LPDR

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of:	)	
	)	
CONSUMERS POWER COMPANY,	)	Dkt. Nos. 50-329 50-330
	)	
(Midland Plant, Units 1 and 2)	)	Operating License

CONTENTIONS OF INTERVENOR MARY P. SINCLAIR

Intervenor Mary P. Sinclair, by her attorneys, acting pursuant to 10 C.F.R. § 2.714(a)(3) and 10 C.F.R. § 2.714(b), respectfully submits the following contentions which Intervenor seeks to have litigated in this matter. These contentions are in some instances amendments of, and in other instances additions to, the Petition for Leave to Intervene in this proceeding filed on June 5, 1978, and on the basis of which the Atomic Safety and Licensing Board granted Intervenor leave to intervene as a party. In view of the August 14, 1978 Memorandum and Order of the Licensing Board, admitting Intervenor as a party and holding (at p. 6) that the "aspects" as to which intervention is sought can be determined in light of the contentions made, Intervenor will not here restate Paragraphs 1 through 8 of the Petition for Leave to Intervene.

1. Particularly at the operating license stage

of a nuclear power plant proceeding, see Consolidated Edison Co. (Indian Point, Units 1, 2 and 3), ALAB-319, 3 NRC 188, 190, 192 (1976), the NRC Staff bears a heavy responsibility for insuring that the continued construction, maintenance, quality assurance and quality control, and operating activities of the units in connection with which the operating license is sought, comply with the Atomic Energy Act of 1954, as amended, and applicable NRC regulations and guidelines. There can be no assurance that the Staff will adequately perform those vital technical and managerial tasks in this case. The Staff's failure adequately to perform these tasks has been detailed in (among other sources) L. V. Gossick, et al., Atomic Energy Commission Task Force Report: Study of the Reactor Licensing Process (October, 1973), and the recently released General Accounting Office Report No. EMD-78-80, "The NRC Needs to Aggressively Monitor and Independently Evaluate Nuclear Plant Construction" (September, 1978). As a result of the inadequacy of the Staff's performance of these tasks, no finding can be made pursuant to 10 C.F.R. § 50.57(a)(2) and 10 C.F.R. § 50.57(a)(3)(i) that the proposed Midland plant can be operated without undue risk to the public health and safety, or in accordance with applicable NRC rules and regulations. This is so because, among other things, the record of the construction permit phase of this proceeding conclusively demonstrates that the applicant Consumer Power Company ("Consumer") can not and will not comply with NRC rules and regulations absent constant moni-

toring and prodding by the NRC Staff. See, e.g., Consumers Power Co. (Midland Plant, Units 1 and 2), ALAB-106, 6 AEC 182, 184-85, 187 (1973); IE Inspection Reports Nos. 050-329/76-05, 050-330/76-05 (8-10-76); 050-329/76-04, 050-330/76-04 (7-2-76); 050-329/76-08, 050-330/76-08 (10-18-76) 050-330/77-02 (3-15-77); 050-330/77-03 (3-30-77); 50-330/77-06 (4-13-77); 50-329/77-03 (5-10-77); 50-329/78-03, 50-330/78-03 (5-4-78); 50-329/78-06, 50-330/78-08 (7-21-78) (noting that 10 Consumer Power and 17 Bechtel Corporation nonconformance reports had to be reviewed and that "in most cases the response to these reports consists of a request for relief from requirements and a rationale for not performing them rather than sound engineering judgment"); 50-329/78-07, 50-330/78-07 (8-17-78).

2. The conclusions reached in Gossick, et al., supra, were based in part on a review of the inspection practices of the Staff and the conclusion that those practices consist principally of reviewing the applicants' inspection program rather than directly reviewing safety-related activities. The recently released GAO Report No. EMC 78-80, cited supra, confirms the continued lack of an effective direct inspection program. As a result of this inadequacy of Staff inspection practices, and in light of Consumers' consistently poor compliance record, no finding can be made pursuant to 10 C.F.R. § 50.57(a)(2) and 10 C.F.R. 50.57(a)(3)(i), that the proposed Midland plant can be operated without undue risk to the public health and safety or in accordance with NRC rules and regulations.

4. It is documented fact that despite NRC Staff safety reviews and inspections, commercial nuclear power plants have actually operated in the United States with serious design defects, including blatant flaws such as direct contact between local drinking water supplies and a radioactive waste tank. In addition, the licensing and operation of commercial nuclear power plants continues unimpeded notwithstanding the NRC's report to Congress, in January, 1978, of 133 unresolved "generic" issues--many with serious safety implications. See NRC Program for the Resolution of Generic Issues Related to Nuclear Power Plants, NUREG-0410, January 1, 1978. In fact, the overwhelming majority of those issues (including safety issues) continue to be unresolved; Task Action Plans have not yet been approved for any of the category B, C, and D unresolved items identified in NUREG-0410, even though the Commission Staff now regards some of those issues as falling within a high-risk category; and as recently as September, 1978 the Staff still had not completed a revised Task Action Plan for even the important ATWS Task identified in NUREG-0410. All of this appears in the testimony of Messrs. M. B. Aycock, L. P. Crocker, and C. O. Thomas, Jr., in Public Service Co. of Oklahoma, et al., (Black Fox Station, Units 1 and 2), Dkts. STN 50-556, STN 50-557. These serious deficiencies, and the attitude of "business as usual" rather than alert and independent regulation which they suggest, mean that the operating license for the Midland facility must be denied because the findings required by 10 C.F.R. §§

50.57(1), 50.57(2), and 50.57(3)(ii) can not be made.

5. In addition to the matters set forth in the preceding Contention, the Staff's conduct following the granting of the construction permit herein in 1972, and particularly during the 1977 suspension hearings in these Dockets, shows that the Staff approaches the Midland facility with a predisposition to protect the Applicant's investment in the facility, and that the Staff conducts little or no independent inquiry into facts and issues pertinent to the findings required to be made, but rather accepts at face value data and arguments proffered to it by the Applicant. In view of the extreme importance which the Commission tends to ascribe to positions taken by the Staff and the inevitable limitations imposed upon Intervenor, both by financial constraints and by the Commission's Rules of Procedure, this means that there is lacking in this proceeding the independent and impartial inquiry essential to the integrity of the findings prerequisite to the issuance of an operating license. This consideration is doubly grave in light of the still unresolved question--which the Appeal Board directed be pursued eight months ago but which the Staff has not moved to pursue--of whether the Applicant attempted to prevent full disclosure of critically important facts in testimony before the Commission. Consumers Power Co. (Midland Plant, Units 1 and 2), ALAB-458, 7 NRC 155, 177(n) 87 (1978); see also, Id. LBP-77-57, 6 NRC 482, 485-86 (1977),

as amended by Order of November 4, 1977. As a result, the findings required by 10 C.F.R. §§ 50.57(1), 50.57(2), and 50.57(3)(ii) can not be made.

6. Both the Applicant and its architect-engineer have had, and continue to have, a poor record in constructing and operating nuclear power plants and in overseeing the quality assurance and quality control ("QA-QC") of subcontractors. As specifically set forth in Contention 1 above, this poor record has been repeatedly evidenced, and is still being evidenced, with regard to the Midland plant in particular. For these reasons, Intervenor contends that the QA-QC performance level with regard to the Midland facility will continue to be far below the mininum acceptable level, and the findings required by 10 C.F.R. §§ 50.57(a)(1), 50.57(a)(3), and 50.57(a)(4) can not be made.

7. As set forth in Contention 5 above, there presently exists a serious and substantial question concerning whether Consumers has attempted to distort and even suppress the truth regarding highly material facts in proceedings before the Commission. The Appeals Board, also as set forth in Contention 5, regards this question as important enough to require pursuit whether or not the parties themselves wish to pursue the matter. In addition, as set forth in Contention 1 above, Consumers' QA-QC record has been characterized by shoddy performance and a tendency--noted by the Commission Staff in very recent months--to argue with the Staff and make excuses rather than attempt to correct

violations. It also appears that documents may have been "doctored" in connection with welding certifications at the Midland site. For these reasons, Consumers can not be trusted to operate the Midland facility in accordance with the requirements of the Atomic Energy Act and the NRC's regulations, and the findings necessary to the granting of an operating license, in particular the findings required by 10 C.F.R. §§ 50.57(a)(2), 50.57(a)(3)(ii), 50.57(a)(4), and 50.57(a)(6) can not be made.

8. It was established during the 1977 hearings in these Dockets that the NRC Staff, and the Licensing Board as well, did not understand the cryptic references by the Advisory Committee on Reactor Safeguards ("ACRS") in its report on the Midland project to "other [design] problems" which the ACRS said should be "resolved during construction" in order to provide the essential "reasonable assurance" that the proposed Midland facility could be operated without undue risk. The response of the Licensing Board during that proceeding was to defer the entire problem to this proceeding. Consumers Power Co. (Midland Plant, Units 1 and 2), LBP-77-57, 6 NRC 482, 497-98 (1977). The Appeal Board also directed that "the merits of the ACRS's 'unresolved safety issues' [must] be explored further," and has stated that "this must be done whether or not the parties are themselves or otherwise interested in pursuing these matters." Consumers Power Co., (Midland Plant, Units 1 and 2), ALAB-458, 7 NRC 155, 177 n. 67 (1978). As a result of the incomprehensible ACRS report and the inability of either the Staff or the Licensing Board to determine what the ACRS meant, the findings required by 10 C.F.R.

§§ 50.57(a)(3), and 50.57(a)(6) can not be made.

9. The present site of the proposed Midland facility is unjustifiable and improper in light of the speculative nature of Dow Chemical Company's continued participation in the Midland project. The recently renegotiated contract between Dow and Consumers does not set these doubts and concerns to rest. That contract provides, among other things, that Dow has the right to pull out of the Midland project entirely unless the entire project is in commercial operation by the end of 1984 (which must be read in light of Consumers' decade-long history of inability to meet projected construction or operation schedules regarding the Midland project). The renegotiated contract also permits Dow to terminate its involvement in the project upon two years' notice at any time after the project is declared to be in commercial operation for process steam service--a date which the contract pegs as March 1, 1982. Since Dow can build its own generating facilities within a two year period and can operate its existing facility until the end of 1984, even if the process steam operation date is met Dow can still, in its sole discretion, pull out of the Midland project and build its own facilities. Furthermore, the renegotiated contract gives Dow favorable rates for electricity and steam, which rates must be approved by the Michigan Public Service Commission. That Commission has not yet acted; there is substantial opposition within the State of Michigan to an arrangement which compels Consumers' ratepayers to subsidize price "breaks" for Dow;

and there is no assurance that the Michigan Public Service Commission will approve the renegotiated contract. Therefore, an operating license can not be granted, because:

(a) the present site of the plant can not be justified, except on the basis of an involvement by Dow which remains highly speculative and uncertain;

(b) the projected size of the plant can not be justified, except on the basis of that same speculative and uncertain assumption;

(c) since Dow involvement is a major element of Consumers' need-for-power claims but continues to be speculative and uncertain, Consumers has not established that there is a need for the power to be produced by the Midland facility; and

(d) for all of these reasons, the Midland project can not survive the cost-benefit analysis required by 10 C.F.R. §§ 51.20(b) and 51.21.

10. Since the execution of the initial Consumers-Dow contract in 1967, the cost of the Midland project has soared, and continues to soar. At the same time, Consumers' demand projections (on which its need-for-power argument is based) have dropped drastically and continue to drop drastically. As a result, the proposed Midland facility can not be justified economically and can not survive the cost-benefit analysis required by 10 C.F.R. §§ 51.20(b) and 51.21.

11. Particularly in light of Dow's conclusion during the 1977 hearings in these Dockets that fossil fired alterna-

tive facilities are both feasible and more economical from Dow's viewpoint than the Midland project is likely to be, the financial benefit of the Midland project to Dow is non-existent. Because serving Dow was a (if not the) major purpose of the project from its inception, the project can not survive the NEPA cost-benefit analysis required by 10 C.F.R. §§ 51.20(b) and 51.21. The existence of the renegotiated Dow-Consumers contract does not change this fact, because:

(a) as noted in Contention 9, Dow has an option in its sole discretion to withdraw from that contract;

(b) as noted in Contention 9, there is no assurance that the Michigan Public Service Commission will approve the renegotiated contract (or that, even if such approval is given, the resulting burden on Citizens' ratepayers can be legally and economically justified); and

(c) the existence of the contract is irrelevant to the NEPA analysis, which must determine where the true economies or diseconomies, and thus where the true public interests, lie.

12. Neither Consumers nor the Staff has presented a meaningful assessment of the risks associated with the operation of the proposed Midland nuclear facility, contrary to the requirements of 10 C.F.R. § 51.20(a) and § 51.20(d). Studies carried out by the NRC have identified accident mechanisms, considered credible, which would lead to uncontrol-

lable accidents and release to the environment of appreciable fractions of a reactor's inventory of radioactive materials. Traditionally, these accident potentials have been downplayed or ignored on the basis of the Rasmussen Report. However, the Lewis Committee has now called into serious question the entire methodology, as well as the findings and conclusions, of the Rasmussen Report. In addition, NRC Staff studies, which are not common public knowledge, have cast doubt upon numerous of the specific conclusions of the Rasmussen Report. For example, in one secret NRC study, estimates of the "killing distance" were made, referring to the range over which lethal injuries would be received under varying weather conditions from the release of radioactive material in a nuclear power plant accident. Depending upon prevailing weather conditions, this "killing distance" was estimated to be up to several dozen miles from the accident-damaged reactor. Unpublished document from Brookhaven National Laboratory, USAEC. In addition, the new Liquid Pathways Study, NUREG-0440 (February, 1978), highlights the incomplete safety assessment currently performed by the NRC, particularly with respect to incomplete review of all credible accident sequences. A General Accounting Office report pertaining to that study criticizes the NRC failure to consider core-melt accidents in assessments of relative differences in Class 9 risks. The March 7, 1978 letter from the NRC's Mr. Case to the Commissioners (Secy-78-137) also urges the inclusion of core-melt considerations in site comparisons in the case of sites involving high popula-

tion density, such as Midland.

13. No finding can be made that Consumers has or will have the financial ability to complete or operate the Midland project, as required by 10 C.F.R. § 50.57(a)(4). The financial difficulties which in 1974 compelled Consumers to slow down construction of the Midland facility due to lack of funds, continue to exist. Consumers' own November 9, 1976 stock prospectus (among many other things) notes that Consumers' ability to finance completion or operation of the Midland project depends in large part on factors not within Consumers' control, such as "significant and timely rate increases," which are not likely to occur. As late as 1977, it appeared from testimony at hearings in these Dockets that Consumers would require a $400 million dollar interest free loan to finance continued construction of the Midland facility; but no means for obtaining any such funding has been shown to be feasible.

14. Consumers lacks the managerial qualifications necessary to complete and operate the proposed Midland facility. This is demonstrated by Consumers' history of inadequate and slipshod quality assurance and quality control practices; by the Staff's own determination in July, 1978 that Consumers has consistently attempted to evade or be excused from compliance with NRC requirements, rather than genuinely attempting to meet those requirements; and from the testimony of Dow Chemical Company officials, during the 1977 hearings in these Dockets, that Dow had no confidence at all in Consumers' technical and

managerial qualifications. As a result, the findings required by 10 C.F.R. §§ 50.57(a)(1), 50.57(a)(2), 50.57(a)(3), 50.57(a)(4), and 50.57(a)(6) can not be made.

15. The foregoing facts also demonstrate that the proposed Midland nuclear facility cannot survive an unbiased and even-handed cost-benefit analysis pursuant to the National Evnironmental Policy Act of 1969 and 10 C.F.R. §§ 51.20(b) and 51.21, for at least the following reasons:

> (a) Absent a firm commitment to the Midland project by Dow Chemical Co. (which commitment is entirely lacking), and according to the original Environmental Impact Statement covering the Midland project, the Midland nuclear facility as presently designed is both far too large and located at the wrong site;
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> (b) Dow Chemical Co. can build and operate its own non-nuclear facility in Midland at a lesser cost than Dow will incur if it is forced to purchase steam or electricity from Consumers' proposed Midland facility, which means that Consumers' proposed Midland facility is both economically unjustifiable (so that is has no "benefit" for NEPA purposes) and environmentally unsound (because, inter alia, a much smaller non-nuclear facility, not presenting the radiological and safety hazards of the Midland facility and not producing highly toxic nuclear waste, can fill any real "need" just as well as the proposed Midland facility and at less economic cost);
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> (c) The soaring cost of the Midland project, coupled with Consumers' sagging demand projections, means that the Midland "product" (i.e., steam and electricity) will be uneconomically priced and unsalable, and a burden on Consumers' ratepayers.

16. Consumers has totally failed to demonstrate that there is a genuine "need" for the power to be produced by the proposed Midland facility, particularly given the egregiously high cost of that power and Consumers' historical and long-

standing tendency to overestimate its demand projections. At the same time that the estimated cost of the Midland facility has more than tripled, the demand projections on which Consumers bases its "need for power" argument have dropped drastically, to the point where it now appears that regardless of Dow's need for electric power or steam, the proposed Midland nuclear facility is not needed, for at least the next decade. Construction and operation of a nuclear (or other) power plant under such circumstances is grossly wasteful of resources, damaging to the environment, economically burdensome to Consumers' ratepayers, and utterly unjustifiable in terms of the cost-benefit analysis required by NEPA.

17. The inability of the proposed Midland facility to survive a proper NEPA cost-benefit analysis, and the complete insufficiency of Consumers' "need for power" claims in light of the skyrocketing cost of the Midland facility and Consumers' plummeting demand projections, are emphasized and made even worse by Consumers' (and the NRC's) stubborn refusal to consider fairly and evenhandedly the possibility that energy conservation--both that which results from consumption cutbacks caused by increased energy prices and that which results from other factors, including public awareness of the energy crisis and the National Energy Policy--will even further reduce any alleged "need" (or market) for the expensive power to be produced by the proposed Midland facility. Regardless of whether an inter-

venor raises energy conservation issues or not, the NRC is affirmatively required to take the lead in exploring and raising such issues, as a matter of its NEPA responsibility, and it has totally failed to do so.

18. Consumers itself admitted to the NRC as early as 1974 that its demand projections were proving to be seriously exaggerated "because of energy conservation". That has continued to be true. Large components of Consumers' demand--for example, residential space heating demand--have actually declined during recent years, and many of Consumers' largest customers have gone on record as committed to a policy of energy conservation and reduced energy consumption. Consumers' "need for power" argument and its demand projections fail to take account of any of these facts, or of any facts concerning energy conservation, including among other things price elasticity, the Federal Energy Administration's program to increase the efficiency of home appliances, the demand-reducing effect of the change in the relationship between average annual residential electric customers' bills and average annual disposable income per household, the continued emphasis on conservation as a result of higher energy costs, the recognition of a continuing energy supply problem, the lack of large new appliances, fewer and smaller homes being added as a result of high construction costs, and the continued low birth rate.

19. Consumers' contention that commercial operation of the Midland plant is needed in order to assure Con-

sumers of meeting its LOLP criterion of one-day-in-ten-years is inaccurate. First, even if Consumers' long-range forecast is correct, a proper consideration of demand factors shows that the 20% reserve requirement projected by Consumers can be met without the Midland plant. Second, the 20% reserve requirement is itself overstated.

20. Environmental submissions by Consumers and Staff have failed completely to discuss or analyze the absolute and incremental effects upon the environment (including cost-benefit and risk-benefit considerations) of the entire uranium fuel cycle, including the production of uranium by means and methods not presently developed, such as, for example, the Liquid Fast Metal Breeder Reactor. This is especially serious with regard to the Midland project, due to, among other things, (a) the possible need to use plutonium, thorium, or other fissionable isotopes; (b) the lack of any long-term contract for fuel or waste disposal; and (c) the inadequacy of storage facilities in light of compaction problems and high density rack problems. Neither the original nor the revised fuel cycle rule or Table S-3 promulgated by the Commission remedies this critical defect, because among other things they were and are illegally and invalidly developed and promulgated, they are not adequately supported by the record developed in connection with their promulgation, they are inaccurate and incorrect, and they fail completely to consider multiple and extremely important issues. For example, it is now known that nuclear waste will be stored on the site of the planned Midland nuclear facility--thus highlighting all of the problems referred to earlier in this Contention--rather than shipped somewhere else. (No alternative storage site has been found acceptable, contrary to one of the fundamental premises on which the NRC's fuel cycle rule is based.) In particular, for the reasons stated in the preceding paragraph, the complete failure of Consumers and the Staff properly to consider and evaluate the absolute and incremental effects upon the environment of the uranium fuel cycle means that

there is no valid Environmental Report in the proceeding, pursuant to NEPA or 10 C.F.R. §§ 51.20 and 51.21, and that no valid cost-benefit analysis has been made or can be made for the proposed facility. Among other things and apart from the invalidity and inaccuracy of the NRC's fuel cycle rule, even if the rule were valid, it has never been applied in this proceeding other than on an improper and ex parte basis.

21. Not only have Consumers and the NRC completely failed to discuss the serious adverse environmental impact of storing nuclear fuel wastes at the site of the proposed facility, including all of the problems identified in Contention 21, but also even if those wastes will be stored somewhere else, the NEPA review is fatally deficient for at no point is there any discussion at all of where (other than on-site) such radioactive wastes will be stored and what burden, absolute and incremental, will be placed upon the storage facilities and the surrounding environment as a result of such wastes. The NRC does not even have a site selected for the disposal of such high-level wastes. Therefore, and as a matter of law, there has been no valid cost-benefit or risk-benefit analysis of the storage and disposition of such wastes.

22. Environmental submissions by Consumers and the Staff admit that low-level solid and liquid radioactive wastes will be generated by operation of the proposed plant,

and discuss in a cursory fashion the fact that the plant itself must ultimately be considered to be radioactive waste for decommissioning purposes. There is an inadequate discussion of the character and environmental effect of such radioactive wastes and (in the sense that separate radionuclides are not listed either quantitatively or qualitatively) there is no discussion of the incremental burden on the environment which will be created by such wastes.

23. Consumers' Environmental Report is grossly inadequate, not only for the reasons stated in Contention 15 above but also because it omits even the minimum necessary information to permit an independent evaluation of the environmental impact of the proposed plant. Among the information omitted, for example, are responses to the more than seventy questions the Staff directed to Consumers under date of May 22, 1978--many of which questions indicate that the proposed facility will not be operated in accordance with the Atomic Energy Act, NRC Regulations, or Consumers' own application.

24. The present site for the Midland facility is not only inappropriate for the reasons set forth in Contention 9, but also affirmatively unsafe. Serious questions have been raised concerning the ground stability of portions of the site. At lease one of the essential buildings of the reactor complex is reported sinking, and construction has been halted on that building. As a result of the serious and unresolved questions concerning ground stability,

the findings required by 10 C.F.R. §§ 50.57(a)(3) and 50.57(a)(6) can not be made.

25. The 880-acre "cooling lake" adjacent to the Midland nuclear facility is inadequate. The Michigan Department of Natural Resources, the NRC Staff, and a member of the Michigan Environmental Review Board have raised questions concerning whether the facility will be able to operate without causing unacceptable low flows in the Tittawabassee River or without causing the plant to operate at less than full power during drought flow conditions. As a result of these serious questions, there can be no assurance that Consumers will be able to obtain a discharge permit from the Michigan Department of Natural Resources, and in addition the finding required by 10 C.F.R. § 50.57(a)(2) can not be made.

26. Consumers has sold or is attempting to sell undivided ownership interests in the Midland plant to others. None of these buyers or potential buyers has been listed as an applicant in any application or amended application for a construction permit or operating license with regard to the Midland plant. As a result:

(a) Consumers' proposed sales, though required if Consumers is to be financially capable of completing and operating the Midland plant, are illegal;

(b) because none of these buyers or potential buyers is or has been a party to the proceedings in these Dockets, the findings required by 10 C.F.R. § 50.57(a)(4) can not be made; and

c) the finding required by 10 C.F.R. § 50.57(a)(2) can not be made.

27. Recently discovered information indicates that the Advisory Committee on Reactor Safeguards conditioned the acceptability of the present Midland site for the project on the existence of a highly effective evacuation system. However, no adequate evacuation plans exist. Aerial surveys of traffic conducted during the construction permit stage of these proceedings, and taken during shift changes, indicated that evacuation in an acceptable time cannot be accomplished. Further, relying on the evacuation plans of Dow Chemical Company is inadequate. During the evacuation following the recent chlorine leak, evacuation procedures were chaotic and all communications were either jammed or ineffectual. In fact, at an NRC conference held in Midland, Michigan on September 8, 1978, both the County Road Commission and the Midland Planning Commission admitted that they have not considered evacuation routes. As a result, the findings required by 10 C.F.R. § 50.57(a)(3)(i) and § 50.57(a)(6) can not be made.

28. There exists a serious water hammer problem regarding pressurized water reactors of the Midland type and involving a variety of components, some of which are critical safety items. These safety related problems have been identified by the NRC Staff as high priority matters, both in NUREG-0410, "NRC Program For The Resolution Of General Issues Related To Nuclear Power Plants" (January, 1978), and the testimony of Staff witnesses M. B. Aycock, L. P. Crocker, and C. O. Thomas, Jr., recently presented in Public Service Co. of Oklahoma, et al. (Black Fox Station, Units 1 and 2),

Dkts. STN 50-556, STN 50-557. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

29. There exists a serious problem regarding pressurized water reactors, including the Midland project reactors, due to the failure of the design for the reactors to consider the effect of an asymmetric loading on the reactor vessel supports resulting from a postulated reactor coolant pipe rupture at specific locations. This is a serious safety problem with regard to reactors of the Midland type, and it is one of priority importance, as is stated in both NUREG-0410 and the Black Fox testimony cited above. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

30. An extremely serious problem existing at Consumers' Palisades plant and likely to occur at Consumers' Midland plant is presented by degradation of steam generating tube integrity due to corrosion induced wastage, cracking, reduction in tube diameter, and vibration induced fatigue cracks. This affects, and may destroy, the capability of the degraded tubes to maintain their integrity, both during normal operation and under accident conditions, such as a LOCA or a main steam line break. The Commission Staff has correctly regarded this problem as a safety problem of a serious nature, as evidenced both by NUREG-0410 and the Black Fox testimony cited above. As a result of this serious

and unresolved problem the findings required by 10 C.F.R. §§ 50-57(a)(3)(i) and 50.57 (a)(6) can not be made.

31. With regard to anticipated transients without scram there exists serious and continuing uncertainty as to how to resolve the problem, to the point where (as appears at p. 10, note 2 of the Black Fox testimony cited above), a Revised Task Action Plan covering the ATWS issue is still under development. However, it is clear from NUREG-0460 (April, 1978), at p. 46, that Babcock and Wilcox reactors--including the Midland reactors--experience the largest pressure rise and thus are the most difficult to modify to achieve adequate safety margins. This matter is a safety issue of high priority, as is apparent from NUREG-0410. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

32. There is no assurance that suitable safety margins will be maintained throughout the design life of the Midland facility with the materials used for reactor vessel fabrication. In fact, there is currently in process and uncompleted an evaluation of reactor vessel material toughness under postulated accident conditions. As is evidenced from the inclusion of this problem in NUREG-0410 as a "Category A" item and from the Black Fox testimony cited above, this problem presents a substantial safety issue with regard to reactors of the Midland type. The NRC staff can not ignore the problem on the basis of an unveri-

fied "assumption" that the ongoing evaluation will not lead to any change in previous conclusions. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

33. As stated in both NUREG-0410 and in the Black Fox testimony cited above, "it is...necessary to reassess the fracture toughness of the steam generator and reactor coolant pump support materials for all operating PWR plants and those in CP and OL review," as a result of the potential for lamellar tearing and low fracture toughness of those materials. The Staff has identified this as a high-priority safety item applicable to reactors of the Midland type. Yet this problem has not been adequately resolved in connection with the Midland project. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

34. There has been inadequate examination of the methodology employed to determine the necessity for using snubbers as component supports in the Midland project, and there has been inadequate consideration of actual and potential snubber malfunction. This is a safety-related problem to which the Staff has attached a high priority, as evidenced by NUREG-0410 and the Black Fox testimony cited above. But despite the existence and importance of the problem, adequate technical specifications and regulatory guides to assure a high level of snubber operability for nuclear plants in general, and the Midland facility in particular, have not

yet been devised. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

35. Although "the ability to detect and adequately size flaws is essential in assuring continued integrity of the reactor coolant pressure boundary and in assessing the margin against failure under various plant conditions throughout the full life of the plant," as stated in Task No. A-14 in NUREG-0410, "significant uncertainties" exist in this regard. This means that, contrary to present practice, the failure probability of a reactor pressure vessel cannot be considered sufficiently low to exclude it from consideration as a design basis accident. The Staff has recognized this problem as one of high priority, and it has obvious safety implications for reactors of the Midland type. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

36. There does not now exist a systematic process to review different nuclear power plant systems (such as containment systems, reactor systems, and the like) to determine their safety-related impact on various other plant systems. Nonetheless, the Staff has recognized that "actions or consequences in one system" might "adversely affect the redundancy or independence of safety systems in another system or systems." Because of the failure adequately to examine the safety-related interrelationships between and

among the various nuclear power plant systems, there can be no assurance that interaction will not, in fact, produce serious safety-related adverse consequences. Yet no systematic process of review has been established to meet this need--even though the Staff has identified the problem (which applies to the Midland plant) as a priority matter, both in NUREG-0410 and in the Black Fox testimony cited above. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

37. The current design criteria for the postulation of pipe breaks and protection therefrom are inconsistent, and have not been justified. In fact, there are presently in process "Staff efforts toward documentation of the rational and engineering justification for the existing pipe break criteria," as set forth in the Black Fox testimony cited above. Thus, new criteria have not been developed and existing criteria have not been fully justified. As shown by its inclusion in "Category A" in both NUREG-0410 and the Black Fox testimony referred to above, this problem has safety implications. It is unjustifiable, and there can be no assurance that it is safe, to license nuclear reactors for operation in the absence of adequate design criteria for the postulation of pipe breaks and protection therefrom. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be

made.

38. Existing main steam line break analyses, both inside and outside containment, are seriously inadequate; with regard to a break inside containment, there is a concern regarding the capability of the equipment to survive such an event to assure safe plant shutdown. The Staff has recognized the seriousness of these problems, both in NUREG-1040 and in the Black Fox testimony referred to above, and the problem is applicable to pressurized water reactors of the Midland type. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

39. 10 C.F.R. § 50.54(o) provides that "primary reactor containments for water cooled power reactors shall be subject to the requirements se forth in Appendix J". But those requirements are, in the language of the Staff in NUREG-0410 and the Black Fox testimony cited above, "conflicting, impractical for implementation or subject to a variety of interpretations by the NSSS vendors, architect-engineers, utilities and the Staff." As a result--again, in the words of the Staff as set forth in the above sources--it is "difficult to determine if applicants and licensees have developed uniformly acceptable containment leak testing programs and for field inspectors to judge the acceptability of a licensees containment leak testing practices." This means that a safety issue sufficiently

important to warrant independent treatment by regulation is, in fact, an open and unresolved problem. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

40. There have not yet been developed adequate qualification methods with which to satisfy the objective of the requirement that all safety-related equipment conform to the requirements established in IEEE Standard 323-1974, "IEEE Standard For Qualifying Class IE Equipment For Nuclear Power Generating Stations." Thus a major safety issue, treated by the Staff as one of high priority in both NUREG-0410 and the Black Fox testimony cited above, remains unresolved for want of adequate equipment qualification methodology and acceptance criteria. This problem is directly applicable to Midland. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

41. Present practice with regard to the Midland facility permits the connection of nonsafety loads in addition to the required safety loads to Class IE power sources, with some restrictions. Those power sources are part of the essential emergency power system, without which significant release of radioactive material to the environment in the event of an accident may occur. But it is unknown whether the connection of nonsafety loads to

these power sources significantly affects the reliability of those power sources. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

42. Since 1972, as the Staff has noted in both NUREG-0410 and the Black Fox testimony previously cited, "there have been over 30 reported incidents of pressure transients in pressurized water reactors which have exceeded the pressure temperature limits of the reactor vessels involved." These transients have been initiated by a variety of causes including, among other things, component failure, procedural deficiencies, personnel error, and spurious valve actuation. This is a safety problem of potentially serious dimensions, applicable to the Midland reactors. Yet there is no assurance that adequate overpressure protection will be provided for the Midland facilities. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

43. At the time the construction permit for the Midland facility was issued, reduction of the vunerability of the Midland reactors to industrial (or other) sabotage was treated as a plant physical security function, and not as a plant design requirement. Thus there is no assurance that the reactors or other critical plant systems are in fact adequately protected against sabotage, including sabotage by terrorist groups. There also does not exist any

coherent basis for evaluating plant design features with regard to protection against sabotage, although the Staff has correctly identified this as a potentially serious problem having safety implications, both in NUREG-0410 and in the Black Fox testimony cited above. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

44. The Staff has recognized, both in NUREG-0410 and in the Black Fox testimony previously cited, that the design requirements for D.C. power systems set forth in NUREG-0305 require reexamination, because of several serious safety-related concerns. That reexamination is underway, but has not been completed. Although the staff has concluded that the failure of D.C. power supplies is only a "small contribution" to core melt probability, this conclusion was based on "preliminary studies utilizing the results and methods of WASH-1400." It is common knowledge that the methodology of WASH-1400 has been extensively criticized, and virtually discarded as worthless, by the Lewis Committee. Thus, there is no assurance that D.C. power systems will not, in fact, fail, and there is also no assurance that such a failure will not present an unacceptable safety hazard. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

45. There is no assurance that the offsite power

system for the Midland facility meets the requirements of General Design Criterion 17 and possesses sufficient reliability to insure the maintenance of vital safety functions during accident conditions. Also, there is no assurance that existing criteria (and in particular GDC-17) are adequate in relation to the susceptibility of safety-related electric equipment to the conditions described by the Staff in Task A-35 in the Black Fox testimony cited above. In fact, until completion of the work identified in Task A-35, "the adequacy of the offsite power source and its interface with the onsite power system" can not be properly determined. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

45. There do not presently exist demonstrably adequate procedures for the movement and handling of heavy loads in the vicinity of spent fuel in the Midland facility. Both in NUREG-0410 and in the Black Fox testimony previously cited, the Staff recognized the need for a systematic review of this subject "to assess safety margins and to improve those margins where warranted;" but this review is not complete. In the absence of acceptable standards and criteria governing the control and management of heavy loads near spent fuel, there can be no assurance that either the design of the Midland facility or the procedures used at that facility are adequate in this regard--particularly in light of the long standing and well documented lackadaisical

approach of the applicant to quality assurance, quality control, and other safety-related matters as set forth in Contentions 1 and 5-7 above. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

46. There is not presently available a radionuclide/sediment transport model which has been field-verified, for use in determining the effect of sediment and aquifer materials on radionuclide transport through the hydrosphere. In consequence, no proper NEPA analysis of this important subject can be made. In addition, as a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

47. There is not presently available an adequate analysis and justification for the approach taken by the NRC Staff to design basis floods, as the Advisory Committee on Reactor Safeguards has indicated and as is recognized in both NUREG-0410 and the Black Fox testimony previously cited. This is a potentially serious safety problem, and is applicable to the Midland reactors, which are situated in close proximity to the Tittibawassee River. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

48. There is no assurance that the design and operation of safety-related water supplies will insure

adequate operation of the systems in the event of extreme cold weather and ice buildup, of the kind which has occurred during each of the past two winters. This is a potentially serious safety-related problem, which could impact the proper operation of safety-related systems and impair the operator's ability to shut down the plant and provide adequate core cooling. The Staff has recognized, in NUREG-0410 and in the Black Fox testimony previously cited, that this problem will affect, among others, the Midland reactors, located in Mid-Northern Michigan. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

44. As the Staff has recognized in NUREG-0410 and in the Black Fox testimony previously cited, occupational radiation exposure to station and contractor personnel has generally been increasing in recent years, and violation of the limits of 10 C.F.R. Part 20 has been avoided by Consumers, as by other licensees, by obtaining the temporary services of transient workmen rather than by devoting adequate effort to reducing exposures. Among other things, this practice results in using larger numbers of people and thereby increasing the risk of sabotage, operator error and similar safety-related hazards. Furthermore, new information on low-level radiation effects indicates that the Midland design basis will not provide safe operation. Accordingly, both because of the lack of assurance that proper exposure levels will be maintained and because of the practice of using transient workers, as a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(8) and 50.57(a)(b) can not be made.

45. In addition to the problems described in Contention 20 above, there is no assurance that existing geometry can adequately satisfy the functional design criteria for the behaviour of fuel element assemblies during accident conditions. The integrity of this assembly is critical for plant safety. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

46. As the NRC Staff has recognized both in NUREG-0410 and in the Black Fox testimony previously cited, the emergency onsite diesel generators at operating plants (including Midland) are not adequately reliable. The causes of the numerous reported failures in emergency diesel generators have not been determined; as a result, all that is known is that this important component of safety systems is not sufficiently reliable. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57 (a)(3)(i) and 50.57(a)(6) can not be made.

47. There do not presently exist adequate safety and environmental acceptance criteria for the replacement of major pieces of equipment, or "mini-decommissionings." In addition, the anticipated costs and funding alternatives for equipment and total facility decommissioning have not been defined, as the NRC Staff has recognized, both in NUREG-0410 and in the Black Fox testimony cited above. This is a serious problem with regard to the Midland facility, in view of Consumers' deficient financial condition, as more

fully set forth in Contention 13 above. As a result of this poor financial condition and the inability of the Staff (or anyone else) to adequately assess the expected costs of a total decommissioning, the requirement of 10 C.F.R. § 50.33(f) can not be met.

48. Unacceptable damage to essertial systems of the Midland nuclear power plant due to turbine missiles can not be ruled out, particularly in view of the fact that there are two, rather than only one, units at the Midland site. No adequate methods presently exist to estimate the probability of damage by turbine missiles, nor does there exist reasonable assurance that the overall damage probability is sufficiently low with regard to the Midland units. The Staff has recognized this problem as one of high priority, both in NUREG-0410 and in the Black Fox testimony cited above. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

49. As recognized by the NRC Staff in connection with Tasks A-40, A-41, and B-24, both in NUREG-0410 and in the Black Fox testimony cited above, there does not presently exist adequate assurance that the seismic design sequence is adequately conservative for all plant sites, including the Midland site. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

50. It is not presently known what safety-related consequences would accrue from a total loss of all AC power for a limited period of time, nor is it presently known (as the Staff has recognized in both NUREG-0410 and the Black Fox testimony previously cited) whether ability to cope with this problem should be a factor in plant design. What is known is that the present generation of plants, including Midland, are not designed to accomodate a total loss of all AC power. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.37(a)(6) can not be made.

51. In late 1975, it was learned that Bechtel--the architect-engineer for the Midland project--had tolerated cases where non-safeguard cables routed in safeguard raceways had been terminated and a new non-safeguard cable (same circuit) had been continued in a different safeguard channel's raceway. So far as appears, at that time Bechtel took no corrective action to prevent recurrence of that problem; made no changes to their design review manual or design procedures; and gave vague answers when asked what assurance there was that other cables did not violate the single failure criteria. Further, in September and October, 1978, it was determined, as a result of a fire test of a full-scale vertical cable tray array, that the configuration of fire protection features used in the test would not be acceptable for application in nuclear power plants. There is no assurance that the same cable problems, and the same

inadequate fire protection features, do not exist in connection with the Midland project. Further, this information strongly indicates that the electrical system in the Midland plant will not function adequately under accident and/or fire conditions. As a result of this serious and unresolved problem the findings required by 10 C.F.R. §§ 50.57(a)(3)(i) and 50.57(a)(6) can not be made.

52. A careful review of NUREG-0410, and of the Black Fox testimony previously cited, shows that over 100 of the generic problems identified therein--many of which constitute high-priority safety items--are applicable to the Midland plant and continue to be unresolved. Under such circumstances, there can be no assurance whatever that the Midland facility can be operated without undue risk to the public health and safety.

53. Consumers' Environmental Report and the cost-benefit analysis for the Midland project completely failed to take into account or adequately discuss any of the facts set forth in Contentions 28-52 above, and were illegally and invalidly prepared to serve as an ex post facto justification for building the plant rather than as an aid to responsible decision-making. As a result, there does not exist a valid cost-benefit analysis or environmental report as required by 10 C.F.R. §§ 51.20(b) and 51.21.

54. As a result of the incomprehensible ACRS report discussed in Contention 8, and as a result of the failure of Consumers' Environmental Report and the cost-

benefit analysis for the Midland project to take into account or adequately discuss any of the facts set forth in Contentions 28 through 52 above, or any of the generic problems identified in NUREG-0410 and the Black Fox testimony previously cited, it is impossible to conduct the cost-benefit analysis required by NEPA and by 10 C.F.R. §§ 51.20(b) and 51.21. None of the ACRS's Midland reports, including the November 8, 1976 Supplemental Report, affords information sufficient to the task of factoring the cost of compliance with ACRS concerns into a cost-benefit analysis; and the same lack of information applies to the matters identified in Contentions 28-52 above and in NUREG-0410 and the Black Fox testimony previously cited.

55. In addition to the failure of Consumers' Environmental Report and the cost-benefit analysis for the Midland project to take into account or adequately discuss the facts set forth in Contentions 28-52 above, and/or NUREG-0410 and the Black Fox testimony previously cited, and in addition to the inability to conclude, in the face of those unresolved issues, that the Midland plant can be operated without undue risk to the public health and safety, no consideration of any kind has been given to the impact upon each other of radiation and chemical hazards, including both chemical hazards of the kind identified in Task B-37 in NUREG-0410 (when joined with the radiation hazards identified in Task B-28 therein), and also including the chemical hazards resulting from the

close proximity of the Midland plant to a major Dow Chemical Company facility. Not only are these radiation and chemical hazards unacceptable when considered separately, but also when taken together they present a "synergic" hazard significantly greater than the cumulative total of their separate hazards. No attention whatever has been given to the problem from either a safety or an environmental standpoint. As a result there can be no assurance that the Midland facility can be operated without undue risk to the public health and safety and there can be no adequate NEPA or cost-benefit analysis of the Midland project.

56. Intervenor expressly incorporates herein by reference, and thereby reasserts Paragraph 9 of the June 5, 1978 Petition for Leave to Intervene in this proceeding, on the basis of which intervenor was granted leave to intervene as a party.

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Intervenor

By: _____
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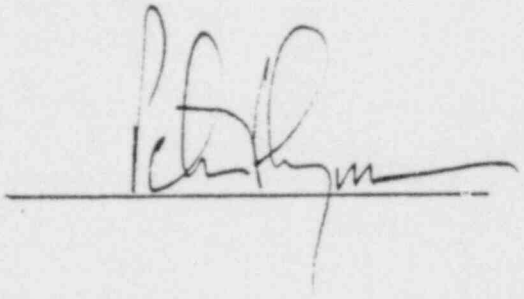
PROOF OF SERVICE

I certify that on October 31, 1978, I mailed the original and 20 copies of the foregoing Contentions of Intervenor Mary P. Sinclair to the Nuclear Regulatory Commission Docketing and Services Section for filing, and that on the same day I mailed copies of said Contentions to the persons shown on the attached Service List, all by first class mail, postage prepaid.



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