24 March 2018

NBS577js.html is a javascript/html port of the NBS SP 577 Appendix F Fortran program to calculate the reliability index and/or resistance value for a specified reliability index. Port by Joe Murphy using Windows XP, Notepad, and the browser FireFox ESR 52.6.0 (32-bit). I developed NBS577js.html for noncommercial use only. If program doesn't work ctrl-shift-K will bring up the FireFox debugger. Ctrl-U shows the source code. Email me at joe_@mailbag.com.

NBS577js.html Status:

Input text file, NBS SP 577 format

1. Select and Load *.txt data File: Browse... No file selected. 2. Execute

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WAIT for suggested filename to appear before (maybe renaming and) saving!

3. Filename to Save As *.htm(l): 4. View/Save

Output htm(l) file placed in this browser's "Download" folder After [OK]
Change download option to "Always ask me where to save files" Click again

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To Change some data, Reload Data Reload Data Clear All Clear All

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Distribution Paramenters k, u	
Distribution	pdf(x)
normal	$\frac{1}{k\sqrt{2\pi}}\, e^{-\frac{1}{2}\left[\frac{x-u}{k}\right]^2}$
lognormal	$\frac{1}{x\,k\sqrt{2\pi}}\, e^{-\frac{1}{2}\left[\frac{\ln x-u}{k}\right]^2}$
gamma	$\frac{u}{\Gamma(k)}\,(u\,x)^{k-1}\, e^{-u\,x}$
Gumbel Type I Extreme value	$k\, e^{-(z+e^{-z})}$ where $z = k\,(x - u)$
Frechet Type II Extreme value	$\frac{k}{u}\left(\frac{x}{u}\right)^{-k-1} e^{-\left(\frac{x}{u}\right)^{-k}}$
Weibull Type III Extreme value	$\frac{k}{u}\left(\frac{x}{u}\right)^{k-1} e^{-\left(\frac{x}{u}\right)^{k}}$

Load Distribution and Parameters			
Load	$\overline{X}/X_n$ (u1)	V_X (u2)	Distribution
Dead	1.05	0.10	normal
Live	1.0	0.25	Type I
L_{apt}	0.24	0.72	gamma
Wind	0.78	0.37	Type I
W_{ann}	0.33	0.59	Type I
W_{apt}	(-0.021)	(18.7)	Type I
Snow	0.82	0.26	Type II
S_{ann}	0.20	0.73	lognormal
Equake	(0.15)† † L.A.	(2.3)	Type II

Some Load Combinations	λ
1.4 D	0.6
1.2 D + 1.6 L	0.8
1.2 D + 1.6 S + 0.8 W_{ann}	0.8
1.2 D + 1.6 S + 0.5 L_{apt}	0.8
1.2 D + 1.3 W + 0.5 L_{apt}	1.0
1.2 D + 1.6 L + 0.1 W_{apt}	0.7
1.2 D + 1.5 E + 0.5 L_{apt}	1.0
1.2 D + 1.5 E + 0.2 S_{ann}	1.0

The following pages are results from three input.txt files to NBS577js.html. The first (jfmjz.txt) are cases John Zahn used to check his FORTRAN program (see his 1992 publication) against my QuickBASIC program modelled after NBS SP 577 FORTRAN program. They matched, as my NBS577js.html Javascript/HTML program does. The second (tablA12.txt) computes K_R for Table A1.2 in ASTM D5457. K_R = PHIc/pf(1) for CV = 10%, 15%, 20%, 25%, and 30%. The third (kr_beta.txt) computes beta for PHIc and PHIc rounded to the nearest 0.05 Use to check your version of NBS577js.html

```
10
Case 1, Match to Zahn Murphy Output
Analys 2 1 1 3
Rlfd normal 1 .3
Dead normal 1.05 .1
3.0 1.0
Case 2, Match to Zahn Murphy Output
Analys 2 1 1 3
Rlfd normal 1 .3
Live gumbel 1 0.25
3.0 1.0
Case 3, Match to Zahn Murphy Output
Analys 2 1 1 3
Rlfd normal 1 .3
Lapt gamma .24 .7222
3.0 1.0
Case 4, Match to Zahn Murphy Output
Analys 2 1 1 3
Rlfd normal 1 .3
Wind gumbel .78 .37
3.0 1.0
Case 5, Match to Zahn Murphy Output
Analys 2 1 1 3
Rlfd normal 1 .3
Wapt gumbel -.021 18.7
3.0 1.0
Case 6, Match to Zahn Murphy Output
Analys 2 1 1 3
Rlfd normal 1 .3
Wann gumbel .33 .59
3.0 1.0
Case 7, Match to Zahn Murphy Output
Analys 2 1 1 3
Rlfd normal 1 .3
Snow freche .82 .26
3.0 1.0
Case 8, Match to Zahn Murphy Output
Analys 2 1 1 3
Rlfd normal 1 .3
Sann lognormal .2 0.73
3.0 1.0
Case 10, Match to Zahn Murphy Output
Analys 2 1 1 3
Rlfd lognormal 1 .3
Dead normal 1.05 .1
3.0 1.0
Case 11, Match to Zahn Murphy Output
Analys 2 1 1 3
Rlfd weibull 1 .3
Dead normal 1.05 0.10
3.0 1.0

====================== end of input file ================================

     Case 1 Match to Zahn Murphy Output

     Analysis - find BETA for a given Xn(1)
```

Variable in G( ) = 0	Rlfd	Dead	
Distribution	normal	normal	
(u1) Mean/Nominal	1	1.05	
(u2) C.o.V.	.3	.1	
Nominal value Xn	3.0	1.0	BETA_FOSM = 2.152
Checking point x*	1.076	1.076	
alpha	-0.993	0.116	
**** BETA	**2.15**	****	
[New Partial factor? (x* /Xn)	0.3587	1.0762]	
[cdf(x*)	0.0163	0.5985]	
[pdf(x*)	0.0451	3.6831]	
[distribution parameter K	0.9000	0.1050]	
[distribution parameter U	3.0000	1.0500]	
[Normalized mean mu*	3.0000	1.0500]	
[Normalized s.d. sg*	0.9000	0.1050]	
[Xn(1),BETA,BETA/BETA_FOSM	3.0000	2.1521	1.0000]

Case 2 Match to Zahn Murphy Output

Analysis - find BETA for a given Xn(1)

Variable in G( ) = 0	Rlfd	Live	
Distribution	normal	Gumbel	
(u1) Mean/Nominal	1	1	
(u2) C.o.V.	.3	0.25	
Nominal value Xn	3.0	1.0	BETA_FOSM = 2.141
Checking point x*	1.126	1.126	
alpha	-0.953	0.302	
**** BETA	**2.18**	****	
[New Partial factor? (x* /Xn)	0.3755	1.1264]	
[cdf(x*)	0.0187	0.7456]	
[pdf(x*)	0.0508	1.1230]	
[distribution parameter K	0.9000	5.1302]	
[distribution parameter U	3.0000	0.8875]	
[Normalized mean mu*	3.0000	0.9377]	
[Normalized s.d. sg*	0.9000	0.2856]	
[Xn(1),BETA,BETA/BETA_FOSM	3.0000	2.1841	1.0201]

Case 3 Match to Zahn Murphy Output

Analysis - find BETA for a given Xn(1)

Variable in G( ) = 0	Rlfd	Lapt	
Distribution	normal	gamma	
(u1) Mean/Nominal	1	.24	
(u2) C.o.V.	.3	.722*	
Nominal value Xn	3.0	1.0	BETA_FOSM = 3.011
Checking point x*	0.333	0.333	
alpha	-0.972	0.236	
**** BETA	**3.05**	****	

```
[ New Partial factor? (x* /Xn)    0.1112    0.3335 ]
                    [ cdf(x*)     0.0015    0.7637 ]
                    [ pdf(x*)     0.0055    1.4126 ]
    [ distribution parameter K    0.9000    1.9173 ]
    [ distribution parameter U    3.0000    7.9887 ]
         [ Normalized mean mu*    3.0000    0.1768 ]
         [ Normalized s.d. sg*    0.9000    0.2182 ]
   [ Xn(1),BETA,BETA/BETA_FOSM    3.0000    3.0486    1.0124 ]
```

Case 4 Match to Zahn Murphy Output

Analysis - find BETA for a given Xn(1)

```
        Variable in G( ) = 0     Rlfd      Wind
                Distribution   normal    Gumbel
           (u1) Mean/Nominal     1          .78
                 (u2) C.o.V.      .3         .37

            Nominal value Xn     3.0       1.0       BETA_FOSM = 2.349
           Checking point x*     1.003     1.003
                       alpha    -0.929     0.370
              ****      BETA     2.39      ****
```

```
[ New Partial factor? (x* /Xn)    0.3343    1.0028 ]
                    [ cdf(x*)     0.0132    0.8117 ]
                    [ pdf(x*)     0.0378    0.7525 ]
    [ distribution parameter K    0.9000    4.4440 ]
    [ distribution parameter U    3.0000    0.6501 ]
         [ Normalized mean mu*    3.0000    0.6857 ]
         [ Normalized s.d. sg*    0.9000    0.3586 ]
   [ Xn(1),BETA,BETA/BETA_FOSM    3.0000    2.3888    1.0170 ]
```

Case 5 Match to Zahn Murphy Output

Analysis - find BETA for a given Xn(1)

```
        Variable in G( ) = 0     Rlfd      Wapt
                Distribution   normal    Gumbel
           (u1) Mean/Nominal     1         -.021
                 (u2) C.o.V.      .3       18.7

            Nominal value Xn     3.0       1.0       BETA_FOSM = 3.313
           Checking point x*     0.015     0.015
                       alpha    -0.997     0.075
              ****      BETA     3.33      ****
```

```
[ New Partial factor? (x* /Xn)    0.0049    0.0146 ]
                    [ cdf(x*)     0.0005    0.5979 ]
                    [ pdf(x*)     0.0018    5.7504 ]
    [ distribution parameter K    0.9000   18.7000 ]
    [ distribution parameter U    3.0000   -0.0210 ]
                [ Mean/Nominal              0.0099 ]
                     [ C.o.V.               6.9509 ]
         [ Normalized mean mu*    3.0000   -0.0021 ]
```

```
      [ Normalized s.d. sg*    0.9000    0.0673 ]
[ Xn(1),BETA,BETA/BETA_FOSM    3.0000    3.3264    1.0041 ]
```

Case 6 Match to Zahn Murphy Output

Analysis - find BETA for a given Xn(1)

```
       Variable in G( ) = 0     Rlfd      Wann
              Distribution   normal    Gumbel
         (u1) Mean/Nominal    1          .33
               (u2) C.o.V.     .3         .59

          Nominal value Xn    3.0       1.0       BETA_FOSM = 2.900
         Checking point x*    0.441     0.441
                     alpha   -0.970     0.245
            ****      BETA    2.93      ****

[ New Partial factor? (x* /Xn)    0.1471    0.4413 ]
                   [ cdf(x*)    0.0022    0.7636 ]
                   [ pdf(x*)    0.0078    1.3568 ]
  [ distribution parameter K    0.9000    6.5873 ]
  [ distribution parameter U    3.0000    0.2424 ]
       [ Normalized mean mu*    3.0000    0.2782 ]
       [ Normalized s.d. sg*    0.9000    0.2272 ]
[ Xn(1),BETA,BETA/BETA_FOSM    3.0000    2.9322    1.0113 ]
```

Case 7 Match to Zahn Murphy Output

Analysis - find BETA for a given Xn(1)

```
       Variable in G( ) = 0     Rlfd       Snow
              Distribution   normal    Frechet
         (u1) Mean/Nominal    1          .82
               (u2) C.o.V.     .3         .26

          Nominal value Xn    3.0       1.0       BETA_FOSM = 2.357
         Checking point x*    0.869     0.869
                     alpha   -0.974     0.228
            ****      BETA    2.43      ****

[ New Partial factor? (x* /Xn)    0.2897    0.8692 ]
                   [ cdf(x*)    0.0090    0.7099 ]
                   [ pdf(x*)    0.0269    1.6282 ]
  [ distribution parameter K    0.9000    5.8186 ]
  [ distribution parameter U    3.0000    0.7231 ]
       [ Normalized mean mu*    3.0000    0.7529 ]
       [ Normalized s.d. sg*    0.9000    0.2103 ]
[ Xn(1),BETA,BETA/BETA_FOSM    3.0000    2.4313    1.0315 ]
```

Case 8 Match to Zahn Murphy Output

Analysis - find BETA for a given Xn(1)

```
       Variable in G( ) = 0     Rlfd        Sann
```

Distribution	normal	lognormal		
(u1) Mean/Nominal	1	.2		
(u2) C.o.V.	.3	0.73		
Nominal value Xn	3.0	1.0	BETA_FOSM = 3.071	
Checking point x*	0.224	0.224		
alpha	-0.987	0.161		
**** BETA	**3.12**	****		
[New Partial factor? (x* /Xn)	0.0748	0.2243	]	
[cdf(x*)	0.0010	0.6923	]	
[pdf(x*)	0.0038	2.3984	]	
[distribution parameter K	0.9000	0.6536	]	
[distribution parameter U	3.0000	-1.8230	]	
[Normalized mean mu*	3.0000	0.1507	]	
[Normalized s.d. sg*	0.9000	0.1466	]	
[Xn(1),BETA,BETA/BETA_FOSM	3.0000	3.1247	1.0175]	

Case 10 Match to Zahn Murphy Output

Analysis - find BETA for a given Xn(1)

Variable in G( ) = 0	Rlfd	Dead	
Distribution	lognormal	normal	
(u1) Mean/Nominal	1	1.05	
(u2) C.o.V.	.3	.1	
Nominal value Xn	3.0	1.0	BETA_FOSM = 2.152
Checking point x*	1.152	1.152	
alpha	-0.955	0.297	
**** BETA	**3.26**	****	
[New Partial factor? (x* /Xn)	0.3839	1.1516	]
[cdf(x*)	0.0009	0.8333	]
[pdf(x*)	0.0092	2.3795	]
[distribution parameter K	0.2936	0.1050	]
[distribution parameter U	1.0555	1.0500	]
[Normalized mean mu*	2.2046	1.0500	]
[Normalized s.d. sg*	0.3381	0.1050	]
[Xn(1),BETA,BETA/BETA_FOSM	3.0000	3.2616	1.5156]

Case 11 Match to Zahn Murphy Output

Analysis - find BETA for a given Xn(1)

Variable in G( ) = 0	Rlfd	Dead	
Distribution	Weibull	normal	
(u1) Mean/Nominal	1	1.05	
(u2) C.o.V.	.3	0.10	
Nominal value Xn	3.0	1.0	BETA_FOSM = 2.152
Checking point x*	1.082	1.082	
alpha	-0.990	0.141	
**** BETA	**2.18**	****	

[New Partial factor? (x* /Xn)	0.3607	1.0822]	
[cdf(x*)	0.0154	0.6206]	
[pdf(x*)	0.0524	3.6246]	
[distribution parameter K	3.7138	0.1050]	
[distribution parameter U	3.3236	1.0500]	
[Normalized mean mu*	2.6782	1.0500]	
[Normalized s.d. sg*	0.7388	0.1050]	
[Xn(1),BETA,BETA/BETA_FOSM	3.0000	2.1819	1.0138]

```
20
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.10
Design 3 1 1 2.44
Rlfd Weibull  1.224  0.10 0.90
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.15
Design 3 1 1 2.44
Rlfd Weibull  1.370  0.15 0.90
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.20
Design 3 1 1 2.44
Rlfd Weibull  1.546  0.20 0.90
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.25
Design 3 1 1 2.44
Rlfd Weibull  1.756  0.25 0.90
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.30
Design 3 1 1 2.44
Rlfd Weibull  2.008  0.30 0.90
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), B Rlfd+Dead+Live cvR =  0.10
Design 3 1 1 2.44
Rlfd Weibull  1.224  0.10 0.85
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), B Rlfd+Dead+Live cvR =  0.15
Design 3 1 1 2.44
Rlfd Weibull  1.370  0.15 0.85
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), B Rlfd+Dead+Live cvR =  0.20
Design 3 1 1 2.44
Rlfd Weibull  1.546  0.20 0.85
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), B Rlfd+Dead+Live cvR =  0.25
Design 3 1 1 2.44
Rlfd Weibull  1.756  0.25 0.85
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), B Rlfd+Dead+Live cvR =  0.30
Design 3 1 1 2.44
Rlfd Weibull  2.008  0.30 0.85
```

```
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(O5Kr), T Rlfd+Dead+Live cvR =  0.10
Design 3 1 1 2.44
Rlfd Weibull  1.224  0.10 0.80
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(O5Kr), T Rlfd+Dead+Live cvR =  0.15
Design 3 1 1 2.44
Rlfd Weibull  1.370  0.15 0.80
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(O5Kr), T Rlfd+Dead+Live cvR =  0.20
Design 3 1 1 2.44
Rlfd Weibull  1.546  0.20 0.80
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(O5Kr), T Rlfd+Dead+Live cvR =  0.25
Design 3 1 1 2.44
Rlfd Weibull  1.756  0.25 0.80
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(O5Kr), T Rlfd+Dead+Live cvR =  0.30
Design 3 1 1 2.44
Rlfd Weibull  2.008  0.30 0.80
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(O5Kr), V Rlfd+Dead+Live cvR =  0.10
Design 3 1 1 2.44
Rlfd Weibull  1.224  0.10 0.75
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(O5Kr), V Rlfd+Dead+Live cvR =  0.15
Design 3 1 1 2.44
Rlfd Weibull  1.370  0.15 0.75
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(O5Kr), V Rlfd+Dead+Live cvR =  0.20
Design 3 1 1 2.44
Rlfd Weibull  1.546  0.20 0.75
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(O5Kr), V Rlfd+Dead+Live cvR =  0.25
Design 3 1 1 2.44
Rlfd Weibull  1.756  0.25 0.75
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(O5Kr), V Rlfd+Dead+Live cvR =  0.30
Design 3 1 1 2.44
Rlfd Weibull  2.008  0.30 0.75
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
```

1 1 3

========== end of input file ==========

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.10

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.224	1.05	1.0	
(u2) C.o.V.	0.10	0.1	0.25	
Partial factor	0.90	1.2	1.6	
Nominal value Xn	**5.689**	1	3	Xn(1)_FOSM = 5.296
Checking point x*	5.989	1.066	4.923	
alpha	-0.546	0.062	0.836	
**** BETA	2.44	****		
[New Partial factor? (x* /Xn)	1.0527	1.0658	1.6411]	
[cdf(x*)	0.0915	0.5598	0.9793]	
[pdf(x*)	0.1769	3.7567	0.0351]	
[distribution parameter K	12.1537	0.1050	1.7101]	
[distribution parameter U	7.2630	1.0500	2.6625]	
[Normalized mean mu*	7.2264	1.0500	2.0219]	
[Normalized s.d. sg*	0.9292	0.1050	1.4229]	
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	5.6890	2.4400	1.0742]	
[PHIc/pf(1),PHIc	1.1719	1.0547	]	

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.15

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.370	1.05	1.0	
(u2) C.o.V.	0.15	0.1	0.25	
Partial factor	0.90	1.2	1.6	
Nominal value Xn	**5.717**	1	3	Xn(1)_FOSM = 5.327
Checking point x*	5.220	1.064	4.156	
alpha	-0.805	0.054	0.591	
**** BETA	2.44	****		
[New Partial factor? (x* /Xn)	0.9131	1.0638	1.3855]	
[cdf(x*)	0.0247	0.5524	0.9252]	
[pdf(x*)	0.0370	3.7666	0.1229]	
[distribution parameter K	7.9070	0.1050	1.7101]	
[distribution parameter U	8.3215	1.0500	2.6625]	
[Normalized mean mu*	8.2959	1.0500	2.5011]	
[Normalized s.d. sg*	1.5656	0.1050	1.1486]	
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	5.7169	2.4400	1.0732]	
[PHIc/pf(1),PHIc	1.1661	1.0495	]	

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.20

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.546	1.05	1.0	
(u2) C.o.V.	0.20	0.1	0.25	
Partial factor	0.90	1.2	1.6	
Nominal value Xn	**6.003**	1	3	Xn(1)_FOSM = 5.604
Checking point x*	4.773	1.061	3.711	
alpha	-0.907	0.045	0.419	
**** BETA	2.44	****		
[New Partial factor? (x* /Xn)	0.7951	1.0615	1.2372]	
[cdf(x*)	0.0135	0.5435	0.8468]	
[pdf(x*)	0.0162	3.7768	0.2408]	
[distribution parameter K	5.7974	0.1050	1.7101]	
[distribution parameter U	10.0229	1.0500	2.6625]	
[Normalized mean mu*	9.4733	1.0500	2.7073]	
[Normalized s.d. sg*	2.1243	0.1050	0.9819]	
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	6.0030	2.4400	1.0711]	
[PHIc/pf(1),PHIc	1.1106	0.9995	]	

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.25

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.756	1.05	1.0	
(u2) C.o.V.	0.25	0.1	0.25	
Partial factor	0.90	1.2	1.6	
Nominal value Xn	**6.442**	1	3	Xn(1)_FOSM = 6.278
Checking point x*	4.540	1.060	3.480	
alpha	-0.947	0.037	0.318	
**** BETA	2.44	****		
[New Partial factor? (x* /Xn)	0.7047	1.0596	1.1601]	
[cdf(x*)	0.0104	0.5363	0.7812]	
[pdf(x*)	0.0104	3.7837	0.3299]	
[distribution parameter K	4.5422	0.1050	1.7101]	
[distribution parameter U	12.3901	1.0500	2.6625]	
[Normalized mean mu*	10.6984	1.0500	2.7858]	
[Normalized s.d. sg*	2.6643	0.1050	0.8948]	
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	6.4425	2.4400	1.0262]	
[PHIc/pf(1),PHIc	1.0348	0.9313	]	

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.30

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live
Distribution	Weibull	normal	Gumbel

(u1) Mean/Nominal	2.008	1.05	1.0		
(u2) C.o.V.	0.30	0.1	0.25		
Partial factor	0.90	1.2	1.6		
Nominal value Xn	**6.992**	1	3	Xn(1)_FOSM = 7.801	
Checking point x*	4.403	1.058	3.345		
alpha	-0.967	0.032	0.254		
**** BETA	2.44	****			
[New Partial factor? (x* /Xn)	0.6297	1.0581	1.1149]		
[cdf(x*)	0.0092	0.5308	0.7325]		
[pdf(x*)	0.0077	3.7882	0.3900]		
[distribution parameter K	3.7138	0.1050	1.7101]		
[distribution parameter U	15.5539	1.0500	2.6625]		
[Normalized mean mu*	11.9718	1.0500	2.8213]		
[Normalized s.d. sg*	3.2091	0.1050	0.8440]		
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	6.9918	2.4400	0.8963]		
[PHIc/pf(1),PHIc	0.9535	0.8581	]		

Rn(05Kr) B Rlfd+Dead+Live cvR = 0.10

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.224	1.05	1.0	
(u2) C.o.V.	0.10	0.1	0.25	
Partial factor	0.85	1.2	1.6	
Nominal value Xn	**5.689**	1	3	Xn(1)_FOSM = 5.296
Checking point x*	5.989	1.066	4.923	
alpha	-0.546	0.062	0.836	
**** BETA	2.44	****		
[New Partial factor? (x* /Xn)	1.0527	1.0658	1.6411]	
[cdf(x*)	0.0915	0.5598	0.9793]	
[pdf(x*)	0.1769	3.7567	0.0351]	
[distribution parameter K	12.1537	0.1050	1.7101]	
[distribution parameter U	7.2630	1.0500	2.6625]	
[Normalized mean mu*	7.2264	1.0500	2.0219]	
[Normalized s.d. sg*	0.9292	0.1050	1.4229]	
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	5.6890	2.4400	1.0742]	
[PHIc/pf(1),PHIc	1.2408	1.0547	]	

Rn(05Kr) B Rlfd+Dead+Live cvR = 0.15

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.370	1.05	1.0	
(u2) C.o.V.	0.15	0.1	0.25	
Partial factor	0.85	1.2	1.6	
Nominal value Xn	**5.717**	1	3	Xn(1)_FOSM = 5.327

Checking point x*	5.220	1.064	4.156	
alpha	-0.805	0.054	0.591	
**** BETA	2.44	****		
[New Partial factor? (x* /Xn)	0.9131	1.0638	1.3855	]
[cdf(x*)	0.0247	0.5524	0.9252	]
[pdf(x*)	0.0370	3.7666	0.1229	]
[distribution parameter K	7.9070	0.1050	1.7101	]
[distribution parameter U	8.3215	1.0500	2.6625	]
[Normalized mean mu*	8.2959	1.0500	2.5011	]
[Normalized s.d. sg*	1.5656	0.1050	1.1486	]
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	5.7169	2.4400	1.0732	]
[PHIc/pf(1),PHIc	1.2347	1.0495		]

Rn(05Kr) B Rlfd+Dead+Live cvR = 0.20

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.546	1.05	1.0	
(u2) C.o.V.	0.20	0.1	0.25	
Partial factor	0.85	1.2	1.6	
Nominal value Xn	**6.003**	1	3	Xn(1)_FOSM = 5.604
Checking point x*	4.773	1.061	3.711	
alpha	-0.907	0.045	0.419	
**** BETA	2.44	****		
[New Partial factor? (x* /Xn)	0.7951	1.0615	1.2372	]
[cdf(x*)	0.0135	0.5435	0.8468	]
[pdf(x*)	0.0162	3.7768	0.2408	]
[distribution parameter K	5.7974	0.1050	1.7101	]
[distribution parameter U	10.0229	1.0500	2.6625	]
[Normalized mean mu*	9.4733	1.0500	2.7073	]
[Normalized s.d. sg*	2.1243	0.1050	0.9819	]
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	6.0030	2.4400	1.0711	]
[PHIc/pf(1),PHIc	1.1759	0.9995		]

Rn(05Kr) B Rlfd+Dead+Live cvR = 0.25

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.756	1.05	1.0	
(u2) C.o.V.	0.25	0.1	0.25	
Partial factor	0.85	1.2	1.6	
Nominal value Xn	**6.442**	1	3	Xn(1)_FOSM = 6.278
Checking point x*	4.540	1.060	3.480	
alpha	-0.947	0.037	0.318	
**** BETA	2.44	****		
[New Partial factor? (x* /Xn)	0.7047	1.0596	1.1601	]

[cdf(x*)	0.0104	0.5363	0.7812	]
[pdf(x*)	0.0104	3.7837	0.3299	]
[distribution parameter K	4.5422	0.1050	1.7101	]
[distribution parameter U	12.3901	1.0500	2.6625	]
[Normalized mean mu*	10.6984	1.0500	2.7858	]
[Normalized s.d. sg*	2.6643	0.1050	0.8948	]
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	6.4425	2.4400	1.0262	]
[PHIc/pf(1),PHIc	1.0957	0.9313		]

Rn(05Kr) B Rlfd+Dead+Live cvR = 0.30

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	2.008	1.05	1.0	
(u2) C.o.V.	0.30	0.1	0.25	
Partial factor	0.85	1.2	1.6	
Nominal value Xn	**6.992**	1	3	Xn(1)_FOSM = 7.801
Checking point x*	4.403	1.058	3.345	
alpha	-0.967	0.032	0.254	
**** BETA	2.44	****		

[New Partial factor? (x* /Xn)	0.6297	1.0581	1.1149	]
[cdf(x*)	0.0092	0.5308	0.7325	]
[pdf(x*)	0.0077	3.7882	0.3900	]
[distribution parameter K	3.7138	0.1050	1.7101	]
[distribution parameter U	15.5539	1.0500	2.6625	]
[Normalized mean mu*	11.9718	1.0500	2.8213	]
[Normalized s.d. sg*	3.2091	0.1050	0.8440	]
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	6.9918	2.4400	0.8963	]
[PHIc/pf(1),PHIc	1.0096	0.8581		]

Rn(05Kr) T Rlfd+Dead+Live cvR = 0.10

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.224	1.05	1.0	
(u2) C.o.V.	0.10	0.1	0.25	
Partial factor	0.80	1.2	1.6	
Nominal value Xn	**5.689**	1	3	Xn(1)_FOSM = 5.296
Checking point x*	5.989	1.066	4.923	
alpha	-0.546	0.062	0.836	
**** BETA	2.44	****		

[New Partial factor? (x* /Xn)	1.0527	1.0658	1.6411	]
[cdf(x*)	0.0915	0.5598	0.9793	]
[pdf(x*)	0.1769	3.7567	0.0351	]
[distribution parameter K	12.1537	0.1050	1.7101	]
[distribution parameter U	7.2630	1.0500	2.6625	]
[Normalized mean mu*	7.2264	1.0500	2.0219	]

[Normalized s.d. sg*	0.9292	0.1050	1.4229]
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	5.6890	2.4400	1.0742]
[PHIc/pf(1),PHIc	1.3183	1.0547	]

Rn(05Kr) T Rlfd+Dead+Live cvR = 0.15

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.370	1.05	1.0	
(u2) C.o.V.	0.15	0.1	0.25	
Partial factor	0.80	1.2	1.6	
Nominal value Xn	**5.717**	1	3	Xn(1)_FOSM = 5.327
Checking point x*	5.220	1.064	4.156	
alpha	-0.805	0.054	0.591	
**** BETA	2.44	****		
[New Partial factor? (x* /Xn)	0.9131	1.0638	1.3855]	
[cdf(x*)	0.0247	0.5524	0.9252]	
[pdf(x*)	0.0370	3.7666	0.1229]	
[distribution parameter K	7.9070	0.1050	1.7101]	
[distribution parameter U	8.3215	1.0500	2.6625]	
[Normalized mean mu*	8.2959	1.0500	2.5011]	
[Normalized s.d. sg*	1.5656	0.1050	1.1486]	
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	5.7169	2.4400	1.0732]	
[PHIc/pf(1),PHIc	1.3119	1.0495	]	

Rn(05Kr) T Rlfd+Dead+Live cvR = 0.20

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.546	1.05	1.0	
(u2) C.o.V.	0.20	0.1	0.25	
Partial factor	0.80	1.2	1.6	
Nominal value Xn	**6.003**	1	3	Xn(1)_FOSM = 5.604
Checking point x*	4.773	1.061	3.711	
alpha	-0.907	0.045	0.419	
**** BETA	2.44	****		
[New Partial factor? (x* /Xn)	0.7951	1.0615	1.2372]	
[cdf(x*)	0.0135	0.5435	0.8468]	
[pdf(x*)	0.0162	3.7768	0.2408]	
[distribution parameter K	5.7974	0.1050	1.7101]	
[distribution parameter U	10.0229	1.0500	2.6625]	
[Normalized mean mu*	9.4733	1.0500	2.7073]	
[Normalized s.d. sg*	2.1243	0.1050	0.9819]	
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	6.0030	2.4400	1.0711]	
[PHIc/pf(1),PHIc	1.2494	0.9995	]	

Rn(05Kr) T Rlfd+Dead+Live cvR = 0.25

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.756	1.05	1.0	
(u2) C.o.V.	0.25	0.1	0.25	
Partial factor	0.80	1.2	1.6	
Nominal value Xn	**6.442**	1	3	Xn(1)_FOSM = 6.278
Checking point x*	4.540	1.060	3.480	
alpha	-0.947	0.037	0.318	
**** BETA	2.44	****		
[New Partial factor? (x* /Xn)	0.7047	1.0596	1.1601]	
[cdf(x*)	0.0104	0.5363	0.7812]	
[pdf(x*)	0.0104	3.7837	0.3299]	
[distribution parameter K	4.5422	0.1050	1.7101]	
[distribution parameter U	12.3901	1.0500	2.6625]	
[Normalized mean mu*	10.6984	1.0500	2.7858]	
[Normalized s.d. sg*	2.6643	0.1050	0.8948]	
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	6.4425	2.4400	1.0262]	
[PHIc/pf(1),PHIc	1.1641	0.9313	]	

Rn(05Kr) T Rlfd+Dead+Live cvR = 0.30

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	2.008	1.05	1.0	
(u2) C.o.V.	0.30	0.1	0.25	
Partial factor	0.80	1.2	1.6	
Nominal value Xn	**6.992**	1	3	Xn(1)_FOSM = 7.801
Checking point x*	4.403	1.058	3.345	
alpha	-0.967	0.032	0.254	
**** BETA	2.44	****		
[New Partial factor? (x* /Xn)	0.6297	1.0581	1.1149]	
[cdf(x*)	0.0092	0.5308	0.7325]	
[pdf(x*)	0.0077	3.7882	0.3900]	
[distribution parameter K	3.7138	0.1050	1.7101]	
[distribution parameter U	15.5539	1.0500	2.6625]	
[Normalized mean mu*	11.9718	1.0500	2.8213]	
[Normalized s.d. sg*	3.2091	0.1050	0.8440]	
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	6.9918	2.4400	0.8963]	
[PHIc/pf(1),PHIc	1.0727	0.8581	]	

Rn(05Kr) V Rlfd+Dead+Live cvR = 0.10

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live

	Distribution	Weibull	normal	Gumbel	
(u1)	Mean/Nominal	1.224	1.05	1.0	
(u2)	C.o.V.	0.10	0.1	0.25	
	Partial factor	0.75	1.2	1.6	
	Nominal value Xn	**5.689**	1	3	Xn(1)_FOSM = 5.296
	Checking point x*	5.989	1.066	4.923	
	alpha	-0.546	0.062	0.836	
****	BETA	2.44	****		
[New Partial factor? (x* /Xn)		1.0527	1.0658	1.6411]	
[cdf(x*)		0.0915	0.5598	0.9793]	
[pdf(x*)		0.1769	3.7567	0.0351]	
[distribution parameter K		12.1537	0.1050	1.7101]	
[distribution parameter U		7.2630	1.0500	2.6625]	
[Normalized mean mu*		7.2264	1.0500	2.0219]	
[Normalized s.d. sg*		0.9292	0.1050	1.4229]	
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM		5.6890	2.4400	1.0742]	
[PHIc/pf(1),PHIc		1.4062	1.0547	]	

Rn(05Kr) V Rlfd+Dead+Live cvR = 0.15

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0		Rlfd	Dead	Live	
	Distribution	Weibull	normal	Gumbel	
(u1)	Mean/Nominal	1.370	1.05	1.0	
(u2)	C.o.V.	0.15	0.1	0.25	
	Partial factor	0.75	1.2	1.6	
	Nominal value Xn	**5.717**	1	3	Xn(1)_FOSM = 5.327
	Checking point x*	5.220	1.064	4.156	
	alpha	-0.805	0.054	0.591	
****	BETA	2.44	****		
[New Partial factor? (x* /Xn)		0.9131	1.0638	1.3855]	
[cdf(x*)		0.0247	0.5524	0.9252]	
[pdf(x*)		0.0370	3.7666	0.1229]	
[distribution parameter K		7.9070	0.1050	1.7101]	
[distribution parameter U		8.3215	1.0500	2.6625]	
[Normalized mean mu*		8.2959	1.0500	2.5011]	
[Normalized s.d. sg*		1.5656	0.1050	1.1486]	
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM		5.7169	2.4400	1.0732]	
[PHIc/pf(1),PHIc		1.3993	1.0495	]	

Rn(05Kr) V Rlfd+Dead+Live cvR = 0.20

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0		Rlfd	Dead	Live
	Distribution	Weibull	normal	Gumbel
(u1)	Mean/Nominal	1.546	1.05	1.0
(u2)	C.o.V.	0.20	0.1	0.25
	Partial factor	0.75	1.2	1.6

Nominal value Xn	**6.003**	1	3	Xn(1)_FOSM = 5.604
Checking point x*	4.773	1.061	3.711	
alpha	-0.907	0.045	0.419	
**** BETA	2.44	****		
[New Partial factor? (x* /Xn)	0.7951	1.0615	1.2372]	
[cdf(x*)	0.0135	0.5435	0.8468]	
[pdf(x*)	0.0162	3.7768	0.2408]	
[distribution parameter K	5.7974	0.1050	1.7101]	
[distribution parameter U	10.0229	1.0500	2.6625]	
[Normalized mean mu*	9.4733	1.0500	2.7073]	
[Normalized s.d. sg*	2.1243	0.1050	0.9819]	
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	6.0030	2.4400	1.0711]	
[PHIc/pf(1),PHIc	1.3327	0.9995	]	

Rn(05Kr) V Rlfd+Dead+Live cvR = 0.25

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.756	1.05	1.0	
(u2) C.o.V.	0.25	0.1	0.25	
Partial factor	0.75	1.2	1.6	
Nominal value Xn	**6.442**	1	3	Xn(1)_FOSM = 6.278
Checking point x*	4.540	1.060	3.480	
alpha	-0.947	0.037	0.318	
**** BETA	2.44	****		
[New Partial factor? (x* /Xn)	0.7047	1.0596	1.1601]	
[cdf(x*)	0.0104	0.5363	0.7812]	
[pdf(x*)	0.0104	3.7837	0.3299]	
[distribution parameter K	4.5422	0.1050	1.7101]	
[distribution parameter U	12.3901	1.0500	2.6625]	
[Normalized mean mu*	10.6984	1.0500	2.7858]	
[Normalized s.d. sg*	2.6643	0.1050	0.8948]	
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	6.4425	2.4400	1.0262]	
[PHIc/pf(1),PHIc	1.2418	0.9313	]	

Rn(05Kr) V Rlfd+Dead+Live cvR = 0.30

Design - find Xn(1) for a given BETA = 2.44

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	2.008	1.05	1.0	
(u2) C.o.V.	0.30	0.1	0.25	
Partial factor	0.75	1.2	1.6	
Nominal value Xn	**6.992**	1	3	Xn(1)_FOSM = 7.801
Checking point x*	4.403	1.058	3.345	
alpha	-0.967	0.032	0.254	
**** BETA	2.44	****		

[New Partial factor? (x* /Xn)	0.6297	1.0581	1.1149]
[cdf(x*)	0.0092	0.5308	0.7325]
[pdf(x*)	0.0077	3.7882	0.3900]
[distribution parameter K	3.7138	0.1050	1.7101]
[distribution parameter U	15.5539	1.0500	2.6625]
[Normalized mean mu*	11.9718	1.0500	2.8213]
[Normalized s.d. sg*	3.2091	0.1050	0.8440]
[Xn(1),BETA,Xn(1)/Xn(1)_FOSM	6.9918	2.4400	0.8963]
[PHIc/pf(1),PHIc	1.1442	0.8581	]

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10
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.10
Analysis 3 7 1 2.44
Rlfd Weibull  1.224  0.10 1.0547
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.15
Analysis 3 7 1 2.44
Rlfd Weibull  1.370  0.15 1.0495
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.20
Analysis 3 7 1 2.44
Rlfd Weibull  1.546  0.20 0.9995
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.25
Analysis 3 7 1 2.44
Rlfd Weibull  1.756  0.25 0.9313
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.30
Analysis 3 7 1 2.44
Rlfd Weibull  2.008  0.30 0.8581
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.10
Analysis 3 7 1 2.44
Rlfd Weibull  1.224  0.10 1.05
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.15
Analysis 3 7 1 2.44
Rlfd Weibull  1.370  0.15 1.05
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.20
Analysis 3 7 1 2.44
Rlfd Weibull  1.546  0.20 1.00
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.25
Analysis 3 7 1 2.44
Rlfd Weibull  1.756  0.25 0.95
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
 Rn(05Kr), C Rlfd+Dead+Live cvR =  0.30
Analysis 3 7 1 2.44
Rlfd Weibull  2.008  0.30 0.85
```

```
Dead normal 1.05 0.1 1.2
Live gumbel 1.0 0.25 1.6
  1 1 3
====================== end of input file ================================
```

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.10

Analysis - find BETA for a given Xn(1)

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.224	1.05	1.0	
(u2) C.o.V.	0.10	0.1	0.25	
Partial factor	1.054*	1.2	1.6	
Nominal value Xn	5.689	1	3	BETA_FOSM = 2.832
Checking point x*	5.989	1.066	4.923	
alpha	-0.546	0.062	0.836	
**** BETA	**2.44**	****		
[New Partial factor? (x* /Xn)	1.0527	1.0658	1.6411]	
[cdf(x*)	0.0915	0.5598	0.9793]	
[pdf(x*)	0.1769	3.7567	0.0351]	
[distribution parameter K	12.1537	0.1050	1.7101]	
[distribution parameter U	7.2630	1.0500	2.6625]	
[Normalized mean mu*	7.2265	1.0500	2.0219]	
[Normalized s.d. sg*	0.9293	0.1050	1.4229]	
[Xn(1),BETA,BETA/BETA_FOSM	5.6890	2.4400	0.8616]	

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.15

Analysis - find BETA for a given Xn(1)

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.370	1.05	1.0	
(u2) C.o.V.	0.15	0.1	0.25	
Partial factor	1.049*	1.2	1.6	
Nominal value Xn	5.717	1	3	BETA_FOSM = 2.706
Checking point x*	5.220	1.064	4.156	
alpha	-0.805	0.054	0.591	
**** BETA	**2.44**	****		
[New Partial factor? (x* /Xn)	0.9131	1.0638	1.3855]	
[cdf(x*)	0.0247	0.5524	0.9252]	
[pdf(x*)	0.0370	3.7666	0.1229]	
[distribution parameter K	7.9070	0.1050	1.7101]	
[distribution parameter U	8.3215	1.0500	2.6625]	
[Normalized mean mu*	8.2959	1.0500	2.5011]	
[Normalized s.d. sg*	1.5656	0.1050	1.1486]	
[Xn(1),BETA,BETA/BETA_FOSM	5.7170	2.4400	0.9017]	

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.20

Analysis - find BETA for a given Xn(1)

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.546	1.05	1.0	
(u2) C.o.V.	0.20	0.1	0.25	
Partial factor	0.999*	1.2	1.6	
Nominal value Xn	6.003	1	3	BETA_FOSM = 2.609
Checking point x*	4.773	1.061	3.711	
alpha	-0.907	0.045	0.419	
**** BETA	**2.44**	****		
[New Partial factor? (x* /Xn)	0.7951	1.0615	1.2372]	
[cdf(x*)	0.0135	0.5435	0.8468]	
[pdf(x*)	0.0162	3.7768	0.2408]	
[distribution parameter K	5.7974	0.1050	1.7101]	
[distribution parameter U	10.0229	1.0500	2.6625]	
[Normalized mean mu*	9.4732	1.0500	2.7073]	
[Normalized s.d. sg*	2.1243	0.1050	0.9819]	
[Xn(1),BETA,BETA/BETA_FOSM	6.0030	2.4400	0.9351]	

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.25

Analysis - find BETA for a given Xn(1)

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.756	1.05	1.0	
(u2) C.o.V.	0.25	0.1	0.25	
Partial factor	0.931*	1.2	1.6	
Nominal value Xn	6.443	1	3	BETA_FOSM = 2.481
Checking point x*	4.540	1.060	3.480	
alpha	-0.947	0.037	0.318	
**** BETA	**2.44**	****		
[New Partial factor? (x* /Xn)	0.7046	1.0596	1.1601]	
[cdf(x*)	0.0104	0.5363	0.7812]	
[pdf(x*)	0.0104	3.7837	0.3299]	
[distribution parameter K	4.5422	0.1050	1.7101]	
[distribution parameter U	12.3911	1.0500	2.6625]	
[Normalized mean mu*	10.6990	1.0500	2.7858]	
[Normalized s.d. sg*	2.6645	0.1050	0.8948]	
[Xn(1),BETA,BETA/BETA_FOSM	6.4430	2.4401	0.9836]	

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.30

Analysis - find BETA for a given Xn(1)

Variable in G( ) = 0	Rlfd	Dead	Live
Distribution	Weibull	normal	Gumbel
(u1) Mean/Nominal	2.008	1.05	1.0
(u2) C.o.V.	0.30	0.1	0.25
Partial factor	0.858*	1.2	1.6

Nominal value Xn	6.992	1	3	BETA_FOSM = 2.334	
Checking point x*	4.403	1.058	3.345		
alpha	-0.967	0.032	0.254		
**** BETA	**2.44**	****			
[New Partial factor? (x* /Xn)	0.6297	1.0581	1.1149	]	
[cdf(x*)	0.0092	0.5308	0.7325	]	
[pdf(x*)	0.0077	3.7882	0.3900	]	
[distribution parameter K	3.7138	0.1050	1.7101	]	
[distribution parameter U	15.5543	1.0500	2.6625	]	
[Normalized mean mu*	11.9720	1.0500	2.8213	]	
[Normalized s.d. sg*	3.2091	0.1050	0.8440	]	
[Xn(1),BETA,BETA/BETA_FOSM	6.9920	2.4400	1.0453	]	

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.10

Analysis - find BETA for a given Xn(1)

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.224	1.05	1.0	
(u2) C.o.V.	0.10	0.1	0.25	
Partial factor	1.05	1.2	1.6	
Nominal value Xn	5.714	1	3	BETA_FOSM = 2.856
Checking point x*	6.005	1.066	4.939	
alpha	-0.547	0.061	0.835	
**** BETA	**2.46**	****		
[New Partial factor? (x* /Xn)	1.0509	1.0658	1.6463	]
[cdf(x*)	0.0896	0.5599	0.9798	]
[pdf(x*)	0.1730	3.7565	0.0342	]
[distribution parameter K	12.1537	0.1050	1.7101	]
[distribution parameter U	7.2949	1.0500	2.6625	]
[Normalized mean mu*	7.2613	1.0500	2.0109	]
[Normalized s.d. sg*	0.9356	0.1050	1.4283	]
[Xn(1),BETA,BETA/BETA_FOSM	5.7140	2.4554	0.8598	]

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.15

Analysis - find BETA for a given Xn(1)

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.370	1.05	1.0	
(u2) C.o.V.	0.15	0.1	0.25	
Partial factor	1.05	1.2	1.6	
Nominal value Xn	5.714	1	3	BETA_FOSM = 2.704
Checking point x*	5.220	1.064	4.156	
alpha	-0.805	0.054	0.591	
**** BETA	**2.44**	****		
[New Partial factor? (x* /Xn)	0.9135	1.0638	1.3853	]
[cdf(x*)	0.0248	0.5524	0.9252	]

[pdf(x*)	0.0371	3.7666	0.1230]
[distribution parameter K	7.9070	0.1050	1.7101]
[distribution parameter U	8.3172	1.0500	2.6625]
[Normalized mean mu*	8.2914	1.0500	2.5014]
[Normalized s.d. sg*	1.5647	0.1050	1.1484]
[Xn(1),BETA,BETA/BETA_FOSM	5.7140	2.4386	0.9019]

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.20

Analysis - find BETA for a given Xn(1)

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.546	1.05	1.0	
(u2) C.o.v.	0.20	0.1	0.25	
Partial factor	1.00	1.2	1.6	
Nominal value Xn	6.000	1	3	BETA_FOSM = 2.608
Checking point x*	4.773	1.061	3.711	
alpha	-0.907	0.045	0.419	
**** BETA	**2.44**	****		

[New Partial factor? (x* /Xn)	0.7955	1.0615	1.2371]
[cdf(x*)	0.0135	0.5435	0.8467]
[pdf(x*)	0.0163	3.7768	0.2409]
[distribution parameter K	5.7974	0.1050	1.7101]
[distribution parameter U	10.0179	1.0500	2.6625]
[Normalized mean mu*	9.4690	1.0500	2.7073]
[Normalized s.d. sg*	2.1235	0.1050	0.9818]
[Xn(1),BETA,BETA/BETA_FOSM	6.0000	2.4390	0.9352]

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.25

Analysis - find BETA for a given Xn(1)

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	1.756	1.05	1.0	
(u2) C.o.v.	0.25	0.1	0.25	
Partial factor	0.95	1.2	1.6	
Nominal value Xn	6.316	1	3	BETA_FOSM = 2.450
Checking point x*	4.537	1.060	3.478	
alpha	-0.946	0.038	0.321	
**** BETA	**2.41**	****		

[New Partial factor? (x* /Xn)	0.7183	1.0595	1.1592]
[cdf(x*)	0.0113	0.5362	0.7803]
[pdf(x*)	0.0113	3.7838	0.3311]
[distribution parameter K	4.5422	0.1050	1.7101]
[distribution parameter U	12.1468	1.0500	2.6625]
[Normalized mean mu*	10.5391	1.0500	2.7866]
[Normalized s.d. sg*	2.6341	0.1050	0.8937]
[Xn(1),BETA,BETA/BETA_FOSM	6.3160	2.4078	0.9829]

Rn(05Kr) C Rlfd+Dead+Live cvR = 0.30

Analysis - find BETA for a given Xn(1)

Variable in G( ) = 0	Rlfd	Dead	Live	
Distribution	Weibull	normal	Gumbel	
(u1) Mean/Nominal	2.008	1.05	1.0	
(u2) C.o.V.	0.30	0.1	0.25	
Partial factor	0.85	1.2	1.6	
Nominal value Xn	7.059	1	3	BETA_FOSM = 2.344
Checking point x*	4.404	1.058	3.346	
alpha	-0.967	0.031	0.253	
**** BETA	**2.45**	****		
[New Partial factor? (x* /Xn)	0.6238	1.0581	1.1152]	
[cdf(x*)	0.0089	0.5308	0.7328]	
[pdf(x*)	0.0074	3.7881	0.3896]	
[distribution parameter K	3.7138	0.1050	1.7101]	
[distribution parameter U	15.7034	1.0500	2.6625]	
[Normalized mean mu*	12.0468	1.0500	2.8211]	
[Normalized s.d. sg*	3.2230	0.1050	0.8443]	
[Xn(1),BETA,BETA/BETA_FOSM	7.0590	2.4527	1.0463]	