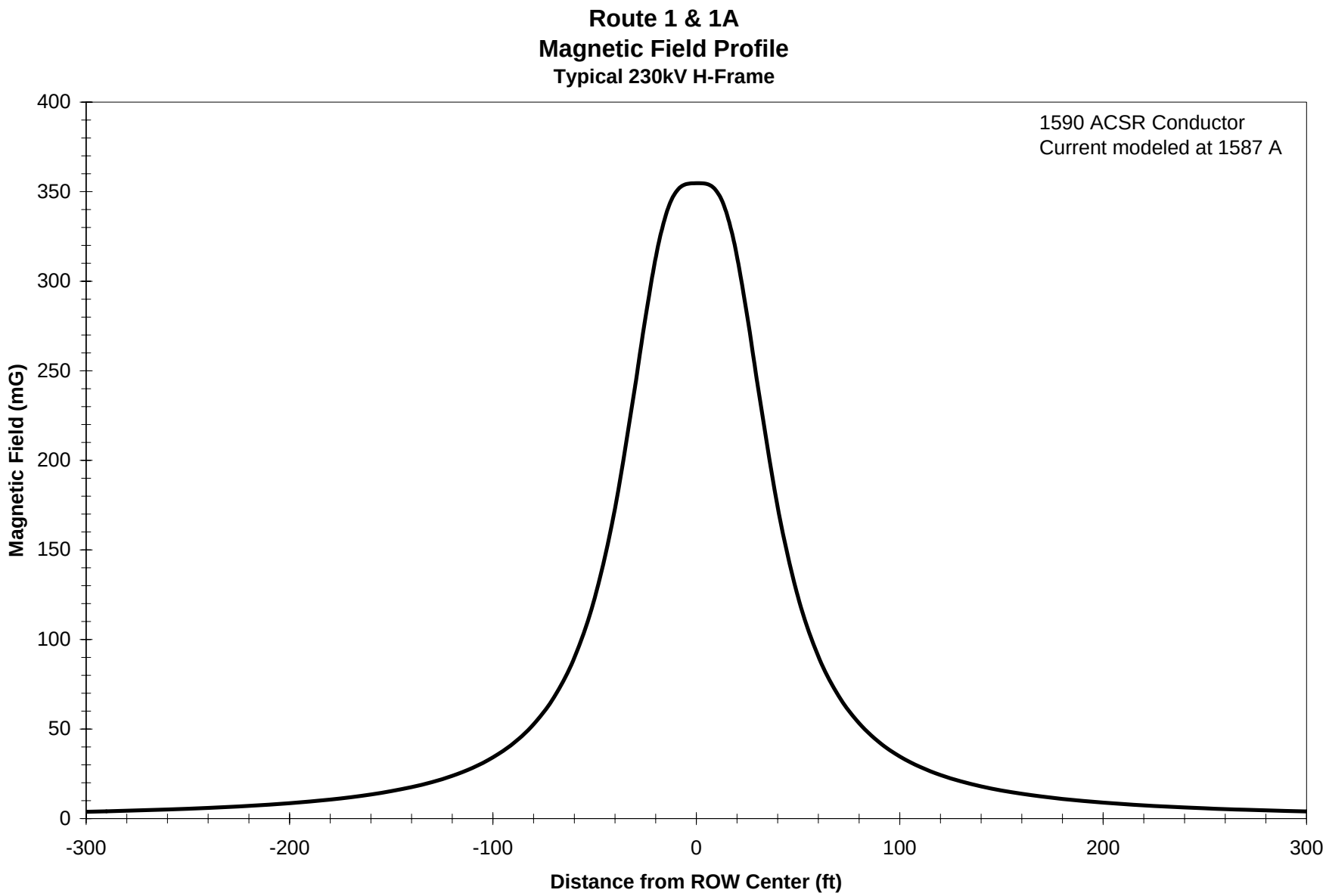
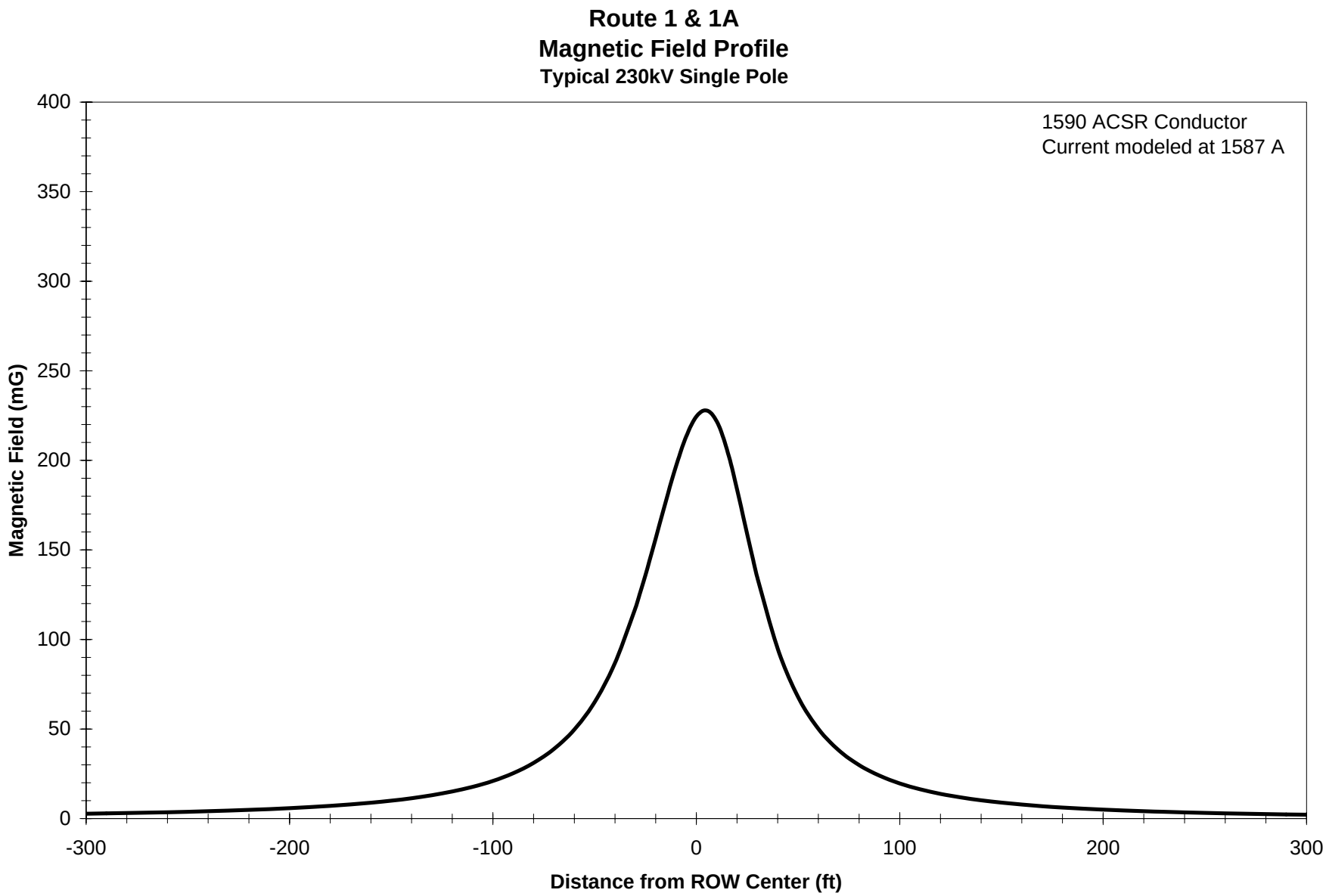
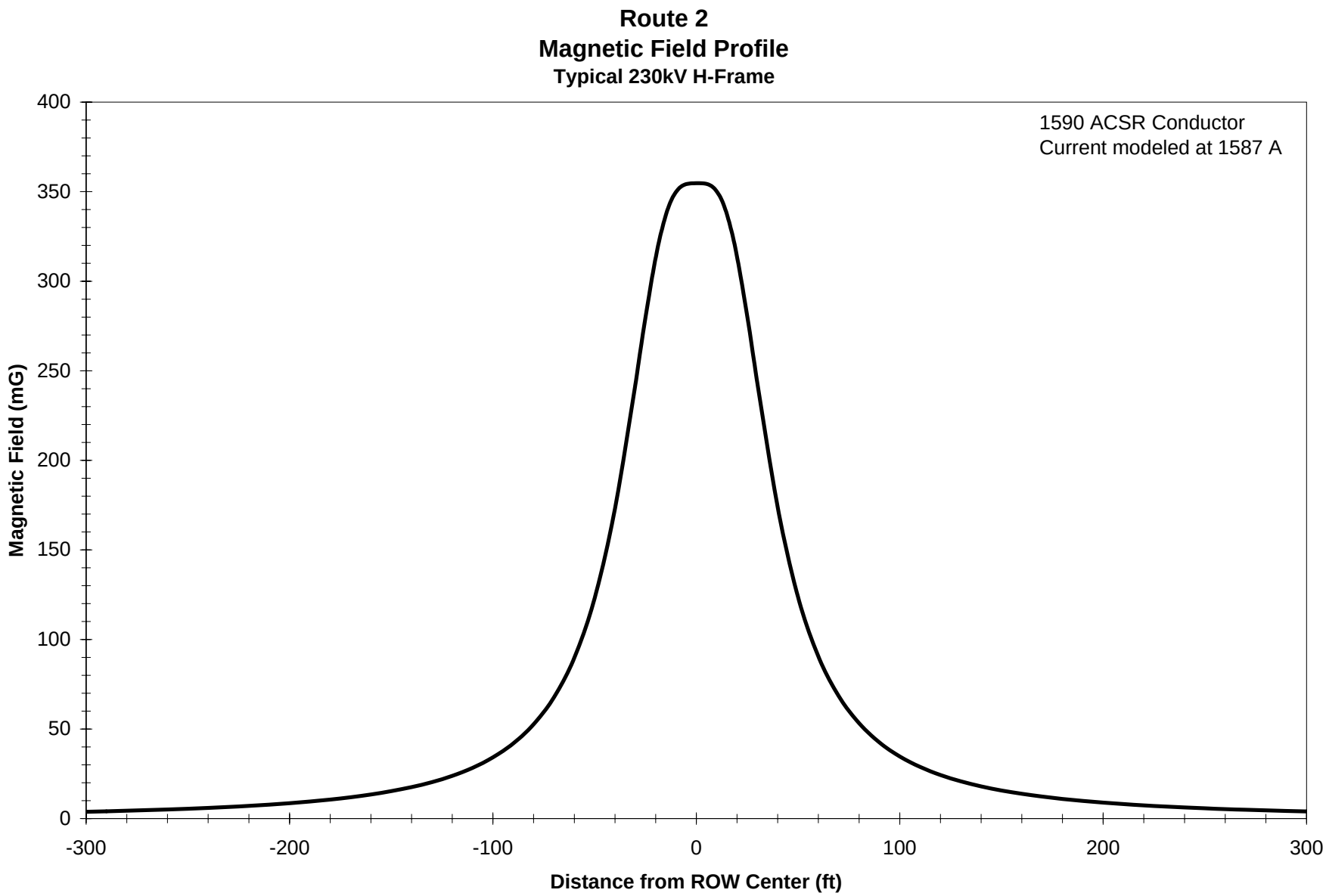
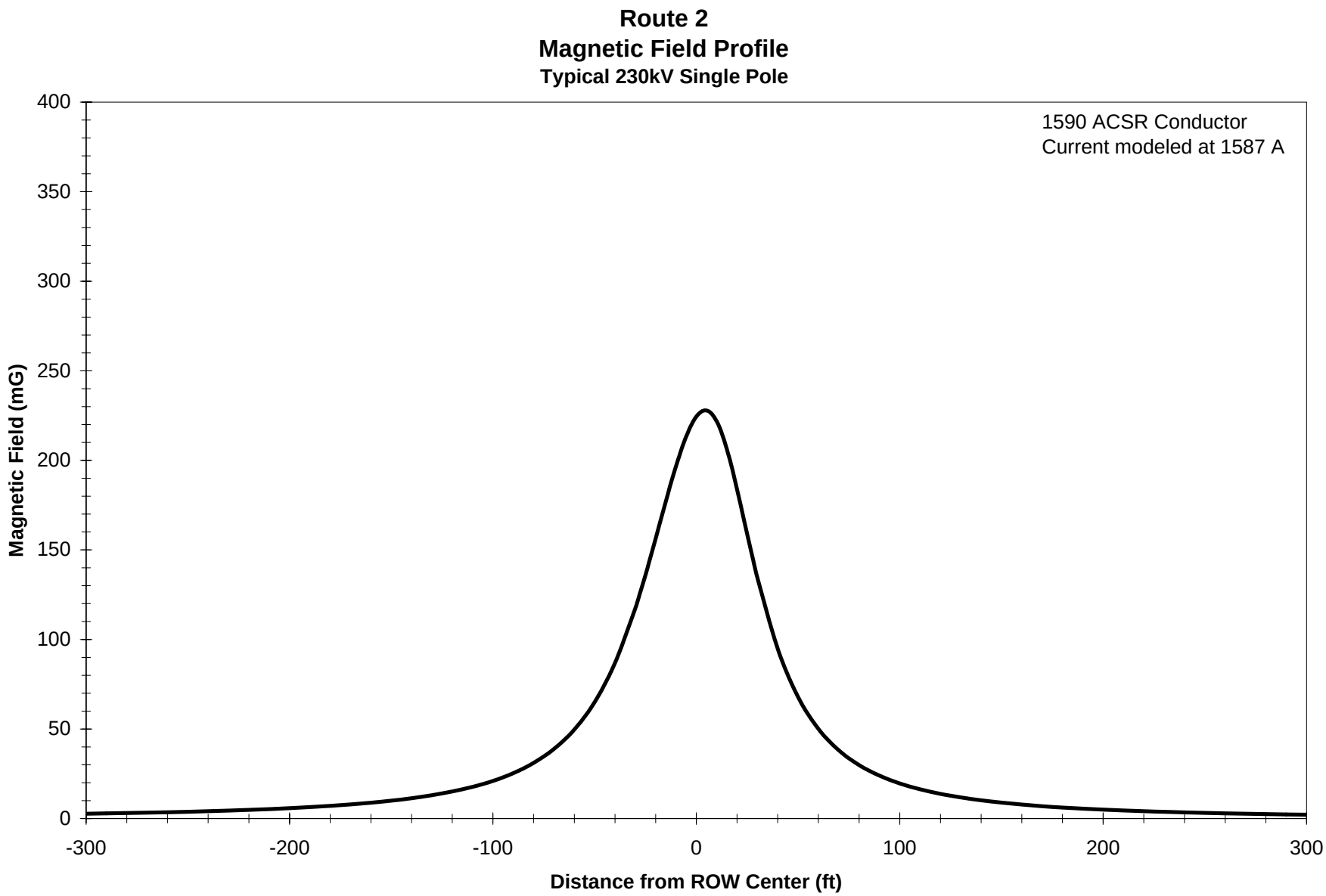
Appendix E

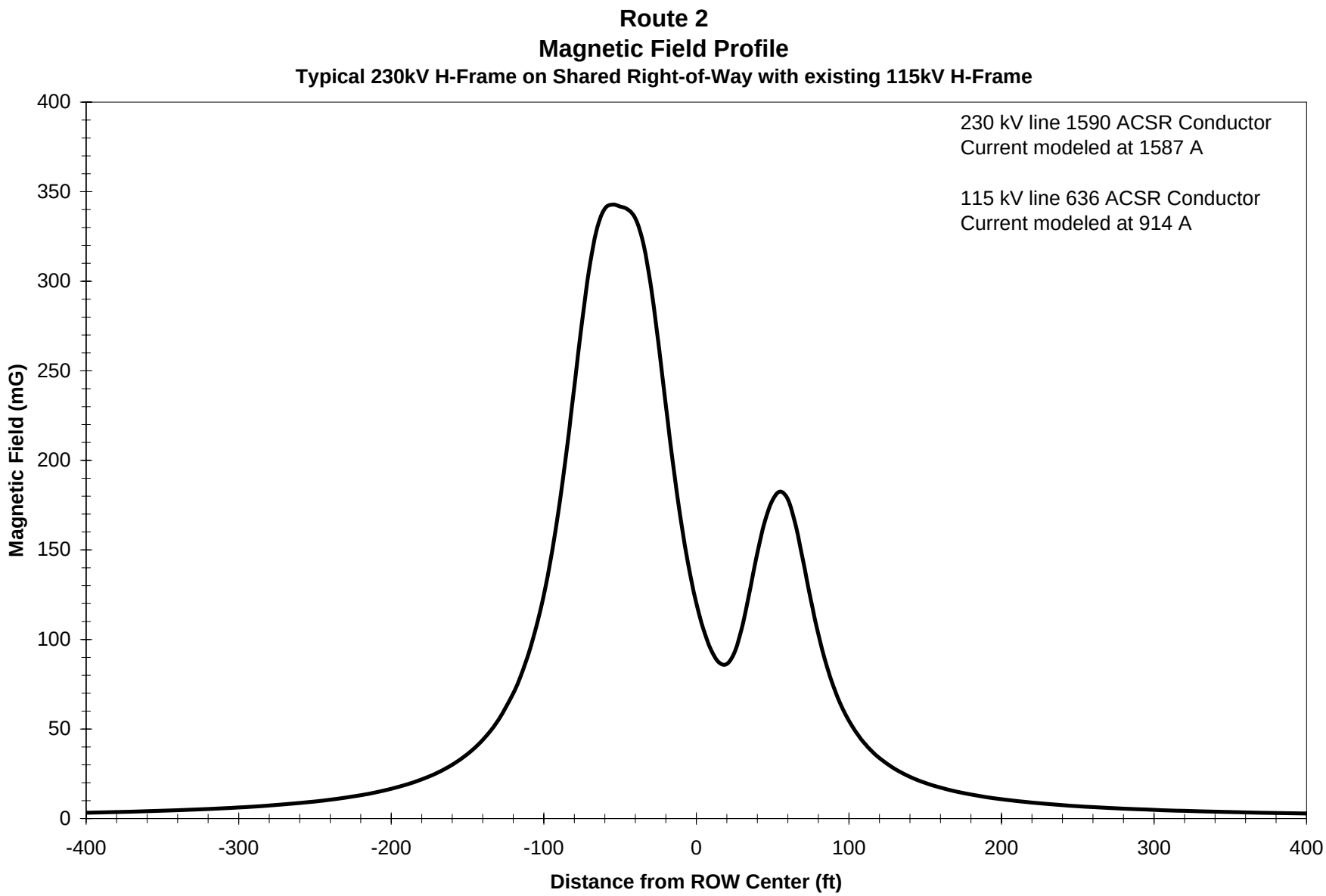
Magnetic Fields

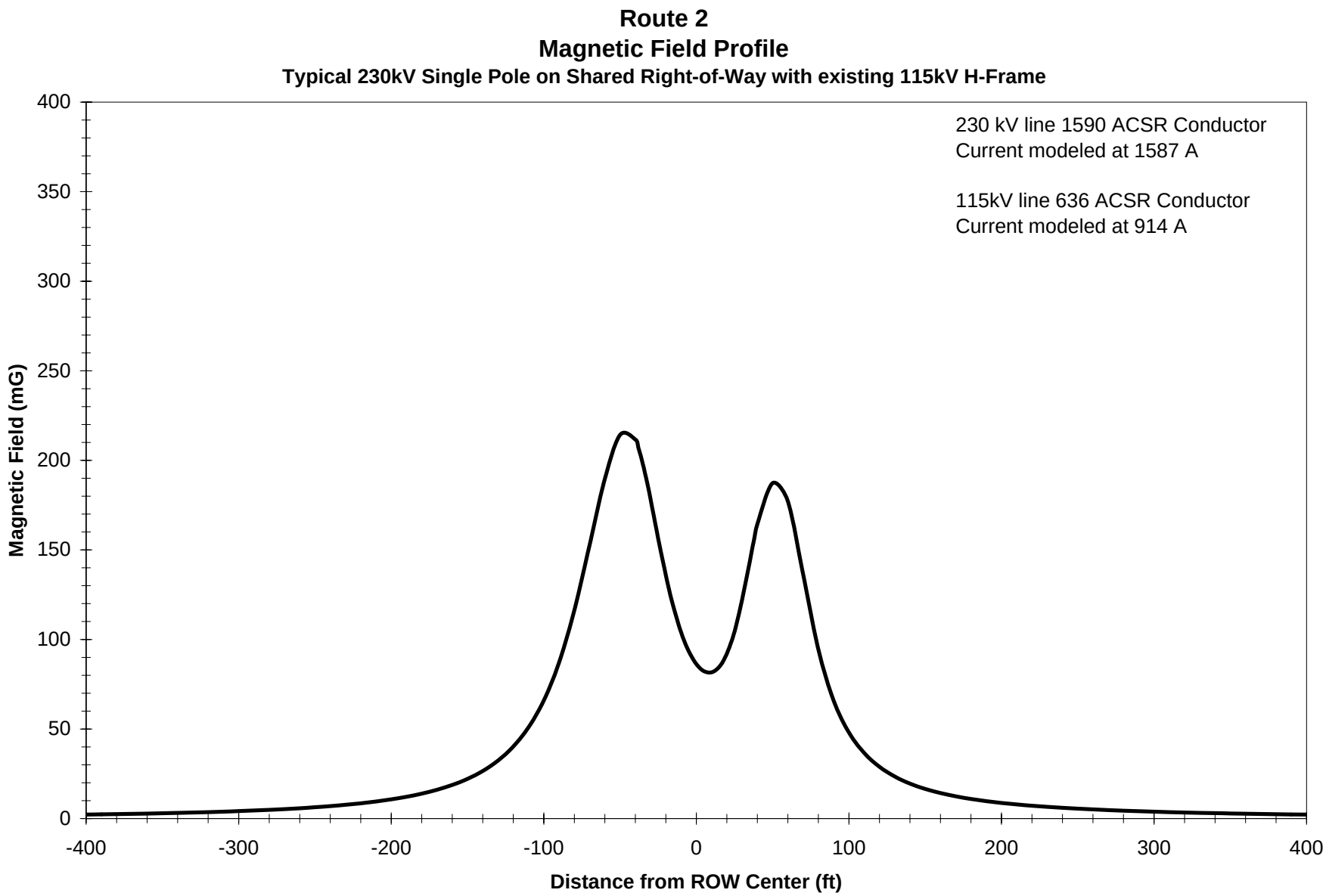

Route 1 & 1A
Magnetic Field Profile
Typical 230kV H-Frame
1590 ACSR Conductor
Current modeled at 1587 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)

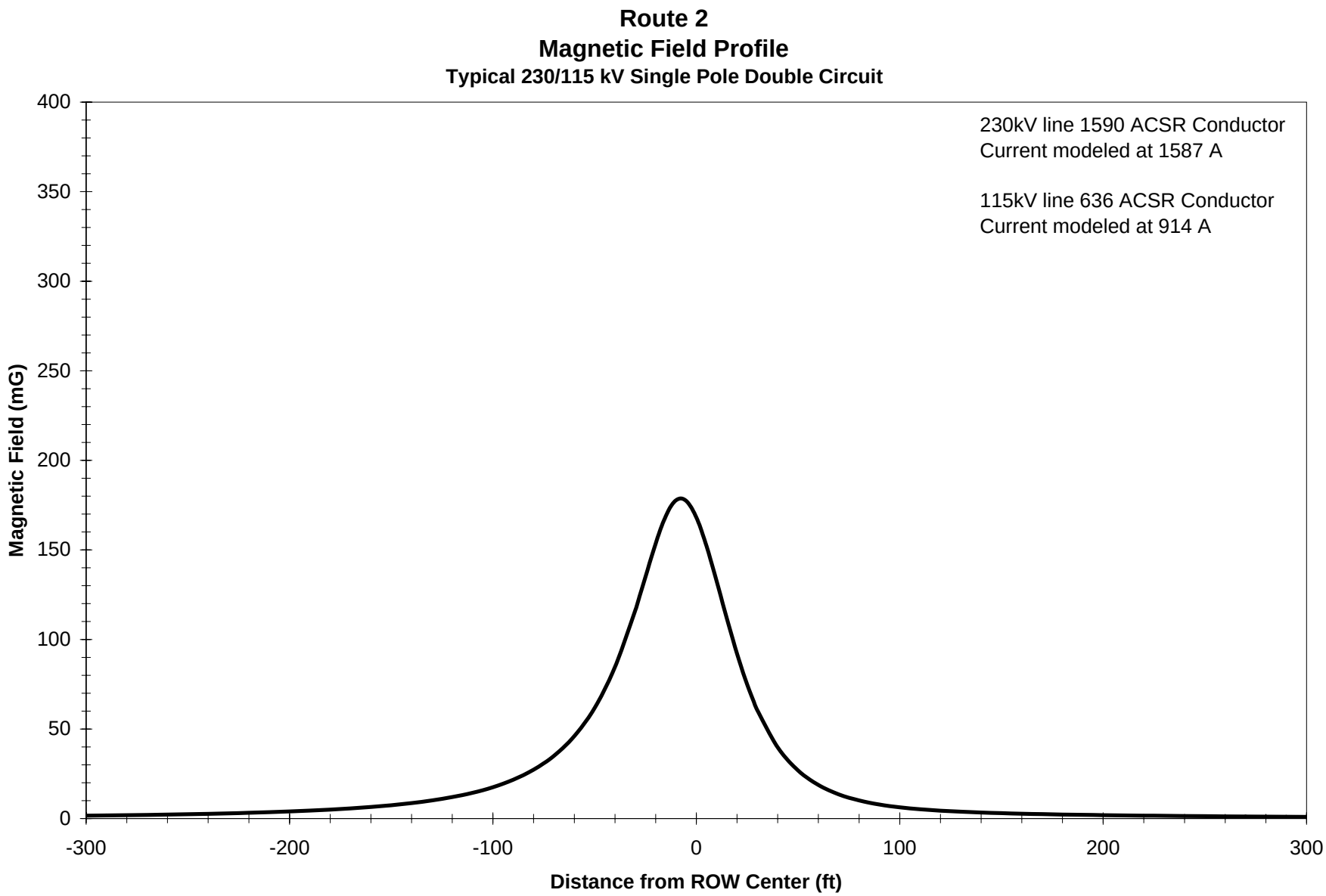

Route 1 & 1A
Magnetic Field Profile
Typical 230kV Single Pole
1590 ACSR Conductor
Current modeled at 1587 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)

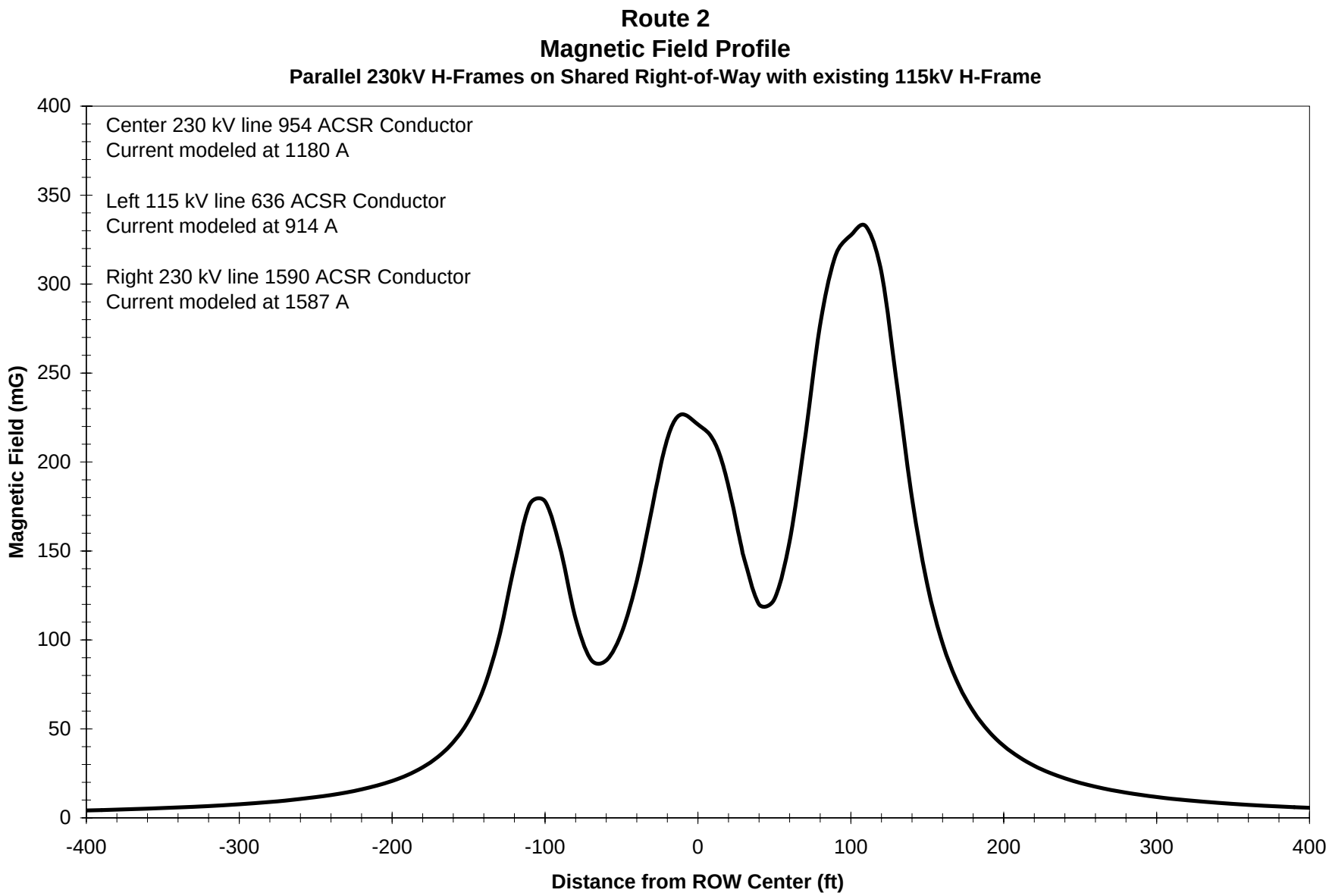

Route 2
Magnetic Field Profile
Typical 230kV H-Frame
1590 ACSR Conductor
Current modeled at 1587 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)

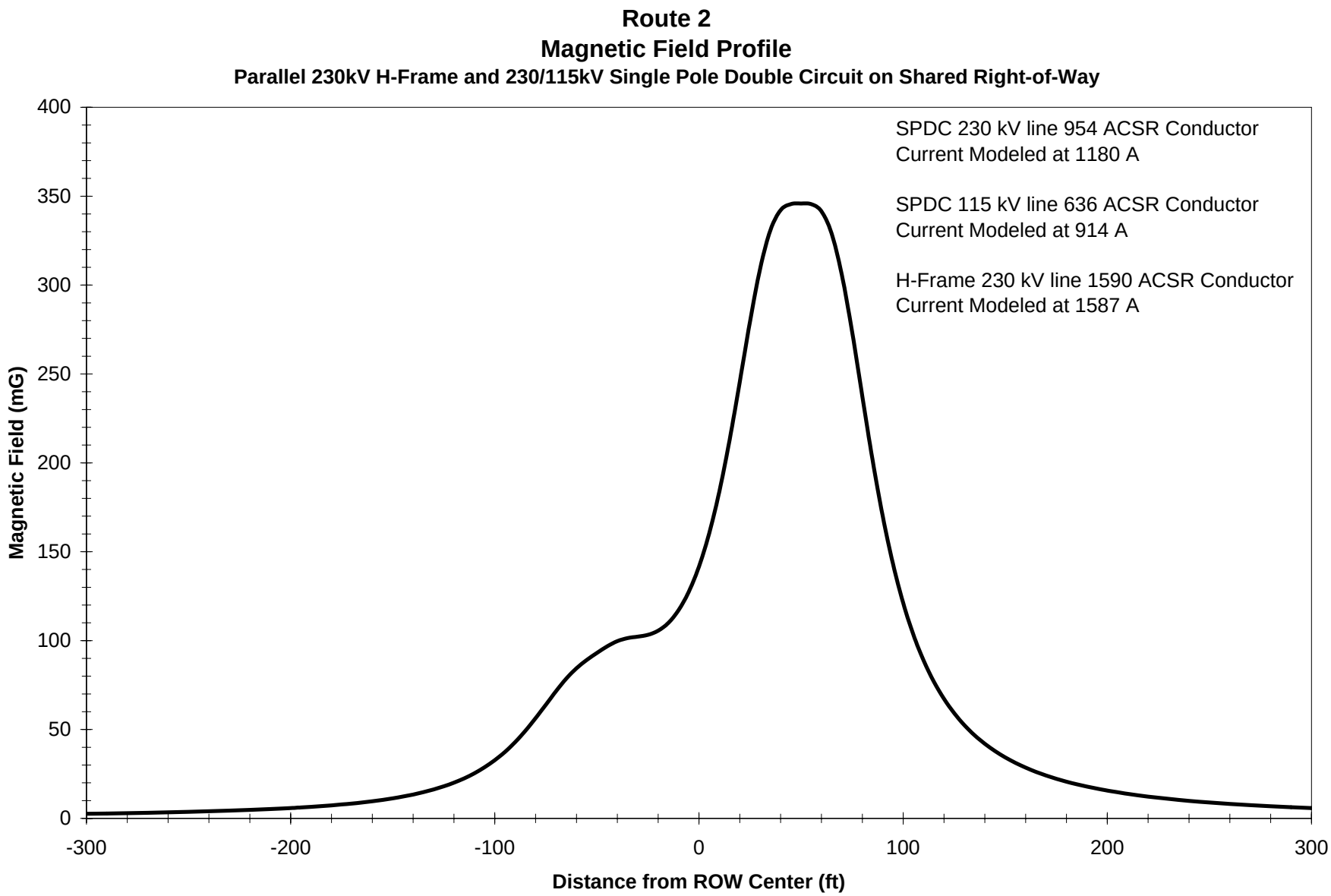

Route 2
Magnetic Field Profile
Typical 230kV Single Pole
1590 ACSR Conductor
Current modeled at 1587 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)

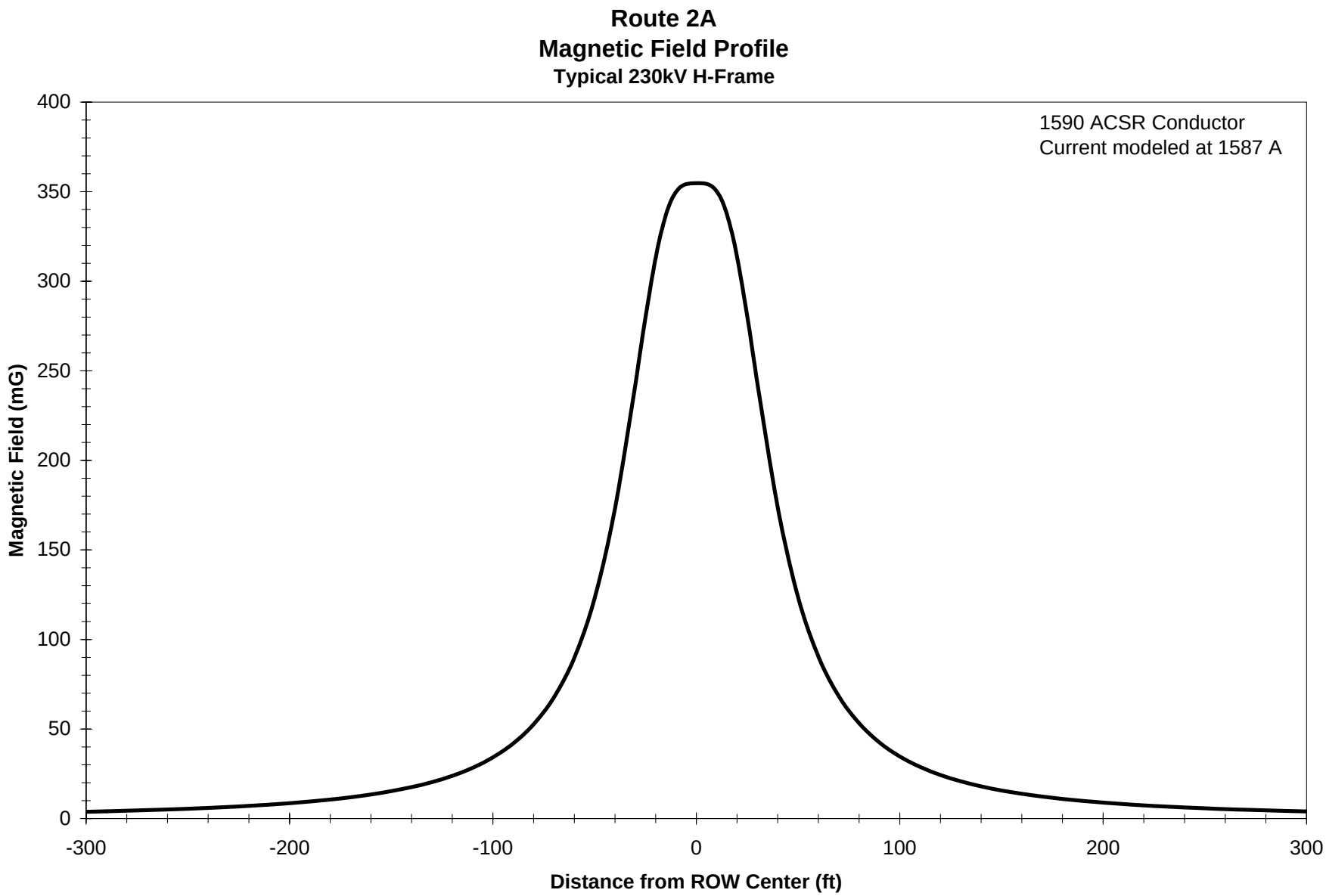

Route 2
Magnetic Field Profile
Typical 230kV H-Frame on Shared Right-of-Way with existing 115kV H-Frame
230 kV line 1590 ACSR Conductor
Current modeled at 1587 A
115 kV line 636 ACSR Conductor
Current modeled at 914 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-400
-300
-200
-100
0
100
200
300
400
Distance from ROW Center (ft)

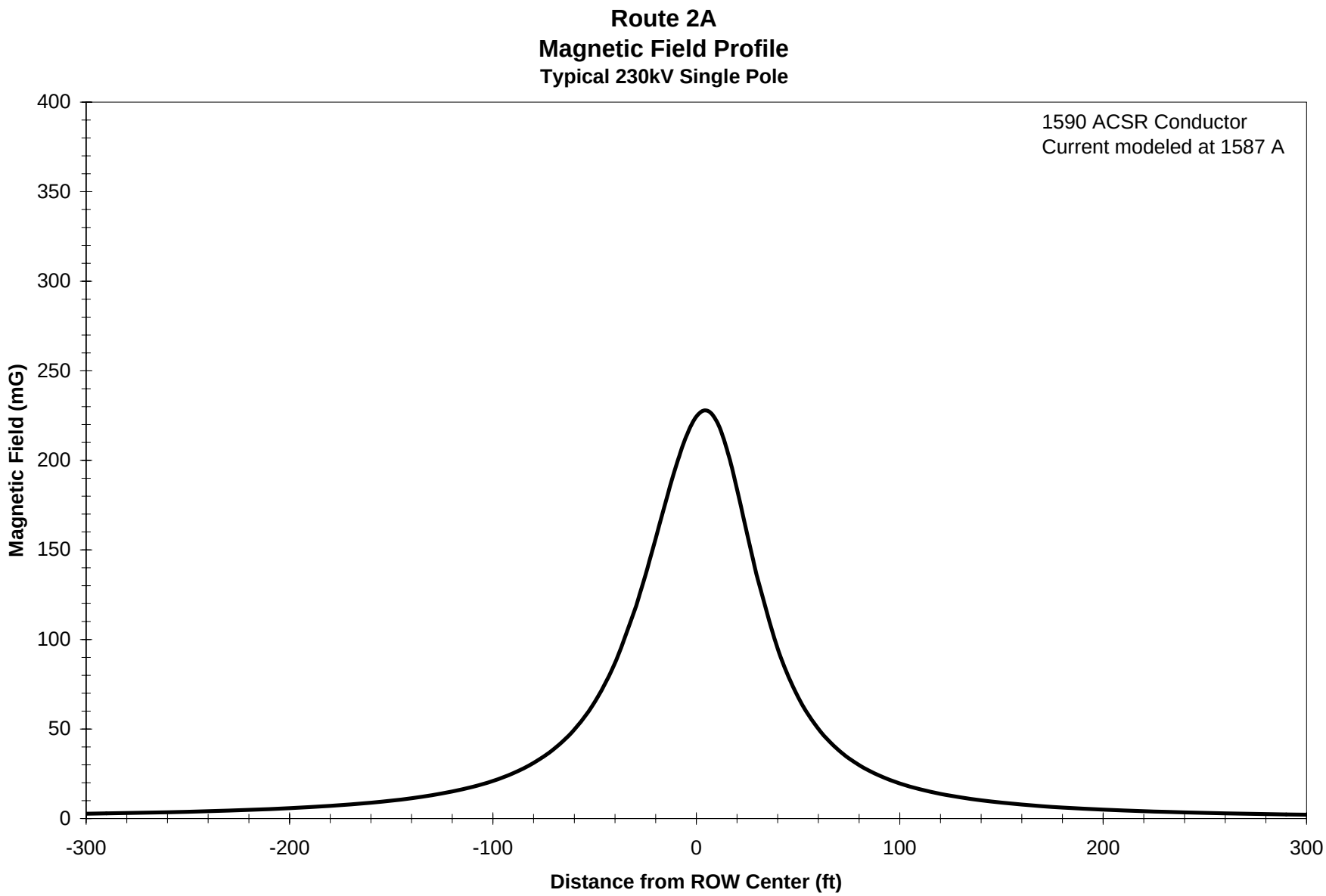

Route 2
Magnetic Field Profile
Typical 230kV Single Pole on Shared Right-of-Way with existing 115kV H-Frame
230 kV line 1590 ACSR Conductor
Current modeled at 1587 A
115kV line 636 ACSR Conductor
Current modeled at 914 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-400
-300
-200
-100
0
100
200
300
400
Distance from ROW Center (ft)

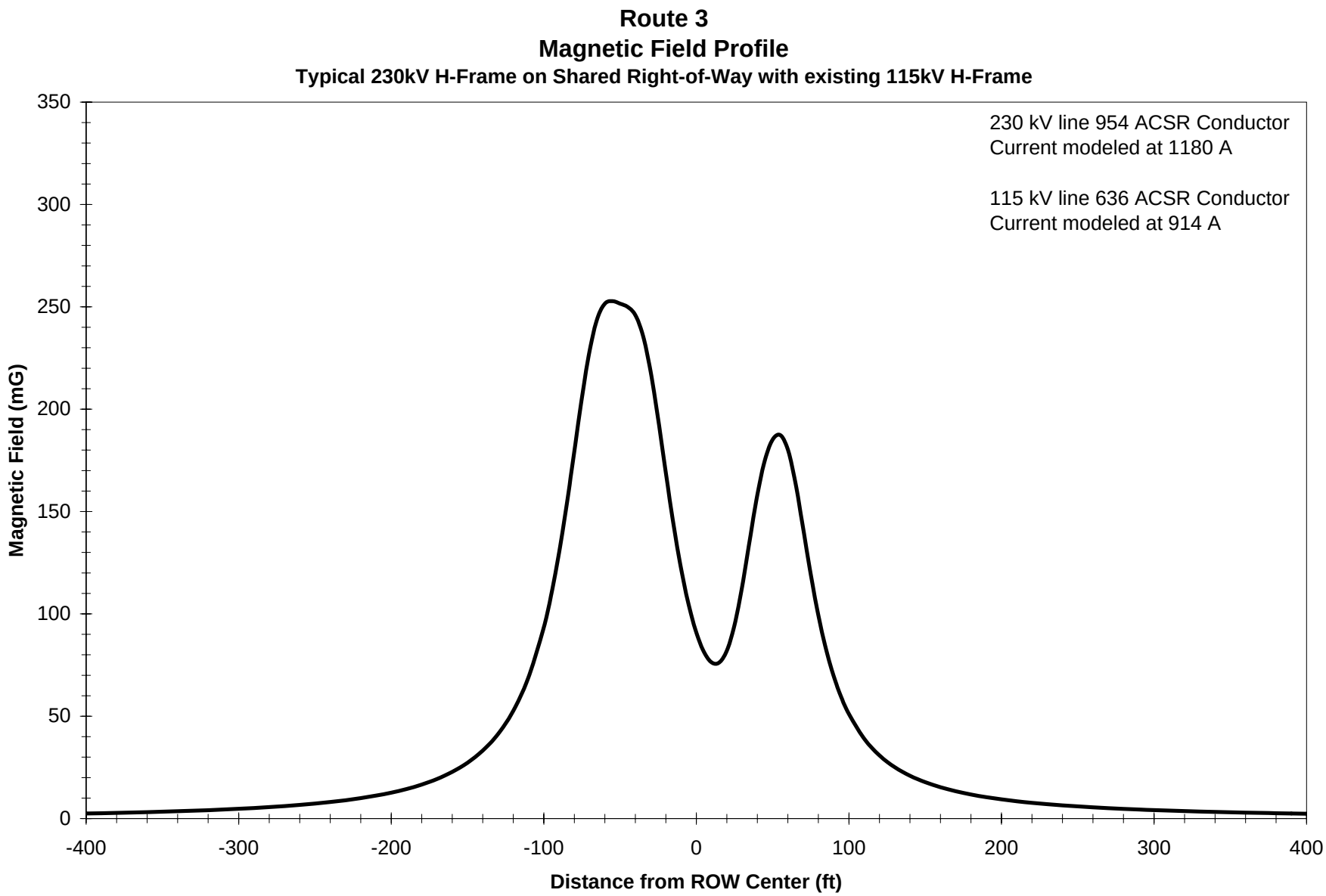

Route 2
Magnetic Field Profile
Typical 230/115 kV Single Pole Double Circuit
230kV line 1590 ACSR Conductor
Current modeled at 1587 A
115kV line 636 ACSR Conductor
Current modeled at 914 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)

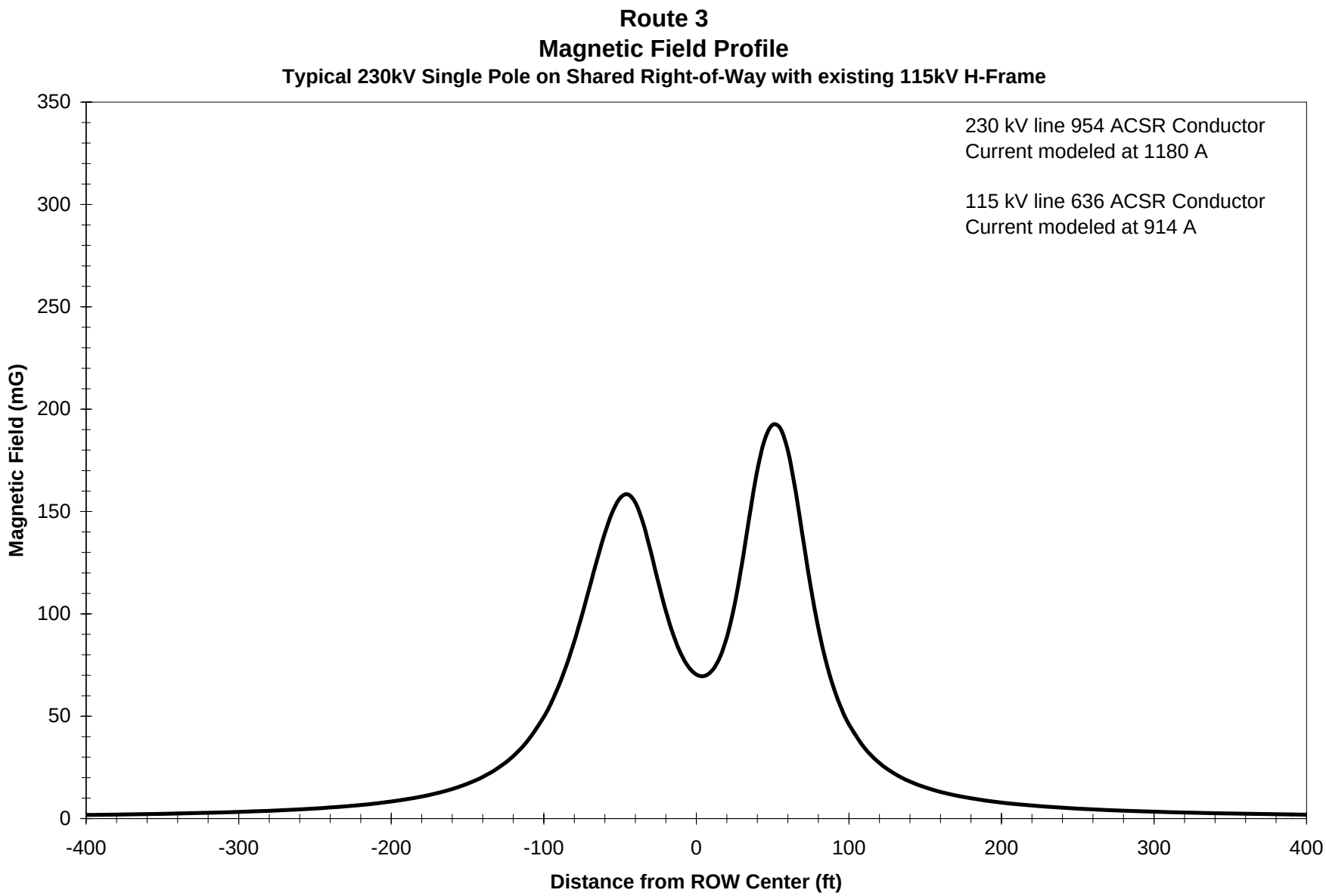

Route 2
Magnetic Field Profile
Parallel 230kV H-Frames on Shared Right-of-Way with existing 115kV H-Frame
Center 230 kV line 954 ACSR Conductor
Current modeled at 1180 A
Left 115 kV line 636 ACSR Conductor
Current modeled at 914 A
Right 230 kV line 1590 ACSR Conductor
Current modeled at 1587 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-400
-300
-200
-100
0
100
200
300
400
Distance from ROW Center (ft)

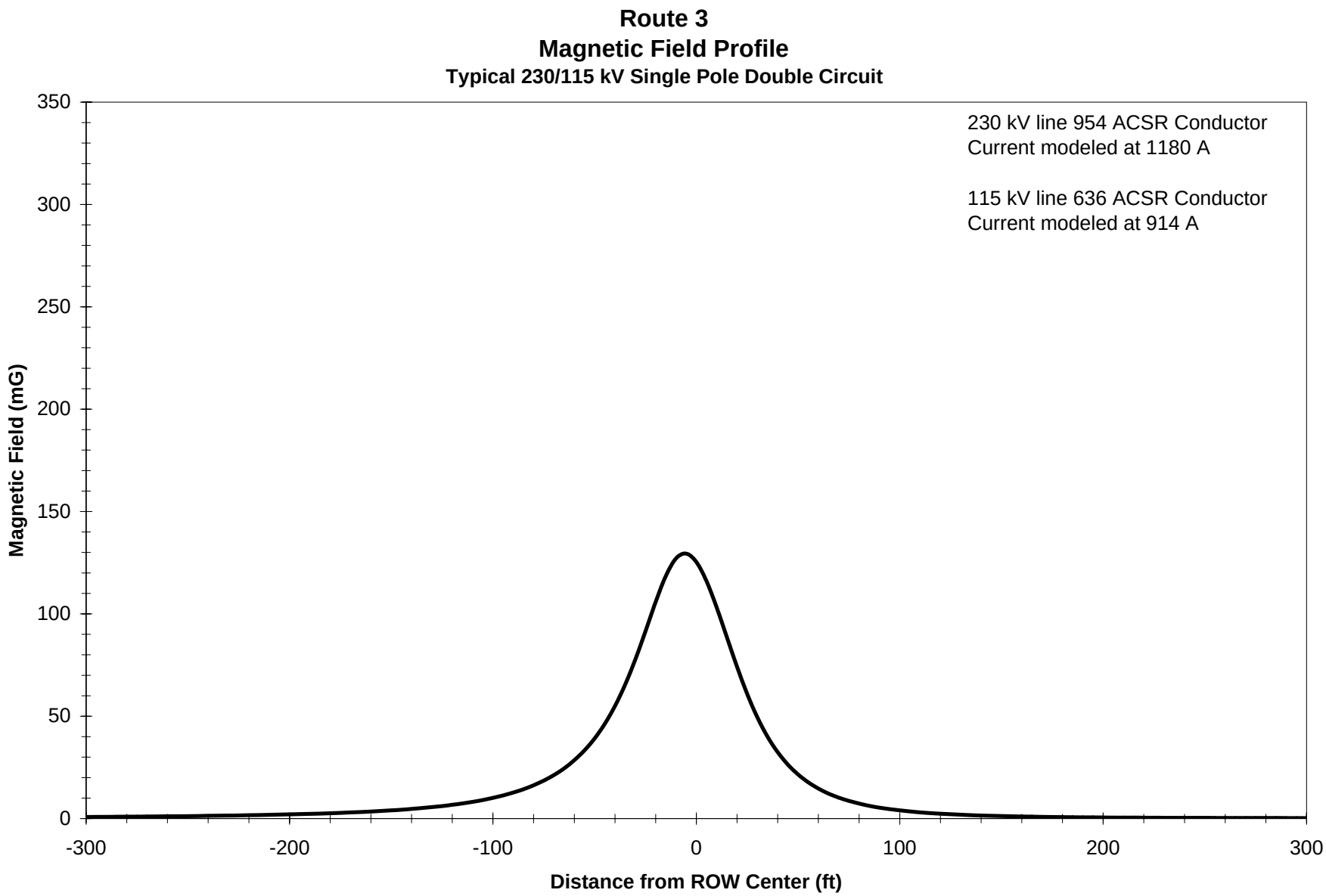

Route 2
Magnetic Field Profile
Parallel 230kV H-Frame and 230/115kV Single Pole Double Circuit on Shared Right-of-Way
SPDC 230 kV line 954 ACSR Conductor
Current Modeled at 1180 A
SPDC 115 kV line 636 ACSR Conductor
Current Modeled at 914 A
H-Frame 230 kV line 1590 ACSR Conductor
Current Modeled at 1587 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)

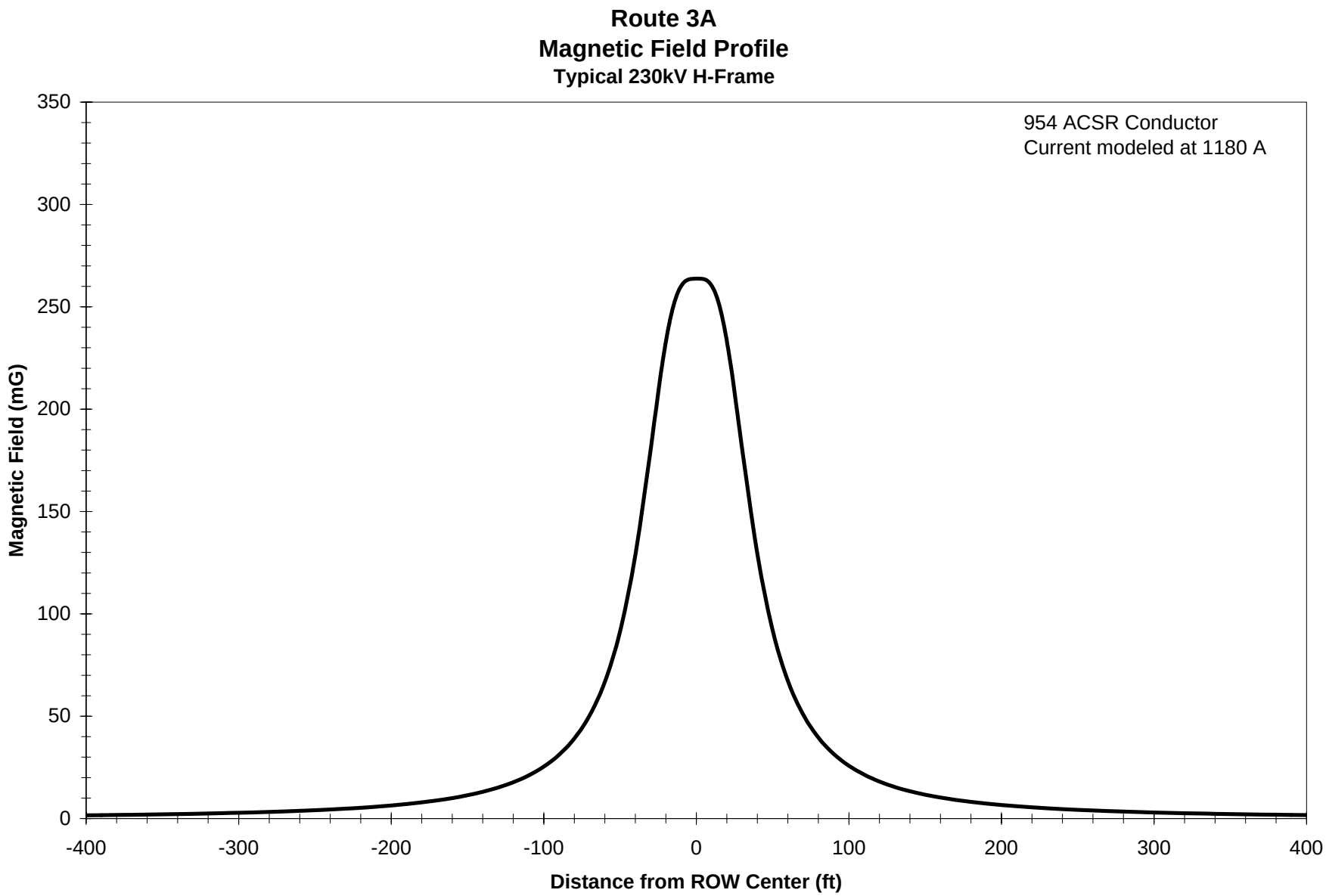

Route 2A
Magnetic Field Profile
Typical 230kV H-Frame
1590 ACSR Conductor
Current modeled at 1587 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)

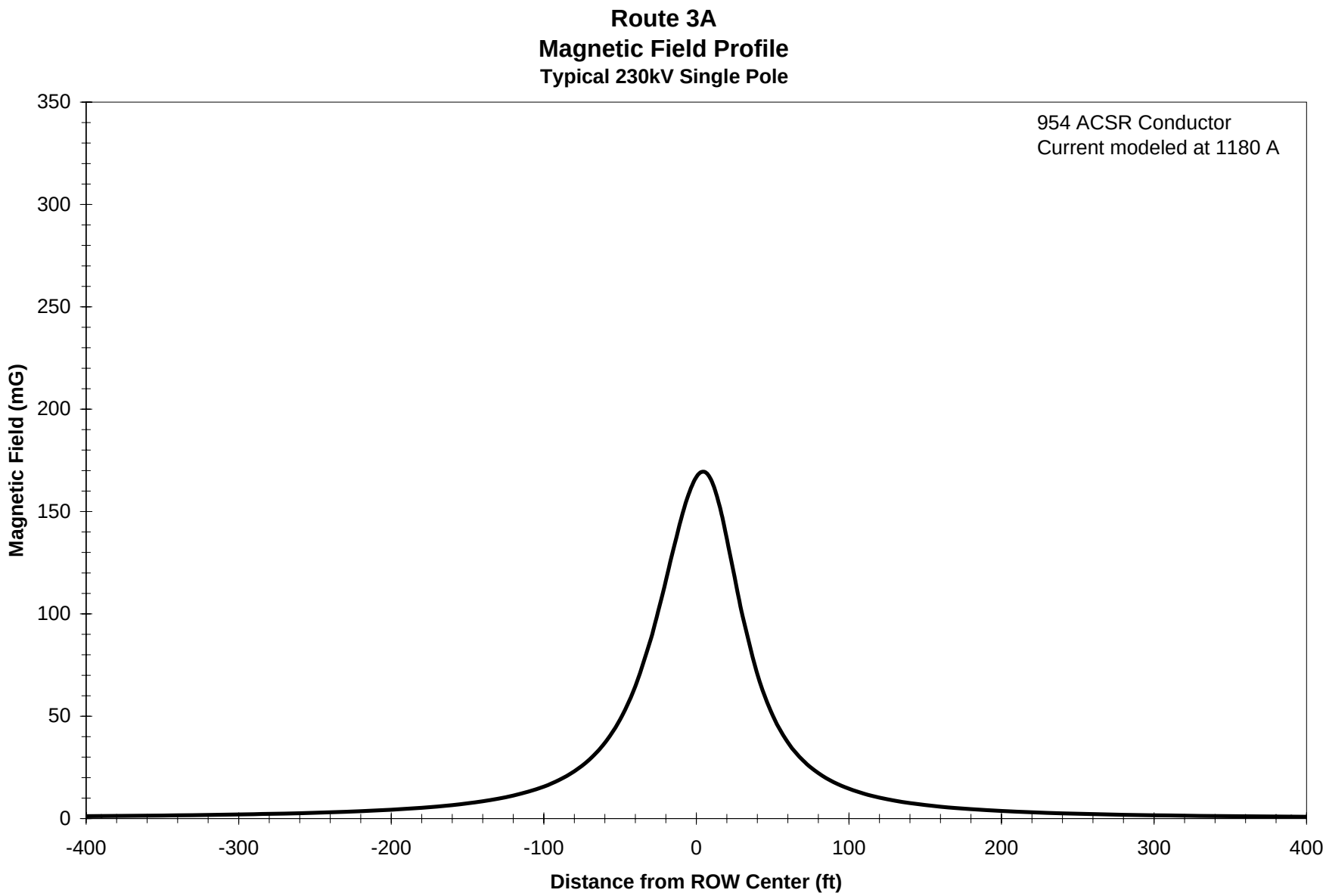

Route 2A
Magnetic Field Profile
Typical 230kV Single Pole
1590 ACSR Conductor
Current modeled at 1587 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)

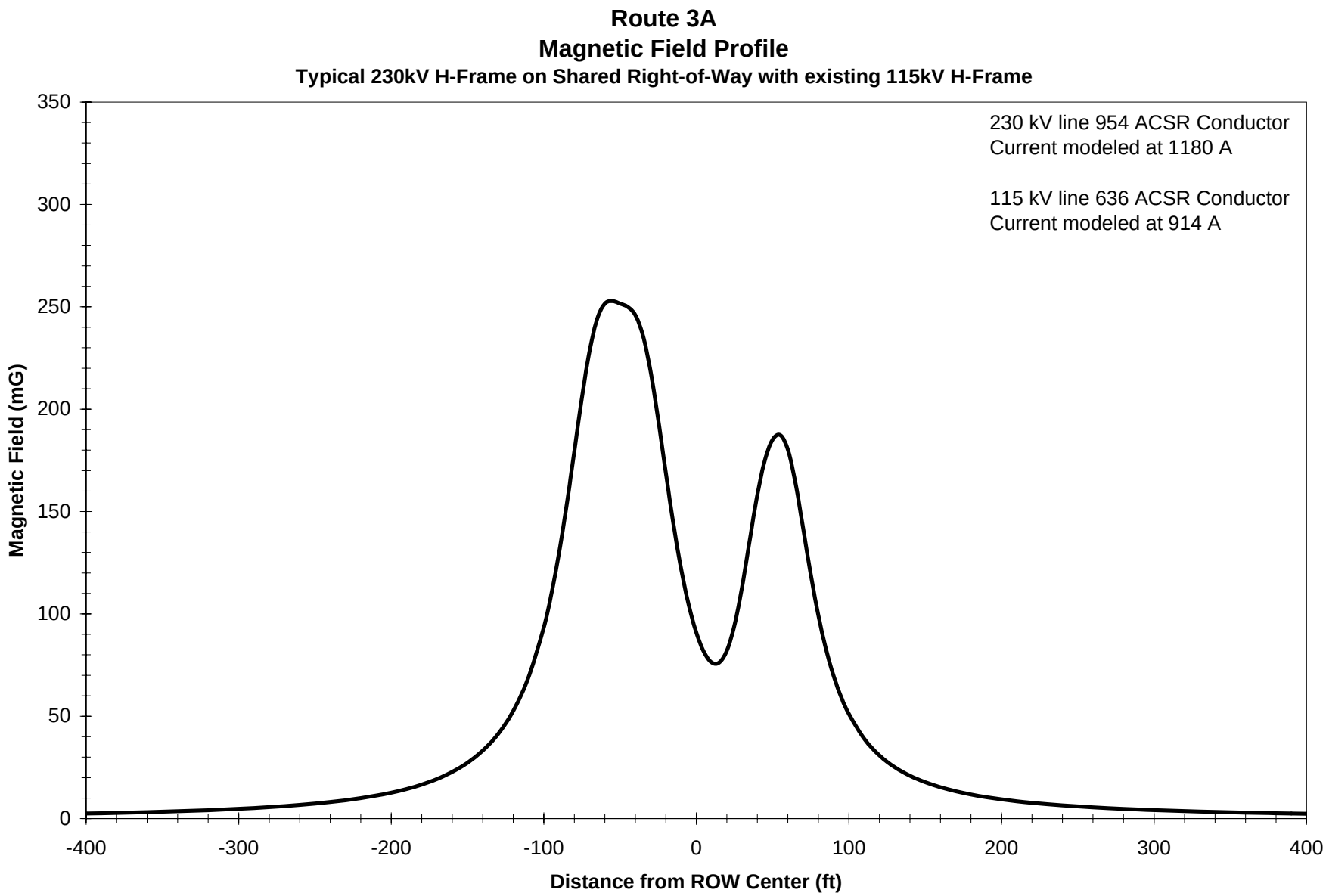

Route 3
Magnetic Field Profile
Typical 230kV H-Frame on Shared Right-of-Way with existing 115kV H-Frame
230 kV line 954 ACSR Conductor
Current modeled at 1180 A
115 kV line 636 ACSR Conductor
Current modeled at 914 A
Magnetic Field (mG)
350
300
250
200
150
100
50
0
-400
-300
-200
-100
0
100
200
300
400
Distance from ROW Center (ft)

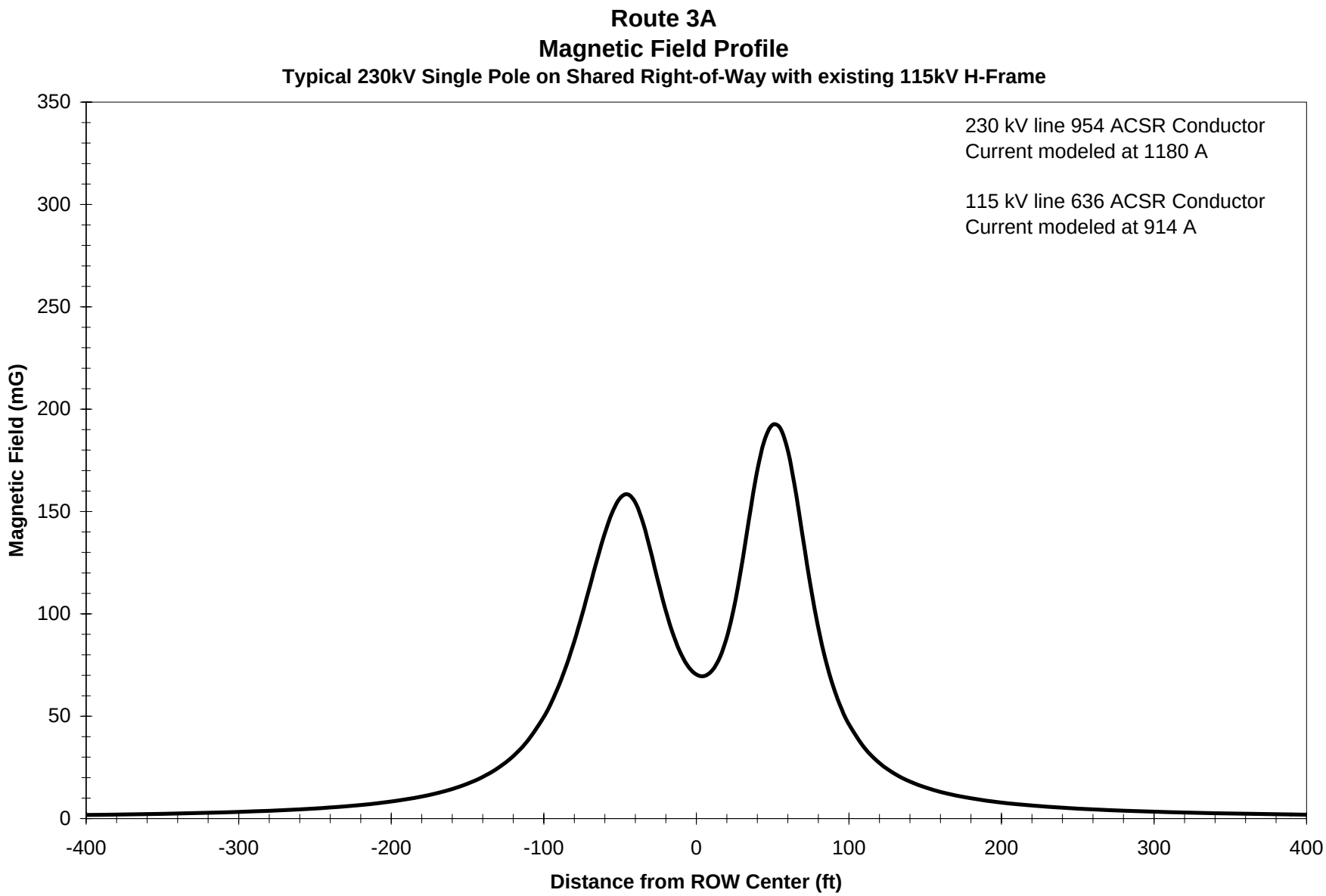

Route 3
Magnetic Field Profile
Typical 230kV Single Pole on Shared Right-of-Way with existing 115kV H-Frame
230 kV line 954 ACSR Conductor
Current modeled at 1180 A
115 kV line 636 ACSR Conductor
Current modeled at 914 A
Magnetic Field (mG)
350
300
250
200
150
100
50
0
-400
-300
-200
-100
0
100
200
300
400
Distance from ROW Center (ft)

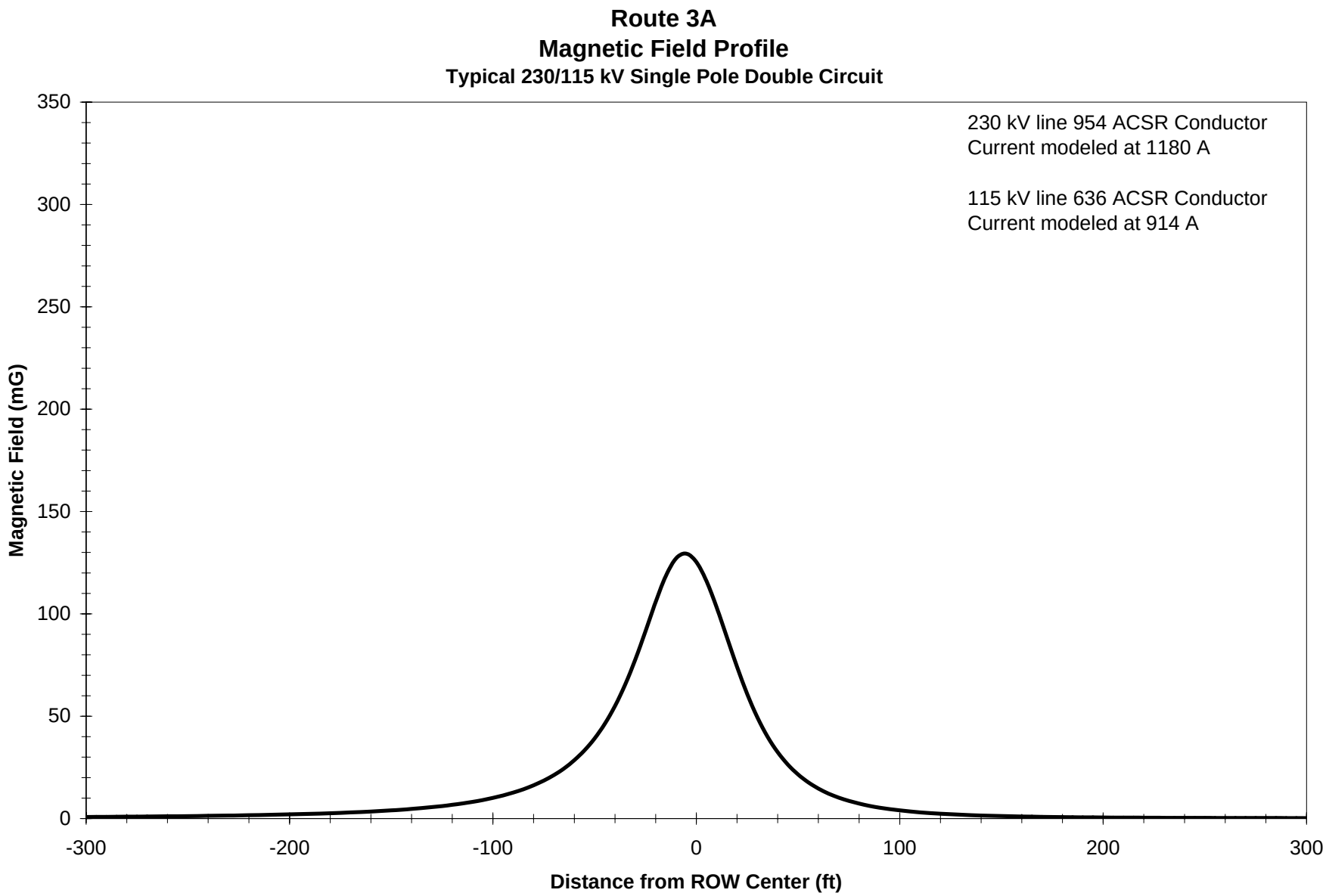

Route 3
Magnetic Field Profile
Typical 230/115 kV Single Pole Double Circuit
230 kV line 954 ACSR Conductor
Current modeled at 1180 A
115 kV line 636 ACSR Conductor
Current modeled at 914 A
Magnetic Field (mG)
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)

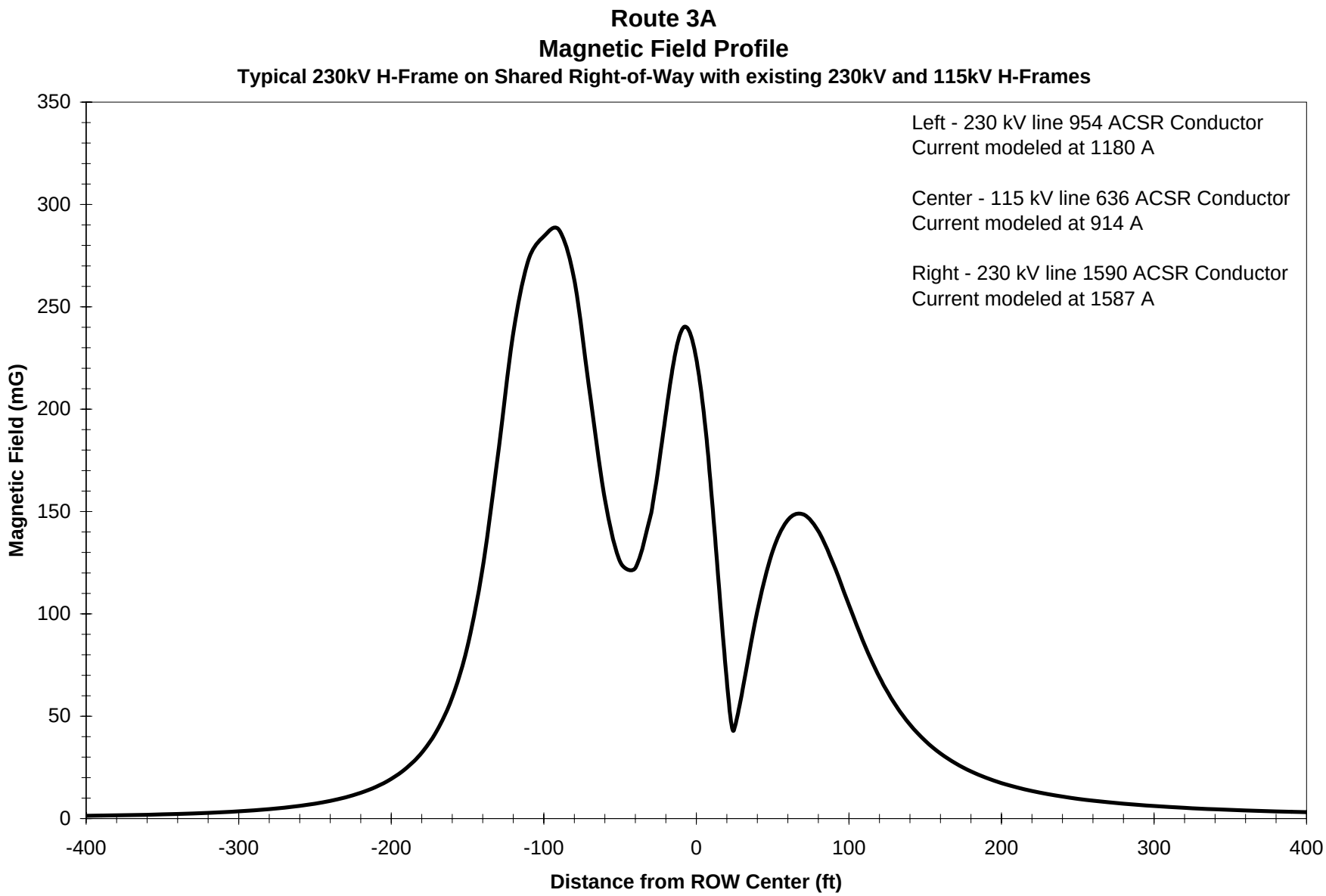

Route 3A
Magnetic Field Profile
Typical 230kV H-Frame
954 ACSR Conductor
Current modeled at 1180 A
Magnetic Field (mG)
350
300
250
200
150
100
50
0
-400
-300
-200
-100
0
100
200
300
400
Distance from ROW Center (ft)

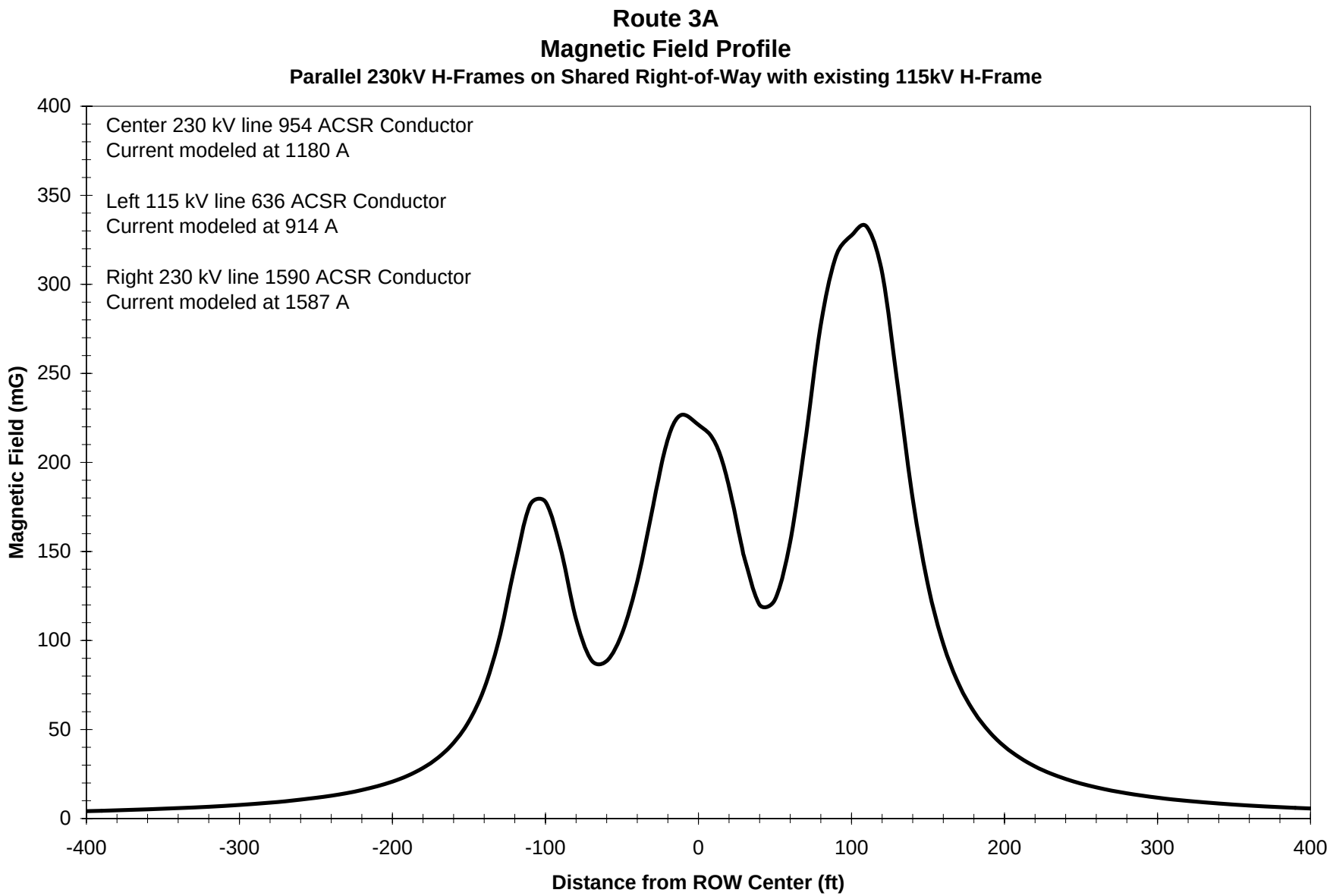

Route 3A
Magnetic Field Profile
Typical 230kV Single Pole
954 ACSR Conductor
Current modeled at 1180 A
Magnetic Field (mG)
350
300
250
200
150
100
50
0
-400
-300
-200
-100
0
100
200
300
400
Distance from ROW Center (ft)

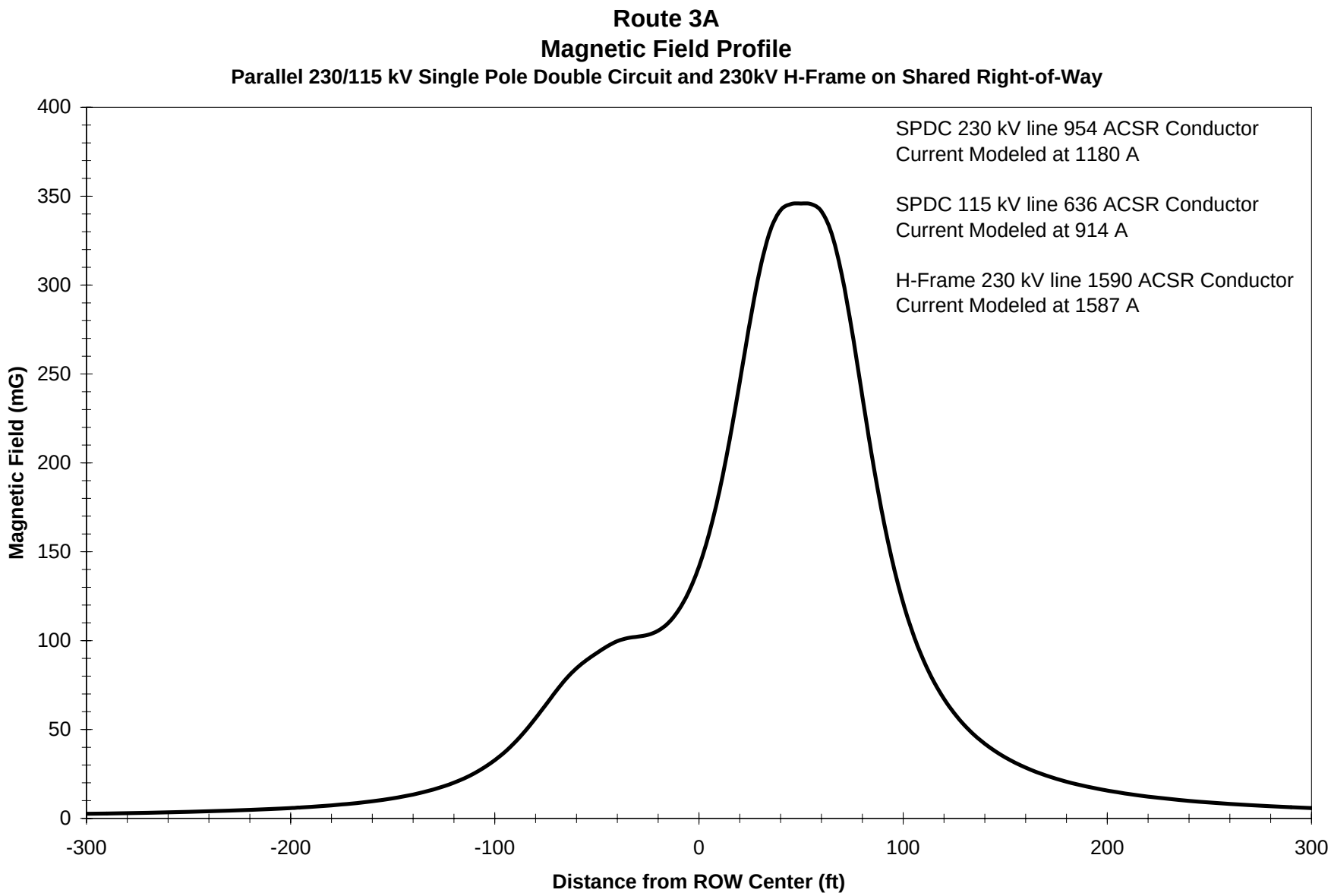

Route 3A
Magnetic Field Profile
Typical 230kV H-Frame on Shared Right-of-Way with existing 115kV H-Frame
230 kV line 954 ACSR Conductor
Current modeled at 1180 A
115 kV line 636 ACSR Conductor
Current modeled at 914 A
Magnetic Field (mG)
350
300
250
200
150
100
50
0
-400
-300
-200
-100
0
100
200
300
400
Distance from ROW Center (ft)

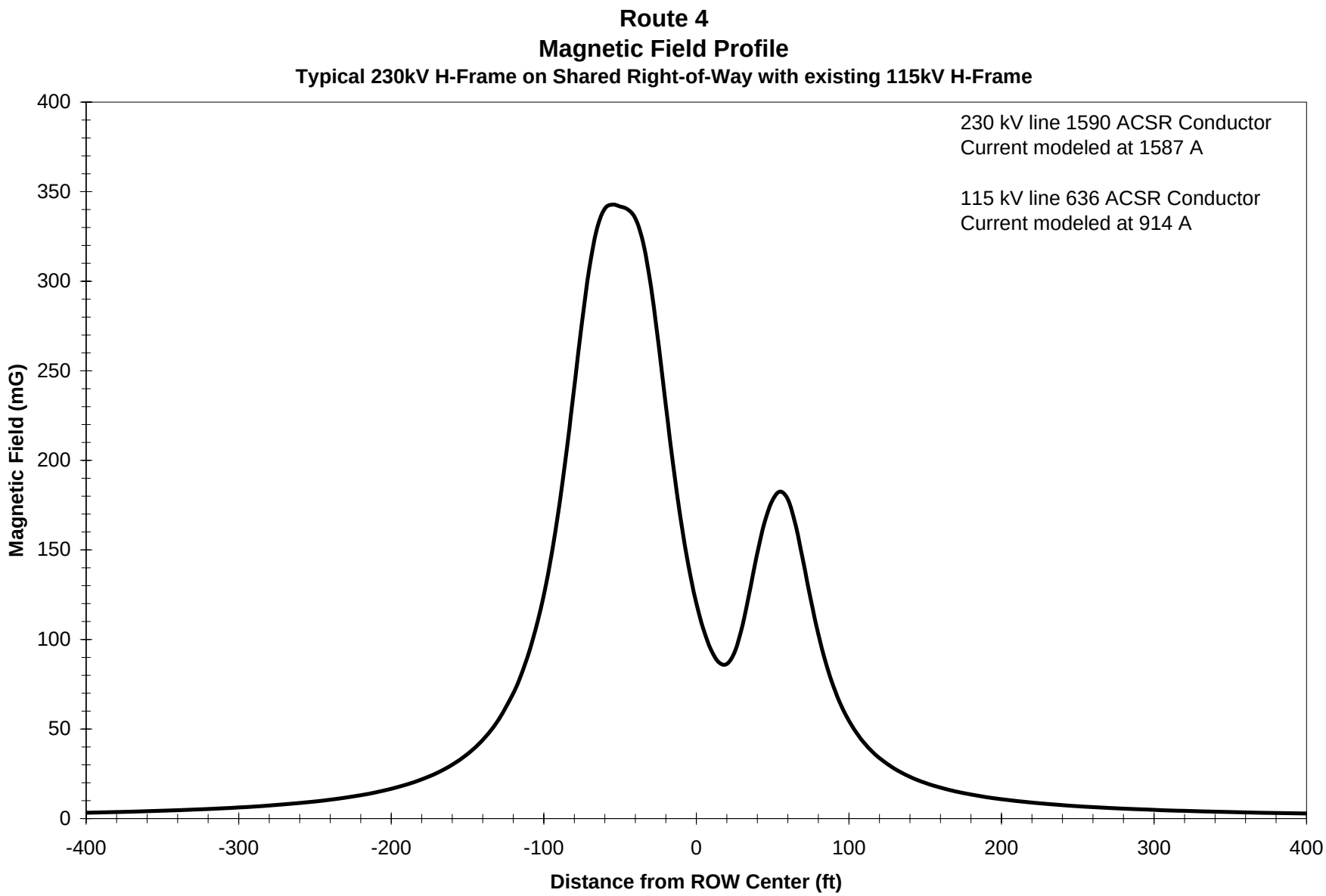

Route 3A
Magnetic Field Profile
Typical 230kV Single Pole on Shared Right-of-Way with existing 115kV H-Frame
230 kV line 954 ACSR Conductor
Current modeled at 1180 A
115 kV line 636 ACSR Conductor
Current modeled at 914 A
Magnetic Field (mG)
350
300
250
200
150
100
50
0
-400
-300
-200
-100
0
100
200
300
400
Distance from ROW Center (ft)

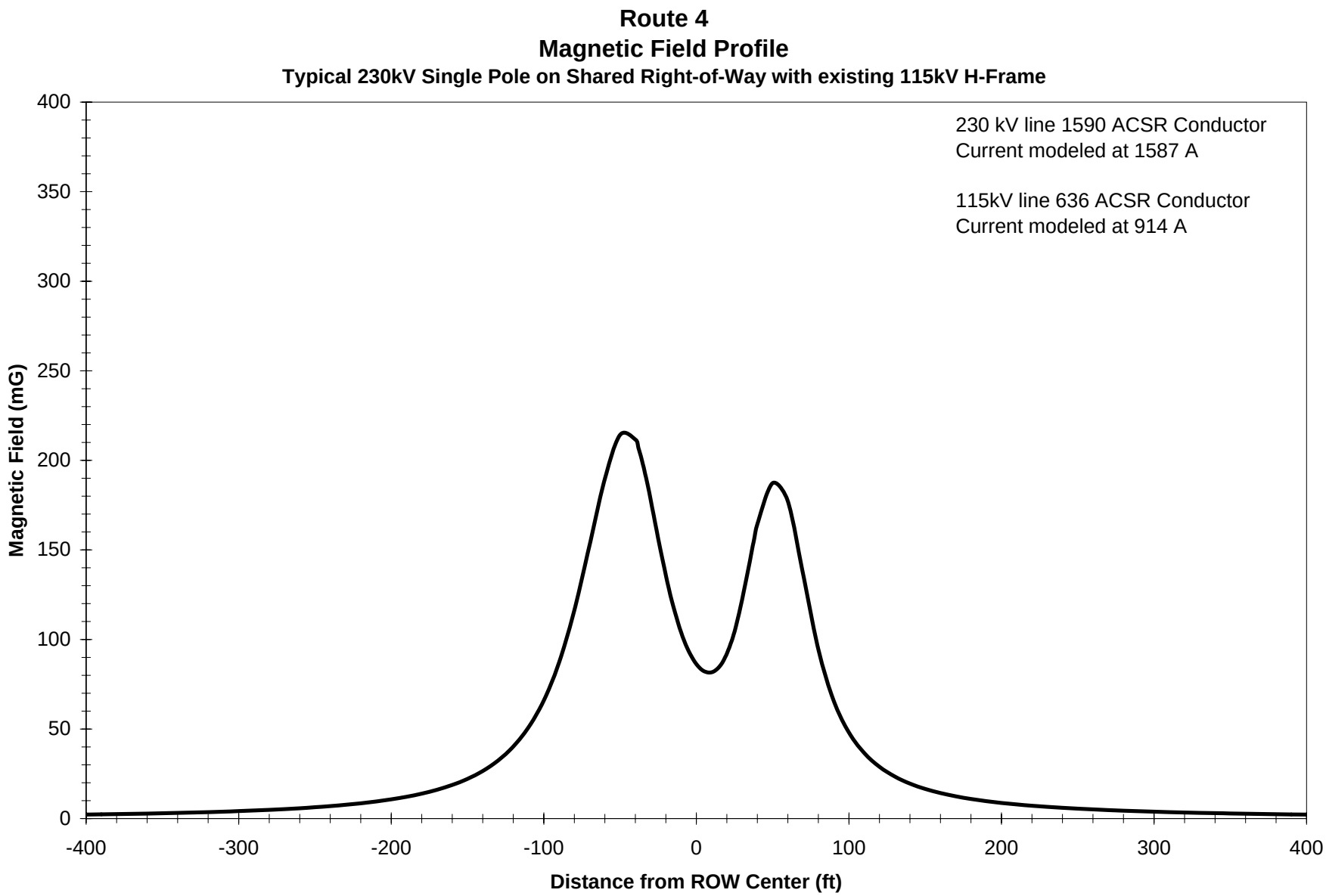

Route 3A
Magnetic Field Profile
Typical 230/115 kV Single Pole Double Circuit
230 kV line 954 ACSR Conductor
Current modeled at 1180 A
115 kV line 636 ACSR Conductor
Current modeled at 914 A
Magnetic Field (mG)
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)

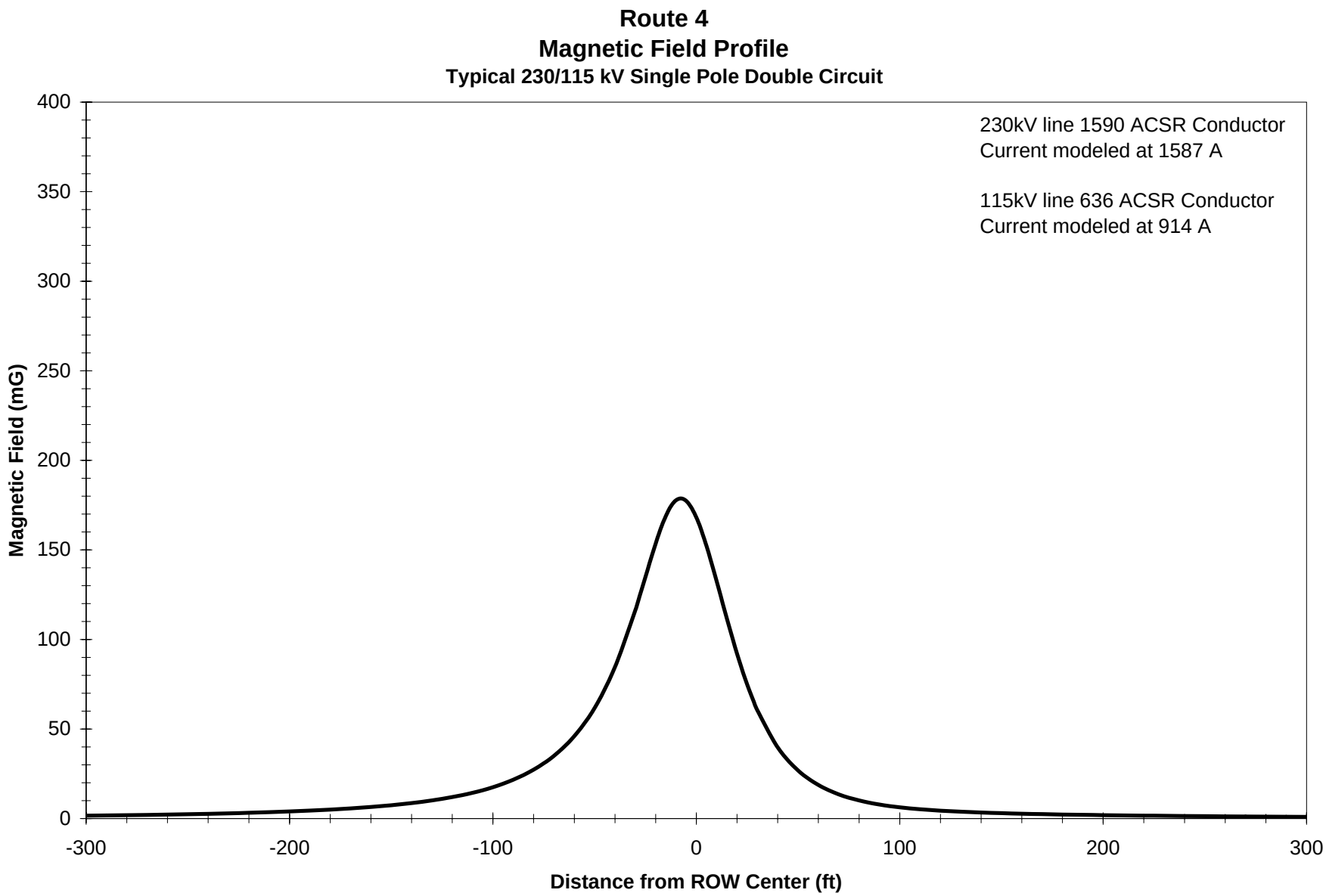

Route 3A
Magnetic Field Profile
Typical 230kV H-Frame on Shared Right-of-Way with existing 230kV and 115kV H-Frames
Left - 230 kV line 954 ACSR Conductor
Current modeled at 1180 A
Center - 115 kV line 636 ACSR Conductor
Current modeled at 914 A
Right - 230 kV line 1590 ACSR Conductor
Current modeled at 1587 A
Magnetic Field (mG)
350
300
250
200
150
100
50
0
-400
-300
-200
-100
0
100
200
300
400
Distance from ROW Center (ft)

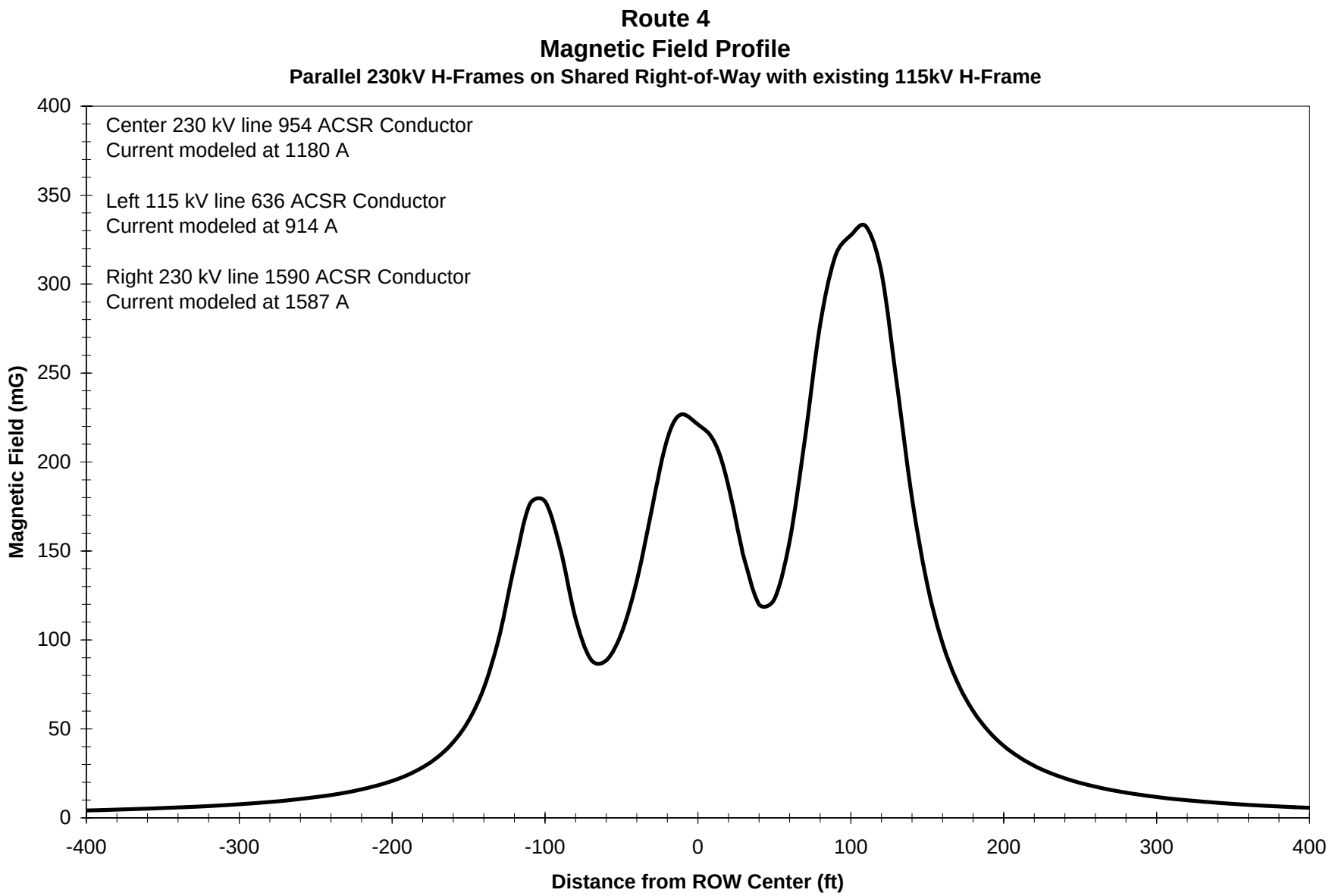

Route 3A
Magnetic Field Profile
Parallel 230kV H-Frames on Shared Right-of-Way with existing 115kV H-Frame
Center 230 kV line 954 ACSR Conductor
Current modeled at 1180 A
Left 115 kV line 636 ACSR Conductor
Current modeled at 914 A
Right 230 kV line 1590 ACSR Conductor
Current modeled at 1587 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-400
-300
-200
-100
0
100
200
300
400
Distance from ROW Center (ft)

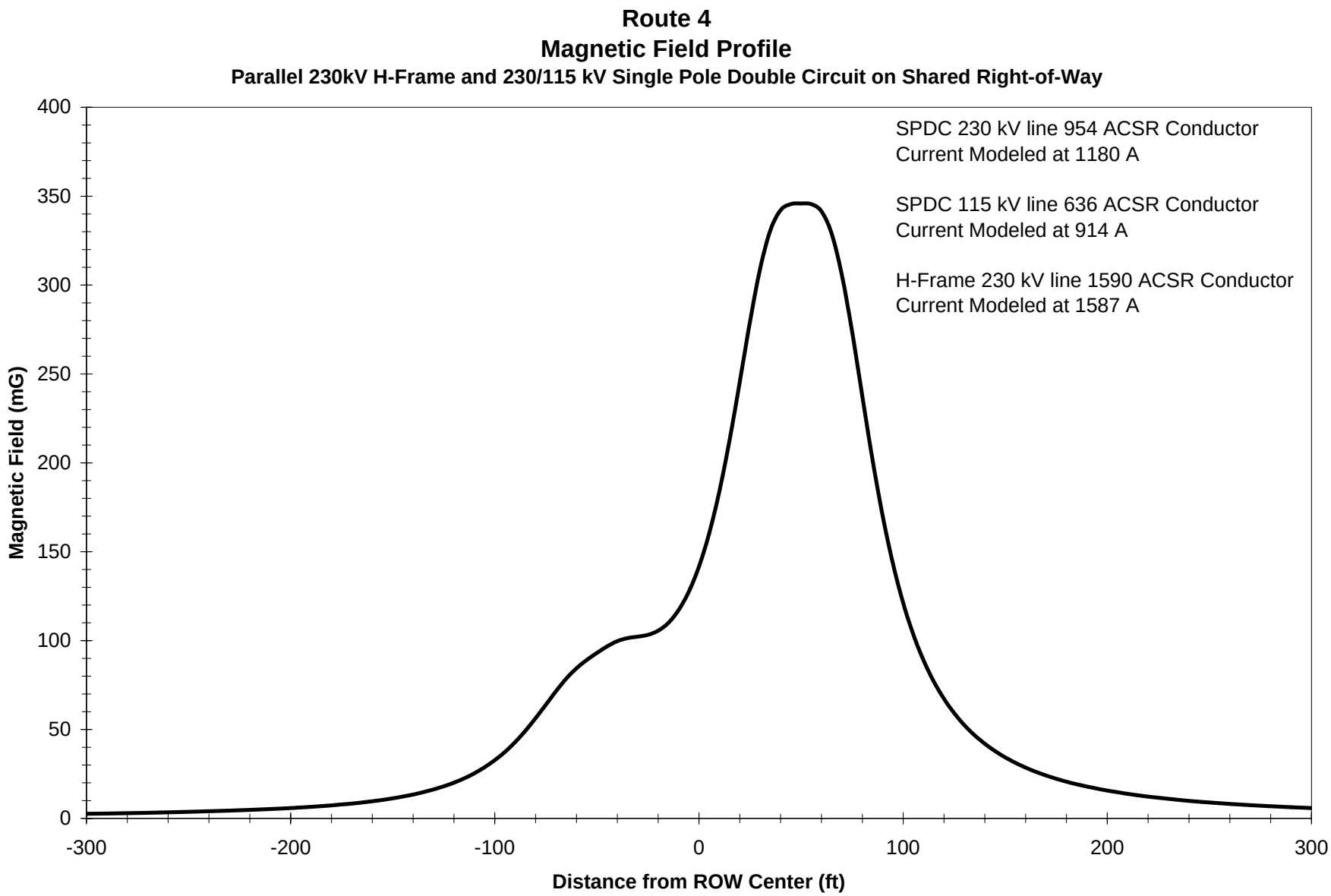

Route 3A
Magnetic Field Profile
Parallel 230/115 kV Single Pole Double Circuit and 230kV H-Frame on Shared Right-of-Way
SPDC 230 kV line 954 ACSR Conductor
Current Modeled at 1180 A
SPDC 115 kV line 636 ACSR Conductor
Current Modeled at 914 A
H-Frame 230 kV line 1590 ACSR Conductor
Current Modeled at 1587 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)

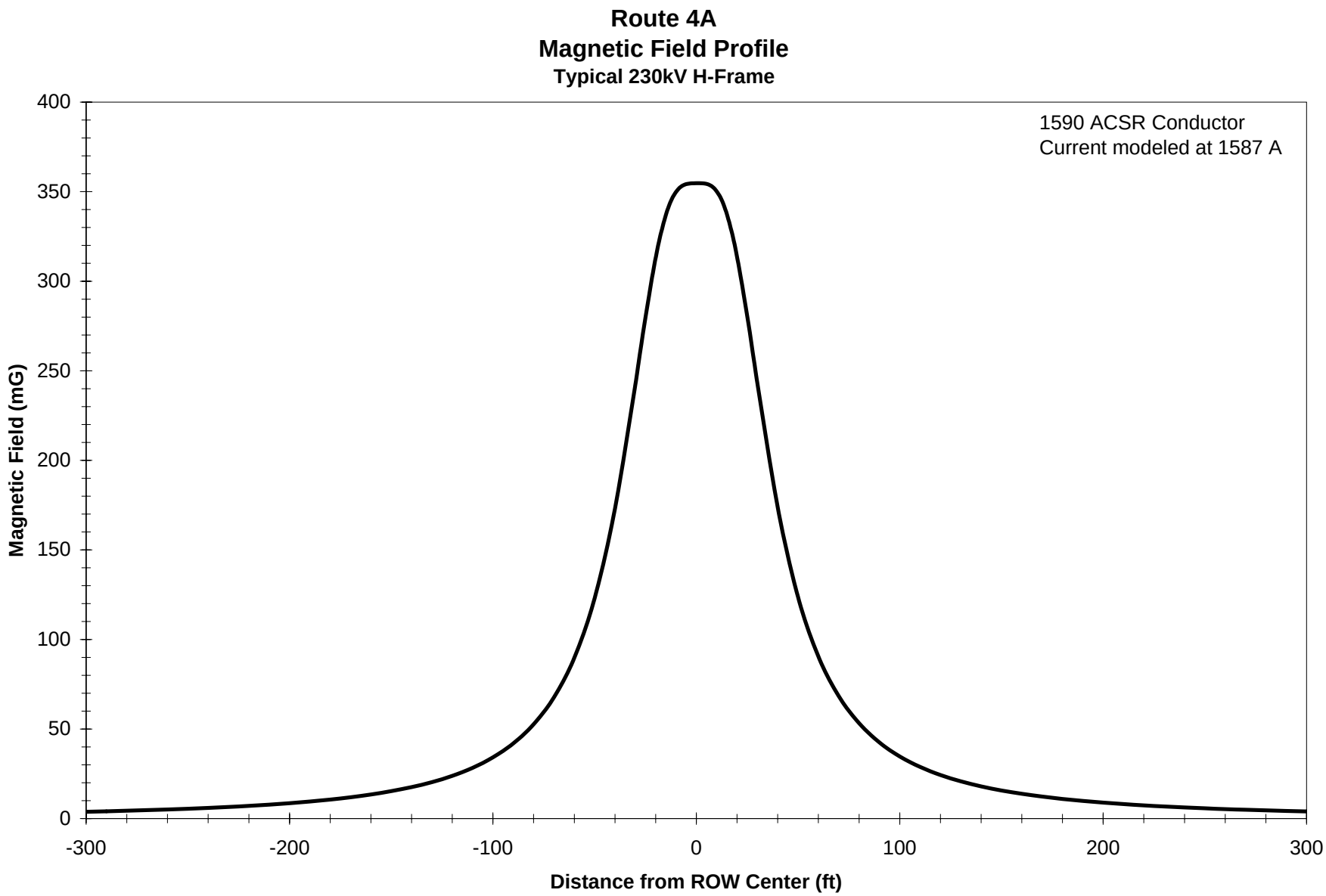

Route 4
Magnetic Field Profile
Typical 230kV H-Frame on Shared Right-of-Way with existing 115kV H-Frame
230 kV line 1590 ACSR Conductor
Current modeled at 1587 A
115 kV line 636 ACSR Conductor
Current modeled at 914 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-400
-300
-200
-100
0
100
200
300
400
Distance from ROW Center (ft)

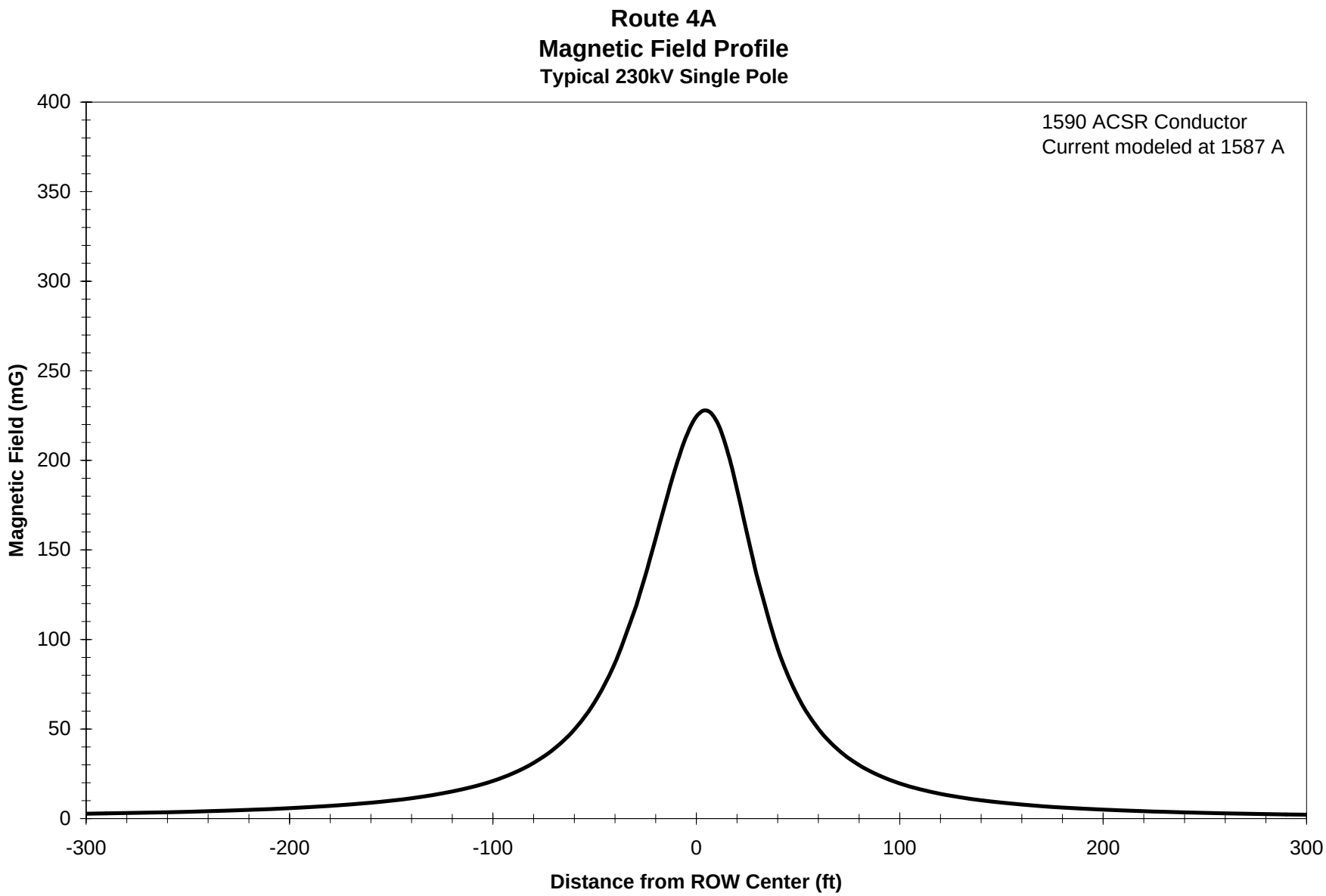

Route 4
Magnetic Field Profile
Typical 230kV Single Pole on Shared Right-of-Way with existing 115kV H-Frame
230 kV line 1590 ACSR Conductor
Current modeled at 1587 A
115kV line 636 ACSR Conductor
Current modeled at 914 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-400
-300
-200
-100
0
100
200
300
400
Distance from ROW Center (ft)


Route 4
Magnetic Field Profile
Typical 230/115 kV Single Pole Double Circuit
230kV line 1590 ACSR Conductor
Current modeled at 1587 A
115kV line 636 ACSR Conductor
Current modeled at 914 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)


Route 4
Magnetic Field Profile
Parallel 230kV H-Frames on Shared Right-of-Way with existing 115kV H-Frame
Center 230 kV line 954 ACSR Conductor
Current modeled at 1180 A
Left 115 kV line 636 ACSR Conductor
Current modeled at 914 A
Right 230 kV line 1590 ACSR Conductor
Current modeled at 1587 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-400
-300
-200
-100
0
100
200
300
400
Distance from ROW Center (ft)


Route 4
Magnetic Field Profile
Parallel 230kV H-Frame and 230/115 kV Single Pole Double Circuit on Shared Right-of-Way
SPDC 230 kV line 954 ACSR Conductor
Current Modeled at 1180 A
SPDC 115 kV line 636 ACSR Conductor
Current Modeled at 914 A
H-Frame 230 kV line 1590 ACSR Conductor
Current Modeled at 1587 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)


Route 4A
Magnetic Field Profile
Typical 230kV H-Frame
1590 ACSR Conductor
Current modeled at 1587 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)


Route 4A
Magnetic Field Profile
Typical 230kV Single Pole
1590 ACSR Conductor
Current modeled at 1587 A
Magnetic Field (mG)
400
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300
Distance from ROW Center (ft)