UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

December 30, 1997

NRC INFORMATION NOTICE 97-90: USE OF NONCONSERVATIVE ACCEPTANCE CRITERIA IN SAFETY-RELATED PUMP SURVEILLANCE TESTS

Addressees

All holders of operating licenses for nuclear power reactors except those who have ceased operations and have certified that fuel has been permanently removed from the vessel.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to alert addressees to potential problems associated with safety-related pump surveillance testing. It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Background

Several recent inspections in the area of safety-related pump performance have resulted in the issuance of Notices of Violation of Appendix B, Criterion XI, "Test Control," of Part 50 of Title 10 of the Code of Federal Regulations (10 CFR Part 50) because licensees have concentrated on inservice testing (IST) requirements without ensuring that design requirements were met. There are two applicable primary requirements for safety-related pump testing: (1) to ensure that Criterion XI is met in that each safety-related pump achieves its minimum design-required performance and (2) to ensure that each safety-related pump meets the requirements of Section XI, "Inservice Testing," of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code). Criterion XI of Appendix B to 10 CFR Part 50 requires that a test program be established with written test procedures that incorporate the requirements and acceptance limits contained in applicable design documents. Although licensees have established IST acceptance criteria that meet the requirements specified in the ASME Code, the criteria at some plants allowed safety-related pumps to degrade below the performance assumed in the accident analyses.

Description of Circumstances

In June 1996, the NRC staff found that the licensee for the Point Beach Nuclear Plant had failed to ensure that the safety-related pump tests for several pumps had acceptance criteria that incorporated the acceptance limits from applicable design documents (Inspection Report 50-266/96-06 and 50-301/96-06, dated September 5, 1996 [Accession 9609170044]). These tests were used to ensure operability of the pumps, but the acceptance criteria were based only on the ASME Code requirements. The NRC staff found that the average performance of the service water pumps documented as acceptable by IST tests was 12.4 percent below the average performance assumed in the large-break, loss of coolant accident (LOCA) analysis.

The NRC staff also noted that the IST-based acceptance criterion of 10-percent degradation would have allowed the safety injection (SI) pumps to degrade more than the 5 percent specified in the final safety analysis report (FSAR) small-break LOCA analysis. The NRC staff found that other pumps would also have been allowed to degrade below minimum requirements.

In December 1996, a system operational performance inspection (SOPI) at the Donald C. Cook Nuclear Power Plant revealed a similar situation (Inspection Report 50-315/96-13 and 50-316/96-13, dated February 4, 1997 [Accession 9702070476]). NRC inspectors reviewed the ability of the centrifugal charging pumps (CCPs) to satisfy design requirements. One of these requirements, as specified in the plant's technical specifications, was the ability to provide adequate reactor coolant system boration from the refueling water storage tank (RWST). During this inspection, the licensee performed a charging system flow calculation and determined that the allowable CCP degradation to ensure adequate reactor coolant system boration from the RWST was 8.5 percent for Unit 1 and 2.5 percent for Unit 2, rather than the 10-percent degradation limit specified by the ASME Code. The ASME Code acceptance limits would have allowed the CCP performance to degrade to less than the technical specification requirements.

In January 1997, a SOPI at the Kewaunee Nuclear Power Plant identified inadequate auxiliary feedwater (AFW) and residual heat removal (RHR) pump surveillance testing (Inspection Report 50-305/97-02, dated March 28, 1997 [Accession 9704040065]). In the AFW instance, the licensee was using an IST acceptance limit of 160 gallons per minute (gpm) delivered to the steam generator for each of the pumps, although the license-basis requirement was 200 gpm (not including 40 gpm of recirculation flow). The surveillance procedure used the original vendor's pump performance curve with an acceptance criterion of 10-percent degradation from

these curves. When this criterion was applied to the AFW pumps, it was determined that all AFW pumps were performing below license-basis requirements. This situation resulted in the plant being outside of its accident analysis and requiring an operability determination for the AFW pumps. For the RHR pumps, the IST lower band acceptance limit was 1330 gpm, which was below the accident analysis required flow of 1400 gpm. In this case, the pumps were shown to be operating right at the accident analysis limit.

In March 1997, an inspection at Grand Gulf Nuclear Station determined that the surveillance test procedure acceptance criterion for one of the standby service water (SSW) pumps and the high-pressure core-spray (HPCS) service water pump did not ensure that they were capable of meeting their accident analysis criterion (Inspection Report 50-416/97-05, dated May 29, 1997 [Accession 9706030042]). The reference values for the surveillance test procedure acceptance criterion for the SSW pumps were based on initial preoperational testing because this testing demonstrated better performance than predicted by the vendor curves [124 pound per square inch differential (psid) at 10,500 gpm]. The accident analysis was based on the vendor curves. The SSW pumps were rebuilt in April 1996. Post-maintenance testing of the "A" pump revealed hydraulic performance of 131.9 psid at 10,500 gpm, which was 5 percent below the previous reference value. The licensee established this performance point as the new reference value. With the ASME Code allowable degradation of 10 percent, the new minimum ASME Code acceptance criterion at 10,500 gpm was 118.8 psid, which was below the value on the vendor's curve. The accident analysis criterion for the HPCS service water pump of 83.8 psid at 700 gpm was based on the vendor's pump curves. The surveillance test procedure acceptance criterion for this pump considered a developed head of 81.9 psid acceptable. Therefore, both surveillance procedures would have considered their respective pumps to be operable, even though their performance did not satisfy the accident analysis criterion.

In April 1997, an inspection at Fort Calhoun Station determined that the surveillance test procedure acceptance criteria for pumps in five safety-related systems did not ensure that they were capable of meeting their accident analysis performance criteria (Inspection Report 50-285/97-06, dated June 27, 1997 [Accession 9707010011]). These pumps were the AFW pumps, the high- and low-pressure SI pumps, the containment spray pumps, and the raw water pumps. In particular, the motor-driven AFW pump's minimum performance criterion for delivery to the steam generators was 1033 psid at 200 gpm. Since this analysis did not account for the errors due to main steam safety valve set point tolerance and accumulation, the errors changed the minimum performance requirements to 1079 psid at 200 gpm. However, using the degradation of 10 percent allowed by the ASME Code, the surveillance test procedure acceptance criterion considered the pump to be operable with 990 psid at 200 gpm. Subsequent to these inspection findings, the licensee initiated a review of all safety-related pumps in its IST program. Four other pumps were found to have surveillance procedure minimum performance acceptance criteria lower than the criteria specified in their respective accident analyses.

In May 1997, a SOPI at the Prairie Island Nuclear Generating Plant found that the lower acceptance limits for the IST for the AFW pumps were below the most limiting accident analysis value specified in the updated FSAR (Inspection Report 50-282/97-08 and 50-306/97-08, dated July 16, 1997 [Accession 9707220149]). The maximum degradation allowed by design from the reference pump curve was about 4 percent, whereas the IST acceptance criteria allowed 10-percent degradation. Because the AFW pumps appeared to be operating close to the accident analysis limit (200.8 gpm vs. 200 gpm), a specific evaluation had to be performed to ensure operability.

Discussion

These examples identify inadequacies in surveillance test procedure acceptance criteria that had the potential for, and in some cases did result in, pumps not meeting their accident analysis acceptance criteria. IST is intended to monitor degradation of components. The ASME Code does not require that pumps be tested at design-basis conditions. Many licensees use the ASME test to verify compliance with the ASME Code and the pump design requirements contained in plant design-basis documentation such as the FSAR. The ASME Code allows a specific percentage of degradation of pump hydraulic performance from an established reference value before action must be taken. If the minimum design performance as specified in the plant design documentation is more stringent than the ASME Code acceptance criteria, then the test acceptance criteria must be adjusted to avoid the actual pump performance being allowed to degrade below the minimum acceptable design performance. In addition, licensees need to ensure that original plant design-basis calculations, or revisions to these calculations, are properly integrated into surveillance test procedure acceptance criteria. The NRC published guidance on this issue in NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants." Section 5.6, "Operability Limits of Pumps," states that operability limits must always meet, or be consistent with, licensing-basis assumptions in a plant's safety analysis. Related guidance can also be found in ASME OM-SG-1997, Part 15, "Standard for Performance Testing of Emergency Core Cooling Systems in Pressurized Water Reactor Plants (OM Part 15)," which will be published in late 1997. A similar standard for boiling-water reactors (OM Part 20) is scheduled to be published in 1998.

This information notice requires no specific action or written response. However, recipients are reminded that they are required to consider industry-wide operating experience (including NRC information notices) where practical, when setting goals and performing periodic evaluations under Section 50.65, "Requirement for monitoring the effectiveness of maintenance at nuclear power plants," to Part 50 of Title 10 of the Code of Federal Regulations. If you have any questions about the information in this notice, please contact one of the technical contacts listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

Jack W. Roe

Jack W. Roe, Acting Director
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Technical contacts: Eric R. Duncan, RIII
(630) 829-9739
E-mail: erd@nrc.gov

Robert M. Lerch, RIII
(630) 829-9759
E-mail: rml5@nrc.gov

Gerard F. O'Dwyer, RIII
(630) 829-9624
E-mail: gfo@nrc.gov

Thomas F. Stetka, RIV
(817) 860-8247
E-mail: tfs@nrc.gov

Joseph Colaccino, NRR
301-415-2753
E-mail: jxc1@nrc.gov

Attachment: List of Recently Issued NRC Information Notices

Attachment filed in Jacket

LIST OF RECENTLY ISSUED NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
97-89	Distribution of Sources and Devices Without Authorization	12/29/97	All sealed source and device manufacturers and distributors
97-88	Experiences During Recent Steam Generator Inspections	12/16/97	All holders of OLs for pressurized-water reactors except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor
97-87	Second Retrofit to Industrial Nuclear Company IR 100 Radiography Camera, to Correct Inconsistency in 10 CFR Part 34 Compatibility	12/12/97	All industrial radiography licensees
97-86	Additional Controls for Transport of the Amersham Model No. 660 Series Radiographic Exposure Devices	12/12/97	Registered users of the Model No. 660 series packages, and Nuclear Regulatory Commission industrial radiography licensees
97-85	Effects of Crud Buildup and Boron Deposition on Power Distribution and Shutdown Margin	12/11/97	All holders of OLs for pressurized-water reactors, except those licensees who have permanently ceased operations and have certified that the fuel has been permanently removed from the reactor vessel
97-84	Rupture in Extraction Steam Piping as a Result of Flow-Accelerated Corrosion	12/11/97	All holders of OLs for nuclear power reactors except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel
95-49, Sup. 1	Seismic Adequacy of Thermo-Lag Panels	12/10/97	All holders of OLs for nuclear power reactors

OL = Operating License
CP = Construction Permit

This information notice requires no specific action or written response. However, recipients are reminded that they are required to consider industry-wide operating experience (including NRC information notices) where practical, when setting goals and performing periodic evaluations under Section 50.65, "Requirement for monitoring the effectiveness of maintenance at nuclear power plants," to Part 50 of Title 10 of the Code of Federal Regulations. If you have any questions about the information in this notice, please contact one of the technical contacts listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

original signed by

Jack W. Roe, Acting Director
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Technical contacts: Eric R. Duncan, RIII
(630)829-9739
E-mail: erd@nrc.gov

Robert M. Lerch, RIII
(630) 829-9759
E-mail: rml5@nrc.gov

Gerard F. O'Dwyer, RIII
(630) 829-9624
E-mail: gfo@nrc.gov

Thomas F. Stetka, RIV
(817) 860-8247
E-mail: tfs@nrc.gov

Joseph Colaccino, NRR
301-415-2753
E-mail: jxc1@nrc.gov

Attachment: List of Recently Issued NRC Information Notices

OFC	PECB:DRPM*	TECH ED*	RIII/DRS*	RIII/DRS*
NAME	T. Greene	R. Sander	P. Pelke	M. Ring
DATE	12 / 11 / 97	11 / 25 / 97	11 / 26 / 97	12 / 1 / 97

OFC	EMEB:DE*	SC/EMEB:DE*	C/EMEB:DE*	RIV/DRS*
NAME	J. Colaccino	D. Terao	R. Wessman	T. Stetka
DATE	12 / 10 / 97	12 / 12 / 97	12 / 15 / 97	11 / 26 / 97

OFC	SC/PECB:DRPM	C/PECB:DRPM	D/DRPM
NAME	R. Dennig*	S. Richards*	J. Roe*
DATE	12 / 16 / 97	12 / 22 / 97	12 / 22 / 97

* - See previous concurrence

[OFFICIAL RECORD COPY]
DOCUMENT NAME: 97-90.IN

This information notice requires no specific action or written response. However, recipients are reminded that they are required to consider industry-wide operating experience (including NRC information notices) where practical, when setting goals and performing periodic evaluations under Section 50.65, "Requirement for monitoring the effectiveness of maintenance at nuclear power plants," to Part 50 of Title 10 of the Code of Federal Regulations. If you have any questions about the information in this notice, please contact one of the technical contacts listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

Jack W. Roe, Acting Director
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Technical contacts: Eric R. Duncan, RIII
(630)829-9739
E-mail: erd@nrc.gov

Robert M. Lerch, RIII
(630) 829-9759
E-mail: rml5@nrc.gov

Gerard F. O'Dwyer, RIII
(630) 829-9624
E-mail: gfo@nrc.gov

Thomas F. Stetka, RIV
(817) 860-8247
E-mail: tfs@nrc.gov

Joseph Colaccino, NRR
301-415-2753
E-mail: jxc1@nrc.gov

Attachment: List of Recently Issued NRC Information Notices

OFC	PECB:DRPM*	TECH ED*	RIII/DRS*	RIII/DRS*
NAME	T. Greene	R. Sander	P. Pelke	M. Ring
DATE	12 / 11 / 97	11 / 25 / 97	11 / 26 / 97	12 / 1 / 97

OFC	EMEB:DE*	SC/EMEB:DE*	C/EMEB:DE*	RIV/DRS*
NAME	J. Colaccino	D. Terao	R. Wessman	T. Stetka
DATE	12 / 10 / 97	12 / 12 / 97	12 / 15 / 97	11 / 26 / 97

OFC	SC/PECB:DRPM	C/PECB:DRPM	D/DRPM
NAME	R. Dennig*	S. Richards	J. Roe
DATE	12 / 16 / 97	12/ 22 97	12/ 22 /97

* - See previous concurrence mkm 12/19/97

[OFFICIAL RECORD COPY]
DOCUMENT NAME: G:\TAG\INIST

This information notice requires no specific action or written response. However, recipients are reminded that they are required to consider industry-wide operating experience (including NRC information notices) where practical, when setting goals and performing periodic evaluations under Section 50.65, "Requirement for monitoring the effectiveness of maintenance at nuclear power plants," to Part 50 of Title 10 of the Code of Federal Regulations. If you have any questions about the information in this notice, please contact one of the technical contacts listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

Jack W. Roe, Acting Director
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Technical contacts: Eric R. Duncan, RIII
630-829-9739
E-mail: erd@nrc.gov

Robert M. Lerch, RIII
630-829-9759
E-mail: rml5@nrc.gov

Gerard F. O'Dwyer, RIII
630-829-9624
E-mail: gfo@nrc.gov

Thomas F. Stetka, RIV
817-860-8247
E-mail: tfs@nrc.gov

Joseph Colaccino, NRR
301-415-2753
E-mail: jxc1@nrc.gov

Attachment: List of Recently Issued NRC Information Notices Attachment filed in Jacket

OFC	PECB:DRPM*	TECH ED*	RIII/DRS*	RIII/DRS*
NAME	T. Greene	R. Sander	P. Pelke	M. Ring
DATE	12 / 11 / 97	11 / 25 / 97	11 / 26 / 97	12 / 1 / 97

OFC	EMEB:DE*	SC/EMEB:DE*	C/EMEB:DE*	RIV/DRS*
NAME	J. Colaccino	D. Terao	R. Wessman	T. Stetka
DATE	12 / 10 / 97	12 / 12 / 97	12 / 15 / 97	11 / 26 / 97

OFC	SC/PECB:DRPM	C/PECB:DRPM	D/DRPM
NAME	R. Dennig	S. Richards	J. Roe
DATE	12/16 /97	/ /97	/ /97

* - See previous concurrence

[OFFICIAL RECORD COPY]
DOCUMENT NAME: G:\TAG\INIST

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact one of the technical contacts listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

Jack W. Roe, Acting Director
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Technical contacts: Eric R. Duncan, RIII
630-829-9739
E-mail: erd@nrc.gov

Robert M. Lerch, RIII
630-829-9759
E-mail: rml5@nrc.gov

Gerard F. O'Dwyer, RIII
630-829-9624
E-mail: gfo@nrc.gov

Thomas F. Stetka, RIV
817-860-8247
E-mail: tfs@nrc.gov

Joseph Colaccino, NRR
301-415-2753
E-mail: jxc1@nrc.gov

Attachment: List of Recently Issued NRC Information Notices

OFC	PECB:DRPM	TECH ED*	RIII/DRS*	RIII/DRS*
NAME	T. Greene (ag)	R. Sander	P. Pelke	M. Ring
DATE	12 / 11 / 97	11 / 25 / 97	11 / 26 / 97	12 / 1 / 97

OFC	EMEB:DE	SC/EMEB:DE	C/EMEB:DE	RIV/DRS*
NAME	J. Colaccino JC	D. Terao DT	R. Wessman	T. Stetka
DATE	12 / 10 / 97	12 12 97	12 15 / 97	11 / 26 / 97

OFC	SC/PECB:DRPM	C/PECB:DRPM	D/DRPM
NAME	R. Dennig	S. Richards	J. Roe
DATE	/ / 97	/ / 97	/ / 97

* - See previous concurrence

[OFFICIAL RECORD COPY]
DOCUMENT NAME: G:\TAG\INIST

(301) 415-2753

E-mail: jxc1@nrc.gov

Attachment: List of Recently Issued NRC Information Notices

OFC	PECB:DRPM	TECH EDITOR	RIII/DRS	RIII/DRS
NAME	T. Greene	RSanders	M. Ring	P. Pelke
DATE	/ /97	11/25/97	/ /97	/ /97

OFC	RIII/DRS	EMEB:DE	SL/EMEB:DE	C/EMEB:DE
NAME	J. Colaccino	T. Derao	R. Dennig	R. Wessman
DATE	/ /97	/ /97	/ /97	/ /97

OFC	C/PECB:DRPM	D/DRPM
NAME	S. Richards	J. Roe
DATE	/ /97	/ /97

[OFFICIAL RECORD COPY]

DOCUMENT NAME: G:\TAG\INIST

Mail Envelope Inf(847C3667.2A0 : 14 : 10767)

Subject: IN REVIEW (TAC M99024)
Creation Date: 11/26/97 9:47am
From: Thomas Greene

Created By: WND2.WNP4:TAG

Routed Slip Recipients	Action	Date & Time
ERD (Eric Duncan)	Delivered	11/26/97 09:54a
	Opened	11/26/97 03:13p
	Completed	11/26/97 03:17p
TAG (Thomas Greene)	Delivered	11/26/97 03:11p
	Opened	12/03/97 12:35p
	Completed	12/03/97 12:43p

User	Expands to
ERD	CHD1.CHP1:ERD
TAG	WND2.WNP4:TAG

Files	Size	Date & Time
INIST	34245	11/26/97 02:51am
MESSAGE	192	11/26/97 09:47am
View	4109	11/26/97 04:47am

Options
Auto Delete: No
Expiration Date: None
Notify Recipients: Yes
Priority: Normal
Reply Requested: No
Return Notification:
Send Mail Receipt when Opened

Concealed Subject: No
Security: Normal

To Be Delivered: Immediate
Status Tracking: Delivered & Opened

Mail Envelope Inf(347C34AE.2A0 : 14 : 10767)

Subject: IN REVIEW (TAC M99024)
Creation Date: 11/26/97 9:39am
From: Thomas Greene

Created By: WND2.WNP4:TAG

Routed Slip Recipients	Action	Date & Time
RML5 (Robert Lerch)	Delivered	11/26/97 09:46a
	Opened	11/26/97 10:01a
	Completed	11/26/97 10:06a
TAG (Thomas Greene)	Delivered	11/26/97 09:59a
	Opened	11/26/97 11:21a
	Completed	12/01/97 11:07a

User	Expands to
RML5	CHD1.CHP1:RML5
TAG	WND2.WNP4:TAG

Files	Size	Date & Time
INIST	34245	11/26/97 02:51am
MESSAGE	192	11/26/97 09:39am
View	4109	11/26/97 04:39am

Options
Auto Delete: No
Expiration Date: None
Notify Recipients: Yes
Priority: Normal
Reply Requested: No
Return Notification:
Send Mail Receipt when Opened

Concealed Subject: No
Security: Normal

To Be Delivered: Immediate
Status Tracking: Delivered & Opened

Mail Envelope Inf(848FF55E.2A0 : 14 : 10767)

Subject: IN on IST testing for review
Creation Date: 12/11/97 9:14am
From: Thomas Greene

Created By: WND2.WNP4:TAG

Routed Slip Recipients	Action	Date & Time
GFO (Gerard O'Dwyer)	Delivered	12/11/97 09:22a
	Opened	12/11/97 09:23a
	Completed	12/11/97 09:37a
TAG (Thomas Greene)	Delivered	12/11/97 09:31a
	Opened	12/11/97 09:50a
	Completed	12/11/97 09:51a

User	Expands to
GFO	CHD1.CHP1:GFO
TAG	WND2.WNP4:TAG

Files	Size	Date & Time
INIST	34296	12/11/97 02:53am
MESSAGE	116	12/11/97 09:14am
View	4109	12/11/97 04:14am

Options
Auto Delete: No
Expiration Date: None
Notify Recipients: Yes
Priority: Normal
Reply Requested: No
Return Notification:
Send Mail Receipt when Opened

Concealed Subject: No
Security: Normal

To Be Delivered: Immediate
Status Tracking: Delivered & Opened

Mail Envelope Inf(347C380C.2A0 : 14 : 10767)

Subject: IN REVIEW (TAC M99024)
Creation Date: 11/26/97 9:54am
From: Thomas Greene

Created By: WND2.WNP4:TAG

Routed Slip Recipients	Action	Date & Time
PRP (Paul Pelke)	Delivered	11/26/97 10:01a
	Opened	11/26/97 10:05a
	Completed	11/26/97 10:15a
TAG (Thomas Greene)	Delivered	11/26/97 10:09a
	Opened	11/26/97 11:22a
	Completed	12/03/97 12:45p

User	Expands to
PRP	CHD1.CHP1:PRP
TAG	WND2.WNP4:TAG

Files	Size	Date & Time
INIST	34245	11/26/97 02:51am
MESSAGE	271	11/26/97 09:54am
View	4109	11/26/97 04:54am

Options
Auto Delete: No
Expiration Date: None
Notify Recipients: Yes
Priority: Normal
Reply Requested: No
Return Notification:
Send Mail Receipt when Opened

Concealed Subject: No
Security: Normal

To Be Delivered: Immediate
Status Tracking: Delivered & Opened

Mail Envelope Inf(847C38BF.2A0 : 14 : 10767)

Subject: IN REVIEW (TAC M99024)
Creation Date: 11/26/97 9:57am
From: Thomas Greene

Created By: WND2.WNP4:TAG

Routed Slip Recipients	Action	Date & Time
MAR (Mark Ring)	Delivered	11/26/97 10:04a
	Opened	11/26/97 01:47p
	Completed	12/01/97 02:32p
TAG (Thomas Greene)	Delivered	12/01/97 02:26p
	Opened	12/02/97 07:18a
	Completed	12/03/97 12:45p

User	Expands to
MAR	CHD1.CHP1:MAR
TAG	WND2.WNP4:TAG

Files	Size	Date & Time
INIST	34245	11/26/97 02:51am
MESSAGE	271	11/26/97 09:57am
View	4109	11/26/97 04:57am

Options
Auto Delete: No
Expiration Date: None
Notify Recipients: Yes
Priority: Normal
Reply Requested: No
Return Notification:
Send Mail Receipt when Opened

Concealed Subject: No
Security: Normal

To Be Delivered: Immediate
Status Tracking: Delivered & Opened

From: Thomas Stetka
To: WND2.WNP4(TAG)
Date: 11/26/97 1:44pm
Subject: IN REVIEW (TAC M99024) -Reply

I reviewed the proposed IN and concur with no comments.