

Examination for Applying Technical Specifications Precisely

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1. Introduction

Technical Specification are a legal guide line according to Nuclear Safety Laws/Regulations and Notices of the Nuclear Safety and Security Commission (NSSC). Technical Specifications are basic rules for safety nuclear power plant operation, public disaster prevention and environmental preservation.

So nuclear power plant operators must obey the Technical Specifications. Operators use a Technical Specifications in proper situations to be safe conditions and Technical Specifications are used like a law.

2. Applying Technical Specifications

2.1 Processor of Applying Technical Specifications

Table I: Applying Technical Specifications (2019)

	Applying Technical Specifications	Nuclear Power Plant
WH	255	K#1,2 K#3,4 Y#1,2
CANDU		W#1,2,3,4
FRA		U#1,2
OPR		Y#3,4,5,6 U#3,4,5,6 SW#1,2 SK#1,2
APR		SK#3,4
Total	832	-

2.2 Analysis of Applying Technical Specifications

Table II: Applying Technical Specifications (WH)

	Applying Technical Specifications
EDG	
Emergency HVAC	
Maintenance	
Test	
Case	
Total	255

2.3 Case Study of Applying Technical specification

On 10 May 2019, Aux feed system operation and manual nuclear reactor trip in HanBit #1 (will be labeled Hanbit #1 incident) as a cause of withdrawing control rod during reactor characteristic test, let us think how to use Technical Specifications. In this case, unapplied Technical Specifications was a problem because nuclear reactor is manually tripped a according to Technical Specifications after 11 hours more.

Although applying Technical Specifications are very important to operating nuclear power plant under design limitation, Hanbit #1 incident was an example about unrecognizing applying technical specifications and misunderstanding heat output values. At this time, heat output values were importantly considered.

Heat output values were calculated by nuclear heat values (primary system) and turbine values (secondary system) because operators can't know heat values from nuclear fuel to reactor coolant system.

In short, Hanbit #1 incident was caused from heat out values and heat out values make operators unapplied Technical Specifications and apply lately Technical Specifications.

3. TS Expectation

3.1 Processor of TS Expectation

Now nuclear power plant operator is using TS Expectation to make sure to apply Technical Specifications. TS Expectation is a guide book on various cases in many situations to prevent unapplied Technical Specifications and misusing Technical Specifications.

3.2 Case Study of TS Expectation

Table III: TS Expectation (2019)

	TS Expectation
WH	25
CANDU	
FRA	4
OPR	80

3.3 Improvement Plan of TS Expectation

To improve reliability, nuclear power plant operator will discuss TS Expectation with the Nuclear Safety and Security Commission (NSSC).

3.4 Limitations

Although TS Expectation published on 2019 has various cases, this book is only used in nuclear power plant operator and has low reliability.

To improve reliability, nuclear power plant operator will discuss TS Expectation with the Nuclear Safety and Security Commission (NSSC).

But this project is limited by unclear examples and only references. So it's not a fundamental solution.

4. Examination for Applying Technical Specifications Precisely

4.1 Leading Cases

Leading cases are another law. It is important to be a supplement to a law because there are various cases to apply law.

4.2 Examination for Patent

Patent is similar to Technical Specification because both of them are technical laws. So let us utilize examination of patent.

4.3 Examination for Applying Technical Specifications Precisely

This thesis has a purpose to making leading cases for applying Technical Specifications precisely. This is to examine all cases of applying Technical Specifications like examination for patent. The judges in the Nuclear Safety and Security Commission (NSSC) will examine all cases and make leading cases.

4.4 Effect on Examination for Applying Technical Specifications

Examination for applying Technical Specifications is reliable case to nuclear power plant operator. It is helpful to safety nuclear power plant operation, public disaster prevention and environmental preservation.

5. Conclusion

Examination for applying Technical Specifications will make a leading case to utilize examination for patent.

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