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GENERAL ELECTRIC INTERROGATORY NO. 3:

With respect to your allegations in paragraph 13 of the Complaint that you incurred and will incur expenses for the removal, replacement refitting and/or disposal of all PCB transformers, PCB capacitors and other PCB electrical equipment owned by you in order to comply with Federal legislation and EPA regulations;

(a) identify each item of FCB equipment which you claim was manufactured by General Electric which you have removed, replaced, refit, and/or disposed of and identify the specific action taken with respect to such item (i.e., removal, replacement, refitting, and/or disposal);

(b) state the date you made the decision to replace, removal, refit and/or dispose of each such item of equipment and the date you actually removed, replaced, refitted, and/or disposed of it;

(c) state the total amount of expenses you incurred in removing, replacing, remitting or disposing of each item of equipment;

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1 (d) identify each item of PCB equipment which you claim was
2 manufactured by Westinghouse which you contend you will be required
3 to remove, replace, refit and/or dispose of in the future;

4 (e) state the total amount of estimated expenses you will incur
5 in the future in removing, replacing, refitting or disposing of each
6 such item;

7 (f) describe in detail the method by which you determined the
8 amounts set forth in Answer to subparts (c) and (e) above;

9 (g) identify the Federal legislation and EPA regulations you
10 content have required or will require you to incur each of the
11 expenses identified in Answer to this Interrogatory;

12 (h) identify all documents and other communications concerning
13 any subparts of this interrogatory; and

14 (i) identify each representative of NPC who you believe or you
15 have reason to believe has information concerning any subparts of
16 this Interrogatory and describe the information you believe that
17 person has.

18 ANSWER TO GENERAL ELECTRIC INTERROGATORY NO. 3:

19 (a) The General Electric capacitors are identified in Tab A of
20 the attached Summary. General Electric transformers are identified
21 under Tab B of the attached Summary. All capacitors were removed and
22 replaced. All known PCB contaminated transformers were removed and
23 replaced with the exception of the large transformers listed on the
24 last two pages of Tab B, pages 14 and 15 of the attached Summary,
25 beginning with Blue Diamond One and ending with Reed Gardener One.
26 The latter large transformers were retrofitted and/or decontaminated
27 and placed back into service. Each item disposed of is reflected in

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1 Tab C of the attached summary under the column headed Manifest
2 Number.

3 (b) See Exhibit 18. Plaintiff is unsure of the defendant's
4 reason for requesting supplementation on this Answer. If defendant
5 will be more specific as to its dissatisfaction with the previous
6 Answer, plaintiff would be pleased to supplement their response
7 further.

8 (c) The average cost referred to can be determined by reviewing
9 Tab A, first page attached hereto. See pages 16-20 of Tab B on the
10 Summary attached hereto for labor costs as broken down by KVA's on
11 transformers.

12 (d) See Tab M of the attached Summary. Note that plaintiff's
13 previous response stated "At a later date, Nevada Power Company will
14 provide a basic estimate of what equipment remains and the cost of
15 replacement thereof." Specific items of equipment which must be
16 removed and disposed pursuant to EPA regulations and/or policies of
17 plaintiff continue to be identified at this time. As described in
18 deposition testimony, all leaks from transformers which are neither
19 identified as "PCB" or "non-PCB" must be tested for PCB
20 concentrations in that all untested transformer oil is presumed by
21 EPA regulations to be PCB contaminated. A sampling program of
22 transformer oil must be conducted to identify each piece of
23 equipment. A method to identify PCB or non-PCB contaminated
24 equipment is described in the response to Interrogatory No. 3(e).

25 (e) See page 1 and Tab M of the attached Summary. Total
26 expenses to be incurred in the future for removing and disposing of
27 equipment containing PCBs is expected to be \$39,356,872.00. A total

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1 of \$11,413,493.00 is attributed to General Electric and
2 \$14,168,474.00 is attributed to Westinghouse equipment. The totals
3 mentioned in this category may change in the future based on minor
4 adjustments. As they change, plaintiff will provide replacement
5 pages for the attached Summary and its documentation, rather than
6 supplementing this document.

7 (f) See Tab M of the attached Summary. Future costs of a PCB
8 removal program can be estimated under two scenarios. In scenario 1,
9 plaintiff would implement an active sampling program of all
10 transformers which may contain PCBs using all available information,
11 particularly data contained in the transformer tracking system. All
12 transformers identified in the sampling program as PCB transformers
13 or PCB contaminated would be replaced, regardless of transformer
14 condition. In scenario 2, transformers would continue to be changed
15 out when they are discovered to be leaking or fail for other reasons;
16 this is the current practice. In all likelihood, a combination of
17 the two scenarios will occur. Leaks and failures would continue to
18 occur while an active sampling/replacement program is underway.
19 Under scenario 1, it is first necessary to estimate the number of PCB
20 and PCB contaminated transformers that remain in service as of
21 June 30, 1992, all of which are assumed to contain PCBs manufactured
22 by Monsanto Company. For the convenience of the defendants, we will
23 attempt to determine the percentages of General Electric and
24 Westinghouse transformers.

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1 Based upon information received from General Electric
2 (Exhibit 1)¹ and Westinghouse (Exhibit 2), it is assumed, for this
3 discussion, that transformers added to plaintiff's inventory from
4 General Electric and Westinghouse purchases prior to July 1, 1977
5 could contain PCBs, while those purchased after that date are
6 non-PCB. From transformer inventory records (Exhibit 3), the numbers
7 of transformers on the system as of June 30, 1992 were tabulated by
8 size for all those purchased before July 1, 1977. Exhibit 3 shows
9 only the year of purchase; therefore, it was assumed that half of the
10 transformers purchased in 1977 were purchased prior to July 1 of that
11 year. Table 1 is a summary of this tabulation which shows that
12 20,708 transformers are older than July 1, 1977 and remain in use as
13 of June 30, 1992. However, 209 transformers larger than 500 KVA were
14 deducted from this total because these larger transformers have
15 already been tested and replaced or retrofilled. The remaining
16 20,499 transformers are the ones most likely to contain PCBs.
17 Hereafter, they will be referred to as the "baseline transformers."

18 Transformers with company numbers preceded by the letter "T"
19 were purchased in 1977 and 1978. For simplicity, it is assumed that
20 transformers with company numbers preceded by letters higher in the
21 alphabet than "T" series (i.e., "A" to "S" or lower) were purchased
22 prior to July 1, 1977. The baseline transformers would include those
23 with all-numeric company numbers and those with company numbers that
24 begin with "A" through "S".

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27 ¹ Exhibits and Tables referred to in this category of the
28 Response are in a separate volume exhibited hereto entitled,
 "Exhibits to Nevada Power's Interrogatory Responses Regarding Future
 Damages Calculation."

1 Transformer inventory records do not state the manufacturer's
2 name; therefore, the number of baseline transformers manufactured by
3 General Electric and Westinghouse was based upon a subset sample of
4 baseline transformers using data from the PCB test logs for
5 January 1991 through June 1992 (Exhibit 4). A summary of these
6 figures, shown in Table 2, indicated that of 801 baseline
7 transformers tested in 1991-1992, 231, or 29%, were General Electric
8 and 285, or 36%, were Westinghouse units. Applying these percentages
9 to the total number of baseline transformers, there are an estimated
10 5,945 General Electric transformers and 7,380 Westinghouse baseline
11 transformers in service as of June 30, 1992. This total, 13,325,
12 represents the minimum number of expected PCB and PCB contaminated
13 transformers. Transformers made by other vendors could contain PCB
14 fluids, and others could have become cross-contaminated during
15 servicing before PCBs were regulated.

16 A certain percentage of the baseline transformers are expected
17 to contain more than 50 ppm PCB, or even more than 500 ppm, and would
18 be replaced in the future. This is determined by calculating the
19 number of transformers manifested for disposal during 1991 through
20 1992 as a percentage of baseline transformers tested for PCBs during
21 the same period. Table 2 shows that 801 of the transformers tested
22 in the Electric Shop from January 1991 through June 1992 were
23 baseline transformers. A records check to determine how many of
24 these transformers were eventually replaced as having PCB
25 concentrations of over 50 ppm is not feasible. An alternative method
26 was to count the number of PCB or PCB contaminated transformers that
27 were disposed in the same 18-month period. Disposed transformers are
28 identified in Section B of the discovery volume entitled, "PCB

1 Summary Costs." These data show that 113 PCB or PCB contaminated
2 transformers were disposed of from January 1991 through June 1992
3 and, for the most part, would be among the 801 transformers tested.
4 On this basis, 14% (113/801) of the tested baseline transformers
5 contained greater than 50 ppm PCB and had to be replaced. Applying
6 the same percentage to the total number of baseline transformers, an
7 estimated 2,870 transformers must be identified and replaced in
8 future years.

9 A total of 443 PCB or PCB contaminated transformers were
10 discarded through June 1992 (see Section B of discovery document "PCB
11 Summary Costs") excluding the largest station transformers at the end
12 of the list. Of these, 260, or 59% were General Electric, and 140,
13 or 32%, were Westinghouse units. Applying these percentages to the
14 total number of baseline transformers expected to be replaced, it is
15 anticipated that 1,693 General Electric transformers and 918
16 Westinghouse transformers will require replacement.

17 An active sampling/replacement program (scenario 1) requires
18 sampling of 20,499 baseline transformers to identify and replace the
19 2,870 transformers that are projected to contain at least 50 ppm PCB.
20 Table 3 shows the labor, material and sampling costs expected for
21 this step. Table 3 does not reflect the cost of disconnecting
22 service, lost revenues from outages or the inconvenience and cost to
23 the customer during the outages.

24 The costs to replace 2,870 transformers (labor and material) are
25 shown in Table 4. Costs for service outages, both to the customer
26 and plaintiff are not included. Table 5 shows the labor costs
27 associated with transporting removed equipment to the service center
28 and the costs of draining transformers and preparing them for

1 shipment. Disposal costs are summarized in Table 6. The projected
2 cost to dispose of transformer oil was based on the assumption that
3 PCB concentrations in the oil range from 50 ppm to 499 ppm. Some oil
4 would contain 500 or more ppm PCBs and would have to be
5 incinerated -- because of regulatory requirements -- at a higher
6 cost, which cannot be estimated at this time.

7 Labor costs for the Environmental Affairs Department to
8 administer the sampling/replacement program are estimated to be
9 \$17,185.00 annually (700 hours x \$24.55 per hour).

10 All labor costs used in this narrative are based on straight
11 time rates. PCB related labor often occurs under overtime conditions
12 at higher labor costs, but the added cost for overtime labor could
13 not be estimated at this time.

14 Table 7 contains the total of projected costs under scenario 1.
15 It also shows the percentages of costs allocated to General Electric
16 and Westinghouse. Since the baseline transformers consisted of 29%
17 General Electric units and 36% Westinghouse units, the costs for the
18 sampling and analysis program were split using these percentages.
19 Costs for transformer replacement, Electric Shop labor and disposal
20 expenses were allocated at 59% for General Electric and 32% for
21 Westinghouse. These percentages reflect the distribution of
22 transformers discarded to date as described earlier.

23 A transformer sampling and replacement program is assumed to be
24 accomplished in a five-year period. During the interim, other
25 transformers will continue to fail or leak and PCB related expenses
26 will be incurred (scenario 2). These costs are estimated as follows
27 and are described below.

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1 Table 2 shows that 1,422 transformers (including 801 baseline
2 transformers) were tested for PCB from January 1991 through June
3 1992. This transformer failure and testing rate, 948 per year, is
4 assumed to continue. However, rather than testing transformers in
5 the Electric Shop, they will be field tested before removal to
6 determine, immediately, if PCBs are present. This testing will be
7 performed by the line crew using Chlor-N-Oil test kits (see Table 8
8 for costs).

9 The Electric Shop will continue using the Dexsil meter to test
10 drums and tanks of PCB fluids. Table 2 shows that 31 miscellaneous
11 oil samples were tested from January 1991 through June 1992, at an
12 average rate of 21 per year.

13 All samples collected from transformers (948) and an estimated
14 half of miscellaneous oil samples (10) will be submitted to a
15 certified lab for PCB analysis. This is necessary in order to
16 properly label equipment and waste material as to PCB content (see
17 Table 8 for costs).

18 As noted above, 113 transformers were replaced and disposed from
19 January 1991 through June 1992. At a similar changeout rate, 75
20 transformers would be replaced each year. These costs, labor costs
21 associated with preparing transformers for disposal and disposal
22 costs are all shown in Table 8. Expenses associated with the cleanup
23 and maintenance of storage areas for PCB materials and equipment are
24 unknown at this time and are not included in Table 8.

25 The cost to clean up transformer leaks that contain PCB include
26 cleanup labor, usually performed by a contractor, soil and oil
27 analyses performed by the contractor, landscaping and disposal of
28 contaminated soil and other materials (absorbent, clothing and rags).

1 Soil and other debris containing 2 ppm PCB or more cannot be disposed
2 of in a conventional sanitary landfill and must be transported to a
3 hazardous waste facility.

4 Cleanup costs for at least eight PCB spills have been incurred
5 from October 1991 through August 1992. Invoices from cleanup
6 contractors are included in Exhibit 9. These invoices total
7 \$70,096.03, thus far. One invoice is a partial billing and one job
8 has not been billed. This figure, although conservative, is
9 equivalent to an annualized cost of \$76,468.40. Following cleanup of
10 a contaminated transformer site, it is often necessary to replace
11 grass, shrubs or trees; however, landscaping costs cannot be
12 determined at this time.

13 Some transformers which have been brought into the Electric Shop
14 for testing or repairs were found to be empty. Presumably, the
15 entire contents had drained before the equipment was removed from
16 service. Empty transformers could not be tested for PCB content and
17 it is unknown whether the transformer location is contaminated.
18 These sites may be revisited for sampling and analysis, resulting in
19 additional costs plus the cost of cleanup if PCBs are discovered.
20 These costs are unknown.

21 Soils and materials that become contaminated by a transformer
22 spill are often sampled before and after cleanup. To project these
23 costs, the invoices for analytical services (see discovery document
24 "Analysis and Cleanup Costs") were reviewed for the period of January
25 through August 1992. Analytical fees of \$45.00 or more per analysis
26 are associated with soil or debris samples and were totalled, with
27 the exception of poleyard samples. The total was \$11,224.00, which
28 annualized is \$16,836.00.

1 Disposal manifests and invoices for the disposal of soil removed
2 from spill sites are contained in the discovery documents. These
3 records indicate that 1,638 cubic feet of debris have been disposed
4 from April 1 through September 1, 1992. This equates to an annual
5 projection of 3,931 cubic feet.

6 Costs for cleanup, analytical services and disposal costs are
7 summarized in Table 8.

8 Labor costs under scenario 2 include labor by Environmental
9 Affairs Department to manage the PCB activities. Labor projections,
10 shown in Table 9, are based on PCB related labor for the first six
11 months of 1992. Table 9 also contains labor costs associated with
12 PCB training for company employees. The number of personnel involved
13 in training were derived from 1989 figures in discovery document
14 "Cost of PCB Training Programs."

15 All projected annual expenses associated with scenario 2 are
16 summarized in Table 10. Using previously described percentages,
17 costs allocable to General Electric and Westinghouse are shown.

18 Other costs are expected to be incurred which have not been
19 described in either scenario. These include site assessment and
20 cleanup costs associated with transformer storage areas at the
21 Henderson and Industrial Road Service Centers. These costs are
22 listed in Table 11.

23 As stated earlier, activities defined by the two scenarios would
24 occur simultaneously and costs would be incurred for several years.
25 Some assumptions are necessary to estimate expected costs in each
26 future year:

27 (1) it is assumed that the sampling and replacement program
28 would be conducted over a five-year period. Some transformer

1 sampling may begin in 1993; however, the majority of costs would
2 occur over the period of 1994 through 1998.

3 (2) annual costs incurred under scenario 2 would remain
4 relatively constant through 1994 and decline 20% each year thereafter
5 as transformers are replaced under scenario 1.

6 (3) costs for site assessments and cleanup at Henderson and
7 Industrial Road would amount to \$90,000.00 in 1993 for site
8 assessments and \$370,000.00 in 1994 for remediation.

9 (4) Costs would escalate at an annual inflation rate of 4%.
10 Projected costs for each future year are listed in Table 12.

11 Projected costs discussed thus far were based on the current
12 practice of replacing transformers when PCB concentrations are 50 ppm
13 or greater. More transformers would be affected if all materials and
14 equipment containing "measurable concentrations" of PCB were
15 disposed. The measurable concentration is defined as the "level of
16 detection" or "2 ppm PCB."

17 Failure to remove all PCBs from the system would subject Nevada
18 Power to a continued risk of exposing the public and employees to
19 PCBs and highly toxic oxidation products of PCBs, resulting from
20 leaks, catastrophic failures and fires. Removing equipment and PCBs
21 of concentrations at 50 ppm or greater reduces these risks and
22 associated costs, but does not eliminate them. These concerns are
23 reflected in the EPA's regulations under 40 CFR 761 (Exhibit 11) and
24 California regulations (Exhibit 12).

25 Pursuant to EPA regulations, NPC must presume all transformers
26 contain at least 50 ppm PCB oil unless tested, and only a minimal
27 number have been tested. Soil containing PCBs, regardless of
28 concentration, must be disposed in an approved chemical waste

1 landfill. Oil burned for energy recovery must contain less than
2 2 ppm PCB (40 CFR 761.20) unless additional requirements are met.
3 California's regulations (Exhibit 12) exclude oil containing 5 ppm
4 PCB or greater from the definition of used oil and used oil intended
5 for recycling must contain less than 2 ppm PCB. Cleanup of materials
6 contaminated with PCBs must meet varying standards, including a soil
7 cleanup standard of 10 ppm (40 CFR 761.120). This rule also
8 authorized EPA's regional administrators to require more stringent
9 cleanup standards to prevent unreasonable risk. In addition, the
10 regional administrator has the discretion to require cleanup of
11 spills that occurred prior to May 4, 1987. It is more likely than
12 not that the EPA and/or the State of Nevada will mandate more
13 stringent standards for the use and cleanup of equipment and fluids
14 containing PCBs to protect public health.

15 In view of these concerns, and in considering the number of
16 years that NPC would be facing these concerns, it is necessary for
17 plaintiff prudently to examine the appropriateness of a policy to
18 remove all PCBs. The failure to implement a new policy could result
19 in costs potentially greater than the cost to carry out the policy.

20 To estimate the minimum number of transformers which would be
21 replaced at this level, test logs from the Electric Shop for 1991
22 were reviewed to identify all transformer test results which exceed
23 35 ppm. Each of these samples was sent to Analytical Associates for
24 a PCB analysis. The lab results from Analytical Associates
25 (Exhibit 13) for these 138 samples indicate that 49 transformers had
26 PCB concentrations of 50 ppm or greater (and were replaced), 77
27 transformers tested at 2 to 49 ppm and 14 transformer tests resulted
28 in concentrations below the detection limit. On this basis, 77 more

1 transformers should be replaced, bringing the total to 126
2 transformers.

3 In 1991, a total of 799 transformers were tested in the Electric
4 Shop (derived from Table 2). Of these, 162, or 15.8%, were found to
5 contain PCBs in concentration of 2 ppm or more. This is likely to be
6 conservative because only 138 transformers were tested by an outside
7 certified lab. It is probable that many transformers with
8 concentrations of less than 35 ppm, as measured by the Dexsil meter,
9 also have concentrations in excess of 2 ppm when tested by gas
10 chromatography for PCBs.

11 The number of transformers tested in 1991 is a representative
12 sample of all transformers in service; therefore, 15.8% of all
13 transformers could potentially contain PCBs of 2 ppm or more. Many,
14 but certainly not all, of these would be among the baseline
15 transformers.

16 The transformer inventory (Exhibit 3) indicates that 56,094
17 transformers were in service, inventory or elsewhere in the system as
18 of June 30, 1992. By discounting the 33 small transformers under
19 3 KVA and the 788 transformers larger than 500 KVA (which are
20 believed to be non-PCB), 55,273 transformers remain that potentially
21 contain measurable concentrations of PCB. Of these, 15.8%, or 8,733,
22 transformers are likely to contain PCBs in concentrations of 2 ppm or
23 more. This amounts to three times as many transformers that would be
24 replaced.

25 The majority of transformers expected to contain measurable
26 concentrations of PCB are among the baseline transformers which total
27 20,499. Of these, 29% are General Electric and 36% are Westinghouse.
28 The costs to remove 8,733 transformers are based on these

1 percentages. Referring back to previous cost estimates, sampling and
2 analytical costs shown in Table 3 were left unchanged for this
3 analysis; however, costs would likely increase in order to sample
4 non-baseline transformers purchased in 1977 or later. These
5 additional costs are presently unknown.

6 A three-fold increase in costs is expected in transformer
7 replacement costs (Table 4), warehouse and shop labor (Table 5) and
8 disposal costs (Table 6). Annual labor costs for Environmental
9 Affairs under scenario 1 would not change.

10 Expenses incurred under scenario 2 would increase 3% per year
11 for Electric Shop labor, disposal costs and replacement costs. No
12 change would occur in the number of samples collected or analyzed.
13 Spill cleanup costs would remain unchanged as well, because most
14 cleanup costs are already based on an action level of 2 ppm.
15 Training and Environmental Affairs labor would also remain as shown
16 in Table 9.

17 A replacement program for 8,733 transformers is assumed to
18 require 15 years. Costs incurred under scenario 2 would continue for
19 the same duration, but at a diminishing rate. Total costs appear in
20 Table 13.

21 Projected costs for each future year, using an annual inflation
22 rate of 4% are shown in Table 14.

23 (g) 15 U.S.C. 2601 et seq.; 40 C.F.R. 761 et seq.

24 (h) This question is vague and ambiguous and cannot be
25 answered.

26 (i) Donald Fabbi and Mark Reddaway.

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