



The Dow Chemical Company
Midland, Michigan 48667

March 26, 2003

Document Control Desk
United States Nuclear Regulatory Commission
Washington D.C., 20555

Dear Sir;

Enclosed is the annual report for The Dow TRIGA Research Nuclear Reactor, Docket No. 50-264. If you have any questions, please contact me at (989) 636-6584.

Ward L. Rigot
Facility Director and Reactor Supervisor
Dow TRIGA Research Reactor

Enclosure

CC: Alexander Adams; USNRC
Tom Dragoun, USNRC
Richard Wagner, 1897
Stan Dombrowski, 1803
Thomas J. Quinn III, 1602
Siaka O. Yusuf, 1602
James R. Weldy, 1803
Jay. D. Romick, 1897
Tim Lickly, 1803

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There were no US NRC inspections in 2002. An outside consultant conducted the required annual audit; recommendations were made and the Reactor Operations Committee has responded to these recommendations. The normal in-house audits of the radiation protection program, safety and housekeeping, and records were also performed and the recommendations acted upon. There were no significant changes to the facility during 2002. There were modifications to the security posture of the facility, which have been communicated to The US NRC.

A. Staff, Licenses, and Training

Ward L. Rigot continued serving as reactor supervisor and facility director of The DOW TRIGA Research Reactor. Richard A. Wagner continues to serve as first level manager for the facility. Thomas J. Quinn III remains as one of the two designated alternates (assistant reactor supervisors) for the reactor supervisor. Siaka O. Yusuf replaced Michael E. Buchmann as the other designated alternate. Mr. Buchmann moved to a new role within the Global Analytical Sciences Organization where he no longer works at the facility on a day to day basis. Mr. Buchmann has allowed his active license to lapse and it will not be renewed when it expires in April, 2003..

W. L. Rigot	Reactor Supervisor and Facility Director
T. J. Quinn	Assistant Reactor Supervisor
S.O. Yusuf	Assistant Reactor Supervisor
M. E. Buchmann	Senior Reactor Operator

Licenses, with the exception of Mr. Buchmann's are current. Rigot's and Quinn's licenses were renewed in 1999, while Buchmann's license was renewed in 1997. Siaka O. Yusuf received his Senior Reactor Operator's license in 2000. All operators are current in their required medical examinations; which were taken during 2002. We have also added a reactor operator trainee to our staff. Mr. Bryan Haskins is currently training on a part time basis to become a licensed reactor operator. He began training in the third quarter, 2002.

The last two-year re-qualification program was completed in the second quarter 2002. All operators completed the comprehensive examination covering the topics of the individual eight requalification sessions. The SROs are current with operating experience and participation in emergency preparedness drills, Reactor Operation Committee meetings, an annual operating examination, and the annual fuel inventory.

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Operation of the reactor is an important part of the training program, since this reactor is operated on an as-needed basis, which results in numerous operations each involving reactivity manipulations, use of the control console, placement and retrieval of samples and handling of radioactive materials. The reactor was operated for a total of 341.7 hours during 2002. Furthermore, each licensed performed about 1/4 of the daily checkout procedures, during the time that their license was active and at least two monthly checkout procedures.

James R. Weldy replaced Janet A. Grappin as the Radiation Safety Officer and sits as a member of the Reactor Operations Committee. Mr. Weldy is a certified health physicist and comes to Dow from a position at Southwest Research Institute. Jerry Cassidy continues as the Health Physics Technician for the Midland Area and assists in support of the reactor facility. The entire composition of the Reactor Operations Committee is listed below.

R. A. Wagner	Chairman
W. L. Rigot	Reactor Supervisor and Facility Director
J. R. Weldy	Radiation Safety Officer
T. J. Quinn	Assistant Reactor Supervisor
T. D. Lickly	Senior Technical Leader
J. D. Romick	Senior Analytical Specialist

R. A. Wagner is the Resource Leader for the Atomic Structure group within the Leveraged Technology Segment of the Global Analytical Sciences Laboratory (GAS). W. L. Rigot reports administratively to Wagner. J. R. Weldy is the Dow Midland location Radiation Safety Officer as well as the TRIGA Radiation Safety Officer and reports, as does T.D. Lickly, to the Dow Environmental, Health, Safety and Security department. J. D. Romick and T. J. Quinn report through The Global Analytical Sciences Organization.

B. Reactor Operating Experience

The reactor was operated for 1.91 Megawatt-days during 2001 for a total of 314.7 hours. Operational experience is lower than 2001, but consistent with timeframe of 1995 through 2000. The main purpose of operations at the Dow facility is to perform neutron activation analysis. The number of experiments introduced into the facility was also reduced in 2002; but was the second most productive year for this purpose since the database was begun in 1992. The total number of experiments introduced in 2002 exceeded 8500.

C. Major Changes

There were no completed major changes to the facility, which required 10CFR50.59 review. A capital project was initiated to convert the secondary cooling system from a one pass through

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tube and shell heat exchanger to a closed loop system, with a heat exchanger and cooling tower design. The cooling fluid will also be converted from water to a glycol based heat exchanger fluid. The equipment was ordered and delivered during 2002, but the project was placed on hold due to capital restrictions imposed by the company. The delay in no way affects the safety of the facility. The change in the cooling system design was made to reduce the total cost of operations of the facility and improving the burden of water to the site's waste water treatment facility. This upgrade in the cooling system is also a sign of commitment of the company to assuring safe operation of the facility and preparing for future improvements which will allow for smooth licensing activities. A 50.59 review will be performed prior to operation of the new cooling system.

There were several changes to the facility procedures, related to security due to the September 11, 2001 incidents. These changes have been communicated to US NRC separately.

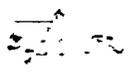
D. Unscheduled Shutdowns

There were 21 unscheduled shutdowns (scrams) during 2001. Of these, 20 were due to losses of computer function. The most common malfunction occurred with the DIS064 device which processes the digital signals into the DAC computer. The vendor has been asked to address this situation, but as of the end of 2002, there has not been a successful solution provided. The frequency of these types of shutdowns is less than last year; this is attributed to a dedicated program to manually tighten the connectors in the scram circuit. It is important to note that the frequency of unscheduled shutdowns does not reflect any safety concerns, but is a source of operational inconvenience. The 1 other shutdown occurred due to high power indications on the safety channels. This one shutdown occurred over a time frame where there were approximately 900 reactor startups and demonstrates excellent operator discipline.

E. Major Preventive and Corrective Maintenance of Safety Significance

There was no maintenance, which had safety significance performed during 2002. One maintenance item was performed on safety related systems during 2002. This involved modification of the signal cable from the fission chamber used for the wide-range log channel and the preamplifier of the NM-1000 channel. The shutdown power was indicating high levels. It was determined that there was current leakage and after a short testing period, it was decided to replace the connector at the point near the bridge where the cable was spliced during the console upgrade. Once this was done, the signal has been stable.

Other significant maintenance was performed on the rotary specimen rack to replace a shear pin where the connecting rod attaches to the drive motor. The rotary specimen rack rotates more difficultly than when it was replaced in 1998. This is a continuing concern for us due to the dependence of the neutron activation analysis program on a smoothly operating irradiation facility.



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F. Radioactive Effluents

The only radioactive material normally released to the environment from the facility is argon-41, which is produced from activation of the natural argon dissolved in the pool water and subsequently escapes from the pool into the reactor room and from there to the outside of the building, and from the natural argon present in the air used to transport samples from a laboratory into a terminus in the core of the reactor.

G. Radiation Exposures

Radiation exposures received by facility personnel and visitors are monitored using film badges and thermoluminescent detectors. No persons have received exposures approaching 25% of those allowed or recommended in 10CFR20.

W. L. Rigot
Facility Director and Reactor Supervisor
Dow TRIGA Research Reactor
25 March 2003