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Filed: April 27, 1987

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

before the

ATOMIC SAFETY AND LICENSING BOARD

In the Matter of TEXAS UTILITIES ELECTRIC COMPANY et al. (Comanche Peak Steam Electric Station, Units 1 and 2	Docket Nos. 50-445-OL 50-446-OL 50-445-CPA (Application for an Operating License)

APPLICANTS' COMMENTS IN RESPONSE TO "PROPOSED ORDER CONCERNING STANDARDIZED COMPUTER FILING FORMATS"

In its *Memorandum and Order (Proposed Order Concerning Standardized Computer Filing Formats)* entered April 3, 1987, the Board directed the parties to submit comments by a date subsequently enlarged at the request of various parties through April 27, 1987. The Applicants submit herewith their comments.

As set forth in the first section of these comments, the *Proposed Order* contains what the Applicants believe to be ambiguities and uncertainties regarding technical matters that have made it impossible for those responsible for providing the Applicants with a technical interpretation of the *Proposed Order* and for providing the Applicants with technical advice and assistance to reach conclusions about

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the possibility and the feasibility of implementation. The Applicants trust that the Board will find these technical observations helpful, since if any order of this sort is to be implemented, the technical details must be framed in a fashion that technical people can comprehend without uncertainty.

In Section II, the Applicants set forth some technical matters that have been detected by counsel (relating to the "pretest" disk submitted by counsel) as well as some information regarding the word processing systems in use by the Applicants that may be of assistance to the Board.

Notwithstanding the Applicants' inability to take a position on the possibility or feasibility of implementing the *Proposed Order* (at least pending resolution of the technical questions), certain non-technical respects in which the Applicants would suggest any order of this type requires modification before it should, and perhaps before it permissibly can, be entered have been identified. These are set forth in Sections III and IV of these Comments.

I.

Assessment of the possibility of compliance, the feasibility of compliance, and the acceptability of compliance with an order of the type of the *Proposed Order* begins, as it must, with an understanding of what is proposed. Where, as here, the subject matter is highly technical (involving machines with no capacity for anything

other than perfectly literal compliance with instructions), the elimination of ambiguity and uncertainty are both particularly important and oftentimes troublesome.

The *Proposed Order* has been referred to those responsible for the implementation of automated document production within the offices of the undersigned. These experts have detected a number of questions regarding the *Proposed Order* that have frustrated achievement of the required comprehension. These questions (which include some comments and observations based on the authors' experience in the field) are attached hereto and made a part hereof. The Applicants respectfully suggest that, before requiring any of the parties to commit to possibility, feasibility and acceptability, the Board might wish to consult with its own technical advisors, consider the points raised in the list of questions, and revise the *Proposed Order*. In any event, because of the interpretational uncertainties set forth in the list of questions, the Applicants' have been unable to determine whether compliance with the *Proposed Order* would be feasible, or even possible, and for this reason alone the *Proposed Order* necessarily is, at least as it now stands, not acceptable.

II.

A. At page 6 of the *Proposed Order*, the Board refers to a diskette submitted by the Applicants thus:

> "Applicants already have sent a disk for us to test for use in our own computer files. The disk

contained a document done in Wordstar[1] without footnotes."

This information is incorrect, and we hasten to correct it lest the Board's experimentation be impaired.

The disk in question contained *three* "text files." One (denominated "ASLBTEST.1") was originally created on an XT-based system, using WordPerfect 4.2. It was then "printed to disk" using one of the built-in routines in that software. In that process, all print enhancements such as underscoring were lost and, had they been included in the original, footnotes would have been lost (both call and text). This particular document employed a pitch of 12 cpi and a corresponding right margin of more than 79. End-of-pages are signalled by use of ASCII Code 012.

The second file (denominated "ASLBTEST.2") had been created on an XT-based system, using PC-Write 2.7, and was again "printed to disk" using one of the built-in routines. In this case, all printer "escape sequences" were maintained, including those representing underscoring, superscripts and boldface.[2] Had the document contained footnotes, they would have appeared as formatted on the page,

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[1]It is perhaps appropriate, and possibly required, to note at this point that the terms "Wordstar," "WordPerfect," "IBM," "PC," "XT," "AT," "DisplayWrite," "Multimate," "AT&T," "Q-One," "DOS," "UNIX," and "Text Pack" are all registered trademarks of concerns unrelated to the Applicants.

[2]The phrase "spacing codes" contained in Mr. Eggeling's letter to Mr. Whetstein of March 11, 1987, appears to be a transcription error for "escape codes" or "escape sequences," which was not caught in the proofreading.

including the printer escape codes for the superscripted calls.[3]

The third file (denominated "ASLBTEST.3") was originally created on an IBM mainframe, using one of two proprietary software programs presently in use on the mainframe. The data files maintained on the mainframe bear no resemblance to data files maintained by a PC running under DOS. This file was created in the manner described in Mr. Eggeling's letter; however, the product of the mainframe-to-PC download program captures on disk everything that would have been sent to a so-called daisy wheel printer. Format enhancements such as superscripts and font changes are lost; underscoring is accomplished in a unique fashion.[4]

We do not support or employ WordStar and never have.

B. For the information of the Board, the following summarizes the word processing systems employed by Texas

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[3]The print routines in PC-Write 2.7 and 2.55 differ in that the latter also sends the escape sequence for printer reset at the beginning of each line, followed by the escape sequence for the printer font selection (if any) then in force. The "print to disk" routines in both versions are what are sometimes, perhaps more aptly, called "disk capture" routines. Neither version of PC-Write is presently in use by the undersigned; previously both versions were employed.

[4]The line containing underscored text is reproduced without underscoring or coding. At the end of that line, a "carriage return" code (ASCII 013) is sent without a "linefeed" code (ASCII 010), following which are simple underscore characters (ASCII 095) surrounded by sufficient spaces (ASCII 032) such that, were the two lines to be superimposed, the underscoring would appear to be in the proper position on the resulting single line. This mirrors the fashion in which the original daisywheel printers accomplished underscoring.

Utilities and Ropes & Gray:

At the moment, Ropes & Gray relies primarily on an IBM mainframe, employing one of two different word processing programs. The firm expects to complete a shift to an AT-based system employing WordPerfect (and utilizing the mainframe in the nature of a "file server") within approximately 6-12 months; this system is being employed now on a limited basis that happens to include some of the personnel engaged in the *Comanche Peak* matter. The capabilities of these systems to address the matters contained in the *Proposed Order* are addressed in the attached technical questions.

In Dallas, Texas Utilities employs three systems: an AT&T-based system using a software package called "Q-One," and PC/XT-based systems utilizing either DisplayWrite 3 (the software) or Multimate. While it is believed that the PC/XT-based systems have some capability for creating "ASCII" files, exploration of the capabilities of these systems to meet specific technical requirements awaits resolution of the matters contained in the technical questions referred to in Section I.

At the Comanche Peak site, Texas Utilities employs two systems: dedicated IBM DisplayWrite systems (using a software package known as Text-Pack 4) and PC/XT-based systems utilizing DisplayWrite 3 (the software). As above, while it is believed that the PC/XT-based systems have some

capability for creating "ASCII" files, exploration of the capabilities of these systems to meet specific technical requirements awaits resolution of the matters contained in the technical questions.

As of the time of these responses, information concerning the systems employed by various contractors who might be expected to produce pre-filed testimony or documents that might be offered into evidence as exhibits has not been compiled.

III.

As the Applicants understand the *Proposed Order*, it contemplates optional electronic filing of subsequently submitted pleadings together with the submission of a "paper copy" in a highly unusual format. Unclear, however, is whether the extraordinarily formatted paper copy was intended to be *in addition to* or *in lieu of* the official written submission to the Commission (meeting the provisions of the Rules of Practice and employing standard typographic conventions).

If the Board intended to supercede the usual rules and practices for the format of printed materials, then the Applicants object, and respectfully suggest reconsideration, for reasons wholly in addition to the matters set forth in the technical questions referred to in Section I. Some of the proposed format strictures would appear to be in conflict with explicit requirements of the Commission's

Rules of Practice. For instance, 10 C.F.R. § 2.708(b) requires substantial margins at the left and right of printed (or typewritten) text. This provision, common to most fora, has two purposes: to render the resulting submission something tolerable to the eyes of those who must study the document, and to facilitate such mundane but nonetheless essential clerical functions as filing and binding.

In a similar vein, many of the strictures that may (subject to resolution of the technical questions) have been intended by the *Proposed Order* to be imposed upon the official written filings would deny to the parties a number of means of written expression, such as underscoring, italics, bold face, the use of section signs and paragraph signs, and possibly also the use of footnotes.[5] Wholly apart from the necessity of such "print enhancements" if presentable documents are to be created, many of these are legitimate devices for such things as emphasis, and it seems unsound that parties in this proceeding should be denied

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[5]Footnotes generally serve two purposes. One, more common to scientific than to legal writing, is to permit the collection of authorities separate from the text. The other is to provide a means of expressing essentially appositional ideas that, while not structurally permissible in the text to which they attach, are nonetheless important if not crucial to the message. Physically remote endnotes, while acceptable for the former function (and presumably acceptable in a *copy* of a legal pleading maintained for archival and search purposes) defeat the second function and thus deny to counsel a legitimate, accepted and important means of communication.

means of expression available to parties in other proceedings before the same agency, as well as traditionally available to and availed by parties in litigation generally.

Third, whilst presumably the *Proposed Order* intends to impose special requirements only on pleadings filed with the Licensing Board, the fact of life in most contested NRC Operating License proceedings is that filings are being made more or less simultaneously in several fora: the Licensing Board, the Appeal Board, the Commission itself sitting as an adjudicatory tribunal, the Staff in its executive and enforcement roles, and perhaps also the Commission in its executive and policy-making roles. Experience teaches that this proceeding will follow the normal course. The format contained in the *Proposed Order*, if intended to be the *exclusive* mode of written submission, would not be acceptable in those other fora -- and it is simply not fair to expect parties to maintain two different systems (or to keep two different sets of rules in mind) for the same case.

Frankly, this requirement of uniformity of pleadings requirements, an intrinsically sound proposition, is also a reasonably implicit requirement of the Commission's Rules of Practice.[6] For this reason, the Applicants respectfully

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[6]Indeed, given that the record assembled in the Licensing Board becomes the record employed in subsequent stages of the litigation hierarchy, it would appear to be impossible to impose format restrictions that would not impact outside of the Licensing Board sphere. The Commission's rules for written submissions, therefore, simultaneously affect the Licensing Board, the Appeal Board and

submit that, whatever the power of the Board under 10 C.F.R. § 2.718 to require all parties to make *additional* paper filings in odd formats, the Board has not been conferred authority to alter the format for the official Commission filings in the manner contemplated in the *Proposed Order*.[7]

IV.

Wholly apart from technical matters, the *Proposed Order* suggests two issues to which the Applicants feel a response is required.

First, while the precise intentions of the Board are unclear, the *Proposed Order* appears to contemplate that extraordinary filing requirements might be imposed upon the

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the Commission, since all three may be required to deal with the same record. It necessarily follows that uniformity and consistency of written filings format are essential, and it would seem then to follow that only the Commission, acting with supervisory authority that cuts across forum boundaries, should and perhaps can make such far-reaching changes in the requirements for written filings.

[7]In this context, it is worth recalling the observations of the Court in holding a particular procedural innovation be impermissible where attempted on an *ad hoc* basis:

> "[The statutory provisions surrounding the rule-making powers of the Court are] designed to insure that basic procedural innovations shall be introduced only after mature consideration of informed opinion from all relevant quarters, with all the opportunity for comprehensive and integrated treatment which such consideration affords."

Miner v. *Atlass*, 363 U.S. 641, 650 (1960). To ignore these sound observations is to sow the seed of chaos. 12 Wright & Miller, *FEDERAL PRACTICE AND PROCEDURE* §§ 3152-53 (1973 & Supp. 1986).

parties in a non-uniform manner, that is to say, that some of the parties would be required to make special filings from which other parties would be excused. The Applicants are aware of no authority for such disparate treatment and object to it, both on the grounds of disparate treatment *simpliciter* and on the ground that it is fundamentally unfair to permit CASE to obtain any advantages against the Applicants that might derive from the availability of electronic submission by the Applicants which the Applicants cannot obtain against CASE in like fashion. If the ability to perform electronic word searches on other parties' pleadings has any value, then the Board can only enter an order that makes this value available to all of the parties on identical terms.

There seems to be little doubt that fulfilling the aspirations out of which the *Proposed Order* arises will impose extra costs and burdens on the parties; should it be determined by competent authority that such costs and burdens are nonetheless appropriate, however, they must apply to all equally and it is legally insufficient for CASE to claim or the Board to conclude that CASE warrants special treatment on account of resources concerns. "It is a basic principle that 'a person who invokes the right to participate in an NRC proceeding also voluntarily accepts the obligations attendant upon such participation.' . . . Moreover, 'the fact that a party may have personal or other

obligations or possess fewer resources than others to devote to the proceeding does not relieve that party of its hearing obligations.' . . . Finally, '[i]t is well-settled that a participant in an NRC proceeding should anticipate having to manipulate its resources, however limited, to meet its obligations.'" *General Public Utilities Nuclear Corp.*, (Three Mile Island Nuclear Station, Unit 1), LBP-86-14, 23 NRC 553, 558-59 (1986) (citations omitted).[8]

Second, the *Proposed Order*, after encouraging the parties to consider refiling of previously filed documents in electronic form, contains the following statement:

> "We would particularly appreciate the *refiling* of the CPRT [Program] Plan and the Results Report in electronic form."

Proposed Order at 7 (emphasis added). Wholly apart from the feasibility of converting previously created documents to electronic media,[9] the Applicants submit that the Board is in error regarding the status of the CPRT Program Plan and the Results Reports prepared in implementation thereof.

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[8]Indeed, such disparate treatment for the purpose of alleviating burdens might transgress both Congressional limitations on intervenor assistance and Commission actions implementing the same, which, if applicable, would be fully binding upon the Licensing Boards. See *Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Units No. 1), ALAB-625, 13 NRC 13, 14-15 (1981).

[9]As some of the notes contained in the technical questions display, the burden of converting historical documents to electronic media in any quantity would be enormous; as a general proposition, for electronic filing to be feasible, the requirement therefor, and the specifics regarding technical details, must be established prior to the creation of the official written submission.

None of these documents has been "filed." None of them has been offered into evidence; none is in evidence; and prior to the commencement of hearings, there is no means by which they might become in evidence. Rather, as we believe was stated in the letters transmitting these materials to the Board, this material was provided to the Board for information only. At such time as hearings resume on the Operating License application, those documents on which the Applicants will rely to establish their entitlement to an operating license will, through appropriate sponsoring witnesses, be offered into evidence in accordance with the Commission's Rules of Practice. The assumption that anything else is properly before the Board for anything other than information, or that anything else might properly be the basis for any aspect of a Board decision, is, we respectfully submit, not correct. 10 C.F.R. § 2.743. See also, *e.g.*, *Pacific Gas & Electric Co.* (Diablo Canyon Nuclear Power Plant, Unit 2), 8 AEC 1184, 1187 (1975) (the findings of the Licensing Board must be supported by reliable, probative and substantial evidence in the record).

Conclusion

For the reasons and in the respects set forth herein, the *Proposed Order* should be clarified and reconsidered. Prior to clarification, the Applicants are unable to conclude that compliance with the *Proposed Order* would be possible, feasible or acceptable, and the Applicants therefore object to entry of the *Proposed Order* in its present form. The Applicants object to the entry of any order that imposes additional or special filing or submission obligations that are not imposed upon all parties uniformly.

Respectfully submitted,

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April 27, 1987.

TECHNICAL QUESTIONS AND COMMENTS
ON
"PROPOSED ORDER CONCERNING STANDARDIZED
COMPUTER FILING FORMATS"

Set for below are a number of questions and apparent ambiguities about the proposed format, both for paper and for electronic filing, identified with respect to the referenced document. Pending resolution of these questions, our ability to accomplish the stated task, and the costs of doing so, cannot be completely determined.

Document Format (page 2)

(Note that this section appears to set requirements for hard copy (paper) filings. As such, what is implicated is less our capacity for translating documents into electronic or magnetic medium, but (i) our ability to convert to a new paper format and (ii) the impact such conversion would have on existing firm word processing protocols.)

1. Pitch parameter - Pitch refers to the number of characters per inch of a printed document. Does this mean proportional fonts cannot be used?[10]

2. Spacing - If all spacing is double, what is the format for block quotes and tables imbedded in a document? (See note re: "Alternate Format," below.)

3. Tab Settings - In the ASCII file that is to be produced, are tabs supposed to be expanded to spaces (ASCII code 32) or are they to remain as tab characters (ASCII code 09). Different software appears to handle these codes in different ways when printing an ASCII file to disk.[11]

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[10]For documents produced on the IBM 6670 Laser printers (ATMS and LML documents), the "pitch" is 10 cpi or 12 cpi. For documents produced on PC-compatible printers, we have been experimenting with typefaces and fonts in 10 and 12 cpi fixed pitches and a Times Roman or similar proportionally-spaced "pitch." Our intention is to standardize upon the proportionally spaced fonts on account of enhanced readability and general appearance.

[11]Note that the expansion of tabs to spaces is essentially a one-time process, in that, once expanded, the spaces used to simulate tabs are not easily convertible back into tabs. Tabs are generally used in word processing

4. Margins - In the printed text, are we actually going to begin text in the 2nd position and end in the 80th? Please note that most software insists that the 80th character position be unoccupied except by either a CR (ASCII 010) or the CR/LF combination (ASCII 010, 013). How does wordwrap in WordPerfect with its carriage returns and linefeeds affect this? We are uncertain that our laser printers will print to these margins, either at all or consistently.[12]

   Please note that printed documents produced with these margins could not be filed in any of the physical systems we presently use (3-ring binders or ACCO binders). What would be required would a separate-file-folder-per-document system. In addition, the reproduction of documents with such margins would be quite unreliable, since xerographic copying machines cannot copy to the extremes of the input page.

   Please note that the memo, while specifying a page length of 66 lines (11 inches at the standard 6 lpi), does not specify a length of the type page (top and bottom margins, both including and

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software in order to facilitate reformatting of an entire document (or portion of a document) by adjusting the implemented tab spacing. (Otherwise, someone must manually increase the spacing by which tabbing is simulated in each case where a tab is used.) All of our software (ATMS, LML and WordPerfect) uses tab codes instead of expanded spaces. When ATMS and LML are converted to "straight ASCII" via the "print redirect" function, tabs are expanded. Likewise, we believe WordPerfect can "print to disk" either way, but the disk capture routine, if employed to as to be able to retain ASCII 009 tab codes will also faithfully capture all other printer and format special characters and escape sequences.

[12]Typically, laser printers will not print to the very edge of the paper since the print capability of the laser is determined, not by the physical transportation either of a print head over the paper or of the paper under the print head, but by the physical dimensions and attributes of the photometric medium (usually the "drum" but in some cases a "belt") that laser printers employ. We have never encountered the 2-80 margins called for in the memo you gave us, and some experimentation will be required to see if we can meet them.

excluding headers and footers).[13]

Please note also that the memo is silent on the acceptable means of formatting the end of a page in a text file.[14]

Please note that for the "5520" print format, a 12 cpi pitch is specified and the margins are 12 and 90. Since an 8.5 inch paper width equals 102/12ths of an inch, this translates into 1-inch left and right margins and is inconsistent with the 2-80 margins specified for 10 cpi pitch. Could there be an error in the memo?

5. Footnotes - The called for "end notes" are not implementable on LML.[15] Conversion of footnotes in ATMS will require manual editing. Conversion of footnotes to endnotes in WordPerfect can be effected automatically by use of a set of "macros" that have been written and are now being tested. Note, however, that in all of these cases, the "call" in text is implemented via superscripting, and the memo is silent as to how superscripting is

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[13]Note that the limitation of laser printers and copying machines also applies to top and bottom margins as well as left and right margins.

[14]There are two methods in wide use. One uses ASCII code 012, which is recognized by most printers as a "form-feed" or "eject page" code and which is often (but not always) considered acceptable in a "straight ASCII" text file. The other method uses a series of CR/LF ASCII codes sufficient in number to simulate the blank lines following the text (and footer) on one page and at the top of the following page. (A third convention ignores page breaks altogether and simply strings the text together as an un-page-formatted block. This method does not identify page breaks or page numbers.)

Both ATMS and LML use the CR/LF method. WordPerfect uses the ASCII 012 method. Insofar as we are aware at the moment, neither can be adjusted to use the other method.

[15]LML will remain the primary R&G word processing system until the conversion to WordPerfect is completed, in approximately 6-12 months.

to be handled.[16]

6. Alternate Format - When is this format used? Is it up to the individual and can formats be switched midstream, within the same document?

7. Document Conversion - Neither the memo nor your instructions indicate whether the special format hard copy to be submitted with the new format is in lieu of standard paper production or in addition to it. If the latter, recoding of documents produced on the LML or ATMS systems is likely to be a substantial job (after the secretary or Word Processing has produced the document in R&G standard format).[17] Conversion of all the documents heretofore produced under the symbols TUE-2 and -4 and still on disk or tape would be a huge and costly -- and mostly manual -- undertaking that could not be done using existing R&G personnel resources.

Transmission Standards (page 3)

8. ASCII Conversion - What is the range of ASCII codes you feel is true ASCII conversion? Does it include the full IBM PC ASCII character set (255 codes)? The full IBM PC "7-bit" set (127 codes)? How are special characters, such as paragraph and section signs (ASCII codes 20 and 21) to be handled? How are underlining, boldface, italics, superscripts and subscripts to be handled on the

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[16]Note that the so-called "straight ASCII" print to disk function included in the WordPerfect special printing options deletes all reference to both the content and the call for footnotes. Our special macros preserve both but relocate the text of footnotes to the end of the file, following an ASCII 012.

[17]Recoding in WordPerfect is likely to be easier, since it would appear that a WordPerfect "macro" could be fashioned to accomplish many of the changes globally. Once again, however, a good deal of experimentation will be required before we can opine on the possibility or feasibility of such conversion, after we have received clarification of the items noted herein. You should also bear in mind that full R&G conversation from LML and ATMS to WordPerfect will not be accomplished for 6-12 months.

conversion?[18] If underlining is permitted, which linefeed and/or carriage return characters are expected before the underline and after?[19]

9. Modem Transmission - It would be very helpful to know what hardware and software is being used for asynchronous transmission. The speed of the modems and whether any hardware or software error checking protocol will be available are important in determining whether or not to send floppy disks. It has been our experience that over conventional analog long distance phone lines, errors will occur with sufficient frequency as to make transmission worthless without an error correcting protocol. We have installed hardware MNP error correction to eliminate glitches, but this is compatible with only a few types of modems. Is this protocol supported? If not, are any of the so-called "error-free" software protocols supported?[20]

Indexing Requirements

10. DOS Filenames - Is there any naming convention for the PC-DOS filename, and is there any relationship to the document index number imbedded on the first line of text?

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[18]Note that, in producing an ASCII disk from LML or ATMS, underscoring is handled by ending the line containing alphanumerics with a simple CR (ASCII 010) without LF; then a line with the underscore character (ASCII 095) surrounded by sufficient spaces such that, when the two lines are superimposed, the underscoring appears in the correct position. This is a function of the mainframe word processing heritage derived from the use of "Selectric" element or "daisy wheel" printing. WordPerfect files stored in WordPerfect format handle these format applications in a straightforward, but proprietary, manner; WordPerfect files "printed to disk," at the user's option, either (i) eliminate these formatting implementations altogether or (ii) contain the embedded low-order or escape sequence ASCII codes appropriate to the printer for which the program has been configured (i.e., disk capture of exactly what would have been sent to the printer port).

[19]See note 9.

[20]Such as X-Modem, X-Modem CRC, or Hayes.

11. Upper Case - On the first 8 lines of the document, does it make any difference if the letters are upper case, lower case, or mixed?

12. Toplines - We assume that the memo means only that the "index" lines are to be the first lines on the page that contain any characters other than a CR/LF sequence. As noted above, few if any of the printers we use can actually begin printing at the physical top of the page.

13. Index Number - The memo implies that the index number is to be supplied by R&G when the document is created (rather than by the NRC when the document is received). Please note that, based on our experience, the likelihood of duplicate and missing (unused) numbers is extremely high. This is true regardless of whether one attempts to determine the number at the "first draft" stage (which will result in frequent missing (unused) numbers or only at the "final production" stage, which will result in duplicate numbers. Can the NRC system accommodate missing (unused) numbers? Out of sequence numbers? Duplicate numbers? How are numbers to be amended or revised? If a document is revised on account of production (word processing or reproduction errors) does one use the same number, a new number, or the combination of the old number plus a serial suffix (such as "-A")?

14. Index Numbers - Please note that the index number description on pages 3 and 4 of the memo have us confused. It appears that the same document could have as many as three different index numbers (i.e., a document intended by a party to be an "exhibit," which later becomes "admitted"). Administration of such a system could be quite labor intensive and error-prone, and it is not something that the 31st floor would want to be responsible for.[21]

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[21]Please note that a more conventional system for handling such a problem would use a so-called "many-to-many" database index structure, which would assign a single unique number to the document itself, and then maintain parallel numbering systems and status codes via the "many-to-many" database. Such systems, which antedate computers, work quite well. They would also enhance the administration and utilization of keywords for searching.

15. Date - There is a potential ambiguity in the required date format for the document header. In the memo (page 4), the stated format is MM/DD/YY. On the header on the memo itself, however, the format employed was YY/MM/DD. The latter format, though unconventional in printed documents, is often employed by database designers to facilitate simple date sorting without the need for multiple-key sort routines. Which is to be employed?[22]

16. Keywords - Does each keyword have its own line or are the keywords strung together with delimiters? If so, what is the delimiting character? Are spaces following a delimiter required? Permitted? Is the line ended with a CR/LF after the 29th or 30th position?

17. Keywords - We note further that the memo neither supplies nor contemplates a fixed list of "keyword" selections, rather leaving to each submitter the free choice of keywords. Given that the utility of keywords depends upon a high correlation of a given keyword to the same concept, our experience suggests that in such a "free form" this system carries a high risk of failing to achieve its intended purpose.

18. Additional Keywords - The directions regarding additional keywords (memo, pages 5-6) are unclear. What is the definition of "paragraph" as there employed: is the type-line width still limited to 30 characters? Do the lines end with the CR/LF sequence? How is the end of the paragraph delimited?

Electronic Filings (page 7)

19. What floppy disk formats will be accepted? Do we assume capability on the receiving end of using disks meeting the format conventions of PC-DOS 3.1 and 3.2? We use both 360K and 1.2M 5.25" floppy diskettes and 720K 3.5" floppy diskettes, and our PCs are variously configured with PC-DOS 3.1 and

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[22]Please note our experience that when such an unconventional format is dictated for use by non-computer people, it is subject to a high rate of errors, which is likely to require revisions and recoding once detected by the database administrator. (Recall our experience trying to implement "full field" entry of file symbols in the on-line photocopy controllers.)

3.2 (with 3.1 predominating except on those machines equipped with 3.5" drives).[23] If 360K floppies are the only ones accepted, how does one handle a double spaced document, printed to disk in ASCII, that exceeds 360K?

20. Modem Transmission - We will require a list of parameters for modem transmission, such as baud rate, parity, data bits, stop bits, automatic linefeed generation, the protocol used, and the software package that will be receiving documents. Based on prior experience, a series of tests should then be set up after the above information has been received.

21. Optical Character Reading - As you know, we have been experimenting with OCRs for many years. It is our experience that only selected fonts are supported and only certain printers work well. We will need more information about the printers and fonts supported, whether laser, daisy wheel, or matrix printers are all usable, and whether the OCR stipulates the original copy of the document. It would also be helpful to know if any character enhancements (e.g., underlining) and special characters (e.g., paragraph signs and section signs) are supported.

Personal Computer System (page 8)

22. More detailed information on their computer system and peripherals would be helpful. (See notes above regarding operating systems and communications software and parameters.) Further details on the Compaq Model and the modem configuration would be helpful if we are expected to support both machines.

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[23]Note that IBM/Microsoft is about to announce the availability of PC-DOS 3.3 the enhancements of which (in addition to the ability to employ multiple DOS partitions on a single hard disk) are not yet known and therefore haven't been evaluated. We therefore do not yet know whether we will be upgrading to 3.3 or what, if any, disk format compatibilities with other releases might be implicated.

CERTIFICATE OF SERVICE

I, R. K. Gad III, hereby certify that on April 27, 1988, I made service of the "Applicants' Comments in Response to 'Proposed Order Concerning Standardized Computer Filing Formats'," by mailing copies thereof, postage prepaid, to:

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