

Table 2.1-4  
BURNUP AND COOLING TIME FUEL QUALIFICATION FOR MPC-32M

Region No. Cell Decay Heat Load Limit (kW) (see Figure 2.1-1 Notes 1, 2, 3)	Polynomial Coefficients, see Paragraph 2.II.1.5.2			
	A	B	C	D
1 (Inner) ≤ 0.83	6.57083E-14	-4.02593E-09	1.47107E-04	8.01647E-01
2 (Outer) 0.83 < decay heat ≤ 1.25	5.58795e-14	-5.13598e-10	5.81723e-04	4.09393e-01
1.25 < decay heat ≤ 1.46	154.11020E-14	4.62813E-09	052.17444E-04	5.55545E-01
1.46 < decay heat ≤ 1.81	1.21147E-14	-1.08013E-09	8.66361E-05	4.04455E-01
1.81 < decay heat ≤ 3.26	3.82652E-15	-2.38729E-10	4.75134E-05	6.36443E-01
	3.76103E-16	4.83486E-11	1.74805E-05	6.53455E-01

The burnup and cooling time for every fuel loaded into the MPC-32M must satisfy the following equation:

$$Ct = A \cdot Bu^3 + B \cdot Bu^2 + C \cdot Bu + D$$

where,

- $Ct$  = Minimum cooling time (years),
- $Bu$  = Assembly-average burnup (MWd/mtU),
- $A, B, C, D$  = Polynomial coefficients listed in Table 2.1-4

Notes:

1. Decay heat per fuel assembly is presented  
— A decay heat value that is equal to or greater than the appropriate decay heat load limit
- 2.1. The polynomial coefficients associated for decay heat load “1.81 < decay heat ≤ 3.26” are applied to the UNVENTILATED OVERPACK MPC 32M decay heat load range of “0.83 < decay heat ≤ 3.26”

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	
<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>
<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>
	<b>29</b>	<b>30</b>	<b>31</b>	<b>32</b>	

**Figure 2.1-1  
Cell Identification for MPC-32M**

**Note: Cells shaded in grey are designated as region 1 (inner)**