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Subject: heatup times attached

B/312

The times calculated are in hours for an adiabatic heatup from 30 C to 800 C with no oxidation heat source. All Adiabatic Heatups are based on a Peaking Factor of 1.5. There is a large difference for the 24 hour heatup decay time between a peaking factor of 1 and a peaking factor of 1.5.

Adiabatic Heatup Time at 1 Year

| Burnup | PWR | BWR |
|--------|-----|-----|
| 50 | 4.5 | 8.1 |
| 55 | 4.1 | 7.4 |
| 60 | 3.8 | 6.8 |
| 70 | 3.2 | 5.8 |
| 80 | 2.8 | 5.1 |

Adiabatic Heatup Time at 2 Years

| Burnup | PWR | BWR |
|--------|-----|------|
| 50 | 8.2 | 14.3 |
| 55 | 7.5 | 12.9 |
| 60 | 6.9 | 11.9 |
| 70 | 5.9 | 10.2 |
| 80 | 5.2 | 8.9 |

Adiabatic Heatup Time at 5 Years

| Burnup | PWR | BWR |
|--------|------|------|
| 50 | 20.5 | 32.0 |
| 55 | 18.6 | 29.1 |
| 60 | 17.1 | 26.7 |
| 70 | 14.6 | 22.8 |
| 80 | 12.8 | 20.0 |

Adiabatic Heatup Time at 10 Years

| Burnup | PWR | BWR |
|--------|------|------|
| 50 | 31.4 | 46.4 |
| 55 | 28.5 | 42.3 |
| 60 | 26.1 | 38.7 |
| 70 | 22.4 | 33.2 |
| 80 | 19.6 | 29.0 |

Decay Time in Years for a 10 Hour Adiabatic Heatup Time

| Burnup | PWR | BWR |
|---------------|------------|------------|
| 50 | 2.5 | 1.4 |
| 55 | 2.7 | 1.5 |
| 60 | 3.0 | 1.7 |
| 70 | 3.5 | 2.0 |
| 80 | 3.9 | 2.4 |

Decay Time in Years for a 24 Hour Adiabatic Heatup Time

| Burnup | PWR | BWR |
|---------------|------------|------------|
| 50 | 6.4 | 3.6 |
| 55 | 7.3 | 4.0 |
| 60 | 8.7 | 4.4 |
| 70 | 12.3 | 5.5 |
| 80 | 17.1 | 6.7 |

Spent Fuel Pool Heatup and Boiloff Time to 3 feet Above Active Fuel

| Decay Time | PWR | BWR |
|-------------------|------------|------------|
| 1 year | 195 | 253 |
| 2 year | 272 | 337 |
| 5 year | 400 | 459 |
| 10 year | 476 | 532 |