



GROUNDWATER STANDARDS AND CLASSIFICATIONS

March 13, 1984

Hearing Officer: The hearing will now come to order. My name is David Howells.

I am a member of the North Carolina Environmental Management Commission. I have been appointed to be hearing officer to preside at this hearing this evening. A copy of the public notice has been filed with the hearing clerk for entry into the official record of this hearing.

This hearing has been called pursuant to General Statutes 143-214.1 for the purpose of inviting public participation in the consideration of proposed amendments and additions to 15 NCAC 2L, Standards and Classifications Applicable to the Groundwaters of North Carolina.

Public notice of this hearing was published in the following newspapers at least 30 days prior to the date of the hearing: The Wilmington Star News; Raleigh News and Observer; Asheville Citizen; Norfolk Virginian Pilot; Winston Salem Journal; and Charlotte Observer. The public notice was also distributed to all persons who have requested to be placed on the mailing list for the Division of Environmental Management and the North Carolina Attorney General. A copy of the public notice has been filed with the hearing clerk for entry into the official record of this hearing.

Copies of the proposed amendments and additions to 15 NCAC 2L have been filed with the hearing clerk and were made available to the public. The proposed effective date for these actions is July 1, 1984. Perry Nelson of the Division of Environmental Management will now briefly summarize the content of the proposed actions which are the subject of this public hearing. Perry.

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Summary

Perry Nelson: Thank you Professor Howells. The issues we are here to discuss today are changes in the Classification and Standards Applicable to Groundwaters in North Carolina that were adopted by the Commission in November of last year and became effective December 31, of last year. The significant summary of the significant revisions or amendments is as follows: In section .0102 under Definitions, the definition for land surface is provided for the purpose of determining the point that which GS water occur. Also in the definitions are definitions for the point and perimeter of compliance with the standards. Under section .0103 the general rules there are a number of significant changes. One, expands upon an explanation of conditions warranting the RS designations to include areas for which a variance has been granted and conditions under which a compliance schedule may be required of the party responsible for the RS designation. Another rule stipulates that variances from a point of compliance may not be granted. Another rule establishes conditions for determining compliance schedules for the clean-up of contaminated groundwaters discussing revocation of compliance schedules and requires implementation of enforcement proceedings prior to the granting of the compliance schedule when violators are willful or intentional. Another rule establishes and defines the perimeter of compliance. The perimeter of compliance is essentially a zone in which the violation of standards are not subject to the penalty provision of the statute but in which monitoring may provide for early warning of eminent violations of GA standards. The zone creates a buffer strip providing for timely remedial actions when violations within the zone are detected. For existing facilities, the perimeter of compliance is established at a distance of 500 feet from the point of discharge, or the property boundary. For new facilities, the perimeter is established at 250 feet from the point of discharge, or 50 feet within the property boundary. Lastly a rule exempts from the regulations upcoming resulting from activities conducted

in compliance with a water use permit and the use of drilling fluids approved under well construction regulations. Those are essentially the changes that are in the adopted standards and classifications that we bring to you this evening.

Dr. Howells: Are there any questions seeking clarification of what has been made available to you relative to these proposed changes? There being none, we will proceed then with the hearing of statements of those people who wish to make them. Only two persons have indicated that they wish to make statements. We'll take those statements first and if there are any others in the audience that wish to make oral presentations, they can do so. The first person to speak is Warren W. Rich. Mr. Rich, would you go to the podium, please, and identify yourself and give your affiliation before you start if you would please.

Warren Rich: I am Warren Rich, Production Manager at Hercofina in Wilmington, North Carolina. Our plant, probably the largest of its kind in the world, employing over 550 employees, manufactures raw materials for polyester fiber and film plants throughout North Carolina, United States, and the world.

We applaud the efforts of the North Carolina Division of Environmental Management for establishing the much needed groundwater regulations for our state. As the staff of the Department knows from our recent meeting with them on February 14, 1984, Hercofina currently has groundwater quality problems brought about by unnatural elevation of the chloride concentration to the groundwater and for that reason we are particularly interested in seeing the revision of the regulations reflect a concern for groundwater quality, not just as a source of potable water but also for industry, if the quality of water required for industry is higher than the potable water standards.

We would especially like to endorse the policy statement contained in subparagraph (a) of .0202 of the Classifications and Water Quality Standards (Subchapter 2L of 15 NCAC) which reads as follows:

"It is the policy of the EMC, however, to protect and maintain the existing quality of groundwaters where that quality is better than the assigned standards."

Our concerns for groundwater quality in the vicinity of our plant have been well documented in our letter to Mr. Helms, Director of the North Carolina Environmental Management Commission, dated December 12, 1983, incorporated herein by reference, to which attention is respectfully directed. Our recent letter of March 7, 1984, proposing revision to the new groundwater regulations, further reflects this concern not only for ourselves but for other industries in our state.

We strongly recommend that the Board and Staff consider the Hercofina recommendations to the groundwater regulations not only in light of the current Hercofina groundwater contamination problems but in the broader sense for protecting the groundwater quality of our state and for the state of North Carolina's industrial community today and in the future. The economic and social future and well-being of our state may well depend on proper protection of North Carolina's groundwater for our citizens and for our industries. We thank you for your kind attention and consideration in this matter.

Dr. Howells: Thank you, Mr. Rich. We have a copy of statement here which will be made a part of the record. The next person wishing to make a statement is Mr. Harry M. Peek. Mr. Peek, welcome home.

Mr. Peek: Thank you. Here's a copy of my statement.

Dr. Howells: Thank you.

Mr. Peek: I appreciate the opportunity to get to talk about protecting groundwaters of North Carolina. I haven't had the chance to do this recently. My comments are submitted as part of the record of the hearing on the above subject which is Standards Applicable to Underground Waters in the state of North Carolina, on March 13, 1984.

I will start off by objecting. I have some objections here. I'd like to object first to Professor Howells serving as Hearing Officer for this hearing because I believe he has serious conflicts of interest in this matter.

First, he is chairman of the Groundwater Committee of the Commission, and in this capacity, he has final determination of the content of the proposal.

Second, he is a proponent of land disposal of waste, which is becoming, and will be one of the greatest and most serious sources of groundwater pollution. Minimizing the restrictions of this type activity could be personally and economically beneficial to Professor Howells and his colleagues at the Universities, who serve as consultants, to the polluting industries.

I also object to the highly irregular procedure of the Director of the Division of Environmental Management in placing the proposed regulation into effect almost four months prior to the public hearing and period of public comment required by before adoption by EMC. This was placed into effect in December. This hearing makes a mockery of the statutory public hearing process, and the Attorney General, if this is now legal, he should stop it; it is illegal in the Legislative if it is allowed.

What was Mr. Helms' urgency in opening the door for legalized pollution of the state's groundwaters in the guise of "protection"?

I also object to the process used in the development of the proposed regulations. They were not prepared, as is evident, by professional groundwater hydrologists, in consultation with other scientists and environmentalists having a commitment to groundwater management. They are not based on sound scientific judgement with regard to future water conditions in North Carolina. In effect, the regulations were prepared under the guidance of representatives of the industries to be regulated.

The introductory section .0101 (b) allows most of the activities that are principal sources of pollution to continue unimpeded. In addition, existing and potential groundwater pollution would be legalized by permits, variances, and arbitrary administrative procedures, almost to an unlimited extent. Groundwater pollution at most permitted sites would be out of control within a few years, as it already is in many places. Owners of property adjacent to or

near many permitted sites would lose water and property rights under the proposed regulations. For example, they could not develop their groundwater resources and water supplies without migration of the pollutants onto their property, and eventually into their water supplies.

With regard to the positive statement that Mr. Rich mentioned earlier I have a question here: What is existing quality? It doesn't say natural quality, it says existing quality. It could be already polluted. I mean so, this is, this is something that certainly does not belong in this place, but how and when is this existing quality determined; before or after pollution? Although it proposes to add protection to the water, its not consistent with the general regulations nor are some of the standards that we have. For example, the absurdity of the standard for chloride is a good example.

Natural chloride concentrations throughout most of North Carolina are generally less than ten milligrams per liter. Generally around 3 to 8 somewhere in that range. The chloride standard in the regulation is 250 milligrams per liter, the maximum allowable concentration recommended by EPA for drinking water, and 25 or more times the natural concentrations of existing chlorides. What is special, What special interests generates the need to allow such pollution as a standard? Dr. Howells should be able to answer this question, as the standard was increased to this level at his insistence.

Adoption of appropriate groundwater standards and classifications is probably the most important action the Environmental Management Commission will ever take with regard to long-range protection of both surface and groundwaters. If we pollute the groundwaters, then you already have the surface waters polluted. Therefore, it is urgent that this critical decision be postponed until suitable regulations can be prepared in keeping with the interest of all the people of the state.

The commission is urged to appoint a panel consisting of professional groundwater hydrologists, public health officials, water supply engineers and

representative of recognized environmental organizations to develop and recommend standards and regulations that will protect the groundwaters of the state and allow sane management.

It is recommended that the responsibility and administration of all regulations to protect the groundwaters--our basic source of drinking water--be transferred to the Division of Health Services of the Department of Human Resources.

In summary, this is a very bad and highly irresponsible regulation. The citizens of North Carolina deserve and can have a much better response from state government than is represented here. Thank you sir.

Dr. Howells: Mr. Peek, you've made a whole lot of allegations in here, you provided no basis for those allegations. You made very little comment on the substance. You worked around the periphery with inferences concerning the motivations of the people involved. Your testimony would've been far more effective if you had limited yourself to the specifics of this hearing, which is to hear comment on the specific proposals. It's regrettable you didn't confine yourself to that. Are there any others in the audience who would care to speak at this time. I ask again, are there any others who wish to speak at this time. Okay.

*Man in Audience: May I ask a question?

Dr. Howells: Yes.

*Man: I didn't hear Mr. Peek's affiliation.

Dr. Howells: Mr. Peek was former head of groundwater in the Division of Environmental Management. I think you retired what six weeks ago or something like that. Is that correct?

Mrs. Peek: He was head of groundwater when the first old water resource started, 19 years ago.

Dr. Howells: Yes, well we are not going to open it up for that sort of discussion. Well, if there are no further comments or questions for the hearing officer, we'll close the hearing with no further comment at this time. For persons wishing

to comment after the date of this hearing, the record will remain open for 30 days after which time the hearing officer will consider all comments and any other relative information and submit her recommendation to the Environmental Management Commission. The hearing stands adjourned. Than you all the coming.

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Carolina Power & Light Company

[Carolina Power & Light submitted comments for the record in an April 2, 1984 letter which included by reference a previous letter, dated 28 December 1984. These comments are summarized below.]

Comment: The proposed amendments are "necessary and important in making the groundwater regulations workable and effective." Supports these changes.

Response: Noted.

Comment: (Carolina Power & Light comment on HercoFina's requests to modify the regulations to 1) protect the quality of the groundwater to a degree higher than drinking water quality if industrial uses require it; and 2) establish a maximum allowable incremental increase in a contaminant (over background levels) in addition to a maximum numerical standard.)

Carolina Power & Light believes that the regulations as proposed are very stringent, and that "regulations to protect specialized uses of the groundwater resource such as HercoFina has proposed would be neither reasonable nor equitable."

Response: The staff believes that the regulations as proposed meet the Commission's directive that the groundwaters be protected to quality required for their "best usage," drinking water. Changes to protect other uses requiring higher quality waters may be considered at a later date. It is believed that the regulations as written are currently adequate to protect specific high quality groundwaters on a case by case basis through the Antidegradation provision.

Comment: CP&L submits further information on the HercoFina/CP&L issue.

Response: This is available for review upon request.

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Comment: Mr. Peek objects to Mr. Howells serving as Hearing Officer for this hearing because he believes "He has serious conflicts of interest in this matter..." "He is a proponent of land disposal of waste... minimizing restrictions on this type of activity could be personally and economically beneficial to Professor Howells...."

Response: Mr. Peek objected to Mr. Howells serving as Hearing Officer on the basis of alleged conflicts of interest. The first allegation pertained to the dual roles of serving as Chairman of the Commission's Groundwater Committee and as Hearing Officer. Both appointments were made by the Commission Chairman and are viewed as serving the best interest of the Commission and the State of North Carolina. The second allegation was that Mr. Howells was a proponent of land treatment of wastewater and that he would benefit economically from the effects of the proposed regulations on land treatment. Mr. Howells only activity in this area was to propose and coordinate a task group effort involving technical experts in State and local government and the university community to develop guidelines for the land treatment wastewater. The guidelines are expected to upgrade the practice of design and operation of such systems and will further the protection of groundwater resources. Mr. Howells has never served - as alleged - in any consulting capacity involving land treatment systems and has no economic interest in the proposed regulations and outcome of the Hearing.

Comment: Mr. Peek objects to the highly irregular procedure of the Director placing the draft rules in effect as a matter of policy prior to their final adoption.

Response: The Environmental Management Commission adopted new groundwater classification and standards in November 1983. These new rules apply to both existing and new sources of pollution. After adopting the new rules, the Commission instructed the Director of the Division of Environmental Management to take public comments on the new rules and to determine what further revisions were appropriate.

On December 20, 1983, the Director announced that he would propose that the Commission conduct a public rule-making proceeding and adopt certain appropriate revisions. The Director simultaneously announced that he would interpret and enforce the new rules consistent with his proposed revisions. The Director's interpretation and enforcement policy establishes fairness as a consideration in the administration and enforcement of the new rules. For existing sources of pollution, the new rules do not state how and where the Director should enforce the new classifications and standards. The proposed revisions address this issue. If adopted, they would establish a perimeter of compliance around existing sources of pollution. The Director would not assess civil penalties for present groundwater quality standards and classifications violations, but instead he would issue clean-up orders or obtain injunction. If a violation is found outside a perimeter of compliance, the Director could assess civil penalties or could issue clean-up orders or obtain injunctions, or all of these. By implementing this policy, the Director retains his control over existing sources of pollution, including the power to require pollution's elimination, but he will not assess civil monetary fines and penalties against those existing sources of pollution when the pollution is only within the established perimeter of compliance.

Comment: Mr. Peek charges that the regulations "were not prepared...by professional groundwater hydrologists...are not based on sound scientific judgement...were prepared by...the industries to be regulated."

Response: The proposed groundwater regulations were prepared by the Groundwater Section staff. Experts from the industrial community, local governments, and environmental groups were also consulted in the development process. The groundwater standards for GA waters are taken virtually verbatim from the National Interim Primary Safe Drinking Water Standards. The Groundwater Standards are more stringent than NIPSDW standards, since GW standards set zero, or the naturally occurring level, as the legal level of a contaminant for which a safe numerical value has not been developed. The Groundwater Section has on its staff a number of professional hydrologists who were instrumental in developing these regulations. While perhaps not yet perfect, these regulations are sound, scientifically justifiable, and significantly strengthen the Division's ability to protect the groundwaters of the state from contamination.

Comment: Believes the chloride standard is too lenient, at 250 ppm, since chlorides are naturally quite low in most of North Carolina.

Response: The Groundwater Section staff believes that the chloride standard should be the subject of further study to determine if the level of 250 ppm is the best level at which to set the chloride limit. 250 ppm is the National standard for drinking water. It is primarily a taste threshold standard, since levels four or more times the standard are still "safe." Even so, naturally occurring chloride levels are dramatically below this standard, generally. The statewide average is probably around 20 ppm. While groundwater staff feels comfortable that the proposed chloride standard is safe, based on national studies, we agree that this standard would allow significant degradation between what is naturally occurring and the point where the standard would be violated.

Comment: Thinks .0202(a) should refer to "natural" rather than existing quality.

Response: This reference to "existing" quality concerns the Commissions' intent to protect groundwaters to at least the level guaranteed by the standards, and to protect groundwaters currently better than the standard to their current "existing" high quality. This reference will not in any way perpetuate prior pollution but allow protection beyond the level of quality set by the standards.

Comment: Proposes that all responsibility for groundwater protection be transferred (from the EMC) to The Division of Health Services of DHR.

Response: To transfer groundwater classifications and standards responsibilities to DHR would require statutory amendment of 143-214 et seq.

Comment: Calls these regulations "very bad and highly irresponsible."

Response: Noted, but strongly disagree.

The U.S. Army Corps of Engineers

Comment: The Corps submits two major proposals:
 The first proposal is to amend these regulations by exempting dredge spoils disposal activities from the requirement to comply with ground-water standards by inserting the following language in .0103(i)
 Exemptions:

"The use of upland diked disposal areas for containment of dredge materials where it has been determined that no threat will occur to public health or safety."

Response: To the first proposal, the exemption of dredge spoils: The staff finds that an exemption of certain dredge spoils disposal activities may merit further consideration. While a wholesale exemption of this activity is not in the public interest, due to documented impacts on drinking waters from spoils disposal, it is likely that further study may identify areas and quantities where dredge spoils disposal has only insignificant impacts, meriting a conditional exemption from the standards. At present, adequate data to make such a determination is unavailable.

Comment: The second proposal is to expand "the perimeter of compliance" concept to include a mixing zone.

Response: To the second proposal, of an expanded "mixing zone" concept: A surface water-type mixing zone is inapplicable to groundwaters, since contaminants in the groundwaters are not naturally treated, as occurs in streams, but are rather stored. Except for some dilution, groundwater contamination persists for extremely long periods of time with relatively little "natural" attenuation. The GB zone is itself a "mixing zone" allowing twenty feet in depth from the land surface to provide opportunity for attenuation of the impacts of land uses and surface discharges before reaching the GA waters. In addition to the statewide twenty foot GB "buffer zone", the regulations also allow a 250 or 500 foot penalty-free zone to allow early detection, clean-up and provide the opportunity for contaminants which will dissipate naturally to do so. The staff feels that this regulatory relief from the strict application of the standards is adequate. This is particularly so since case by case application for additional relief is available through the variance provision in GS 143-215.

Conservation Council of North Carolina

Comment: Concerned over the highly irregular procedure in issuing an interpretive rule putting these regulations in place. CCNC hopes this procedure will not be used again.

Response: The Environmental Management Commission adopted new groundwater classifications and standards in November 1983. These new rules apply to both existing and new sources of pollution. After adopting the new rules, the Commission instructed the Director of the Division of Environmental Management to take public comments on the new rules and to determine what further revisions were appropriate.

On December 20, 1983, the director announced that he would propose that the Commission conduct a public rule-making proceeding and adopt certain appropriate revisions. The director simultaneously announced that he would interpret and enforce the new rules consistent with his proposed revisions.

The Director's interpretation and enforcement policy establishes fairness as a consideration in the administration and enforcement of the new rules. For existing sources of pollution, the new rules do not state how and where the Director should enforce the new classifications and standards. The proposed revisions address this issue. If adopted, they would establish a perimeter of compliance around existing sources of pollution. The Director would not assess civil penalties for violations of groundwater quality standards within the perimeter of compliance, but instead would issue clean-up orders or obtain injunctions. If a violation is found outside a perimeter of compliance, the Director could assess civil penalties or could issue clean-up orders or obtain injunctions, or all of these. By implementing this policy, the Director retains his control over existing sources of pollution, including the power to require pollutions' elimination, but he will not assess civil monetary fines and penalties against those existing sources of pollution when the pollution is only within the established perimeter of compliance.

Comment: Recommends that a "well" (prohibited from waste discharge to the groundwaters) be defined as any point source.

Response: To define all point sources discharging to the groundwaters as wells would, the staff believes, go beyond the intent of the statutory authority for these regulations. While the term "well" may need to be further defined in 143-214, it is unlikely that the waste discharge prohibition referring to wells was meant to be so all encompassing.

Comment: Recommends that the rules be drafted to require that the applicant for a variance show the need for the variance by "clear, cogent, and convincing evidence." A variance should only be granted in the most extreme circumstances.

Response: The burdens of proof and the procedures and showings necessary for a variance are well defined in the law. The staff does not believe that additional language here is necessary. The staff supports the CCNC recommendation that variances only be granted in extreme cases, and thinks that the Commission's policy on variances is the same.

Comment: It appears that any amount of pollution within the perimeter of compliance is allowed. CCNC believes that perimeters of compliance present "intractable practical difficulties and should be dropped."

Response: Unlimited pollution is not permitted within the perimeter of compliance. For the purpose of permit conditions, clean-up, monitoring, and Commission consideration of the necessity for remedial action, the groundwaters within the perimeter of compliance are considered to the classified waters of the state subject to the standards. Any concentration of a contaminant that reaches a level of 50 percent of the standard within the perimeter of compliance will result in staff action under these regulations. It will not result in an immediate fine only for the violation, but in other administrative or Commission action.

Comment: It must be made clear that no pollution of the groundwater is legally tolerated, except in extreme circumstances of hardship. CCNC recommends that landfills, waste lagoons, scrap and coal piles, and other sources of groundwater pollution be dealt with in the regulations.

Response: These regulations and the standards they promulgate apply to all groundwaters and all sources of groundwater contamination. If a landfill, lagoon, or any other source causes or contributes to a violation of standards, these regulations obligate the Division of Environmental Management to take any necessary action, including requiring elimination of the discharge and clean up of the pollution as necessary.

N.C. Department of Agriculture

Comment: Recommend that in the final sentence in .0101(b), first paragraph, that the words "to GA waters" following the words "specific problems."

Response: The addition of the reference to GA waters in this sentence is not objectionable in any way, but staff feels that it is unnecessary.

Comment: Recommend that the reference to the Department of Agriculture in .0101(b) (4) be deleted, since DOA does not have authority over waste treatment activities.

Response: Section .0101 (b)(4) refers to waste disposal or other activities. The staff feels that the Department of Agriculture regulatory authority over structural pest and pesticide/herbicides makes this reference meaningful.

Comment: HercoFina proposes that in addition to specifying the maximum contaminant levels of some contaminants under .0202, a maximum allowable incremental increase in a contaminant also be established, to protect quality where it is better than the assigned standards.

Response: The staff thinks that this suggestion has merit. Such an increment was a part of the original standards adopted in 1979. However, there is questionable ability in some cases to determine background, so proving an incremental increase violation is more difficult than in the case of a numerical violation. In addition, The Antidegradation Statement which protects the existing level of quality where that quality is better than the standard will accomplish much the same result. The staff recommends that this suggestion be given further consideration. It may be that an additional classification, for even higher quality waters than drinking water uses require, is an issue that should be studied.