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附件二：

HAD202/ 07-2012

# 研究堆堆芯管理和燃料装卸

2012 5 23

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# 研究堆堆芯管理和燃料装卸

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# 1 引言

## 1.1 概述

1.1.1

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1.1.2

## 1.2 目的

1.2.1

1.2.2

## 1.3 范围

1.3.1

1.3.2

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1.3.3

(LEU)

(HEU)

1.3.4

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1.3.5

1.3.6

1.3.7

1.3.8

## 2 堆芯管理

### 2.1 管理目标

2.1.1

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2.1.2

(1)

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(2)

(3)

2.1.3

(1)

/ ) (

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(2)

(3)

(4) ( " " )

(5)

(6)

(7)

## 2.2 堆芯计算

2 2 1

2 2 1. 1

2 2 1. 2

2 2 1. 3

(1) ( )

(2)

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(3)

(4)

(5)

(6)

(7)

(8)

(9)

2 2 1. 4

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2 2 1. 5

2 2 1. 6

(1)

(2)

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(3)

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2 2 1. 7

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2 2 2

2 2 2 1



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2 2 2 2

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2 2 2 3

) (

2 2 2 4

## 2.3 堆芯运行

2 3 1

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2 3 2

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2 3. 3

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(10)

## 2.4 堆芯监测

2 4. 1

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2 4. 2

- (1) ( )
- (2)
- (3) ( / )
- (4) ( )
- (5)
- (6)
- (7)
- (8)
- a.
- b. ( )
- c. ( )
- d.
- e.
- (9) ( )
- (10) pH

2 4. 3

- (1)
- (2)

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(3) ( )

(4)

2 4. 4

(1)

(2)

(3)

(4)

2 4. 5

2 4. 6

( )

2 4. 7

( )

2 4. 8

## 2.5 保证燃料的完整性

2 5. 1

2 5. 2

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2 5. 3

(1) ( )

(2) (

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(3)

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2 5. 4

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(1)

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(3)

2 5. 5

2 5. 6

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2 5. 7

2 5. 8

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## 2.6 新燃料采购和设计修改

2.6.1

(1)

(2)

(3)

(4)

2.6.2

(

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2.6.3

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2.6.4

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(1)

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(4)

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2 6.5

(1)

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2 6.6

## 2.7 换料过程

2 7.1

2 7.2

2 7.3

2 7.4

(1) ( )

(2)

2 7.5

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2.7.7

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### 3 新燃料的装卸和贮存

#### 3.1 新燃料的管理

3.1.1

3.1.2

(1)

(2)

3.1.3

3.1.4

3.1.5

3.1.6

3.1.7

3.1.8

3.1.9

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3. 1. 10

3. 1. 11

3. 1. 12

3. 1. 13

## 3.2 新燃料的接收

3. 2 1

3. 2 2

3. 2 3

3. 2 4

3. 2 5

3. 2 6

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### 3.3 新燃料的贮存

3.3.1

3.3.2

3.3.3

3.3.4

3.3.5

3.3.6

3.3.7

3.3.8

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( )

3.3.9

3.3.10

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## 4 换料大纲的实施

### 4.1 准备

4.1.1 2.7

4.1.2

4.1.3

### 4.2 燃料和堆芯部件装入反应堆

4.2.1

4.2.2

4.2.3

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4.2.4

4.2.5

### 4.3 燃料和堆芯部件的卸出

4.3.1

4.3.2

4.3.3

4.3.4

4.3.5

4.3.6

### 4.4 燃料和堆芯部件装卸时的预防措施

4.4.1

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(1)

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4.4.2

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## 5 已辐照燃料的装卸和贮存

### 5.1 总目标

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(1)

(2)

(3)

(4)

(5)

## 5.2 已辐照燃料的装卸

5.2.1

5.2.2

5.2.3

5.2.4

5.2.5

5.2.6

## 5.3 已辐照燃料的贮存

5.3.1

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5.3.2

( )

5.3.3

5.3.4

(1) pH

(2)

(3)

(4)

(5)

5.3.5

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5.3.6

5.3.7

(1)



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(2)

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5.3.8

5.3.9

5.3.10

5.3.11

(1)

(2)

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## 5.4 已辐照燃料的检查

5.4.1

(1)

(2)

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(3)

5.4.2

## 6 堆芯部件的装卸和贮存

6.1

6.2

6.3

6.4

6.5

(1)

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6.6

6.7

6.8

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## 7 已辐照燃料装运的准备

7.1

7.2

7.3

7.4

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7.7

7.8

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7.9

## 8 管理和组织方面

8.1

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8.2

8.3

8.4

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8.5

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2.4.2

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8.6

## 9 文件记录

9.1

9.2

9.3

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## 名词解释

堆芯部件

均匀研究堆