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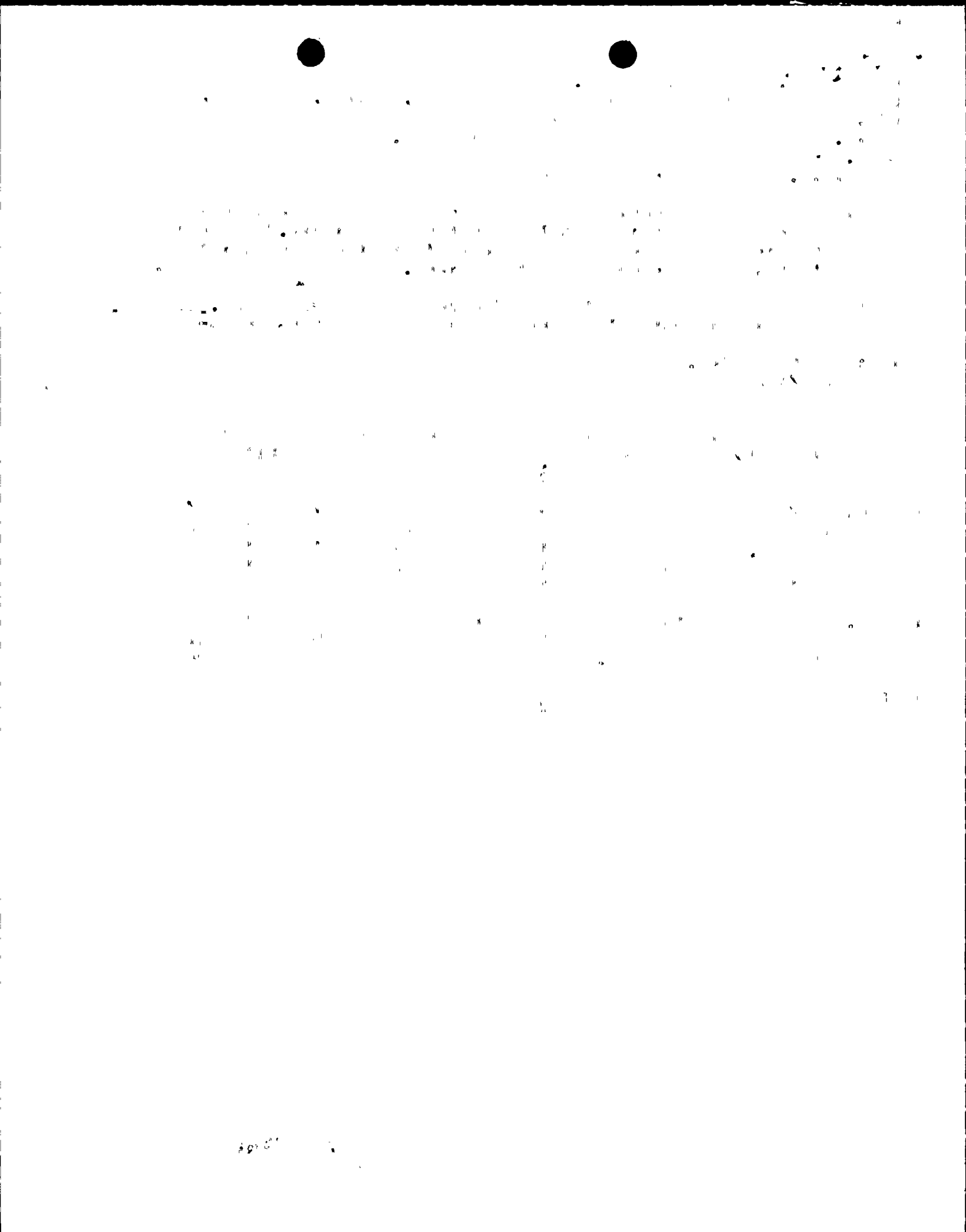
ACCESSION NBR: 8410100527 DOC. DATE: 84/09/28 NOTARIZED: YES DOCKET #  
 FACIL: 50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244  
 AUTH. NAME AUTHOR AFFILIATION  
 KOBER, R. W. Rochester Gas & Electric Corp.  
 RECIP. NAME RECIPIENT AFFILIATION  
 PAULSON, W. A. Operating Reactors Branch 5

SUBJECT: Responds to Generic Ltr 84-15 "Proposed Shaft Actions to Improve & Maintain Diesel Generator Reliability." No action required to reduce number of cold fast start & surveillance tests. Tech Spec changes not required.

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 TITLE: OR Submittal: Fast Cold Starts of Diesel Generators GL-83-41

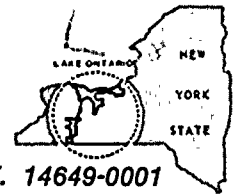
NOTES: NRR/DL/SEP 1cy. 05000244  
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NRR/DST/PSB 10	1	NRR/DST/SPEB 11	1
REG FILE 04	1	RES/DRA/RRB 12	1
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EXTERNAL: ACRS 13	6	LPDR 03	1
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NTIS	1		
NOTES:	1		





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ROGER W. KOBER  
VICE PRESIDENT  
ELECTRIC & STEAM PRODUCTION

TELEPHONE  
AREA CODE 716 546-2700

September 28, 1984

Director of Nuclear Reactor Regulations  
ATT: Mr. Walter A. Paulson, Acting Chief  
Operating Reactor Branch No. 5  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Subject: Proposed Staff Actions to Improve and Maintain Diesel  
Generator Reliability (Generic Letter 84-15)  
R. E. Ginna Nuclear Power Plant  
Docket No. 50-244

Dear Sir:

In accordance with Generic Letter 84-15 the following response  
is hereby submitted.

Item 1 Reduction in number of cold fast start surveillance  
tests for diesel generators

These emergency standby engine generator sets are equipped  
with necessary controls to automatically start the  
engine on failure of the normal power source and bring  
the engine to generator operating speed, ready to  
assume load. The engine is equipped with jacket water  
and lube oil heating devices to maintain oil and water  
temperatures at level to permit immediate assumption of  
load. A motor-driven lube oil circulating pump runs  
continuously until the engine is started, so that engine  
bearings are always lubricated and ready for operation.

Thus, the Alco Diesel Generator units at R.E. Ginna  
Nuclear Power Plant do not undergo cold fast starts.  
As such, no action is required to reduce the number of  
cold fast starts and no Technical Specification changes  
are required.

Additionally, Ginna's Technical Specifications do not  
require testing diesel generators while emergency core  
cooling equipment is inoperable. Thus, no Technical  
Specification changes are required to address this item.

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THE UNITED STATES OF AMERICA  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
WASHINGTON, D. C. 20250

Diesel Generator Reliability Data2a) Diesel Generator 1A

- 1) Last 20 starts:
  - a. No Diesel Engine/Generator failure
- 2) Last 100 starts:
  - a. 4-3-82 - During Periodic Test at end of Annual Diesel Generator maintenance, (performed during annual Maintenance and Refueling Outage) one cylinder exhibited high exhaust temperature. The cause was a weeping injector nozzle, which was then replaced.
  - b. 1-18-80 - LER 80-001 - Governor at wrong setting

2b) Diesel Generator 1B

- 1) Last 20 starts:
  - a. 5-7-83 - after completion of test, the diesel engine failed to shutdown due to the governor solenoid valve coil falling off armature due to the coil nut vibrating loose. The coil and nut were reinstalled, Locktited, and nut was prick-punched to stud. The Diesel Generator however, did operate satisfactorily during the test.
- 2) Last 100 starts:
  - a. 1-5-81 - Cooling water line leak. Bushing was replaced.
  - b. 6-17-81 - Could not load unit to required KW. Problem was governor adjustment.
  - c. 9-10-80 - Bus 16 breaker failed to close. Cause was a binding control relay guide pin. Relay was replaced.
  - d. 9-13-79 - Bus 16 breaker failed to close, cause was apparently a bad connection on lockout relay.

REPORT OF THE DIRECTOR, ARIZONA DIVISION

OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

FOR THE YEAR 1961

AND FOR THE PERIOD JANUARY 1, 1961, TO DECEMBER 31, 1961

BY

W. H. HARRIS, DIRECTOR

ARIZONA DIVISION

OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

WASHINGTON, D. C. 20250

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WASHINGTON, D. C. 20250

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- e. 8-16-78 - Bus 16 breaker failed to trip. Problem was bad connection at control power fuse block stabs.
- f. 9-14-77 - Bus 16 breaker failed to close. Problem was a bent "finger" on a secondary contact.

Ginna does not maintain a record which itemizes the demands and failures experienced by each diesel generator unit in the manner outlined in Regulatory Guide 1.108 position C.3.a. A yearly data report is not maintained for each diesel generator's reliability.

Item 3      Diesel Generator Reliability

- 3a) Ginna Station has a regular preventative maintenance schedule for its diesel generators, including an inspection of each unit, annually, utilizing the services of the diesel engine manufacturer.

These two Diesel Generator units are specifically designed for use in emergency standby generator service. The total running hours from initial start in 1969 to 8/14/84 is 782 for the A D/G and 891 for the B D/G. As such, the diesel generators are one of the most frequently maintained pieces of equipment relative to total operating time at Ginna.

The proper valve/breaker alignment of the diesel generator units is verified twice each month, once, prior to the monthly Periodic Test and then 15 days later. In addition to the monthly periodic test the Diesel Generators are loaded in accordance with safeguard system testing on a refueling interval.

Standby diesel generator units have a particular problem in that a comparably large fuel supply is required, but little is used during the exercising of the engines.

All fuel oil tends to degrade during extended storage. The degradation, in general, is of two types. The first is oxidation and polymerization resulting in the formation of soluble and insoluble gums. The second is bacteria growth and the interface of the fuel and water in the storage tank. This bacterial growth will result in fuel filter plugging, and has been known to cause fuel injection sticking.

the 1990s, the number of people in the world who are undernourished has declined from 1.1 billion to 800 million. The number of people who are malnourished has declined from 1.5 billion to 1 billion. The number of people who are obese has increased from 100 million to 300 million. The number of people who are overweight has increased from 100 million to 300 million. The number of people who are obese and overweight has increased from 100 million to 300 million. The number of people who are obese and overweight has increased from 100 million to 300 million.

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1. *Pharmaceutical industry*—United States—History—20th century—Congresses. I. Title. II. Series.

the 1990s, the number of people in the world who are under 15 years of age is expected to increase from 1.1 billion to 1.5 billion. The number of people aged 65 and over is expected to increase from 200 million to 400 million. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion.



The most satisfactory method for insuring good fuel, at all times, is to replace the fuel periodically. Ginna Station pumps out all the old fuel, cleans the storage tanks and refills with fresh fuel on an annual basis.

3b) In accordance with the Enclosure 3, RG&E has reviewed the recommendations of NUREG/CR-0660 "Enhancement of On-Site Emergency Diesel Generator Reliability."

1) Ginna Station has followed the manufacturer's recommendations as they apply to the Alco Diesel Generator units, with one exception. Ginna Station performs Surveillance Testing on a monthly basis (rather than bi-weekly) and during this testing, the Diesel Generators are operated for a minimum of one hour at the continuous full load rating of 1950 KW (rather than 25-50% load). Ginna Station operation of the Diesel Generators at the continuous full load rating exceeds the manufacturer's recommendations noted on Page III-16 of NUREG/CR-0660.

2) Recommendation (b), page V-6, in NUREG/CR-0660 suggests "dust-tight steel cabinets having fully gasketed doors and other openings". Ginna Station does not have dust-tight cabinets having fully gasketed doors, however, Ginna Station has not had the problems associated with this recommendation.

3c) An analysis of the performance specification (attachment to enclosure 3) with the existing Ginna Station surveillance testing program shows that Ginna Station's existing programs are adequate when compared with the proposed program.

1) However, some comments are necessary relevant to Item 3, Surveillance Test Frequencies. It is suggested that all references in 3.b, which refer to "two failures in 20", be modified to read "two identical failures in 20". Two identical failures in 20 would be a better indication of reliability degradation.

2) Ginna Station's Technical Specifications are more stringent than Items 6 and 7. This is clarified in the following excerpts from the Ginna Technical Specifications, Sections 3.7.1 and 3.7.2:



3.7.1

The reactor shall not be maintained critical without:

- a. The 34.5 KV-4160 Volt station service transformer in service.
- b. 480-volt buses 14, 16, 17 and 18 energized.
- c. 4160-volt buses 12A and 12B energized.
- d. Two diesel generators operable with onsite supply of 10,000 gallons of fuel available.

3.7.2

During reactor operation the requirements of 3.7.1 may be modified as follows:

- a. Power operation may continue with the station service transformer out of service provided (a) the failure shall be reported to NRC within 24 hours with an outline of the plans for prompt restoration of offsite power and the additional precautions to be taken while the transformer is out of service and (b) both diesel generators are operable. Under conditions of fulfillment of (b) and nonfulfillment of (a), continued power operation shall not extend beyond 24 hours. Non-fulfillment of, (b) shall be deemed sufficient cause for immediate reactor shutdown.
- b. Power operation may continue if one diesel generator is out of service provided (a) the remaining diesel generator is run continuously, and (b) the station service transformer is in service and (c) such operation is not in excess of 7 days (total for both diesels) during any month.

- 3) Comparison of Appendix A, Typical Technical Specifications with Ginna Station's Technical Specifications reveals that Ginna Station's present Technical Specifications in general, are equal to and/or more restrictive than those proposed.

An example of this is : Action (a) allows "72 hours" to restore diesel generators to an operable status, whereas, Ginna Tech. Specs. only allow "24 hours". Also, Action (a) allows "6 hours" to go to "Hot Standby", whereas, Ginna Tech. Specs. require an immediate reactor shutdown.

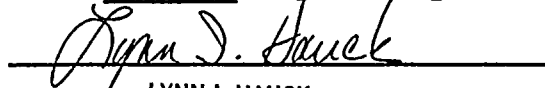


Ginna Station Technical Specifications address the loss of the station service transformer, rather than the loss of a single off-site power supply, as addressed in the Typical Technical Specifications.

It should be noted at 4.8.1.1.2, that generator voltage of Ginna Station's Diesel Generators is 480 volts, not 4160 volts.

  
Roger W. Kober

Subscribed and sworn to me  
this 28th day of September 1984

  
LYNN I. HAUCK

NOTARY PUBLIC, State of N.Y., Monroe County  
My Commission Expires March 30, 1984

