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August 7, 1986

Mr. Ivan Rios
Remedial Project Officer
U.S. Environmental Protection Agency
Region One
John F. Kennedy Federal Building
Boston, Massachusetts 02203

Re: Public Comment Kellogg-Deering Site Operable Unit
No. 1 Norwalk, Connecticut EPA Work Assignment
Number 58-1656

EDO Corporation, of College Point, New York, through its counsel, hereby submits its comments on the Remedial Investigation report at the Kellogg - Deering well field site in Norwalk, Connecticut, dated April, 1986, prepared by the NUS Corporation (the "RI report") and the Feasibility Study dated June, 1986 also prepared by NUS Corporation (the "FS"). These written comments are submitted in response to the EPA's formal request for public comments on the RI and FS at this site. These comments are based on an evaluation of the RI report, the FS and the site by EDO's environmental, engineering and geological consultant, HRP Associates Inc. of New Britain, Connecticut.

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EDO formerly did business at one of the sites in Zone 1 of the NUS Report. EDO occupied part of a property, which is described as being owned by the Bardanise Corporation (a/k/a Zell Products Corporation or Zell), as a tenant through its Electric Indicator Company division. That division has been sold to an entity which now operates as a corporation under the name ELINCO. ELINCO continues to occupy the subject premises, and EDO no longer has a residence in Norwalk.

I. COMMENTS ON THE RI REPORT

1. The RI Report Unduly Concentrates on Zone 1 as The Primary Source of Contamination.

The RI report identifies other sources which deserve further inquiry as potential major sources of contamination. Based on trichloroethene ("TCE") concentrations, the RI Report has indicated that Zone 1, including the property of Bardanise Corporation, which is or has been occupied by ELINCO, EDO, and others, is a zone of major TCE contamination. The three

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remaining zones are identified in the RI report as zones of anomalous increase in TCE concentration. Thus, the RI report implies that Zone 1 is the only area of known source contamination, while the contamination from the remaining three zones are not or cannot be characterized as significant. Presented in this way, the RI report is unduly biased against Zone 1 sources.

Based on the data, Zone 4 should be deserving of designation as a major zone of TCE contamination. (10,950 ppb TCE). Only two monitoring wells, however, are present at the Zone 4 location, thereby making it impossible to determine from the data in hand, the extent of contamination in the overall Zone 4 area. It is not clear whether wells K-9A and K-9B at Zone 4 have only hit "the tip of an iceberg" of contamination.

Moreover, based on an examination of NUS Figure 6-3 in the RI report and a review of the isoconcentration contours, the Zone 3 area would appear to be a contaminant source separate and distinct from any connection to Zone 1. However, no subsurface data is available from wells in the area southwest of wells K-13 and K-13A approaching Zone 3. Further field work must be done to determine whether Zone 3 is an isolated separate source of contamination.

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2. Significantly More Subsurface Testing is Needed.

North and particularly northeast of the Kellogg - Deering well field, relatively little subsurface data is available by comparison to the quantity of data collected from areas east of the well field, particularly the Zone 1 area. Given the fact that data from wells in the Zone 4 area (wells K-9A and K-9B) indicate major TCE concentrations, the Zone 4 area should have been more intensely investigated to determine lateral and vertical distribution of TCE contamination. The lack of such data represents a significant data gap in the RI.

From the manner in which TCE concentration data is presented in NUS Figure 6-3 in the RI report, it would appear that Zone 1 and Zone 3 are separate and distinct TCE contamination source areas. Isoconcentration contours around each Zone are more or less concentric. TCE concentration contours centering on Zone 1 show that TCE concentrations moving to the west of the Zone 1 hot spot decrease to 50 ppb or less near wells K-12, K-2A and K-2B. The Zone 3 hot spot centers around monitor wells 15-R and 17D. Again, isoconcentration

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contours around Zone 3 are more or less concentric indicating that the Zone 3 area is a distinct TCE contamination source area.

Isoconcentration contours concentric around Zone 3 encompass both the Layne 1 and Layne 2 water supply wells, indicating a direct contaminant/hydraulic connection between these two production wells and the Zone 3 TCE source area. No such direct connection between Zone 1 and these production wells can be inferred as the data in NUS Figure 6-3 in the RI report as presently presented. In fact, isoconcentration contours concentric around Zone 3 at its southern extent bend toward the south, indicating there may be yet another potential source of TCE contamination in the area of monitor wells 13M, 13D and 13S or to the south of these wells. Connecticut Department of Transportation ("DOT") property is located in this area. If the Zone 1 TCE source were directly connected to Zone 3, higher TCE concentrations should have been reported for wells K-12, K-2A, K-2B and K-17.

From the data presented in NUS Figure 6-3 in the RI report, Zone 2 is also a distinct source of TCE contamination unconnected to Zone 1. However, like Zone 4, the lateral and

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vertical extent of contamination and the identification of source(s) has not and cannot be determined with the data presented in the RI report.

Overall, sub-areas within or bordering on the study area for which obvious gaps in available subsurface testing and monitoring data exist are indicated in the attached Exhibit A, which is a mark up of NUS Figure 6-3 prepared by HRP Associates Inc.

In addition, EPA has not undertaken an adequate investigation of possible contamination coming from sources on the west side of the Norwalk River. This approach appears to be justified in the RI report by a conclusion that contaminants are being drawn into the wellfield exclusively from the east side of the River. EPA has undertaken no independent hydrogeologic survey to establish that such contaminants can pass beneath the river. The hydrogeologic report relied on by the EPA and its contractor for the conclusion that Norwalk River is not a barrier to ground water flow into the wellfield area appears to be based entirely on the report entitled "Hydrogeology and Ground - Water Quality Study 1982-1983, Connecticut Light and Power Company Landfill, Smith [Kellogg-Deering] Well Field,

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Norwalk Connecticut, June 1983" by Geraghty & Miller, Inc. This report was commissioned by Connecticut Light and Power Company which is or should be a potentially responsible party and accordingly must be viewed as selfserving and without sufficient indicia of reliability. Therefore, EPA, should make its own scientific determination of whether the Norwalk River is a barrier to the flow of ground water into the wellfield from the area east of the river. Further the EPA should further investigate potential sources of contamination west of the Norwalk River.

3. The Data Suggests That Other TCE Sources Exist.

The RI report makes no reference to site specific sources other than Bardanise property in Zone 1 and its tenants Pitney Bowes and ELINCO. The available data suggests other sources for contamination do exist.

What little data is available for Zone 4 indicates a definite potential TCE contamination source or sources in this area. In addition, a potential source or sources of TCE contamination may exist to the south/southwest of monitor wells 13D, 13M and 13S, in the area of the Connecticut DOT property.

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Further, the NUS data does not set aside the potential that a source or sources of TCE contamination exist on or near Zone 3 on property identified as a CL&P landfill.

Finally, in Section 3.1.6 of the RI report, reference is made to two NUS/FIT (Field Investigation Team) site inspections of the Matheis Court Property, completed for the EPA Region 1. This property is located immediately south of the Bardanise property (see NUS Fig. 3-1). To quote Page 3-20 of the RI report:

"...Two site visits/sampling episodes were conducted. On October 23, 1984, five soil samples were obtained from three locations. Analysis indicated relatively high concentrations of methyl ethyl ketone, chloroform, and total xylenes. The second visit occurred in November 19, 1984, at which time seven soil samples were obtained from five locations on the site. Qualitative analytical results indicated significant levels of trichloroethene and tetrachloroethylene (Matheis Court Property Site, 1985)..."

The Region 1 FIT program is separate and distinct from the EPA work assignment which commissioned the NUS well field remedial investigation study and report. While the above reference to the FIT inspections is made, NUS in the RI report did not provide any of the soil analysis data collected by the FIT at the Matheis site. Soil sample collection points are also

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unknown. Thus, it is impossible to determine if the reported "significant levels of TCE" in the soil were from soils adjacent to the Bardanise property or at other locations on the Matheis site.

The Matheis site soil sampling data may be significant for another reason. On April 13, 1984 an HRP Geologist was completing field work at the Bardanise site and reported the following conversation with an unidentified ELINCO employee.

"...An older gentleman (55-60 years old) who is an employee of ELINCO stated that before Pitney Bowes occupied the building to the north of ELINCO it was a metal processing shop. He said that they used to take drums of their waste materials to the vacant lot south of ELINCO (which is now under construction) and dump them. He put a time frame of 10 - 15 years ago on these activities. He said that before construction was begun on the vacant lot that the surface was coated with a black substance and that all the trees on the lot (approximately 10 - 15) had died.

He also said that the solvent odor that is unmistakably in the air in the ELINCO vicinity at times, emanates from the wind passing in and out of the storm drains located near the Pitney Bowes complex..."

The EPA Region 1 FIT soil analysis data and sample collection locations should be included in the NUS report. This may serve to substantiate the reported recollections of the

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ELINCO employee that a prior occupant of the property had dumped waste materials on the adjacent lot. This may also lead to further discovery concerning the raw material, waste storage, and waste disposal activities of those entities other than EDO and ELINCO which operated on the Bardanise property or neighboring properties.

4. The Unusual Nature Of This Site Requires Further Attempts To Identify Additional Contamination Sources And Potentially Responsible Parties.

The Kellogg - Deering well fields are not a typical Superfund site in that they are not a disposal facility. Thus, there are no records of waste generators or labeled drums or waste containers which would help identify potentially responsible parties ("PRPs"). Indeed, in this case, the named PRPs do not have the power to conduct investigations as to other potential contamination sites or other PRPs. The sources of contamination are moving through ground water beneath private property outside the well field and the identified PRPs lack the legal authority to perform the soil and ground water tests necessary to identify other PRPs. Given the unique nature of this site, it is incumbent upon the EPA to use its authority to

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expand the inquiry to confirm or deny the existence of other contamination sites and to identify other PRPs. Accordingly, EDO requests that the EPA investigate other potential sources of contamination in the area of the Kellogg - Deering well fields by taking additional soil samples and drilling and monitoring additional well sites in the area. In addition, EPA should identify the particular tracts of land and their present and past owners and operators and the character of industries at these locations including types of material stored and waste generated and dumped.

II. COMMENTS ON FEASIBILITY STUDY

1. The Feasibility Study Should Not Have Been Divided Into Two Operable Units.

EPA has divided the Kellogg-Deering site into two operable units. Operable Unit 1 includes the well fields while Operable Unit 2 includes the plume of contaminated underground water. The stated rationale for dividing the site into two units and issuing a FS only for Operable Unit No. 1, is to protect the public health by providing a reliable supply of safe

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potable water for those Norwalk First Taxing District Water Company ("NFTD") customers currently dependent on water from the Kellogg-Deering well field.

There is not an adequate basis for dividing this site into these two operable units. The EPA has not made any showing of why a cleanup or treatment of the sources of contamination or the contaminated ground water plume in Operable Unit No. 2 would not have provided an appropriate level of protection for the public health by ensuring that the public has a reliable supply of safe potable water for those NFTD customers currently dependent on the Kellogg-Deering well field. Moreover, EPA has not considered whether treatment at the well head in addition to providing clean potable drinking water for Operable Unit 1, would constitute an adequate method of cleaning the contaminated ground water in Operable Unit 2. Thus, by dividing this site into two operable units, the EPA and its contractor, have been precluded from finding a comprehensive and cost effective overall solution to the contamination of this site. Indeed, the division of the site into two operable units is likely to create an unnecessary redundancy in the cleanup modalities. Accordingly, EDO Corporation objects to the division of this site into two operable units.

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2. The FS Should Have Contained An Evaluation Of The Actual Character Of The Surface Water In The Drinking Water System.

It appears from the RI report and the FS that the EPA's contractor did not undertake any actual assessment of the character of the surface water being introduced into the NFTD's drinking water system. NUS has assumed in both the RI report and the FS that the risk associated with this surface water was the equivalent of the average risk associated with treated drinking water in the United States. The FS, therefore, assumes that there is no appreciable contribution to the risk of customers of the NFTD drinking water system from the surface water which is mixed with the water from the contaminated wells.

Since the risk assessment in the RI report and FS is predicated upon a one to one mixing ratio of surface water to water from the wellfield, EDO believes a study of the actual character of the surface water in the NFTD system should have been undertaken. The incremental gain in risk from drinking the water from the contaminated wells could be greatly reduced when diluted with surface water, especially to the extent that surface water has a less than average cancer risk already

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associated with it. The failure to undertake such a study is a serious deficiency in the risk assessment conducted in the RI and the FS.¹

3. The FS Should Have Given More Consideration To The Option Of Purchasing Water From Adjoining Municipalities .

The FS considered remediation through the purchase of water from adjoining municipalities, but this alternative was eliminated in the initial screening process. The reasons given for the decision to screen out this alternative were (1) the NFTD would be dependent upon another municipality and its source of water would not be guaranteed in draught conditions, (2) it interferes with NFTD's ability to control their own water supply and (3) it reduces the ability of NFTD to control the cost of water. None of these reasons is supported by any factual information in the record. It does not appear that the EPA or its contractor made any study as to the cost or availability of water from such other sources, including the Bridgeport

¹ In general, EDO believes that the factual basis for the risk analyses set forth in the RI report and the FS were inadequate to support the findings made. Moreover, both the assumptions and conclusions in the risk analysis appear to be unduly conservative and may actually overstate the risk to the public.

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Hydraulic Company and the South Central Connecticut Regional Water Authority, the availability of long-term contracts for supply, or the availability of guarantees from other suppliers to provide water even during drought conditions. Thus the grounds upon which NUS and EPA screened out this alternative from consideration in the FS is wholly lacking factual foundation. Accordingly, what appears to be a safe and cost-effective remedial alternative to the five types of remedial action proposed under the FS has been entirely overlooked. The EPA should undertake a more thorough investigation of the possibility of acquiring water from other suppliers before screening out this remedial alternative.

4. Of The Remedial Alternatives Considered In the FS, Air Stripping Is the Most Appropriate Alternative .

Of the five alternatives considered in the FS, only two are acceptable under the EPA's own criteria - Remedial Alternative 2 - Air Stripping and Remedial Alternative 3 - Air Stripping with Carbon Treatment. Remedial Alternative 2 is the more appropriate since it is significantly less expensive while still meeting the requisite standards for protecting the public's health and safety.

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The EPA should properly reject Remedial Alternative 1 - No action. This alternative includes continued monitoring, so that it still involves a significant expenditure of cleanup funds, and the cost of this alternative is only slightly less than the cost of pursuing the Remedial Alternative 2 - Air Stripping. Remedial Alternative 1 also includes additional risks which makes it unacceptable. Moreover, since the NTFD has already installed an air stripper unit at the site, it would appear impractical to select a remedial plan that does not call for the use of the existing equipment at the site, especially since that air stripper for only slightly more cost results in a significant reduction in the risks to public health and safety.

Alternative 2 - Air stripping is the most appropriate remedial choice. This alternative incorporates the existing remedial action already taken by the NTFD and entails relatively modest additional costs according to the calculations set forth in the FS. Moreover, with one minor exception, air stripping alone meets the appropriate, applicable and relevant federal requirements as discussed in Section 4.3.2 of the FS. Since this alternative is reliable, has a demonstrated performance record, and involves a completely safe process to operate, the EPA should select this as the best available alternative.

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Remedial Alternative No. 3 - Air Stripping Plus Carbon Treatment is not cost effective. According to the FS projections, this alternative is more than nineteen times as expensive as Remedial Alternative 2. Since air stripping largely meets the appropriate, applicable and relevant federal requirements, the additional cost expenditure of adding the carbon system is not justified by the reduction in risk associated with the operation of such a dual system. Moreover an activated carbon system could be easily and quickly added to existing air stripper systems if the need for such a dual system should arise in the future. Currently, Remedial Alternative 3 is not justified to protect the public, is not cost effective, and should therefore be rejected.

EDO concurs in the view as stated in the FS that Remedial Alternative 4 - Expanded Surface Water Treatment System is technologically unacceptable. Moreover, it is the most expensive alternative and one which would take the most time to implement. In light of all these factors, this alternative must be rejected as completely inappropriate.

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Remedial Alternative 5 - Activated Carbon Treatment also appears to be completely inappropriate. Such a system would be expensive to install and would result in the waste of the existing air stripper built by the NFTD. Such activated carbon filtration system on its own appears to be less effective than an air stripper and as the FS notes, this alternative does not meet applicable, appropriate, and relevant federal guidelines. Remedial Alternative 5 is also likely to involve extensive maintenance and would cost more than 26 times as much as Remedial Alternative 2.

For all these stated reasons, the EPA should reject remedial alternatives 1, 3, 4 and 5. Based on the information presented in the RI report and the FS, and under the standards of the National Contingency Plan, EPA should determine that the most suitable remedial proposal of the five presented in the FS is Remedial Alternative 2 - Air Stripping.

EDO specifically requests that any future notification sent to potentially responsible parties or citizens concerned with the Kellogg - Deering site in Norwalk, include a

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notification to EDO at the following address: EDO Corporation,
c/o Peter M. Nolin, Esq., Day, Berry & Howard, Three Landmark
Square, Stamford, Connecticut 06901.

Respectfully submitted,

EDO CORPORATION

By



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CERTIFICATION

I, Peter M. Nolin, hereby certify that the foregoing
has been placed into the U.S. mail for delivery to the addressee
prior to midnight August 7, 1986.



Commissioner of the
Connecticut Superior Court

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