FORD 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9206160022 DOC.DATE: 92/06/02 NOTARIZED: NO DOCKET #
FACIL:50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
AUTH.NAME AUTHOR AFFILIATION
PARRISH,J.V. Washington Public Power Supply System
RECIP.NAME RECIPIENT AFFILIATION
MARTIN,J.B. Region 5 (Post 820201)

SUBJECT: Forwards self checking self study handout,Task 99100, OJT 82-ICT-LHOO-QC,per 920527 Enforcement Conference.

DISTRIBUTION CODE: IE01D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 9
TITLE: General (50 Dkt)-Insp Rept/Notice of Violation Response

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD5 PD	1	1	DEAN,W.	1	1
INTERNAL:	ACRS	2	2	AEOD	1	1
	AEOD/DEIIB	1	1	AEOD/DSP/TPAB	1	1
	DEDRO	1	1	NRR MORISSEAU,D	1	1
	NRR/DLPQ/LHFBPT	1	1	NRR/DLPQ/LPEB10	1	1
	NRR/DOEA/OEAB	1	1	NRR/DREP/PEPB9H	1	1
	NRR/DST/DIR 8E2	1	1	NRR/PMAS/ILRB12	1	1
	NUDOCS-ABSTRACT	1	1	OE DIR	1	1
	OGC/HDS1	1	1	REG FILE 02	1	1
	RGN5 FILE 01	1	1			
EXTERNAL:	EG&G/BRYCE,J.H.	1	1	NRC PDR	1	1
	NSIC	1	1			

TOTAL NUMBER OF COPIES REQUIRED: LTTR 23 ENCL 23

MA4

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • 3000 George Washington Way • Richland, Washington 99352

RECEIVED
NRC
REGION V
1992 JUN -8 AM 10: 42

June 2, 1992

Mr. J. B. Martin, Administrator
U. S. Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596

Dear Mr. Martin:

Subject: **SELF CHECKING**

Enclosed for your information is an OJT on the Self Checking Program we discussed at the May 27, 1992, Enforcement Conference. I hope you find this interesting reading.

Respectfully,

J. V. Parrish (Mail Drop 1023)
Assistant Managing Director,
Operations

kam

Enclosure

JVP/lb

9206160022 920602
PDR ADOCK 05000397
Q PDR

IE01

SELF CHECKING

SELF STUDY HANDOUT

TASK 99100

OJT #82-ICT-LH00-QC

Self-Checking What Is It?

Self-Checking is defined as:

> An ingrained, automatic work practice performed by an individual to detect a possible error immediately before performing an action or task.

From the above definition we can safely draw the following conclusions regarding self-checking:

1. The act of self checking is performed to prevent errors.
2. Self-Checking is usually done prior to performing a task or an action.
3. Self-Checking is done routinely in many jobs/tasks and with time becomes ingrained and automatic.
4. The failure to self-check can result in errors.

What are the results of Self-Checking?

When self-checking is performed successfully as many of us do on a daily basis the outcome or result does not normally attract much attention. We did our job, we didn't get hurt, we made no errors. Such is the nature of this work practice. Successful self-checking results in conditions that society and employers expect and accept as normal. However the failure to perform this work practice can produce quite the opposite results. Most people have heard or read news stories where errors have occurred because a self check did not occur. For instance pilots have landed their aircraft with the landing gear up. Doctors have performed surgical procedures on the wrong patients. Mix-ups have occurred on maternity wards and newborn babies have been sent home with the wrong parents. Obviously not all failure to self-check errors result in such tragic consequences. However because the work practice of self-checking usually precedes a performance or action where the potential for an error exists, it must be emphasized that the result of the failure to self-check can be grave, including physical injury or death.

If this work practice is so important why do people fail to perform?

If you were to study the different reasons why people perform or don't perform expected job actions, you would probably agree that the reasons can be categorized into two overall categories - intentional or unintentional. If the word intentional is defined as deliberately done or intended, unintentional can be defined as not deliberately done or not intended.

Some of the reasons that could be found on the intentional list are:

> Requires to much effort - That valve is located in the overhead!
>
> Requires to much time - The boss wants this job done now!
>
> Overconfident - I know what I'm doing - That self-checking garbage is meant for somebody else!

Some of the reasons you could list as unintentional are:

Interruptions - You are paged to the phone.

Distractions - Other work in being performed in the immediate area may be distracting.

Confusion - You misread a step in the procedure or accidently skipped a step.

Complacency - I do this action on a daily basis no way can I mess up!

Are we doing a good job of Self-Checking at WNP-2?

Data collected from the root cause analysis process at WNP-2, from January 1989 through December 1990 (2 years) reveals the following:

- 22.7 percent of all Causal Factors errors at WNP-2 can be contributed to work practices (see attachment 1).
- 51.9 percent of all work practice errors at WNP-2 can be contributed to NO Self-checking (see attachment 2).
- Since 22.7% of all errors at WNP-2 can be contributed to work practices and 51.9% of all work practice errors are attributed to No Self-Checking, through the application of some simple math we can compute that approximately 12 percent of all the errors made at WNP-2 are due to poor self-checking practices.

For the same period of time INPO statistics tell us that the industry average is as follows:

- 20.1 percent of all Causal Factor errors can be contributed to the work practice category (see Attachment 3).
- 36 percent of all work practice errors are contributed to No-Self Checking (see Attachment 4).
- Therefore the industry average for self-checking errors is 7.4 percent and ours is 12 percent.

While we are making fewer errors over the past three years as evidenced by our safety record and plant performance, the percentage of errors that could been prevented by self-checking have remained steady at ten to twelve percent per year.

Where do these Self-Checking errors occur at WNP-2?

Inpo statistics regarding self-checking errors are not broken down into departments, but our root cause process at WNP-2 reveals that the Operations department and the I&C Maintenance department are responsible for seventy two percent of all self-checking errors made at WNP-2. Forty one percent of these errors can be attributed to Operations while the I&C Department is credited with the remaining thirty one percent. The breakdown of these statistics is not surprising, obviously the nature of the work performed by these departments puts them at a higher risk for error. This difference in risk is well understood by management and by no means is any group or department being singled out as a bad performer.

Can you give me some examples of Self-Checking errors?

The following is list of a few of the WNP-2 plant problems that could have been prevented by self-checking.

- The reactor building was overpressurized which resulted in extensive roof damage.
- A contract electrician was nearly electrocuted while working on SM-72 at the River Pump house.
- A explosion occurred in PT cabinet when a electrical bus was energized with a safety grounding strap still installed.
- A reactor scram occurred when the wrong red handled valve in an Instrument Rack was opened.
- A reactor scram occurred due to a neutron monitoring miss-identification.
- A RWCU instrument valve was left closed following a surveillance test.
- Numerous half scrams.
- Numerous valving errors.

These mistakes were all very simple and happened during routine maintenance work activities.

When is a Self-Checking error most likely to occur?

Self-Checking is defined as an ingrained, automatic work practice. Plant personnel should always be aware of the fact that the more routine the work task, the greater the possibility that a Self-Check will be missed. When a person is tired. At WNP-2 fifty four percent of all I&C personnel errors occur on back shifts. Other factors that increase the odds that a self-check error will occur are distractions, interruptions and pressure to get the job done. As a plant employee you should ask yourself " What is the worst thing that will happen if the job is not done on time, versus the worst thing that will happen if its not done right".

What is the proper method to be used to Self-Check at WNP-2?

Now that you have a good idea of what self-checking is and why it is necessary. Lets investigate the proper method to Self-Check at WNP-2. A through self-check consists of four steps. These steps are easy to remember by using the acronym **"STAR"**.

Stop

- Stop and read the procedure, maintenance work request etc.
- Stop and verify you have located the correct plant component(s).
- Stop and ask yourself - do I have all the tools needed to perform this task.

Think

- Think to identify the critical steps of the work task.
- Think about and know the expected outcomes of your actions.
- Think about the things that could go wrong and how you're going to avoid them.

Act

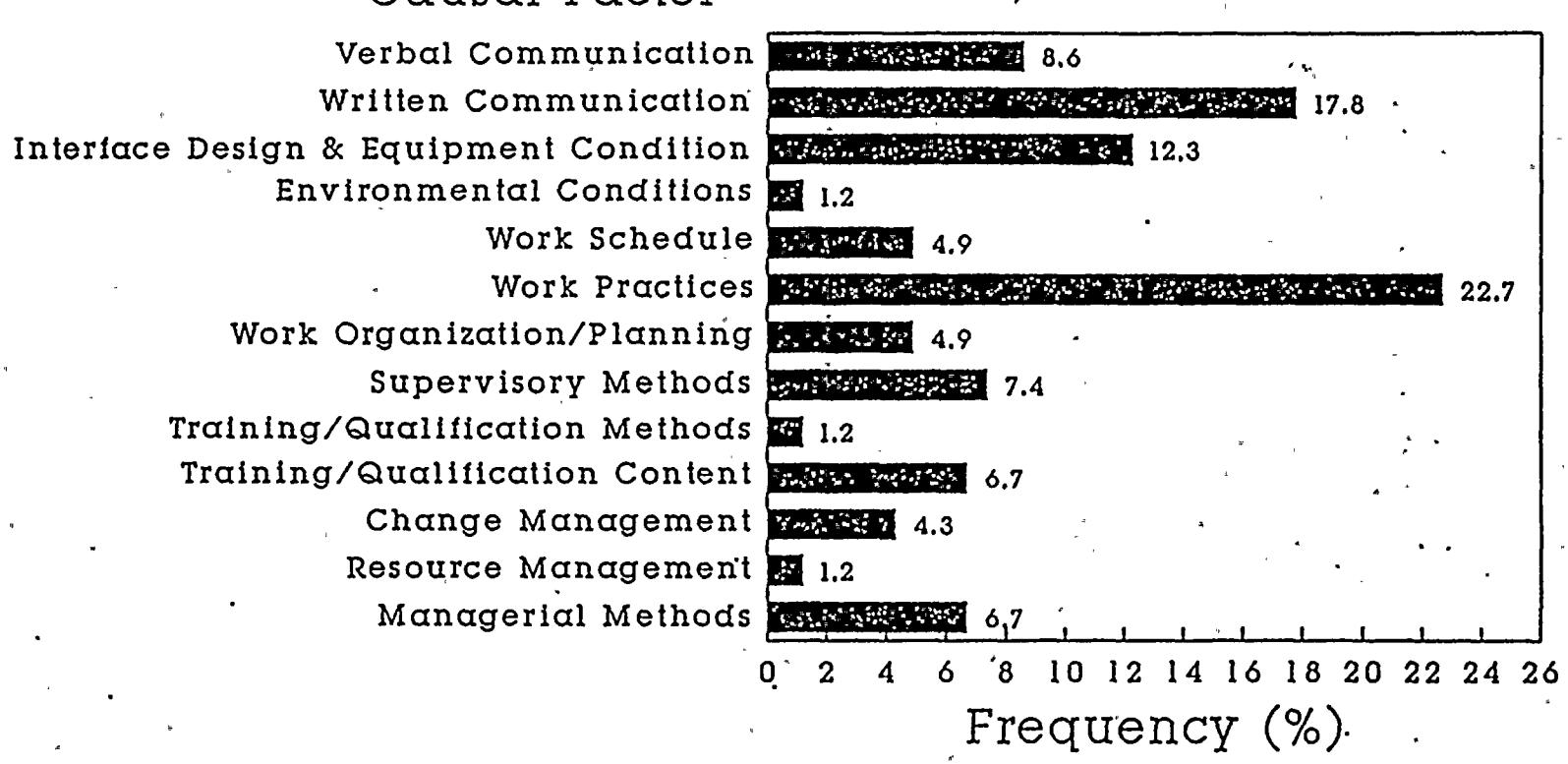
- Perform the desired action / task.

Review

- Did the expected response occur.
- If not, what do you do? If necessary get help. **Never proceed when you are uncertain of the outcome of your actions.**

It is well understood that plant workers perform some form of Self-Checking during the performance of their work tasks. However we strongly urge each of you to incorporate the steps denoted by the acronym STAR into your self-checking work practices. They are easy to follow and are guaranteed to keep you error free and the plant running safely.

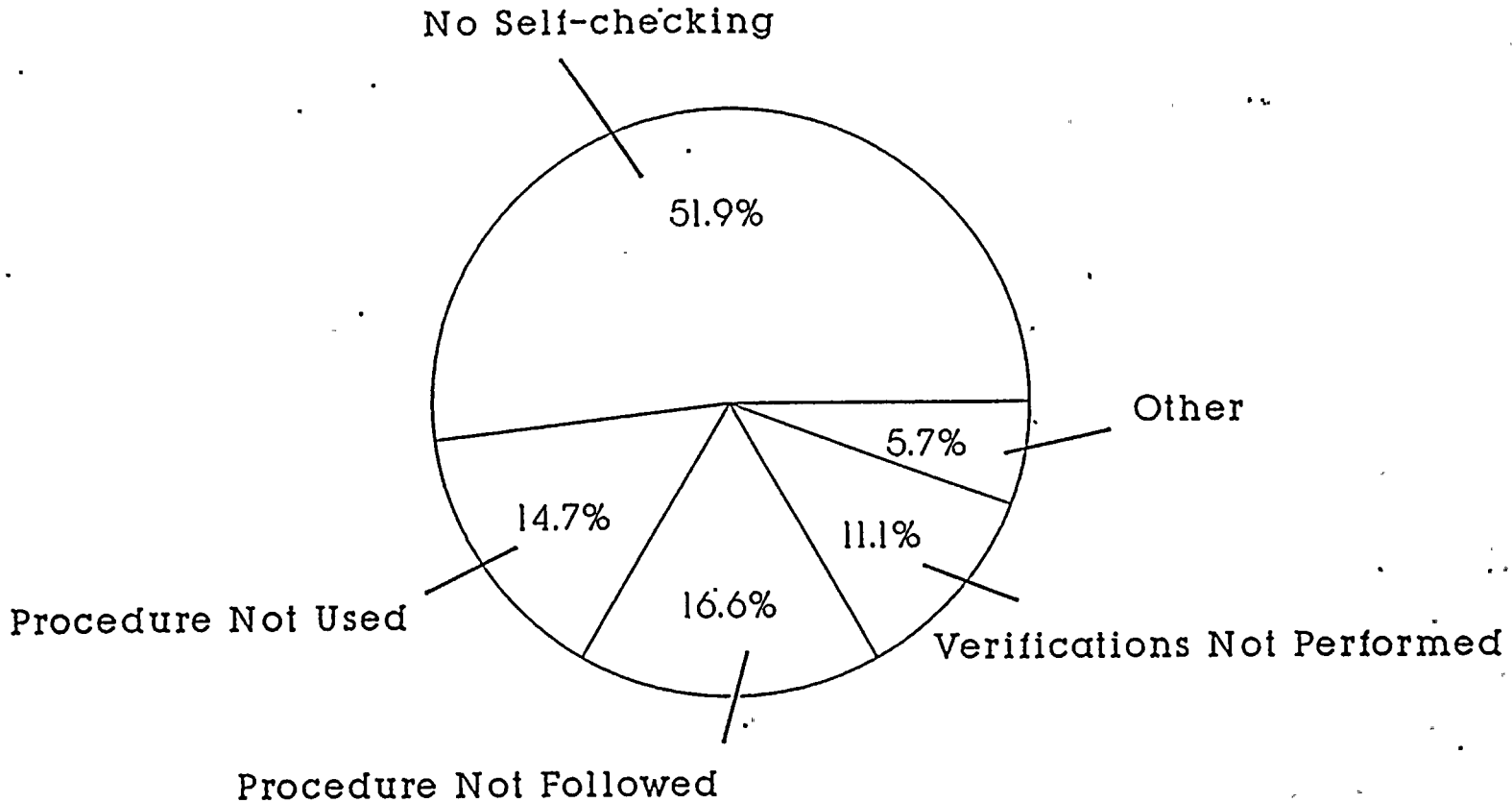
WNP-2 Causal Factor Distribution*
(Percentage of All Causal Factors)



* Based on 163 records of inappropriate actions from 1/89 through 12/90

Attachment 1

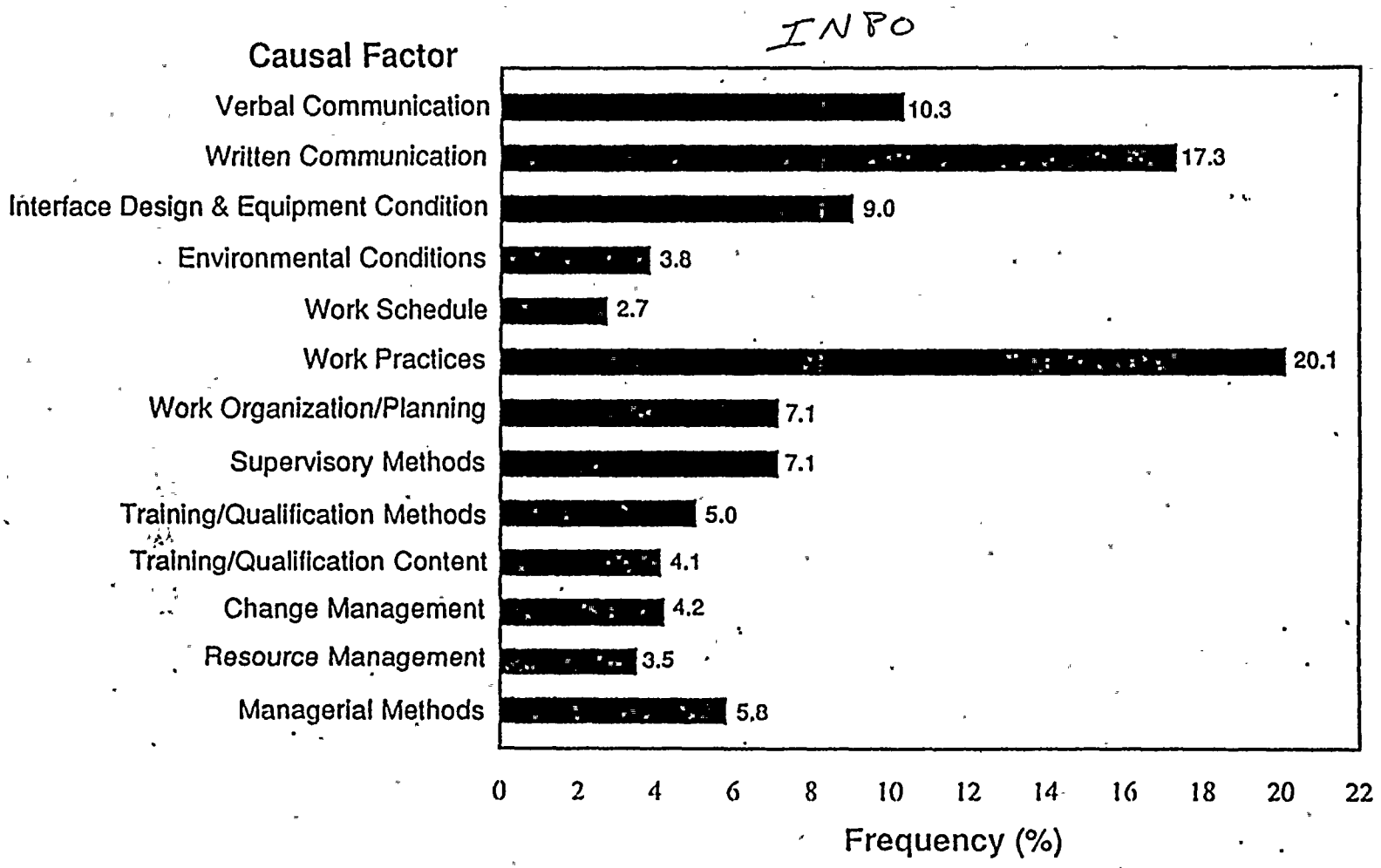
WNP-2 WORK PRACTICES*



* Based on 163 records of inappropriate actions from 1/89 through 12/90

Attachment 2

Causal Factor Distribution*
(Percentage of All Causal Factors)



* Based on 495 records of inappropriate actions from 1/90 through 1/91