

Note: "EMTP Review" was a short-lived newsletter for users of the DCG/EPRI EMTP. Funded by EPRI, this was published by Prof. Willis Long of the University of Wisconsin in Madison. The misinformation was not appreciated at BPA, as the following official, public rebuttal by Mr. Hasibar, BPA's representative on the DCG Steering Committee through the end of 1987, shows. This article filled page 13 of the March, 1988, printed issue of "EMTP News" (published by LEC in Leuven, Belgium).

#### BPA MEMBERSHIP IN DCG --- A SUMMARY

Robert M. Hasibar  
Bonneville Power Administration  
Post Office Box 3621  
Portland, Oregon 97208  
U.S.A. Phone: (503) 230-3808

The October, 1987, issue of the EMTP Review had some inaccuracies regarding BPA's position in DCG. It's important to clarify these items as they may be misleading to some readers.

Reference to BPA as "leaving DCG" is inappropriate. One year ago, DCG was scheduled to expire at the end of 1987, and it still is today. BPA is satisfying all of its EMTP commitments in full through the final day of the DCG Agreement of formation.

Under the "proprietary code" issue of the article, it must be noted that "key individuals" at BPA include all the resources of management, EMTP developers, users, and all pertinent contractual and legal personnel who have been involved in this effort. It should not be concluded that there is any division within BPA on this important point.

Reference to the statement "BPA continues to fund development of the BPA version for the benefit of non-DCG/EPRI members and an international group of users," is false. Although BPA computer programs may be used by others, and BPA cannot be blind to such benefits, this is hardly the reason for BPA support of program development. BPA develops all of its programs for its own use. Sometimes it is advantageous to cooperate with others in order to leverage the investment (the original intent of BPA involvement with others in DCG). However, the purpose is not to supply software to others. Rather, it is to obtain better computer programs for the use of BPA engineers. The EMTP is not now, and never has been, an exception to this general BPA policy.

There is nothing in the DCG Agreement that either requires or encourages the sale of the EMTP to private corporations. In fact, this policy came relatively late in DCG's existence. During 1983,

DCG agreed that the EMTP proper would be kept in the public domain. DCG reversed this policy a year later. The original world-wide cooperation was rapidly halted once others learned of the commercial designs of DCG/EPRI.

Reference to BPA "reclaiming" part of its original commitment is untrue. As of the end of 1987, there will be nothing to reclaim, since BPA will have satisfied all of its manpower and financial obligations through the last day of the Agreement. There have been many subjects proposed by BPA to the DCG for approval, but DCG chose not to endorse such efforts with its financial support.

Lastly, it is misleading to state that "All other DCG members and associates have agreed to extend the DCG to December 31, 1990." No written contract to this effect existed when Mr. Mader's article was distributed during October. If DCG is to be extended to 1990, a written amendment is required. Since BPA is presently a DCG member in good standing, it is entitled to consider any proposed amendment along with all other DCG members. BPA has seen a proposed amendment, but nothing in final form. To state that all other members have agreed to extend to 1990 is not true.

Note: A lot more than the preceding complaint from BPA was wrong with "EMTP Review" and the organizations (DCG and EPRI) for which it provided EMTP propaganda. The following separate, longer article was recovered from pages 31 through 40 of the March, 1988, issue of "EMTP News" (published by LEC in Leuven, Belgium).

#### RECENT PROBLEMS WITH CREDIBILITY OF DCG/EPRI EMTP REVIEW

W. Scott Meyer  
The Fontaine, Unit 6B  
1220 N.E. 17th Avenue  
Portland, Oregon 97232  
U.S.A.

#### Abstract:

The two most recent issues of EMTP Review [1] contain serious misinformation. The initial, obvious objection to the October (1987) issue centered on DCG Chairman Mader's article, which purported to explain disagreements between BPA and DCG about EMTP development. But there are other disturbing details, too. The closer one looks at the content of EMTP Review (beyond the slick electronic publishing and printing that is used), the sloppier it appears. The January (1988) issue was published next, with an official rebuttal from BPA conspicuous by its absence. Instead,

one sees only "some corrections" by Chairman Mader, which further reveal the intentions of those now in effective control of EMTP Review. The present article examines such matters in minute detail. It is a long story, but an important one. Readers who want to understand why EMTP development is no longer unified today would be well advised to take the time to study the issues in detail. This present article provides a starting point for the general public to understand disagreements over EMTP development that have been largely hidden from public view since 1982.

### Background of Concerns about Credibility of EMTP Review

Note that authorship of this present article is personal rather than corporate in nature, meaning that no organization (e.g., the author's employer) is responsible for the opinions expressed. This has the advantage of avoiding limitations on free expression that might be dictated by organizational politics.

EMTP Review [1] is a newsletter that is dedicated to the EMTP development of DCG (the EMTP Development Coordination Group) and EPRI (the Electric Power Research Institute), hereafter abbreviated as DCG/EPRI. It is understood that EMTP Review is financially subsidized by DCG/EPRI, and that effective editorial control lies with DCG and/or EPRI, too. First appearing last year, EMTP Review has no connection to either BPA, or LEC (the Leuven EMTP Center of the European EMTP User Group). Nor is there any business or editorial connection between EMTP News and EMTP Review. Whereas EMTP News serves royalty-free EMTP users of the BPA and ATP EMTP versions, EMTP Review serves users of the commercial DCG/EPRI EMTP.

The second issue of EMTP Review was read with considerable consternation by personnel who are associated with royalty-free EMTP development, including those at BPA. Dated October, 1987, this 6-page issue is serialized as Vol. 1, No. 2. The most obvious objection was to the article entitled "DCG Update. DCG membership changes," written by DCG Chairman D. J. Mader. It is important to emphasize that no one associated with EMTP development at either BPA or LEC knew anything about Chairman Mader's manuscript prior to its publication. An official BPA rebuttal was submitted to EMTP Review in time for the following issue (Vol. 2, No. 1, dated January, 1988) by BPA's Robert M. Hasibar, but the BPA text was not printed by EMTP Review. Well, at least EMTP News is still available for such important information (see Hasibar's article in the March, 1988, issue).

In order for the reader to follow the disagreement between commercial and royalty-free EMTP forces, he really should have his own copy of the October issue of EMTP Review. It would have been

easier if the article by Chairman Mader could have been reprinted in EMTP News along with the BPA rebuttal. Unfortunately, as this paragraph is being frozen for publication on March 4th, the editors of EMTP News still have not received permission from EMTP Review. Therefore, mindful of possible copyright protection [2], only limited quotations from EMTP Review will be used. To see the precise context, the reader is encouraged to obtain his own original copies of EMTP Review. Enough have been printed and distributed free of charge.

#### Explanation of the Official BPA Rebuttal by Hasibar

Hasibar's 2nd paragraph objects to DCG Chairman Mader's assertion that BPA would "leave the Development Coordination Group at the end of 1987." What are the facts? The DCG Agreement does provide for possible "Termination of Membership", but this BPA right was never invoked [3]. What does apply to BPA is expiration of the DCG contract. The original Agreement establishing DCG provided for expiration at the end of 1986, when all EMTP development was to have been completed. But DCG was not functioning as planned (or as required by written contract, it should be added). Rather than correct obvious contractual violations, and begin work in a coordinated and efficient manner, proponents of the DCG status quo chose to apply a bandage: the expiration date of DCG was quietly delayed by amendment until the end of 1987. But even this was not enough (the latest DCG talk mentions the end of 1990). In October of 1986, BPA formally and legally announced that it would not extend its commitment any further. For the record, December 31st of 1987 passed without any written amendment to the DCG Agreement (see the final paragraph of this section for additional observations).

Hasibar's 3rd paragraph refers to the following sentence by DCG Chairman Mader: "Proprietary code is the most public issue between DCG/EPRI and key individuals within BPA." Why did Chairman Mader not simply refer to "SPA," rather than to "key individuals within BPA?" After all, when Chairman Mader talks about DCG policy, he does not refer to "key individuals within DCG." The author concurs with Hasibar that Chairman Mader's sentence carries with it a possible implication of division within BPA. Hasibar's rebuttal, approved for publication by the Director of BPA's Division of System Planning, is intended to dispel any such illusion.

Hasibar's 4th paragraph begins with the objectionable quotation of Chairman Mader. Since U.S. government agencies have restricted purposes by law, and these do not generally include charity for others (particularly those outside the USA), it should not be difficult to understand why Chairman Mader's

characterization was unappreciated by management at BPA. Had the author not personally lectured Chairman Mader about FOIA (see the next paragraph for more details) during March of 1983, and were English not the native language of Chairman Mader, it might be easier to overlook Chairman Mader's erroneous statement. For more about this point, see paragraph 2 of Section IV.

Hasibar's 5th paragraph only touches on problems of DCG/EPRI with its desired EMTP commerce. The trouble is both interesting and fundamental. It is well worth summarizing for those who have no knowledge of the details. Chairman Mader had written that "The original DCG Agreement ... made allowance for proprietary results, enabling us to attract significant private resources to our effort." At best, this opinion by Chairman Mader is incomplete and deceptive. What proponents of proprietary EMTP development typically fail to mention is that the DCG Agreement does not supersede U.S. law. Not only is this fact intuitively obvious, it also was written explicitly into the DCG Agreement as a separate Article 9 [4]. DCG/EPRI had intended to sell U.S. government work as the sole source, and it so advertised to the general public during 1984 and early 1985. Yet such a plan was in obvious conflict with FOIA (the U.S. Freedom of Information Act, which is a part of federal law within the USA). The conflict was officially determined on behalf of the U.S. government by BPA during March and April of 1985, as required by U.S. law (in response to a FOIA request). All DCG members and EPRI were notified in writing by BPA at the time of BPA's consideration, and were given an opportunity (an extra, exceptional 10-day delay in BPA's decision) to present evidence and/or arguments about why BPA's then-current EMTP (disk file UTPF40.DAT) should not be disclosed as requested. No such relevant evidence was received by BPA, nor was BPA's preliminary decision to disclose UTPF40.DAT appealed by any DCG member or EPRI. Under U.S. law, appeals first could have been made to BPA, then to the U.S. Department of Energy in the nation's capitol, and finally (if still unsatisfied), to a U.S. court. No such appeal about BPA's EMTP disclosure was ever made, and none can now or later be made (the opportunity for appeal passed during April of 1985). Any reader who wants to research such details is advised to consult Reference [5].

Hasibar's 6th paragraph refers to the extraordinary inability of DCG to spend BPA money. Five full years after the DCG project of EMTP development began, only about 1/3 of the BPA commitment of \$200K had been spent. How DCG Chairman Mader's figure of \$60K can be reconciled with this BPA fact will be left to the reader's imagination (creative accounting by DCG would seem to be required!). That most of BPA's commitment of money was never used by DCG certainly is not BPA's fault, since there was no shortage of projects for which BPA sought DCG endorsement. These included the EMTP Theory Book (a BPA contract with Prof. H. W. Dommel) and

all-new control system modeling (a BPA contract with the TACS inventor, Laurent Dube). Yet DCG has refused to share such costs with BPA. The author can only speculate that the inherent conflict between public-domain resources of BPA and proprietary resources of Canadian DCG members is a major contributing factor to the financial paralysis of the DCG Steering Committee since 1984.

Hasibar's 7th and final paragraph mentions the need for a written amendment, if DCG were to be continued beyond the end of 1987. This would seem to be based on the well-known general principle that, by law, contracts of U.S. government agencies must be in writing. The author personally has heard such an opinion stated by the BPA Contracting Officer who is associated with the DCG Agreement. Also, the author also has attended a one-day BPA course on government contracting during which it was stated repeatedly that oral agreements are forbidden, and do not bind U.S. government agencies. So, the interesting EMTP legal question of 1988 would seem to be the following: How can other U.S. government agencies (two of the other five members of DCG) extend a contract that already has expired? At best, details of the alleged DCG extension through the end of 1990 are curious and unorthodox.

#### Additional Objections to the October Issue of EMTP Review

Hasibar's objections address only those points that reflect on EMTP decisions of, and conduct by, BPA representatives. But there could and should be many other objections to the October issue of EMTP Review, as remaining paragraphs of this section will document.

The October issue of EMTP Review begins with a story that has nothing to do with DCG or EPRI, although the unsuspecting reader might well not have observed this detail. Whereas EMTP Review describes itself on page 5 as "A newsletter providing information on current developments in the DCG/EPRI version of the Electromagnetic Transients Program," an investigation has revealed that the dominant article of the October issue does not conform to this description. Occupying two of the three columns of the cover page, and all of page two, is an article entitled "Signal processing using EMTP at Minnesota Power." At the end of the article will be found the names M. B. Marz and D. L. Carlson of Minnesota Power and Light (MP&L) in Duluth, Minnesota. Could Minnesota Power really be using the DCG/EPRI EMTP? This seemed unlikely to the author, considering the sizable royalty that would have been required (\$48K for the first year, supposedly including maintenance). The author eventually reached Mike Marz by telephone on November 12th, and confirmed his suspicions. Summary details from Mike Marz are as follows. First, Minnesota Power does not

now, and never has, used the DCG/EPRI version of EMTF for its studies. Instead, a derivative of BPA's "M39." UTPF is being used [6]. The Marz-Carlson article does not mention either DCG or EPRI because it is not associated with either of these two organizations or their commercial EMTF software. When the author inquired why the Marz-Carlson article had been submitted to EMTF Review rather than the more logical and relevant EMTF Newsletter (now EMTF News), Mike responded that the article from Minnesota Power was solicited by an EPRI representative. An interesting detail is that Mike had first seen a final copy of his article (i.e., as published by EMTF Review) during early November, whereas the author and his LEC partners received a copy in Leuven, Belgium, via the October 23rd mail! A final curious detail is about unapproved modifications by EMTF Review. Mike said that his original text was altered to remove a relevant detail about future releases of PTI's PSS/E software. The removal was made without his knowledge or approval, it would seem. Beyond such deliberate distortion, the failure to obtain an author's permission for alterations carries the obvious danger of typographical or other mechanical errors. Needless to say, EMTF News should never be so irresponsible. To the best of the author's recollection, the EMTF Newsletter never was during the period of his involvement (prior to commercial conflicts that began during the spring of 1984).

The present commercial inclination of DCG is obvious from DCG Chairman Mader's opinion that "... it is impossible to solicit significant commitments of resources from private corporations unless they are assured that the new code versions will be proprietary." Yet one must challenge the relevance of such an observation. Why was it necessary to raise more money? Also, how did "private corporations" enter the picture? For the record, none of the original six signatories of DCG is "private" in the sense of a company that must compete in the open market on equal terms with well-known capitalistic software developers of the industry. Three of the six are agencies of the U.S. government.

According to DCG Chairman Mader, "The fees charged for the new code versions will always be insufficient to recover the development cost. Our purpose is not to make money, ..." Well, the author has no trouble believing that the present DCG/EPRI program to develop EMTF has been a financial disaster. He is in personal contact with many EMTF users around the world, and has yet to hear of the first purchase at prescribed royalties. However, it is far from obvious that this was the original intent of DCG/EPRI planners! Where is the evidence? Also, precisely how many copies of the DCG/EPRI EMTF have been sold at advertised royalties?

Chairman Mader explained that BPA has objected to "tardiness of some DCG members in fulfilling their manpower commitments to DCG." Yes, this remains a sore point. The Agreement did not

provide for contributions after expiration, so Chairman Mader's assurances that "all commitments ... will be fulfilled ... by the end of 1990" is an insult to the reader's intelligence. Gross violations of the DCG contract were involved. Since there was a provision in the 1985 amendment for alternate payment via money, there was no legitimate excuse for the continual delays (initially, the delinquent member used the excuse that it could not find the available manpower to fulfill its obligation). The official minutes of DCG Steering Committee meetings are filled with unsuccessful attempts to encourage the one DCG member to begin working during 1982 and 1983. BPA has been particularly dissatisfied with Chairman Mader's continued attempts to excuse missing work by giving credit to the problem member for work that purportedly was performed before the formation of DCG in 1982. Such attempts are not ancient history, either (Chairman Mader was still trying last year).

Chairman Mader's section entitled "Control and ownership" is revealing of modern DCG/EPRI philosophy. After explaining why DCG was organized, Chairman Mader refers to "The subsequent involvement of CEA and EPRI, ..." What a creative attempt to rewrite EMTP history (sarcasm)! For the record, CEA and BPA were two of the six original DCG signatories in 1982. Chairman Mader goes on to observe that "Other organizations have made significant financial and manpower contributions and deserve a voice in setting control and ownership policy." It is true that ASEA and CRIEPI have made significant financial contributions to DCG, and it might even be argued that they "deserve a voice." Unfortunately, they were not granted effective voices by DCG (only the six original signatories are voting members). As for "ownership" of EMTP, this is a new concept. Nowhere in the DCG Agreement can one find any mention of the EMTP being owned by anyone. The paragraph preceding Article I does provide reasons for the impending association, and ownership is not among them. In 1982 and before, when EMTP development was unified, the EMTP was owned by no one. At that time, EMTP was in the public domain, meaning that it was freely available to anyone in the world, regardless of nationality or purpose. The reader should ask himself whether the worldwide electric power industry really has been well served by the costly and slow EMTP development of DCG and EPRI during the last five to six years. The author does not believe so.

Chairman Mader concluded his October article with the hope that AEP would become an associate member of DCG "by the fall of this year" (1987). But when responsible EMTP parties within AEP were contacted about this matter on February 18th, it was learned that AEP had signed no agreement related to membership in DCG. Besides, fall has come and gone long ago. The betting in Portland is that a contract making AEP a member of DCG never will be signed [7].



Availability of the EMTP Theory Book from BPA was inaccurately reported by EMTP Review in column 2 on page 3. For the record, neither EMTP developers nor EMTP users at BPA were consulted about this announcement. Since the author and his colleague carefully published conditions of availability a year earlier [8], the modification of EMTP Review was not appreciated. About availability, EMTP Review stated only that "Copies of the reference manual may be obtained by writing to: ...." No where to be seen was the carefully-worded BPA limitation to one copy per organization in unorganized regions of the world, and one copy per EMTP User Group (BPA recognized five). Finally, it should be noted that the BPA Post Office box does not correspond to the postal code (for the correct one, see Hasibar's article). Is it asking too much for EMTP Review to verify its information before it publishes, rather than after (by complaints about errors)? This is particularly true when it volunteers the services of others (in this case, the author) without permission.

The inability of DCG/EPRI "specialists" to explain the error with Marti transformation matrices is revealing. Consider the first item in column 1 of the Technical Advisor's Report on page 4. This concerns an LEC discovery that now is nearly two years old. Ir. Guido Empereur first reported the trouble, and its correction, to the author during the spring of 1986. Next, the error was independently diagnosed at BPA by Edwin Liu during the summer of 1986. For the record, Edwin had been told that there was some trouble with the transformation matrix, but not precisely what it was, or where it was (still LEC secrets at that time). Edwin was advised only to be alert as he studied the EMTP code of LINE CONSTANTS, CABLE CONSTANTS, and JMARTI SETUP for other reasons. Next, half a year after his original discovery and correction, Ir. Empereur showed evidence of the error at the 1986 LEC Meeting. With the approval of this gathering, Ir. Empereur and a K. U. Leuven student then published such evidence in the EMTP Newsletter [9]. The cause of trouble, and the correction, were not revealed, however. Note carefully the response of DCG/EPRI's Technical Adviser, who at that time still was co-Editor of the EMTP Newsletter. Prof. Dommel added the following "Editors' note" to the bottom of page 23: "The possible improvements, mentioned by the authors of above article, already have been made by both J. Marti and L. Marti at UBC (Vancouver, Canada). The latter have been asked to describe the theory behind these improvements in the next issue of the EMTP Newsletter." For the record, rather than "a possible improvement," a serious error was involved. Well, not only did the following issue of EMTP Newsletter not contain any explanation from Vancouver as promised, neither has any following issue. Why? If DCG/EPRI's Technical Advisor really knows what was or is wrong, why was the information not forthcoming, and why does he now equivocate? Quoting from the January issue of EMTP Review: "The matrix coming out of Version 1.0 of the DCG/EPRI EMTP seems to

produce acceptable answers." Carefully note use of the word "seems" rather than "is," and "acceptable" rather than "correct." The same confusing declaration could have been made about BPA's EMTP between 1982 and 1986 (no one noticed the trouble with JMARTI SETUP until the gross error was discovered by LEC). For the record, a casual inspection of the source code of DCG/EPRI EMTP Version 1.0 by an expert who understands the problem has revealed no obvious correction of the error. Maybe DCG/EPRI's Technical Advisor could provide further "clarification" in some future publication?

#### The January Issue of EMTP Review: More Problems

DCG Chairman Mader supposedly tried to clarify and correct some of his October mistakes in the January issue of EMTP Review. Entitled "Some corrections," Chairman Mader's article begins on page 2 and ends on page 3. Considering that it was written with full knowledge of Hasibar's rebuttal, it is even more objectionable than the October article. The remainder of this section discusses details.

Chairman Mader tries to excuse his gaffe that is the subject of Hasibar's paragraph 4. Chairman Mader would change just a single word of his writing. We are told that "for" should have been "to" (preceding "the benefit of ..."). Whereas the original "can be misconstrued" (Chairman Mader's observation), the modified version somehow is clear? The author is dumbfounded by such logic. He would appreciate being informed of where to find an explanation of such a distinction in some dictionary or other reference work of the English language.

Although Chairman Mader does mention the 1983 DCG decision to keep the UTPF in the public domain, his explanation of changes since then is inadequate. Why not just honestly admit to a change of DCG philosophy (from public to private)? Stating that "the current policy of DCG ... is consistent with this original decision" (of 1983) is nonsense. In 1983, all simulation code and all supporting programs of the EMTP were to remain in the public domain. Today, DCG/EPRI maintains that such code is proprietary. If this is consistent, black is white, and water naturally flows uphill (sarcasm)!

The current commercial motivation of DCG/EPRI is openly acknowledged by Chairman Mader in his closing paragraph. He writes: "It is appropriate to charge fees to organizations not participating in the development; otherwise, there is no incentive for DCG/EPRI to invest its own resources." This is most interesting: "no incentive" (not less incentive, or little incentive, but rather, NO incentive). Unless others can be charged

fees; there is no motivation for DCG members or EPRI to work on the EMTP? To what a collection of mercenaries was the EMTP delivered in 1982?

A fundamental error in the management of DCG since 1984 is the DCG failure to separate its own work from that of EPRI. Also, work of DCG or EPRI was not separated from that of the U.S. government (particularly BPA). For purposes of relevant U.S. law (FOIA), there are three distinct classes of work in the DCG/EPRI EMTP. There is only a tangential allusion to such DCG troubles by Chairman Mader: "It is still our position that the portion of the DCG/EPRI code that can be demonstrated to be identical with the original EMTP is releasable in the public domain." There are several objections to this explanation. First, "still" is inappropriate, since this was not the DCG position prior to BPA's FOIA disclosure of the UTPF in 1985. Or, if it was, this has to be one of the world's best-kept secrets. Second, FOIA puts the burden of proof on those who would withhold information, not on those who request its disclosure from the U.S. government. If BPA were to deny some EMTP code to a requester, BPA would have to demonstrate that the denied code somehow was exempt from disclosure. It is not the burden of the requester to demonstrate the contrary. Finally, reference to "the original EMTP" is irrelevant. This would not even be considered, in case of a FOIA dispute involving the DCG/EPRI EMTP. The issue is whether code is public or private, not whether it existed prior to 1985.

There is necessity for DCG to separate its EMTP results from those of EPRI only if EPRI EMTP results would be denied to BPA at the time DCG delivered its results. This seems to have been the case. The DCG Agreement clearly states the right of BPA to DCG results. Quoting the entire Article 7.1: "All Participants will have free access to all the results of this project for their own use." Beginning with an official BPA letter dated 8 August 1986, demands have been made for such DCG results. BPA is still waiting, however, even after expiration of the DCG Agreement. For documentation about one such missing piece of DCG work, read the article by Dr. Tsu-huei Liu and Mr. Li Jin-gui in the March, 1988, issue of EMTP News. As best those at BPA can determine, DCG/EPRI arrived very late at the realization that relevant U.S. law (FOIA) was serious business, and that some sort of methodical records had better be kept. Unfortunately for DCG/EPRI, marking of the individual lines of source code was done after the fact, not when many changes were made, and this resulted in numerous errors. Also, the marking scheme was defective for purposes of FOIA in that it was binary rather than ternary in nature, and it failed to differentiate substantial changes from cosmetic or mechanical changes that could be made by a simple computer program. An example of the latter is the alteration of nothing more than FORTRAN statement numbers. In retrospect, the DCG/EPRI record

marking was a remarkable demonstration of incompetence. DCG/EPRI certainly knows the weakness of its own records, and it also knows that BPA and LEC know. Finally, DCG/EPRI knows that errors in its records would be revealed in case of any FOIA dispute (e.g., in a U.S. federal court). The resultant uncertainty about possible FOIA disclosure may well explain (but not excuse!) the failure of DCG to deliver all of its results to BPA.

The dominant article in the January issue of EMTP review is entitled "Calculation of TRV of 20 kV circuit breakers using EMTP." This occupies 2 of the 3 columns on the front page, plus about half of page 2. But nowhere in the article is there any mention of usage of the DCG/EPRI EMTP. Is there any reason to believe that all of the work mentioned could not be done with BPA's or LEC's EMTP? Or worse still, that it was not in fact done using either BPA's or LEC's EMTP? In light of the October deception involving Minnesota Power, readers are advised to be suspicious, and authors are requested to explicitly state whose EMTP is being used in all future articles.

DCG Chairmen Mader concludes the January issue with a second article. This is on page 6, under the heading "DCG Update; Steering the DCG." Since most of this is just a review of old names and organizations, there is not much to either applaud or criticize. The old claim of "\$8 million (U.S.) worth of resources" might even turn out to be true, eventually, if DCG operation is extended long enough, and if inflation continues (sarcasm)! But one new item should not go unchallenged. Chairman Mader's opening sentence refers to "the DCG/EPRI Steering Committee." The author certainly knows about the DCG Steering Committee, which was established by the DCG Agreement. But he fails to understand under what authority EPRI might have been added. BPA's former representative to the DCG Steering Committee (prior to expiration at the end of last year) can shed no light on this mysterious creation, either. Poor Mr. Hasibar went to every meeting, and apparently did not even know what he was attending (joke)! The 1984 Memorandum of Understanding between DCG and EPRI is mentioned by Chairman Mader, but it is no help, either, since it makes no provision for any direct influence by EPRI on DCG matters. To say that since 1984 "EPRI has been represented on the steering committee" is the most absurd sort of fiction. Many persons (including the author and his colleague, Dr. Tsu-huei Liu) have attended meetings of the DCG Steering Committee over the years, but that does not mean that such persons were "represented on" the committee. Note that Prof. Willis F. Long, the DCG/EPRI Project Coordinator, did not add the name "EPRI" to "DCG Steering Committee" in his contribution (see page 3, column 1, the next to the last paragraph). Maybe Chairman Mader will have more corrections in the next issue of EMTP Review? Some explanation certainly is due.

## References Used By the Preceding Text

[1]. EMTF Review is a publication of the University of Wisconsin - Madison. The subscription form on page 3 of the January, 1988, issue bears the following U.S. mailing address:

Professor Willis Long, Editor  
University of Wisconsin - Madison; College of Engineering

Department of Engineering Professional Development  
432 North Lake Street  
Madison, WI 53706

Initial issues (including January) are being distributed free of charge, it would seem. Attendance at the Madison EMTF short course appears to be one basis for initial mailings.

[2]. None of the familiar indications of a copyright are anywhere to be seen in either the October or January issue of EMTF Review. Nor is there any explicitly-stated prohibition against reproduction. On the other hand, there is a subscription form indicating that copies are to be sold. It is unclear what rights have been withheld, particularly outside the country of origin (the USA).

[3]. Article 5 of the 1982 DCG Agreement begins as follows: "Continuation of membership in the Coordination Group as a Participant may be terminated unilaterally by any Participant upon 30 days written notice to the Chairperson of the Steering Committee." This was not a viable option for BPA because it would have allowed DCG to dispose of BPA's \$200K commitment in exceptional and discriminatory fashion (e.g., without cost sharing by the other members). Such authority is contained toward the end of Article 3.1 of the DCG Agreement: "If the total outstanding commitments to the PCP include commitments from organizations who had terminated their membership under ARTICLE 5 which became effective before they terminated the membership, the Steering Committee may authorize utilization of those funds in any order it chooses." Grammar is not the best, but the threat was obvious enough to make premature termination by BPA unattractive.

[4]. Article 9 of the DCG Agreement reads as follows: "No Participant will be held accountable for failure to follow any Section of this Agreement if it is found to be in contravention of the laws and regulations of the Government that the Participant is otherwise required to follow."

[5]. James T. O'Reilly, "Federal Information Disclosure; Procedures, Forms, and the Law." This definitive 2-volume work documenting the U.S. Freedom of Information Act (FOIA) is published by: Shepard's/McGraw-Hill; P.O. Box 1235; Colorado Springs,

Colorado 80901. WSM's copy is copyrighted December, 1983.

[6]. An EMTP version that was distributed by Basin Electric Power Cooperative (BEPC) of Bismarck, North Dakota, is in use at MP&L. This version for PRIME computers was machine translated from BPA's public-domain "M39." UTPF (Universal Transients Program File), as best the author can recall. Its success was the result of extraordinary efforts by Thomas R. Varilek (formerly with MP&L, now an Assistant Vice President of Iowa Power in Des Moines, Iowa), Bob Newell of BEPC, and the author (who traveled to Duluth at his personal expense using vacation time). It is ironic that this PRIME computer code used by MP&L should be featured in EMTP Review, since it is unavailable to those who have participated in EMTP commerce (including DCG members). Chairman Mader certainly knows this, since he clumsily and ineffectively complained about the discrimination to BPA engineering management during the fall of 1985.

[7]. One of DCG's problems in negotiating anything is that DCG is not a legal entity. It is not a company, either private or public. DCG has no employees. Neither does DCG possess any property (buildings, computers, etc.). There is not even a DCG bank account, as far as the author knows. Upon the expiration of the DCG Agreement, DCG ceases to exist. There would be nothing to liquidate, since nothing exists. Not so for the second of the two partners in commercial EMTP development (EPRI). With no more new sources of revenue since the CRIEPI adherence of 1985, and with BPA no longer cooperating in either name or deed, it appears to the author that DCG is on the decline, and EPRI is firmly in control of the loose alliance between the two. It seems more likely that AEP will associate with EPRI, rather than with DCG, if it really is serious about obtaining access to the DCG/EPRI EMTP. This is what EDF did in 1985 (amazingly, it took some two years to complete the deal, which was just announced in the January, 1988, issue of EMTP Review).

[8]. W. Scott Meyer and Tsu-huei Liu, "Summary of ongoing EMTP development at BPA," EMTP Newsletter, Vol. 6, No. 3, pages 7-9, September, 1986. Distribution rules are the subject of the next to the last paragraph on page 8.

[9]. G. Empereur and Kuruppuge Don Somatilake, "Modal Analysis in Power Systems," EMTP Newsletter, Vol. 6, No. 4, pages 15-24, December, 1986.