Another memo opposing use of Raychem 55 and the selection of sole-source wires for the relevant military specifications. It documents:

- Problems with sole-source suppliers are at Subsection 2.a.

- Raychem’s termination of Stilan wire in favor of an earlier product is noted at Subsection 2.a.

- In Section 2.d “Totally acceptable” nonsole-source substitutes in one application for sole-source Raychem 55 were found to be available from a variety of suppliers at one-twentieth or less the cost of Raychem 55.

- Section 2.c challenges the manufacturers performance ratings for Raychem 55.

- Section 2.f describes the steering of a Military Specification in Air Force use towards Raychem 55 only, and that the language was removed after the lack of tests supporting this sole-source selection was challenged.
DISC-S

SUBJECT: MIL-W-22759/32-35, 41-43

TO: Director
   Defense Logistics Agency
   ATTN: DLA-SE

1. References:
   a. DISC-S letter, 23 Dec 81, subject as above.
   b. Phonecon w/DLA-SE, Mr. Fred Harris.
   c. Bell Helicopter letter, 29 Jun 82, enclosure 70.

2. It is requested that a review be initiated to substantiate the recent move by the Services in standardizing on the use of Raychem 55 material (MIL-W-22759/32-35, 41-43) as a preferred maintenance wire and the probable nomination of this product as the NATO standardized wire. This review is deemed essential in that the specific areas of concern impact not only supply support aspects but also involve technical and safety parameters. The areas concerned are as follows:

   a. Issuance of MIL-W-81044/16-19 (POLY-X) and subsequent release of MIL-W-81044/20-29 is questionable in regard to QPL notices, patents, specification testing, untimely termination of production and Raychem's reverting to their initial Product 44 material after terminating production of Stilam. This action left DISC with no source for procurement or substitutes for Weapon Systems applications.

   b. Issuance of the latest Raychem material (MIL-W-22759/32-35, 41-43) has resulted in a sole source situation for 4 years which is in direct conflict with paragraphs 4-209 and 4-213 of DoD 4120.3-M. Raychem U. K. was recently qualified by the Air Force as a second source. This, in the opinion of Mr. Bill Finkel (DLA-SE), is also a violation of the same paragraphs. NAVAIR was originally approached by Raychem with this product, but refused specification coverage based on alternate materials being available and subsequently recommended the Air Force reconsider their proposed action.
c. The temperature rating of this material at 200° C is questionable in that Raychem utilized ASTM D3032 to establish this value. This ASTM is clear in stating that it is not to be used for establishing temperature ratings but rather only as a comparison guide when tested with a known rated item. This differs from the traditional method of thermal life evaluation where the wire is bent over a mandrel and weights attached to induce stress, thereby simulating in-service use. Bell Helicopter (ref c) has requested a clarification on this rating from the Air Force Investigators' Office at Wright-Patterson AFB. Subsequent to the initial 150° C temperature rating assigned to MIL-W-22759/35, the rating was raised to 200° C without further coordination relying only on an Addendum from Raychem stating their records showed the original tests were conducted at higher temperatures than originally submitted, thereby substantiating the higher rating. The issue of Patents is germane in that letters to the Air Force in February 1978 state a patent is pending for Raychem 55 material. Current contact with Raychem indicates there are no patents involved in the production of this material, however, when queried about Patent Number 4,121,001 issued 17 Oct 78 and Number 4,155,823 issued 22 May 79, it was stated that it is company policy not to discuss those patents.

d. The cost of this sole source material is exorbitant in that provisioning estimated costs and quoted solicitation prices range from $31.00 per foot to $55.50 per foot. DISC forwarded a message to Kelly AFB in regard to this cost and offered a substitute for the Cruise Missile application at $1.40 per foot and available from 14 suppliers. Kelly contacted Boeing in regard to this substitution and it was found to be totally acceptable. This action highlights the non-essential aspects of this material versus other similarly rated constructions.

e. Two Industrial technical committees in wire, SAE-A2H and the NEMA High Temperature Insulated Wire, have raised questions to DISC-E (Assignee Activity) and the Navy in regard to this matter questioning the statements made by Captain Eaton in his memo to the Naval Air Rework Facility (NARF) recommending Raychem 55.

f. MIL-Std-454 was recently revised (Aug 81) to state: MIL-W-22759 shall not be used for Air Force Space use except MIL-W-22759/32-35 and 41-43 (Raychem 55). This statement was questioned by DISC-S representatives in regard to the specific technical aspects which impact on supply support. This document is referenced in FAA regulations thereby further establishing control over the military and civilian aerospace industry by Raychem. The Air Force Space Division Engineer indicated there were no tests run to support this notation and offered to revise this statement. This action was accomplished at a MIL-Std 454 meeting on 9 Mar 1982.
g. This Raychem material is now being specified in several other cable specifications, MIL-C-7078, MIL-C-27500E, and MIL-C-85485, stipulating various testing parameters to ascertain whether total cross-linking has occurred. This test is referred to as a thermal shock test, cross-link proof test, and accelerated heat test, or combinations of both. This inconsistency in terminology is not in accordance with MIL-Std-961A.

h. Another area of concern is the probable nomination of Raychem 55 material as the NATO standardized wire type which the United States is tasked for by November 1982. This appears likely in that the three main components of the NATO Sub Group I Study Group II; Army, Navy, Air Force, have specified a preference to field activities for this material. It is advisable that this review be initiated immediately to coincide with the aforementioned time frames.

3. In conclusion, it is evident there is sufficient justification to initiate a complete review of this matter. The correspondence related herein is available at DISC for review if required. The attached chronology is forwarded per reference b.

JOHN MOTZ
Director
Directorate of Technical Operations