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BRANCH

Mr. Samuel J. Chilk  
Secretary of the Commission  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555  
ATTENTION: Docketing and Service Branch

Dear Mr. Chilk:

We are taking this opportunity to comment on the Commission's proposed rules regarding its Access Authorization Program, as they appear in 49 FR 30726-30739, August 1, 1984, as well as the associated Regulatory Guide. The Commission maintains that it "is not persuaded at this time that the psychological assessment and behavioral observation elements are appropriate requirements for this agency to adopt." The Association for the Advancement of Psychology, which includes psychologists in all areas of academic, scientific, and professional endeavor, believes that verified knowledge and experience of the science and profession of psychology provide a sound basis for developing an effective, efficient, equitable, and humane access authorization program. Each mechanical component of a nuclear power plant is inspected and tested with extreme scrutiny; it is crucial that the people comprising the human component of these systems undergo thorough evaluation as well. We understand that these tests are to be administered to personnel who seek unescorted access to protected areas and vital islands at nuclear power plants. Our comments address the questions specifically raised by the Commission in 49 FR 30730-30731.

Question: What purposes are being served by the use of psychological assessment in the nuclear industry? Is psychological assessment used to address fitness for duty concerns, radiological sabotage concerns, or both?

Both inside and outside the commercial reactor industry psychological assessment procedures are used to screen employees for emotional instability and behavioral response styles which are in conflict with specific job requirements. For example, the Baltimore Gas and Electric Company and the Virginia Electric Power Company have used psychological screening programs for several years with a high level of success (see the enclosed descriptions of their programs). Historically, the Nuclear Regulatory Commission has addressed the question of employee reliability in terms of trying to prevent radiological sabotage. Sabotage, however, is only one of a large number of behaviors any one of which, if perpetrated by unreliable employees, would be hazardous to public safety and property.

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Within the general area of employee reliability, psychological assessment procedures are typically thought of as a tool (along with background investigations and drug screening) to be used for minimizing the selection of unreliable employees. In this broad context, there is little question that psychological assessment plays an important role as a means of screening out individuals who are likely to act in an unreliable fashion because of emotional instability and/or the presence of behavioral response styles which are in conflict with specific job requirements.

Question: How do the proposed procedures contribute to decreasing the risk of sabotage? Does the benefit outweigh the infringements on individual privacy associated with the initiatives?

While in a strict scientific sense it is not possible to conclude that the psychological assessment procedures described in the proposed rules have been demonstrated to reduce the specific risk of sabotage, there is abundant evidence that these procedures are extremely effective in detecting individuals who are unreliable employees by reason of emotional instability. It is noteworthy that few, if any, instances of radiological sabotage have occurred in this nation's commercial power reactor industry. It is probable that psychological screening programs already in place have contributed to this safety record by detecting emotionally unstable applicants who might have endangered workers in the reactors or the public at large.

The two tests proposed by the Commission--MMPI and 16PF--have records of demonstrated reliability with respect to measuring emotional instability. Furthermore, the issue of emotional stability is clearly relevant to the commercial power reactor industry. For these reasons, individual rights should be well protected under the proposed rule, which also has safeguards regarding privacy. The personnel qualified to carry out such procedures are defined in Section 73.56(d) of the proposed rule, and in Chapter 3 and Appendix B of the associated Regulatory Guide. These professionals are bound by very strict guidelines regarding matters of confidentiality. For example, psychologists are bound by a code of ethical principles and by Standards for Providers of Psychological Services which insure the safeguarding of individual privacy and confidentiality.

Furthermore, the proposed psychological assessment is certainly less intrusive into the privacy of the applicant than the standard background investigation which requires multiple interviews concerning the applicant with neighbors, friends, former employers, etc.

The components of the psychological assessment program contained in Section 73.56(d) of the proposed rule and in Chapter 3 of the associated Regulatory Guide conform completely to the provisions of the Uniform Guidelines on Employee Selection Procedures, with respect to validity and relevance of the assessment procedures. When the assessment procedures being measured (in this case emotional instability), and what is being measured is relevant to the job, then the courts have consistently found psychological assessment procedures acceptable.



We strongly emphasize that psychological tests should never be used alone, or without interpretation, as a basis for decision making. The notion that certain tests can be used in isolation for decision making is erroneous. While psychological tests are important, sometimes invaluable, tools in the evaluation of an individual, they must be combined with professional interpretation to have any large-scale validity. The professional codes of ethics require that interpretation accompany testing, and the proposed rules should also reflect this reality.

Question: What evidence does or does not support the use of objective diagnostic tests such as the MMPI as screening tools when specifically used only to initiate overall clinical assessments? What evidence does or does not support the use of clinical assessment by a licensed psychologist or psychiatrist as a consideration in determining whether or not an individual should be granted unescorted access to commercial nuclear power reactors?

The two-tiered approach to psychological assessment reflected in the proposed rule (written test followed by a structured clinical interview) is a logical and widely used approach to screening for employee reliability purposes. Tests such as the MMPI and 16PF were specifically designed for screening purposes. There are over a thousand research articles in which the validity of these tests for detecting emotional instability has been consistently demonstrated (e.g., Dahlstrom & Welsh, 1960; Graham, 1977). The use of a clinical interview to intensively investigate the specific areas of psychological functioning which have been highlighted by the screening test is a widely used practice by psychologists and psychiatrists when assessing individuals with regard to emotional instability.

Question: What specific characteristics are identified by a clinical psychological assessment that relate directly or indirectly to reducing the risk of radiological sabotage? What percentage of false positives and false negatives (Type I and Type II errors) can be expected from using the NRC proposed psychological assessment procedure? Are more effective procedures available and practical?

The standard scientific approach to minimizing the inevitable statistical error that can occur when only a single assessment procedure is used (e.g., use of only background investigations, drug screening, or psychological assessments) is the utilization of a number of different investigative tools in combination with each other (e.g., background investigations along with psychological assessment procedures and continual behavioral observation). Keeping in mind that no employee reliability program is 100% perfect, errors can be minimized by implementing a two-tier system of psychological assessment, namely, written personality tests followed by a clinical interview. Tondow, Schultz, and Olson (1984) reported in their study of almost 15,000 people that had been both tested and interviewed that 38% of those individuals who, following an interview, were judged to be psychologically unsuitable for unescorted access had not manifested serious emotional problems on the MMPI. That is, a 38% false negative rate occurred when only written psychological tests were administered. This

may have resulted for a variety of reasons, including certain applicants' test savvy, not taking the inventory seriously, testing at an inappropriate time (on day off, or after a long shift), language difficulties due to cultural background, etc. Such problems, which might result in false positives or false negatives, could be caught during the clinical interview.

In brief, psychological testing cannot be used in isolation, and it cannot be viewed as an infallible decision-maker in the absence of professional involvement, clinical assessment, and a personal interview. The considerable experience of psychologists who are currently screening employees for nuclear facility work, using methods as outlined in the proposed rules, makes clear the necessity of follow-up interviews after testing. These interviews can help overturn a possibly negative decision, and can help eliminate potential employees who do not exhibit emotional instability on the MMPI alone. The clinical interview is of considerable value in reducing the extent of some false positives and false negatives.

Psychological testing with a follow-up clinical interview, combined with a background investigation and continued behavioral observation, is the most effective and practical procedure available.

Question: Can the use of psychological assessment in the commercial nuclear industry be justified solely on the basis of reducing the risk of radiological sabotage? Is there any evidence which would help quantify the extent, if any, of risk reduction supplied by psychological assessment, background investigations, and behavioral reliability programs?

It has already been noted that sabotage is merely one of a large number of behaviors any one of which, if perpetrated by unreliable employees, would be hazardous to public safety and property. Thus, the cost of psychological assessment to the commercial nuclear industry is small relative to the potential damage which might be done by emotionally unstable, unreliable individuals hired in the absence of such an assessment program.

Risk reduction could only be quantified if access authorization programs were established at some sites while, at the same time, not established at other sites. A comparison of the results could then be made. It would be irresponsible and dangerous, of course, to conduct an experiment that would knowingly increase the risk of emotionally unstable, unreliable employee behavior.

Question: To what extent is the use of psychological assessment related to a behavioral reliability program? Would the proposed behavioral reliability program be effective without pre-employment psychological assessment? What specific risks would remain if both psychological assessment and a behavioral reliability program were not part of a screening programs, i.e., if only background investigations were adopted?

The purpose of each program element, and the type of behavior assessed by each, is very different.



The purpose of the pre-employment psychological assessment procedures is to detect emotionally unstable individuals within a general pool of applicants who are seeking employment in the commercial power reactor industry. To do this requires significant knowledge and expertise regarding the manifestations and dimensions of emotional stability and emotional instability. More specifically, this requires the skills of professional psychologists and psychiatrists with qualifications matching those contained in Appendix B of the Regulatory Guide.

In contrast, the continual behavioral observation program is meant to detect changes in the behavior of otherwise emotionally stable individuals. It is our understanding that the goal is to teach supervisory personnel how to detect changes in the behavior of individuals already well known to them--changes which may be indicative of emotional unreliability--secondary to changes in the person's life circumstances.

For this reason, the psychological assessment procedures and the continual behavioral observation component are not equivalent programs in terms of their purpose, scope, and requirements. Rather, they are complementary programs, both of which are essential ingredients of a comprehensive employee reliability program such as that envisioned by the proposed rule.

Question: What kinds of individuals have been "screened out" of nuclear industry by the use of psychological assessment, by the use of background investigations, or by the use of behavioral reliability programs?

According to Tondow, Schultz, and Olson (1984) and Raleigh (1981, enclosed), the individuals who have been "screened out" have been individuals who are emotionally unstable. As discussed earlier, the psychological assessment procedures have been developed and validated for the specific purpose of detecting emotional instability. When these procedures are used for this purpose, they are as accurate as is scientifically possible.

With respect to the proposed continual behavioral observation program, it is our understanding that this program is not intended to "screen out" employees, but is meant to be a constructive one in the best sense of the term. When supervisors observe that employees have undergone a change in their on the job behavior, one of the program's goals is to assist the employee in taking remedial and/or therapeutic action to correct the situation that has caused the employee's behavior to deteriorate. In this sense, the program is an ideal one in that it not only serves to minimize acts that are hazardous to public safety but it also helps an employee to become a more productive individual as well.

Question: What examples, if any, exist of management abuses of screening procedures, including psychological assessment, background investigations, and behavioral reliability programs?

Management abuse can be minimized by insuring that psychological

assessment is carried out only by the types of qualified psychologists and psychiatrists defined in Appendix B of the Regulatory Guide. Professional psychologists and psychiatrists comply with their respective code of ethics and standards of practice. The provisions of these codes and standards preclude these professionals from recommending action on any basis other than the objective results of the data they obtain. Psychologists who do not adhere to ethical standards are subject to censure or expulsion from the American Psychological Association, as well as malpractice lawsuits brought by the client whose privacy was violated.

If management abuses have been documented by others, it should be stressed that such abuse is by no means inherent in the use of psychological assessment procedures for employee reliability purposes. On the contrary, the correct use of such procedures is one of the best safeguards against management abuse in selecting and maintaining reliable employees.

Miscellaneous Comments Regarding Regulatory Guide

On page 26 of the Guide, at the end of the first full paragraph on that page, reference is made to the following statement:

"Judgements [sic] or diagnosis on emotional stability are normally medical judgements [sic] and should therefore be reserved to qualified medical personnel."

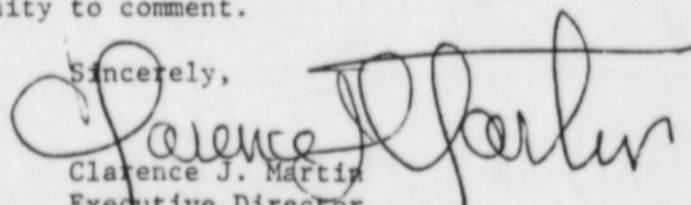
In addition to being factually inaccurate, this statement is unsupported by case law within the Federal courts. For this reason, we suggest that the wording used in the first full paragraph on page 28 of the Guide also be used in the above reference sentence on page 26. Thus, the passage would read:

"Judgments or diagnosis of emotional stability should be made only by a qualified and, if applicable, state-licensed psychologist, psychiatrist, or medical doctor, as appropriate."

In sum, we strongly support the use of the proposed two-tier system of psychological assessment, including valid and reliable psychological tests as well as a follow-up clinical interview, conducted by a qualified psychologist or psychiatrist. This psychological assessment program, complemented by the background check and continued behavioral observation program, will yield the most effective, efficient, equitable, and humane access authorization program available. Furthermore, we strongly recommend that public hearings be held before the Commission takes final action on the proposed regulations in order to solicit testimony from experts in the field of psychodiagnosis and psychometrics.

Thank you for this opportunity to comment.

Sincerely,



Clarence J. Martin  
Executive Director  
and General Counsel

AAP



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THE ASSESSMENT OF EMOTIONAL INSTABILITY  
IN NUCLEAR POWER PLANT APPLICANTS

Diane L. Raleigh, Ph. D.

Palisades, New York

Abstract

Emotional instability is a prime factor in the screening of nuclear power plant employees for unescorted access to nuclear facilities. This study examined the screening potential of the MMPI as used by Behaviordyne Psychological Corporation, and found that it adequately measured the majority of behavioral criteria deemed to pose risk to the nuclear industry. The study resulted in a more precise definition of risk in regards to nuclear facilities, and contributed toward a more clinically definable description of the non-certifiable nuclear employee. Suggestions for further research are made.

Introduction

The question of whether the United States should continue to develop nuclear power to help meet the energy demands of the future remains a very controversial issue. Central to the issue is the concern that adequate safeguards be developed to protect the public from exposure to radiation. While physical protective systems are essential, also important to the safety of the nation are safeguards aimed at ensuring that responsibility be placed in the hands of emotionally stable



individuals who are capable of working on a daily basis in a potentially dangerous environment, and who can act appropriately under high stress, emergency conditions.

Emotional stability is thus a prime factor in the screening of nuclear power plant employees for unescorted access to nuclear facilities. Since 1977, the Nuclear Regulatory Commission has been addressing the need to formulate screening regulations focused specifically on emotional instability. While no formal regulations have yet been established by the Commission, the NRC staff has repeatedly recommended uniform screening requirements including psychological testing and clinical interviews.

In the absence of specific guidelines, the quality and depth of screening of employees for nuclear facilities varies greatly. While some utilities are conducting comprehensive screening programs, others are meeting the minimum requirements with minimum evaluations. In an attempt to provide more specific guidelines, the American National Standards Institute last year proposed ANS 3.3 (American, 1982). These guidelines include safeguard standards agreed upon by the nuclear industry. In the area concerned with psychological screening, ANS 3.3 states:

"Reliability and stability shall be indicated by the results of a reliable and valid written personality test or by other professionally accepted clinical assessment procedure administered by or under the supervision of a licensed psychologist or psychiatrist cognizant of this standard" (American, 1982, p. 11).

The publication of ANS 3.3 is indicative of the industry's concern for thorough evaluation. With the recognition of the need for psychological testing, specific testing instruments must be evaluated in view of meeting the specific requirements of the nuclear industry. This study examined the screening potential of the Minnesota Multiphasic Personality Inventory (MMPI) as used by Behaviordyne Psychological Corporation for its relevance to the nuclear industry's perceptions of what constitutes instability in members of its work force. This was accomplished by statistically analyzing the MMPI test scores obtained by 807 nuclear plant employees who had received a status of interim certification or non-certification as an initial step in a screening procedure used by three nuclear power plants.

In order to obtain a definition of emotional instability, this author relied upon the only two research projects (Frank, Lindley and Cohen, 1980; Buchanan, Davis and Dunnette, 1980) aimed at establishing criteria for defining risk in a nuclear environment. These research teams, from their work with nuclear supervisory personnel, compiled a list of behavioral descriptions which they deemed represented risks to the security of nuclear plants. This study relates these dimensions of emotional instability to the personality characteristics identified with those employees who received interim non-certification.

### Method

#### Subjects

The sample consisted of 807 employees in three nuclear power plants during the years 1978, 1979 and 1980. The socio-economic and



educational levels of the employees varied greatly, inasmuch as screening covered all positions within the nuclear facilities.

#### Data

The data were obtained from the files of Behaviordyne Psychological Corporation, an organization employed by several nuclear facilities to assess the emotional stability of employees. The Behaviordyne Program is an assessment instrument used as part of an overall evaluation process. It is based on the Minnesota Multiphasic Personality Inventory (MMPI) devised by Hathaway and McKinlay (1951). The MMPI is a true-false inventory consisting of 566 items. The items range widely in content, covering such areas as health, psychosomatic symptoms, neurological disorders, and motor disturbances; sexual, religious, political and social attitudes; educational, occupational, family and marital statements; as well as neurotic and psychotic behavioral manifestations (Anastasi, 1976). The MMPI scores the 566 items into ten clinical scales and three validity scales. It was developed to furnish an objective evaluation of the major personality characteristics which influence individual and interpersonal adjustment. The Behaviordyne Program contains the original 13 MMPI scales along with 153 additional research scales derived from studies utilizing the MMPI. The Program scores by computer each scale, and combination of scales, and provides a narrative interpretation of the results.

The Behaviordyne Program was administered to all employees by the personnel departments of the nuclear power plants as part of a screening process for unescorted access. Each inventory was evaluated by a licensed psychologist. On the basis of this evaluation, a clinical

judgment was made regarding interim certification or non-certification. As the Behaviordyne Program constitutes only one part of the assessment for emotional instability, final certification or non-certification is obtained after a clinical interview. This analysis considers only the judgments based on this reading of the MMPI inventory without interview data.

From the Behaviordyne files, consisting of over 3,000 test inventories obtained from the three nuclear power plants, 807 test inventories were selected for this study: 530 randomly selected from employees who received interim certification, and 277 inventories of employees who received interim non-certification status. The 277 inventories constituted the entire sample of employees receiving interim non-certification.

#### Procedure

The Behaviordyne data were used to test for statistically significant differences in MMPI scale scores between the interim certified and non-certified groups using analysis of variance techniques. A discriminant model was developed to determine the strongest discriminators between the two populations in order to obtain a description of each population with a view toward later deriving clinical profiles of each. Finally, matrices were constructed to quantify the relationship between the scales discriminating between certified and non-certified groups, and the behavioral criteria representing the industry's descriptions of emotional instability.

The author and three clinical psychologists with many years of experience with the MMPI judged the appropriateness of the scales as measures of the behavioral criteria.



To test whether the scales having greatest discriminatory power measure the most risk-laden behavioral characteristics, a matrix (Table 1) was constructed in which the behavioral characteristics were weighted according to the psychologists' judgment as to the degree of risk they represent. Risk was defined as behavior endangering the safety of a nuclear plant displayed by an individual who cannot, or will not, because of his emotional state, consistently discharge his duties in a manner which insures that safety. Assignment of risk was accomplished by developing a Likert-type scale comprised of five degrees of risk, ranging from negligible to extreme. The psychologists assessed the relative risk associated with each criterion and assigned a weight to each. This assignment was arrived at by consensus via discussion. The weights were recorded on the matrix. Each scale was then given a sum of the weighted correlations with each behavioral criterion. This sum was labelled the risk factor.

### Results

Examination of the analysis of variance found the paired means (certified vs. non-certified) of 86 variables of the 166 Behaviordyne scales to be significantly different at the 0.001 level. The discriminant analysis resulted in the reduction of the variable set, and identified 22 important scales which, as a set, statistically discriminated between those employees that received interim certification and those that did not with about 85% precision. The stepwise discriminant process was conducted by initially computing an  $F$  - value for each variable. This measured the discriminatory power, i.e. partial correlation, of each variable. Table 2 lists the  $F$  - values of the 22 scales which most strongly discriminate between the two populations.

It can be concluded from the discriminant analysis that Behaviordyne's interim classification depends heavily on a limited set of variables. This conclusion is significant because it allows for cross comparison of the clinical descriptions of the 22 Behaviordyne scales to the behavioral criteria given by the nuclear industry.

The second step required to assess Behaviordyne's Program involved a reduction of the behavioral descriptions given by Frank et al. (1980) and Buchanan et al. (1980) to a manageable number of variables. This reduced set of behavioral criteria heads the columns of the matrix in Table 1 where they are correlated by the psychologists consulted in this study with the clinical descriptions of the MMPI scales. To refine the correlation further, the weighted values of the risk associated with the behavioral criteria were assigned to each cell and summed across the rows corresponding to the 22 Behaviordyne scales. These summed weights, or risk factors, should be roughly proportional to the F - values for the 22 scales if the Behaviordyne Program gives comparable weight to those criteria considered most undesirable by the industry.

The correlations in Table 2 between risk factors and F - values for Behaviordyne's scales are strongest for those scales indicating psychopathology, addiction and alcoholism. The scales identifying psychopathic manipulation, paranoia, alcoholism, schizophrenia, psychasthenia, and projection of hostility have 7 of the highest F - values from the analysis of Behaviordyne's scales, and also score in the highest 10 of the 22 risk factors. The higher risk factors for some of the remaining scales having a lower F - value, namely Addiction, Poor Reality Testing, Alcoholism (Finney), and Responsibility, are a result of the process included in the discriminant analysis. The analysis

diminishes the discriminatory power of a scale when the scale synonymously measures another stronger scale. The descriptors measured in these four scales are included in the stronger discriminating scales of Alcoholism (MacAndrew), Alcoholic vs. Addict, and in the scales which identify psychopathology.

There are several significant Behaviordyne scales which are accorded a low risk factor. These include Lie, Sensitivity, Exhibitionism, Narcissism, Control, and Orderliness. While elevated scores on these scales may indicate undesirable personality traits, those traits do not appear to constitute high risk. Two scales found to be significant, Masculinity-Femininity and Sex Difference, appear to have no relationship to the behavioral criteria.

In viewing the behavioral criteria on the matrix, it can be seen that no scales measure physically caused instability, or symptoms associated with organic brain syndrome. It is questionable as to whether the MMPI is capable of identifying those characteristics.

### Discussion

The Behaviordyne scales which statistically differentiated those employees who received interim certifiability from those that did not, strongly relate to the behavioral criteria deemed to pose high risk to the nuclear industry. While not all of the significant scales are associated with high risk factors, it appears that the Behaviordyne Program can serve as an effective initial screening tool in identifying emotional instability as it relates to the industry.



Two of the major implications which result from the interpretation of the matrices are a more precise definition of risk, and a more clinically definable description of the non-certifiable nuclear employee. Through the reduction in the number of variables defining risk, and the assignment of weights according to the degree of risk, this study represents a further step toward the future establishment of an operational definition of risk. It contributes toward a uniformity of application and interpretation by examining psychologists. Furthermore, an examination of the personality characteristics measured by the scales which differentiated, and thereby defined, the non-certifiable employee, can serve as a further step in the establishment of a clinically useful construct of emotional instability as it pertains to the nuclear industry.

#### Recommendations for Further Research

The major limitation of this study is the lack of verification through longitudinal studies of criteria used for certification for emotional instability in the nuclear industry. The clinical judgments made by Behaviordyne were based on empirically derived personality measurements, and are a priori inasmuch as there has been no demonstrable relationship between the criteria for selection and actual performance in nuclear environments. No research on the job performance of previously screened employees has been conducted.

Verification of criteria for selection of nuclear personnel is critically important. Without longitudinal studies examining the job performance of certified employees, the problems surrounding the validity of criteria will remain unsolved.

In the absence of post employment studies, this study has attempted to bring the criteria for selection closer to the behavioral criteria deemed by the industry to pose risk. The behavioral criteria themselves, while empirically derived from observations by supervisory personnel, have not been subjected to any formal measurement. These criteria could be further refined by the development of a quantifiable measure of behavior used to evaluate those employees whose behaviors clearly present risk to the security of nuclear plants. Such a longitudinal evaluation could be instituted on an industry-wide basis in a systematic and uniform manner. This could be accomplished through the behavioral observation programs now being developed, and could be coordinated through such national organizations as the American Nuclear Society. This focus by the industry on a definition of risk would improve the effectiveness of screening programs by giving psychologists uniform guidelines specific to the needs of the industry.

The foregoing suggestions for research and improvements in screening procedures may be a useful addition to programs that are already sophisticated amalgams of the current methods used in psychological screening for emotional instability. But all such improvements in the absence of on-the-job verification of the validity of screening programs will not suffice to ensure against the extraordinary consequences of a single act of sabotage or inadvertence which results in catastrophic failures in nuclear plants. Currently, the rate of success in screening out potentially dangerous employees is unknown. Until extensive study of the causes of failure in the screening process are conducted, the probability of human failure or ill intent will remain the most poorly defined, imponderable risk to human life in the vicinity of nuclear plants.

Table 1

Behavioral criteria weighted according to relative risk,  
and related to Behaviordyne scales

KEY		BEHAVIORAL CRITERIA																				
		PANIC REACTION	ACCUMULATED STRESS	HOSTILITY TOWARD AUTHORITY	VIOLENT BEHAVIOR TENDENCIES	ANTI-SOCIAL BEHAVIOR	IMPULSIVITY	IMMATURITY	COMPULSIVE TENDENCIES	REACTION TO RADIATION	INTERPERSONAL SKILL DIFFICULTIES	PSYCHOPATHOLOGY	DEPRESSIVE REACTION	MOOD SWINGS	GENERAL INEPTNESS	DEFICIENCIES IN VIGILANCE	CHEMICALLY RELATED INSTABILITY	PHYSICALLY CAUSED INSTABILITY	ORGANIC BRAIN DISORDER	INABILITY TO COPE	DEFENSIVE WITHHOLDING OF INFORMATION	RISK FACTORS
1. Little to no risk																						
2. Minimum risk																						
3. Moderate risk																						
4. High risk																						
5. Extreme risk																						
RISK WEIGHTINGS		5	3	4	4	5	4	3	1	3	4	5	3	2	3	4	5	2	4	3	3	
BEHAVIORDYNE SCALES	PSYCHOPATHIC MANIPULATION			4	4	5	4	3			5									3		28
	PARANOIA		3	4	4	5				3	4	5				4				3	3	38
	ALCOHOLISM (M)		3	4			4	3								4	5					23
	SCHIZOPHRENIA	5	3				4	3		3	4	5		2		4					3	36
	ALCOHOLIC VS. ADDICT			4	4	5					4	5					5				3	30
	VALIDITY		3								4	5				4						16
	MASCULINITY-FEMININITY																					0
	ACHIEVEMENT BY CONFORMITY	5	3	4							4											16
	PSYCHASTHENIA	5	3							1	3	4		3		3						22
	PROJECTION OF HOSTILITY		3	4							4									3	3	17
	LIE					5																5
	SENSITIVITY							3			4											7
	EXHIBITIONISM							3														3
	ADDICTION		3			5	4	3							3	4	5			3		30
	NARCISSISM			4				3			4											11
	STUBBORNNESS			4							4											8
	POOR REALITY TESTING	5	3							3	4	5			3							23
	SEX DIFFERENCE																					0
	CONTROL			4							4											8
	ORDERLINESS								1													1
	ALCOHOLISM (F)	5	3				4	3								4	5					24
	RESPONSIBILITY	5	3			5	4	3						2								22



Table 2

Comparison of F-Values and Risk Factors of Significant Scales

Scale	<u>F</u> -Value	Risk Factor
Psychopathic manipulation	252.7	28
Paranoia	71.9	38
Alcoholism (Mac A.)	73.3	23
Schizophrenia	37.5	36
Alcoholic vs. Addict	26.8	30
Validity	23.8	16
Masculinity-femininity, male	11.9	0
Achievement by conformity	17.2	16
Psychasthenia	12.8	27
Projection of hostility	10.6	17
Lie	9.3	5
Sensitivity	6.9	7
Exhibitionism	8.4	3
Addiction	5.4	30
Narcissism	4.4	11
Stubbornness	5.3	8
Poor Reality Testing	3.7	23
Sex difference	4.4	0
Control	3.5	8
Orderliness	4.3	2
Alcoholism (Finney)	3.7	24
Responsibility	4.2	17

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**Medical College of Virginia  
Virginia Commonwealth University**

September 5, 1984

Clarence Martin, Esq.  
Executive Director  
Association for the Advancement of Psychology  
1200 17th Street, N.W.  
Washington, D.C. 20036

Dear Clarence:

This letter is in reference to the NRC's proposal for psychological screening of perspective employees with the commensurate change in regulation.

I would endorse such a policy and would believe with appropriate safeguards this could be of advantage to the nuclear regulatory commission and the nuclear power industry.

The system is used by a local power company utilizes outside consultants for the assessment program rather than an in-house system. This allows for greater confidentiality and distance from those people making final decisions, thereby, eliminating the possible conflict of interest as a full-time paid employee.

Basically, the system is set up whereby the instrument used is the MMPI and is administered by the power company's different stations. This is done after a training program. The VEPCO person in charge of the program is a Ph.D. psychologist in the industrial/organization area. Completed MMPI's are sent to the consultants office for interpretation and filing. The MMPI is never returned to the Power Company nor do they see the results. That is, a completed MMPI is forwarded to the consultant's office where it is scored and interpreted. A form letter is utilized using a check-off to indicate the degree of confidence or concern about the candidate's ability to withstand job related stress. This is umbrella statement to cover not only potential substance abuse but also problems in thinking logically, sequentially, coherently and goal directed under periods of stress, or for that matter, under periods of low stress. Thus, the form letter does not deal with "psychiatric" entities.

If a modicum of concern is raised on the MMPI screening, then arrangements are made for a clinical interview with the employee or perspective employee and the consultant. Based upon that and further psychological assessment, if necessary, a follow-up form letter is utilized once again. In this letter, like its predecessor, details are not dealt with but rather a single statement regarding job related stress is utilized.

For new applicants, the MMPI screening is part of the overall pre-employment process which includes physical and security checks. The local power company



decided for any present employee transferring to a nuclear facility, the screening and interview would be used once again.

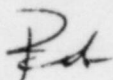
Should a candidate be unsuccessful in the screening process, he has the right to appeal the consultant's decision. This is accomplished by obtaining a second opinion, at the employees expense, regarding the issues of job related stress. Should the second opinion be contrary to the consultant's, then a third opinion is sought by a psychologist agreeable to both the power company and employee and that decision is binding on both parties.

On balance this appears to be a very equitable arrangement that safeguards the privacy and confidentiality of the employee and keeps them well aware of his status, vis-a-vis, the psychological screening. In my view, it does not appear to be an invasion of privacy nor is it invasive given the potential benefits for those who must work in the nuclear field.

I hope this gives you some information that may be useful in formulating a response to the regulation. If I can provide any thing else, please do not hesitate to let me know.

Kindness personal regards.

Sincerely yours,



Robert J. Resnick, Ph.D.  
Associate Professor of Psychiatry  
Chairman, Division of Clinical Psychology

P.S. Clarence, I have asked intermittently over the last 3 years employees of the power company about the system and I have heard virtually no negatives about the program. Most believe it to be fair and equitable, even those who were denied employment or access to a nuclear facility.

Testimony Before the Hearing Board

United States of America

Nuclear Regulatory Commission

On the Matter of Amendment of 10 CFR Parts 11, 50 and 70

[Authority for Access to or Control over

Special Nuclear Material]

by

Association for the Advancement of Psychology

I. INTRODUCTION

This testimony is provided to present our views on the proposal to establish a clearance program affecting employees of commercial nuclear power plants who may have access to or control over Special Nuclear Material.

Our testimony is in opposition to the introduction of the program as proposed in the Federal Register (42 F.R. 11880). Our Association, which includes psychologists in all areas of academic, scientific and professional endeavor, feels that verified knowledge and experience of the science and profession of psychology provides a sound basis for developing an effective, efficient, equitable and humane clearance program. We believe that the program proposed by the Commission is needlessly costly and not likely to be effective in achieving its stated aims.

Our testimony relates to the Commission's request for "the identification and advantages/disadvantages of alternative programs, such as psychological testing administered by licensees . . ." (42 F.R. 64704). One such alternative program, developed by the Baltimore Gas and Electric Company, which combines psychological testing and interviewing with careful recruitment and pre-employment screening, is described in our testimony.

## II. Statement of Position

We believe the program proposed by the Commission is undesirable for the following reasons:

A. The decision process in the proposed program does not specify the procedures to be used. Therefore, it cannot be assessed by the usual statistical measures. Without these indices it will not be possible to ascertain whether these procedures actually operate efficiently to differentially screen out potential "risks" from trustworthy employees.

B. Since the procedures place all control and responsibility in the hands of governmental employees, it seems clear that liability resulting from the actions of those governmental employees should and will be a Federal obligation, and no liability should or will attach to the utility employing any individual cleared by a governmental agency. Since the procedure itself may well be the basis for litigation by an aggrieved applicant, the burden of defending such litigation should properly be assumed by the Federal agency involved and not by the utility.

The proposed regulations fail to make clear the allocation of liability, and we believe the final regulations should do so, in the event that the proposed program is adopted.

C. The program does not provide any mechanism for review or appeal by applicants, employees or utilities.

D. The clearance procedures are based on an unproven and improbable hypothesis that (1) the history of an employee's or applicant's presumably "derogatory" acts, and (2) allegations, unspecified as to number, nature, source, relevance, or relative importance, can be synthesized by unspecified individuals within the Civil Service Commission to produce consistent reliable predictions of future behavior.



E. The program does not provide any mechanism for evaluation of its effects or effectiveness or for input from the utilities into such an evaluation.

F. The program incorporates no flexibility to adapt procedures to differing local and prevailing cultural environments which may affect the nature and quality of data acquired by investigators.

G. The proposed clearance fees are excessive.

H. The program has the potentiality for establishing an unmonitored and unresponsive bureaucracy.

I. The program may infringe on the rights of individuals to privacy and to equal employment opportunity.

We believe that alternative programs significantly relying on data, procedures, techniques and skills developed by the science and profession of psychology can be instituted with many advantages. Alternative programs, like the Baltimore Gas and Electric Company program, can be developed which will be consistent with ANSI 18.17 ("Industrial Security for Nuclear Power Plants") which is incorporated by reference in Acceptance Criterion 1.3.1.A in NUREG-0220, and which previously had been incorporated by reference in AEC Regulatory Guide 1.17 (July 1973).

We see the following advantages:

A. Utilization of procedures of known consistency (internal and external) which are amenable to modification to improve predictive effectiveness.

B. Primary responsibility for development and administration of the clearance program on the utility.

C. The opportunity for continuous review, evaluation and modification of both predicting instruments/procedures and criterion measures (identifiable desirable and undesirable behaviors).

D. The making of assessments and predictions based on measurements of each applicant's/employee's current personality (vulnerabilities, defenses, resources to cope with stress, etc.) and relevant historical data. This procedure operates on the hypothesis that qualified psychologists and other professionals trained in the identification of aberrant behavior can detect individuals with characteristics that are associated with a significant probability of future behavior which could present an unnecessary risk to the safety and security of the facility.

E. Adaptability to varying local and cultural environments.

F. Opportunity for the scientists and professionals participating in various programs to develop and test innovations which may improve effectiveness of local programs and, through the appropriate channels of scientific and professional communication, share such findings to be further validated and, if found valid, to be used to extend the improvements to other programs.

G. Prompt, efficient and credible feedback to applicants/employees.

H. Lower costs.

I. Credibility to applicants, employees and the general public.

J. Respect for the privacy of applicants and employees.

K. Opportunity for employees with current vulnerabilities to remediate these conditions with consequent reduction in turnover in categories of scarce personnel.

### III. A "Model" Clearance Program: The Baltimore Gas and Electric Company

The material in this section describes the program developed over the past several years and implemented in the detail described below in 1977 by the management and staff of the Baltimore Gas and Electric Company which operates a nuclear powered generating facility in Calvert County,

Maryland, the Calvert Cliffs Nuclear Power Plant (CCNPP). The conclusions and interpretations presented are those of the Association for the Advancement of Psychology, not necessarily those of the Baltimore Gas and Electric Company, although appropriate members of the management and legal staff of that firm have reviewed and confirmed that the description of their program in this statement is accurate.

The Baltimore Gas and Electric Company has in place a program of clearance for access to or control of Special Nuclear Materials which has been designed to conform to ANSI 18.17 ("Industrial Security for Nuclear Power Plants"). A central feature of the program is the utilization of:

a. standardized psychological tests for screening; b. feedback to each individual tested; c. individual interviews conducted by a consulting clinical psychologist with individuals whose test scores or personnel records indicate a potential problem; d. optional counseling services for employees whose nature and level of personal distress indicates potential for rehabilitation.

When the program was initiated all individuals who had been extensively evaluated with psychological tests and interview procedures through an existing company program were exempted since their participation in the program would have been essentially redundant. Except for these individuals, all company personnel at the Calvert Cliffs Nuclear Power Plant (CCNPP) have taken part in the program. In addition, all applicants for employment at the CCNPP since October 1977 have participated. The outline of the program is described below:

A. Procedures for current Permanent Employees:

1. Administration of standardized psychological tests:

Minnesota Multiphasic Personality Inventory (MMPI);

Guilford-Zimmerman Temperament Survey (GZTS); Army General



Classification Test - Civilian Edition (AGCT); Edwards Personal Preference Schedule (EPPS).

2. Employees whose scores are within the pre-determined "normal" range receive a confidential printed feedback which is individualized to reflect their particular scores. These feedback reports are prepared by the Psychological Services section of Baltimore Gas and Electric Company.
3. If test scores deviate from established criteria, the employee's personnel folder is reviewed by a member of the Psychological Service staff.
4. If, after review of both the test scores and personnel folder, the staff member feels a potential problem exists, the employee is interviewed by a consulting clinical psychologist.
5. During the interview with employees having suspect scores or personnel records the consulting clinical psychologist provides verbal feedback of test results. (This has the advantage of enabling the employee to provide data, including rebuttal opinions, which would enable the psychologist to reinterpret the data in the light of relevant information provided by the employee.)
6. The consulting psychologist prepares a report summarizing the interview, findings and recommendations. This confidential report is retained in Psychological Services for documentation purposes. These reports are not accessible to members of the Employment Unit or other Baltimore Gas and Electric employees.

7. If, in the judgment of the consulting clinical psychologist the employee's condition presents a potential for risk for continued employment at CCNPP, one of the following options is recommended:

- a. Readministration of the psychological tests if their representativeness is questionable. (If the retest also results in deviant scores, options b., c., or d. below are considered.)
- b. Counseling/psychotherapy to improve the employee's adjustment (marital counseling, substance-abuse counseling, personal adjustment counseling, etc.)
- c. Reassignment to a non-nuclear responsibility
- d. Termination of employment

B. Procedures For Applicants For Employment at CCNPP.

1. The Employment Unit is responsible for procedures relating to recruitment and processing to the point of employment.
  - a. All applicants for employment at CCNPP are required to complete an application form. The applicant is then interviewed by the Employment Representative. In this interview the Employment Representative investigates in detail the applicant's education, training, work experience and, if applicable, military experience. If the Employment Representative feels that the applicant possesses satisfactory credentials the applicant is further interviewed by the individual who would be the applicant's supervisor in the event the applicant is hired. The prospective supervisor further questions the applicant in relation to the applicant's expertise.

- b. If both the prospective Supervisor and the Employment Representative agree that an offer should be made the applicant is advised that employment has been recommended contingent upon satisfactory clearance following psychological and medical evaluations.

Applicants for positions as security guards are brought to the Baltimore headquarters for the following processing:

(1) Applicants sign a statement authorizing BG & E to fingerprint them. The finger printing is conducted by trained members of the Security Services Unit. The finger print record is then hand-carried to the Maryland State Police, the central gathering agency for all counties in the State. The sealed report of the Maryland State Police is hand-carried back to the company where it is opened and read by Mr. James Gleasen, Security Specialist. Mr. Gleasen is the only person in the company who sees the report. If the report contains no adverse information the Employment Representative is so advised. If the report contains information which raises questions about the applicant's ability to perform duties in a safe and secure fashion the Security Specialist consults with the Supervisor of Employment on the matter. If the outcome of this discussion is to withdraw the offer the Employment Unit is advised, the applicant is informed and the offer is withdrawn. If the joint decision is that the information does not require withdrawal of the offer, processing continues as described below.



- (2) For all applicants psychological assessment is conducted:
  - (a) Applicants are given the Minnesota Multiphasic Personality Inventory, Guilford-Zimmerman Temperament Survey, and the Army General Classification Test (Civilian Edition).
  - (b) All applicants (regardless of the pattern of their test scores) are interviewed by a consulting clinical psychologist who has been supplied with copies of test results and the individual's application for employment.
  - (c) Based on the interview, test results and application information the consulting psychologist recommends that the applicant be Cleared or Not Cleared for further employment consideration.
  - (d) Feedback to each applicant concerning test scores is provided by the consulting clinical psychologist during the interview.
  - (e) The consulting psychologist prepares a report summarizing the interview, findings and recommendations. This confidential report is retained in Psychological Services for documentation purposes.  
These reports are not available to members of the Employment Unit or other Baltimore Gas and Electric employees.
- (3) A medical examination is conducted.
- (4) A check is made of the applicant's references. This includes obtaining school records to verify claimed credentials and times and periods of attendance. It also permits an opportunity to identify any gaps in the applicant's chronology of life events and to disclose any overlaps or apparent contradictions in time, residence, employment, etc. Previous employers are asked to verify applicant-supplied data regarding positions held, responsibilities, salary, dates of employment, etc. Applicants with a record of military service

are required to present their DD 214 form and their quarterly marks and class standings where applicable.

C. Current B. G. & E. Employees Temporarily Assigned to CCNPP  
(Supplementary Work Forces for Outages, etc.)

1. Supervisors cognizant of criteria set out in ANSI 18.17 designate employees to participate in a Supplementary Work Force (SWF).
2. Personnel records are reviewed by Employee Services.
3. Minnesota Multiphasic Personality Inventory is administered.
4. If the MMPI score(s) indicate a potential problem, the individual's personnel folder is reviewed by a professional member of the Psychological Services Unit.
5. If, after this review, a potential problem is felt to exist, the employee is interviewed by the consulting clinical psychologist.
6. If the consulting psychologist judges that the employee might present a risk if assigned to CCNPP, the employee is not assigned.
7. The consulting psychologist prepares a report of the interview and recommendations which is retained for documentation purposes in the Psychological Services Unit as confidential data.

IV. Experience With the Baltimore Gas and Electric Company Program

A. Overview

As of April 1, 1978 a total of 575 individuals have been processed by the Baltimore Gas and Electric Company Program. This number does not include individuals comprehensively evaluated under earlier procedures. All employees at the CCNPP, a total of 300 employees, have been tested and processed. Twenty-five (25) applicants have been processed.

In the total are 250 employees from other components of the Baltimore Gas and Electric Company selected as members of a Supplementary Work Force (SWF) to assist at the time of outages, etc.

To date a total of 7 individuals have been identified as having potential for behavior which could present an unnecessary risk to the safety and security of the facility. This has included 2 applicants, 3 employees being processed for participation in the SWF and 2 employees at the CCNPP. The applicants were withdrawn from further considerations. The SWF candidates were not permitted to work at CCNPP. The disposition of the two employees at CCNPP is discussed below.

#### B. Current CCNPP Employees with Problems

Psychological counseling was suggested to the two current CCNPP employees identified as having significant adjustment problems.

One employee who had revealed in his interview with the consulting psychologist that he was very tense and fearful about making mistakes while at work (none had actually occurred) acknowledged a desire for help. He was given the names of several psychotherapists known to the B.G. & E. consulting psychologist. After a relatively short course of treatment the employee and the treating psychologist felt that the problem symptoms were under control. In accordance with arrangements between the employee, the treating psychologist and the consulting psychologist, a clearance statement was executed by the treating psychologist for incorporation in the confidential files of B.G. & E. Psychological Services. The employee remained on the job at CCNPP during the course of his treatment.

The second employee to whom psychotherapy was suggested by the consulting psychologist had a history of stubborn independence with strong but rarely expressed angry feelings toward authority figures which had



occasionally surfaced in passive-aggressive slow downs by "going the long way around", etc. This employee recognized that his continued surliness and grudging cooperation could restrict his career advancement and affect his home adjustment as well. Nevertheless, continuing his independent stance, he told the consulting psychologist that he wanted to try to work out these issues on his own, relying heavily on discussions with his very supportive wife. Since there were no indications of potential explosiveness or loss of control the posture of the utility has been to limited to encouraging the employee to consider seriously the option of psychotherapeutic sessions.

#### C. SWF Candidates Who Were Not Accepted

The three employees originally named for participation in the SWF who were considered to present hazards if assigned to the CCNPP were not assigned. Their places on the SWF were filled by other employees of comparable skills who presented no evidence of potential adverse response to the circumstances they might encounter on such an assignment.

Among the rejected employees for the SWF were:

1. An employee with an acknowledged history of restlessness, excessive "practical-joke" behavior and strong parental expression of concern and fear over his assignment. His personality test scores were quite abnormal.
2. An employee whose marriage was fragile following several separations, in-law problems, financial pressures, excessive alcohol usage and the proximate delivery of a child. It was felt that in view of the employee's background and circumstances, the alternatives of extensive daily commuting (200 miles round trip per day) or prolonged absence from his family (if the employee

boarded near CCNPP) and the rigorous outage work schedule would adversely affect the employee's somewhat shaky personality judgment with a resultant increased probability of behavior that could present a safety or security hazard.

#### D. Comment

These illustrations are offered to indicate the sensitivity of the B.G. & E. program in detecting potential problems and the preventive mental health and rehabilitative philosophy which such a program can encompass. No such possibility exists with the program proposed by the Commission.

#### V. Essential Components of an Effective Clearance Program

Since there have not been reported, to date, any instances of diversion, misuse or sabotage of Special Nuclear Material there are no existing criteria against which any proposed programs can be measured. The following criterion elements are recommended for comparing proposed alternative methodologies for a clearance program:

##### A. Protection of the Civil Rights of Employees and Applicants:

1. Privacy
2. Confidentiality
3. Avoidance of stigma (protection against potential "black listing")

##### B. Job-Relevance of Data Collected and Utilized

##### C. Consistency of Policies and Procedures Between Units of Public

Utilities Generating Energy Through both Nuclear and Non-Nuclear Means

The training and experience of many employees of electrical generating utilities is useful in both nuclear and non-nuclear facilities. To pose

unrealistic or costly barriers for the utility and the employee which would restrict or confine these capabilities to one type of facility does a disservice to all concerned. (The proposed NRC Program, in addition to its extreme expense, makes no provision for eliminating or controlling the delay while an otherwise qualified employee waits for the NRC procedures to be initiated and completed.)

Utilities must be sensitive to employee morale. If employees at the nuclear facility feel that they are not treated equally with employees in other areas of the company, morale will be adversely effected. Similarly, employees in the non-nuclear facilities might feel that the employees in the nuclear unit receive special attention. This differentiation with its possibility for eroding morale is an issue to which the utility must be continually alert.

#### D. Employee Retention

Many nuclear generating facilities are located in somewhat remote areas. Therefore, the turnover of employees may be a matter of special concern. As a consequence, both during initial recruitment and evaluation as well as during supervisory conferences at regular intervals, it is desirable to recognize and deal with the employee's attitudes and feelings about all aspects of the work and living environment. There are high costs associated with recruitment of some special categories of employees in nuclear plants. Therefore, it is particularly important, from the point of view of cost containment, to make every effort to keep the turnover to a minimum. The proposed NRC Clearance Program is completely unresponsive to this issue. It is, however, a matter of vital concern to the overall operation of the utility.



An important part of programs to enhance employee adjustment and to facilitate retention of valued employees and thus to keep down the turnover and associated costs is the provision of counseling support. The Baltimore Gas and Electric Company has had for a number of years a program of employee counseling which is available to individuals experiencing personal distress or ineffectiveness for a variety of reasons. The program of evaluation currently in operation at the Baltimore Gas and Electric Company permits an identification of individuals who may be in the early stages of strain, the time when professional help has the greatest likelihood of success with a minimum of interference in the individual's family and work effectiveness. In addition to helping the employee and reducing costs due to loss of employee work-time, counseling efforts are likely to strengthen the employee's loyalty and commitment to the Utility.

The retention of employees is possibly correlated with job satisfaction. In our opinion this is a very important issue which the Nuclear Regulatory Commission would do well to consider. Since there have been no reported incidents of misuse or diversion of special nuclear material, it is not possible to identify the characteristics of potential suspect individuals. Saboteurs trained by governments hostile to the United States or by non-governmental "terrorist" groups who might attempt to infiltrate the work force of a nuclear generating facility would probably have carefully developed "identities" and credentials to minimize the risk of detection by traditional clearance techniques, since these could probably be predicted and avoided by such hostile entities. The pool of individuals who might become disaffected, however, will be significantly reduced if the employees

of nuclear generating facilities are generally satisfied in their employment situation. Company efforts, such as providing a variety of counseling procedures, seem likely to reduce the vulnerability of employees to self-induced sabotage and strengthen the resistance of employees to seduction and/or blackmail.

#### E. Credible Bases for Non-Clearance

The NRC's proposed regulation would provide neither applicant, employee nor employer with any information about the basis for a decision not to extend clearance. A multitude of questions have been posed in the past about similar kinds of clearance decisions in which the non-cleared individual had no opportunity to confront witnesses or to challenge the validity of derogatory statements. Because of this approach the credibility of the entire system is threatened; all the interested parties are kept completely in the dark. It can be predicted with a high degree of confidence that the adoption of the NRC's proposed program would result in dissatisfaction, irritation, anger and possibly litigation by individuals who are refused clearance and by utilities who have invested in recruitment of scarce and valuable potential employees when they are informed that the individual cannot be employed, for reasons undisclosed to anyone. The utility would, for example, be left unaware as to whether the disqualifying factor should also serve to exclude the individual from employment opportunities elsewhere in the Company.

In contrast, the current program at the Baltimore Gas and Electric Company is easily understood by all parties concerned. Employees and applicants alike do not question the logic which would deny access to hazardous materials and to facilities utilizing and processing such hazardous materials to individuals whose emotional stability can be called in question as

a result of historical data and/or present psychometric and clinical information. This logical connection would also be easily understood by the lay public. This kind of "security measure" would undoubtedly win widespread endorsement, particularly in contrast to the clandestine and unappealable procedures proposed by NRC.

Applicants or employees may not like the fact that their current adjustment status warrants their being considered as a potential risk, but they cannot refute the logic inherent in the program in light of the security needs which we all agree must be satisfactorily addressed.

#### VI. Conclusion

Electric generating utilities, like the industry generally, have experience over many years with the applications of the science and profession of psychology. Many utilities, like the Baltimore Gas and Electric Company, have in-house psychologists in a wide variety of tasks. Other utilities make use of consulting psychologists. No utility site is likely to be too remote geographically to be accessible to competent psychological consultation. We believe that the Commission would be prudent to adopt a program similar to that currently utilized by the Baltimore Gas and Electric Company as described in this testimony. We predict with confidence that no affected utility would be delayed in implementing such a program by the lack of availability of qualified psychological personnel. We are also confident that each utility, under the program we recommend, will find the psychologists interested and resourceful in adapting to local circumstances while meeting NRC objectives.

In this testimony the Association for the Advancement of Psychology has advocated that qualified psychologists utilizing scientifically



developed and validated tests and inventories can efficiently identify individuals whose personality characteristics or adjustment are associated with increased probability of behaviors which may be hazardous if these individuals were involved in the handling of Special Nuclear Materials.

We reiterate our concern that the NRC's current proposal advocates procedures which have not been scientifically validated and which, by the nature of the data acquisition and processing, can never be evaluated. In contrast, the tests and inventories developed by psychologists and used in wide variety of industrial, military, institutional and governmental agency settings can be continually evaluated for their internal consistency and accuracy of prediction. The experience of psychologists and of the organizations which have used their skills and procedures is that improved predictions and more efficient employee assignments are possible as data are accumulated and evaluated against appropriate on-the-job criteria.

While it is not our contention that only psychologists are professionally prepared to ascertain indications of potential aberrant behavior, we strongly affirm the conviction that in any professional undertaking such assessments will be significantly aided by utilizing the results of appropriate personality tests and inventories. In addition, we believe that the widespread usage and acceptance of such tests and inventories can legitimately enhance the credibility of the Clearance Program the NRC wishes to establish.

In its report to the Commission we trust that the Hearing Board will communicate our contention that the Baltimore Gas and Electric Company Clearance Program has the following advantages over the program proposed by the Commission:

- A. Scientifically based instruments
- B. Opportunity for continuous monitoring of employee behavior and adjustment rather than recertification on a periodic basis with no attention to behavior/adjustment between recertification dates.
- C. Minimal intrusion in the privacy of employees and applicants.
- D. Utilization of identified job-relevant factors in filling positions.
- E. Decentralized, that is, utility-based, assessment rather than centralized, agency-based, assessment.
- F. Lower Costs
- G. Consistent coordination with the company-wide program to improve working conditions and morale.
- H. Compatibility with the company research effort to identify individuals with potential for future development and advancement.
- I. Coordination with the company program to provide appropriate counseling services to its employees on a preventive mental health model.

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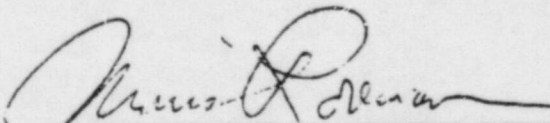
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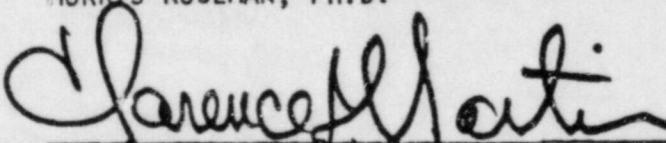
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This testimony was prepared for the Association for the Advancement of Psychology by Morris Roseman, Ph.D. Dr. Roseman completed his Doctoral training in 1949 at Duke University. He is a Certified Psychologist in the State of Maryland, a Diplomate in Clinical Psychology of the American Board of Professional Psychology, a Fellow of the American Psychological Association and currently the Representative of the Maryland Psychological Association to the Council of Representatives of the American Psychological Association. For a number of years he has provided consultation to individuals, industrial organizations and institutions on a variety of problems. These have included diagnostic studies, educational and career counseling evaluations and consultations, studies for selection of management and executive personnel and provision of psychotherapy to individuals in various stages of personal distress.

This testimony draws heavily on Dr. Roseman's experience in providing consultation to the Baltimore Gas and Electric Company in connection with their program of minimizing safety and security hazards as a consequence of possible "mental aberrations" among personnel having access to the Calvert Cliffs Nuclear Power Plant (CCNPP). This testimony is not to be considered as testimony of the Baltimore Gas and Electric Company although appropriate members of the management and legal staff of that firm have reviewed and confirmed that the description of their program in this statement is accurate.

  
MORRIS ROSEMAN, Ph.D.

  
CLARENCE MARTIN, Executive Director &  
General Counsel