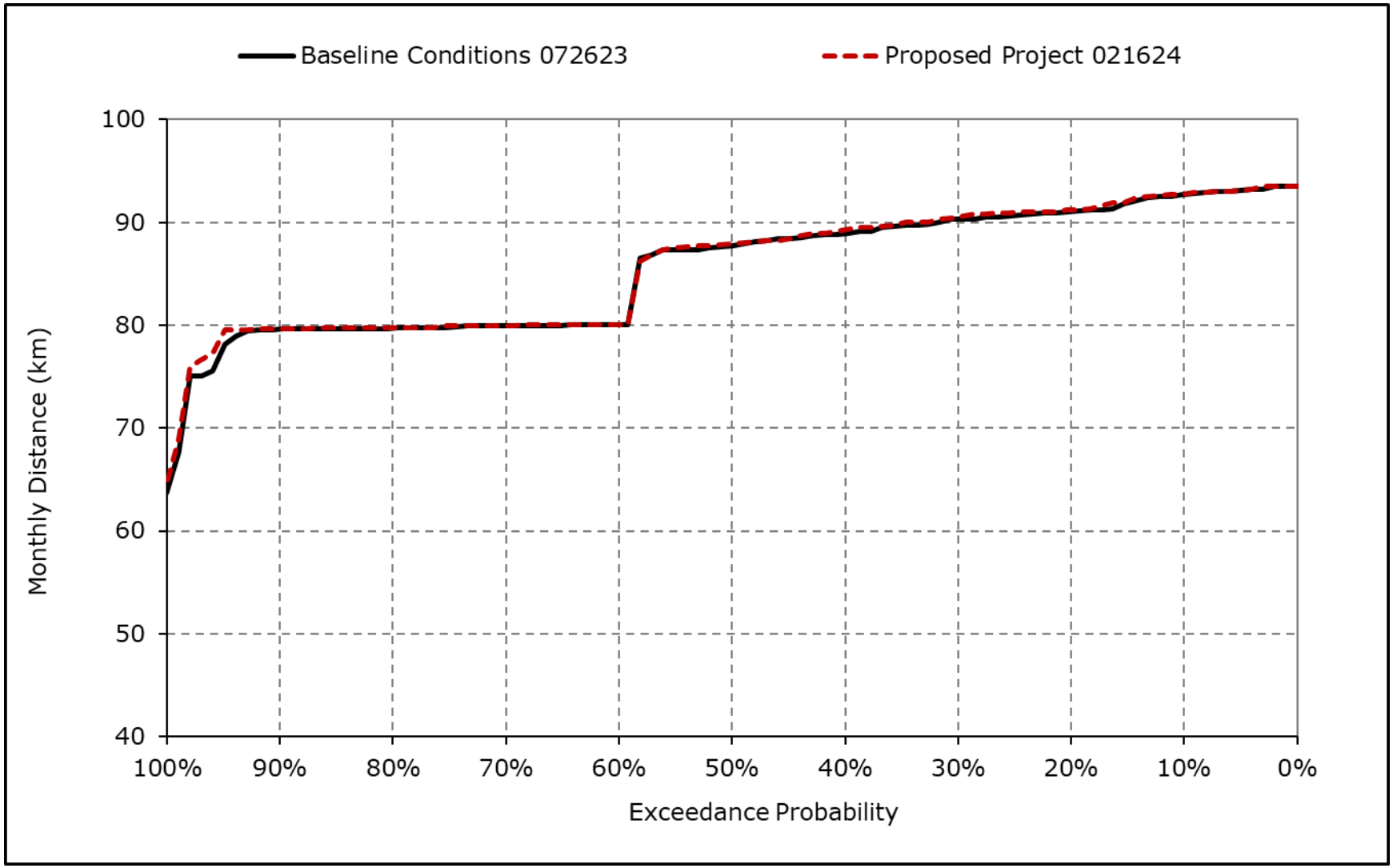
*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1q. X2 Position, August



*All scenarios are simulated at current climate condition and 0 cm sea level rise.

Figure 4B-4-1r. X2 Position, September



*All scenarios are simulated at current climate condition and 0 cm sea level rise.