

June 11, 1982

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Nuclear Regulatory Commission
Washington, D.C. 20555CRITIQUE OF THE SAFETY EVALUATION REPORT RELATED TO THE OPERATION OF MIDLAND PLANT
- UNITS 1 & 2, DOCKETS #50-329 and #50-330

This critique of the Safety Evaluation Report is submitted to NRC and the Atomic Safety Licensing Board for their evaluation and action.

Abstract

The Safety and Evaluation Report (NUREG-0793) prepared by the NRC on the Midland Nuclear Plant Units 1 & 2, a facility located in the city of Midland, Michigan, is deficient because it glosses over the serious safety aspects of the soils conditions, radiological, dewatering, mining operations to shore up the buildings, nuisances, jeopardizes the citizens living down-wind from the plant and will add chemical and radiological contaminants to the Tittabawasee River and radioactivity to the air environment in the city of Midland.

The plant, located within the city of Midland violates NRC regulations and the intent of congress, and in addition, violates architectural, engineering, geological and environmental requirements. The plant sited on the flood plain of the Tittabawasee River and within the city of Midland, endangers the Public Health & Safety.

Population Zone

Within zero to one mile of the plant 2,297 people live; 20,759 live within two miles of the plant; and 107,168 live within zero to ten miles of the plant. From 10 CFR 100 we learn that the boundary of the population center must be determined upon consideration of the population. The NRC staff has violated 10 CFR 100 by allowing the plant to be sited within Midland and they're not giving proper consideration to the population zone. The staff further states in SER that most of the workers within the low population zone, are Dow Chemical Company employees, inferring that the Dow Chemical Company employees' are not human beings, do not count as human beings and can be sacrificed in the event of a TMI type accident. Radiological discharges from the plant will impinge upon and effect Dow Chemical Company workers. In event of a serious accident most of the people and workers in the 0 to 1 mile zone would be exposed to large doses of airborne radioactivity.

The staff seems to hope that (1) the radiological discharges from the Midland Plant will be controlled by the design and assistance provided, for control of radioactive discharges from the Midland Plant within the limits of NRC regulation 10 CFR 20 (2) the equipment provided is capable of reducing radioactive wastes within 10 CFR 50. However, the staff uses the words "reasonably achievable" but leaves it to the operator and to the reader to define reasonable. Just what is meant by the words "reasonably achievable"? Table S-3 (890702) includes the health effects from affluents described in the table for estimates for releases of radon 222. These tables are now outdated and as a consequence, and in our opinion, the radiological determination for the Midland Plant must be redone and restudied.

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Radioactive Waste & Radioact ity

The United States Court of Appeals in Washington has ruled that the government must develop new tests of the hazards of atomic waste. St. Louis Dispatch (May 2, 1982) the decision struck down all the NRC rules issued since 1972 to deal with radioactive hazards before the plant is licensed.

Most of the judicial decisions were an attack on one of the NRC key assumptions that some day, somehow, somewhere, a plan will be developed by NRC to solve the nuclear plant waste problem with little or no chance of radiation escaping. The AEC and now NRC have been saying for 40 years that the solution to this serious problem is just around the corner. Judge Basilaw has stated that NRC guidelines are still deemed arbitrary violations of the law. In addition, the SER is practically silent on the matter of the storage of high level radioactive waste at the Midland Plant.

The preformed analysis of design basis accidents by the staff to determine the off-site radiation doses resulting from an accident does not meet the commission's guidelines for this site located within the city of Midland. Again we find NRC departing from its own rules and regulations.

Variances and Exemptions

The staff admits that the personnel conducting impact tests were not qualified to write procedures and, that an exception to paragraph 3(B.4) appendix G 10 CFR 50 is justified. The NRC further exempts the applicant from paragraph 3(C.2) and IV (A.1.), IV(A.3) appendix G, CFR 50, and paragraph IV(B) and paragraph II(B), III(C.1) appendix H CFR50. These are all items affecting public health and safety and to which there have been variiances granted by the NRC. These variiances to the rules and regulations cast doubt upon the integrity of the NRC in regards to the public health and safety. Variiances of this type granted to the applicant may be compared to giving a variance to a careless driver to drive 55 mph in a 20 mph school zone while the children are crossing the intersection.

Dow Injection Wells

Dow injects processed brine solution into underground formations which may, in the future, induce fault motions. Staff presents no data to back up their assertion that this activity will not represent any fault motion. See earth quakes inland, by injection wells in the Denver, Colorado area.

Station Loss of Electric Power

The loss of power should be a design basis event for the Midland Nuclear Plant. During loss of off-site power the on-site emergency power supplies, deisel engines, should be available for operating important safety equipment. However, there have been many reports by NRC (C-16) that emergency deisel units fail to start during testing.

Plant Siting

SER page 1-13 population density was not considered in the siting of the Midland Plant, since the plant is in the city of Midland, the siting of the plant does not conform to commission siting criteria, 10 CFR 10. In 2, because of the soils problems and the possibility of liquification, the design, fabrication, construction and quality assurance criteria does not meet the commission's general design criteria GDC. Perhaps some of the departures from the NRC codes and standards have been identified but none have been justified in the SER.

Synergism

Certainly NEPA controlling the discharge of pollutants which are known to be carcinogenic, tetrogenic and mutagenic, from all sources including the Midland Nuclear facility. The Nuclear Plant is a responsibility of NRC. However, the SER does not cover this nor does SER consider the synergistic effects of the various chemicals upon the waters of the Tittabawassee River which eventually unloads its pollution load into Saginaw Bay to be returned in the Midland water supply system. Nor does SER concern itself with the Radioactive fogging and synergistic effects of Dow Chemical discharges with the nuclear plant radioactive discharges.

Electro Magnetic Pulse

In the event of an EMP the on-site and off-site power supplies would experience immediate failure. The needed emergency power for safety related equipment would not be available and the core could not be cooled to prevent the meltdown.

Unresolved Safety Issues

As a result of congressional action on the NRC budget for 1978, (PL 95-209) was amended on the 13th of December, 1977 to include Section 210 on Unresolved Safety Issues.

Summary of Outstanding Items

1. Plant dewatering
2. Dewatering systems installation
3. Mining Operations
 - a. tunnels
 - b. shafts
 - c. drifts
 - d. shoring
 - e. jacking and cementing
4. Soils problem resolution
5. Repair of cracking cement structures
6. Liquification potential
7. Underground piping (piping buried in plant fill according to the SER settling with the fill, necessitating the replacement and rebedding of all 36" piping and replacement and rebedding of some of the 26" lines)
8. Freeze well installation
9. Completion of all wells
10. Reactor vessel integrity
 - a. SER (P5-25) states this problem will be resolved in 4 years.
11. Quality assurance
12. Quality control
(11 and 12 do not comply with NRS requirements of 10 CFR 50)
13. Shut down heat decay removable requirements
14. Seismic qualification of equipment in operating plants.
15. Safety implications and control systems.
16. Hydrogen control emissions and effective hydrogen burns on safety equipment.
17. Pressurized thermal shock

All of the above unresolved safety issues poses incompatible risks to the public health and safety. As an example, the NRC staff believes that providing an alternative method of decay heat removable can substantially increase plants capability to deal with accidents and could, therefore, reduce the risk to the public health and safety.

18. The resolution of 47 unresolved safety items including the items which are called 'conformatory items' in SER (Page 1-15 and page 1-14).

The River

The Michigan Department of Health has recommended a fish consumption ban for the Tittabawassee River downstream of Midland and for the Saginaw Bay River because of the TCDD levels in fish. A fish warning was issued for Saginaw Bay because the PCB's found also in the Dow Chemical Company affluent in the Tittabawassee River. Dow's facility is one of the largest chemical plants in the world and nowhere in the SER is there consideration given to the affects of the combination of Dow Chemical Company and Consumers Power Company affluents to the Tittabawassee River.

The net loadings to the Tittabawassee River of the Dow affluents exceeds 600 lbs. of conventional toxic pollutants per day, 109,500 tons per year. Consumers Power Company, although not mentioned in the SER, desires to dump ammonia into the Tittabawassee River. This ammonia would be an addition to the present discharges of the Dow Chemical Company, Dow Corning and the city of Midland. The more years possibly carcinogenic or tetra-genic. The Michigan DNR calculation indicates that the capacity of the river for ammonia is far below present discharges of 1200 lbs. per day, and that Dow and the city of Midland discharges exceed that amount.

The CPC Midland Plant will exceed 220 lbs. of ammonia discharged per day, so that the total combined discharge of ammonia to the Tittabawassee River from Dow, city of Midland and CPC would be in excess of 1450 lbs. per day (660 kilograms). The Michigan DNR utilizes an old emergency engineering concept called "assumulative quality" of the river water to determine the amount of allowable pollutants NRC to abide by NEPA must present CPC ammonia discharges.

A definition of assumulative quality is the amount of pollutants that can be dumped into the river until the pollutants destroy the biota of the river. In other words, the river will be too thick to swim in and too thin to plow.

We believe that the amount of ammonia from CPC should be "no detectable discharge". Thus, if CPC was constrained on ammonia discharges, Dow and the city of Midland could also be so constrained. Dow, the largest chemical plant in the world, lists nearly 400 chemicals on its toxic substance control act inventory. Dow discharges approximately 65 million gallons of polluted affluent to the Tittabawassee River every day.

Unanswered Questions

1. How will CPC evacuate the people and Dow Chemical Company workers in event of an accident. (Plant sited within the city of Midland).
2. How can staff appearing in SER recommend plant license since SER contains some information concerning unresolved safety issues - all effecting the public health and safety.
3. In view of GPU legal action against NRC in the TMI accident why does not NRC enforce their rules and regulations in respect to Midland Plant?
4. Why does NRC ignore some staff findings and in fact in some instances repress them?
5. Why does NRC continue to promote nuclear plants in violation of the intent of Congress?
6. Why is there a total lack of appreciation of the hazards of radiation and radio-activity for the human being?
7. Why is there a total lack of candor concerning the hazards of nuclear plant accidents?
8. Why does not NRC require the hardening of the plant against EMP?
9. What is meant by 'essentially complete' para. 2, page 1-1?
10. How can an operating license be recommended before resolution of all safety items?

11. How can NRC approve an operating license for CPC in view of their poor operation of their other 2 plants?
12. In view of lack of operating control over construction problems how can SER gloss over CPC safety problems?
13. How can this plant ever be operated with assurance of the public health and safety?
14. In view of TMI and all other accidents to nuclear plants in the U.S. and foreign countries how can NRC forget its obligations to public safety?
15. How can staff complete the SER when there has been a lack of design information to solve the soils problems.
16. How can staff ignore the important scientific information on fogging introduced into the hearings by the world famous Dr. Epstein?
17. How does staff expect to resolve the Reactor Vessel Integrity problem in 4 years?
18. How can staff relegate the Dow Company workers to a non-human status in event of an accident at the Midland Nuclear Plant?
19. Why does SER fail in its obligation to discuss the spent fuel long range storage at the plant?
20. What is meant by "substantially completed" page 22-1 of SER?
21. How can the staff conclude that the Midland Plant can be decommissioned with reasonable exposure limits? 12-5 SER.
22. What is meant by reasonable exposure?
23. How can this be considered acceptable (21 & 22)?
24. In SER 11-11 item 2 the staff states that dilution is a solution to the 10^5 NCi/cc.
25. How can staff use an assumption item 3 SER-11-11.
26. How can staff (SER 11-11 items 3, 4, 6 & 7) use the word assumes or assumption when the public health and safety is involved?
27. What happens to Dow Chemical Company products if measurable amounts of radioactivity is in the process steam?
28. Will CPC reimburse Dow if radioactivity in the steam radiates various chemical products?
29. Why does NRC grant CPC an exception to meet the criteria established under NUREG 0737 when the health and safety is involved?
30. How can staff conclude that the process and affluent monitoring systems meet the applicable requirements of 10 CFR 20, 106 and GDC 60, 61, 63 & 64 and the guide lines of Regulating Guide 1.21?
31. Why does NRC permit the discharge of radioactivity to environment (SER 11.2.1 page 11-5)?
32. Why does the staff only consider the radioactive gaseous wastes for normal operations? (11.3.1 SER)
33. Why not eliminate releases of radioactive gases and particulates to the environment? (11.3.1 SER Page 11-7)
34. How can staff permit releasing ventilation exhaust air to environment without treatment? (Para 3 11.3.1 SER Page 11-7)
35. What is the equivalent Hiroshima type bombs from the plutonium in rods stored in spent fuel pool after 1 year of plant operations.
36. What happens to the Medland Nuclear plant when the spent fuel pool is filled with 1049 fuel assemblies.
37. Has the NRC asked the people living in the 0-10 mile zone or those living in 50 mile radioactive fall out zone how they feel about emergency evacutaiton plans? Why not?
38. How can the SER (page 2-25) assume that the dikes were constructed properly?
39. How can SER assume that seepage from the pond will be minimal?
40. When both units are down how will Dow obtain steam? Please elucidate!

ACRS

The ACRS, according to the Midland Daily News of May 25, 1982, (1) indicated that the high point venting problem had not been resolved, (2) reported on the efforts being made to keep radioactivity out of nuclear generator steam to be furnished to Dow Chemical Company's Midland plant, (3) questions control instrumentation working after a strong earthquake, questions the instruments accuracy in the event of a strong earthquake, (4) that operators will not be able to rely on instrumentation if the computer is not working. (What happens to the computer in the event of an Electro Magnetic Pulse?) (3) The consumers admission of soils problems at the plant, (6) the statement that the operation of the Palisades Nuclear Plant has been less than glowing. In this respect, Consumers Power Company has been fined several times for their failure to properly operate the plant. Per GPU, the owner of TMI, has brought a \$4 billion damage suit against the NRC, claiming the agency was not a tough enough regulator. (Science, March-April 1982)

Natural Phenomenon

10.4.91.2

The auxilliary pump water system is dependent on on-site electro motive power or off-site power. In the event of an EMP the auxilliary pump water systems would not function, nor would it function if on-site and off-site power failed. The SER is mute on this point.

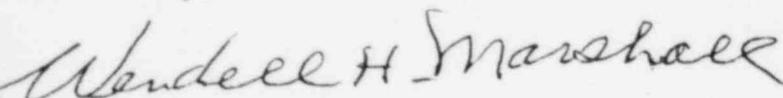
It is a significant fact that licensing of any nuclear facility is a major federal action which will significantly affect the quality of the human environment and the right to protection from nuclear plant nuisances of any type (Chap. 102) Mepe 42 USC Chap. 432.

We hope that this critique together with the questions contained therein will prove of value to NRC staff. The list of questions are a result of the lack of information in the SER.

We note the numerous places in the SER which utilizes "assumptions". In our opinion the philosophy of prescribing "assumptions" usually does not lead to objective analysis.

Finally we call your attention to Mr. James K. Asselstene statement that he is interested and will try to clear up unresolved safety issues. Science 4 June 1982 page 1085.

Yours truly,


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