HONEYWELL COMMENTS

Honeywell
P.O. Box 1139
Morristown, NJ 07962-1139

February 28, 2005

H-1

Mr. Donald Hesler
Mr. Timothy Larson
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7016

Re: Onondaga Lake Superfund Site – Onondaga Lake Bottom Proposed Plan- Public Comment

Dear Mr. Hesler and Mr. Larson:

Honeywell International Inc. ("Honeywell") submits the following comments on the Proposed Plan for the Onondaga Lake Bottom Subsite of the Onondaga Lake Superfund Site.

As the Department knows, the Proposed Plan is the result of a substantial and lengthy remedial investigation and feasibility study ("RI/FS") effort undertaken by Honeywell and DEC pursuant to a Consent Decree overseen by the United States District Court for the Northern District of New York. As a result of the RI/FS process, Honeywell first submitted an FS in May 2003 and developed a revised FS in May 2004 which DEC determined to be substantially complete in July 2004. Between May 2004 and November 2004, Honeywell and DEC worked together to undertake additional analyses. A final FS was completed in November 2004.

Comment #1: FS Alternative C Compared to the Proposed Plan 1

The FS recommended implementation of Alternative C. The principal elements of FS Alternative C included: (a) Hydraulically dredging an estimated 543,000 cubic yards (cy) of sediments; (b) isolation capping of an estimated 336 acres within the littoral zone; (c) habitat optimization; (d) an aeration pilot project in the Lake's profundal zone; (e) use of an on-site former settling basin as a Sediment Consolidation Area ("SCA"); and (f) monitored natural recovery/thin-layer capping of profundal sediments.

The dredging of 543,000 cy of contaminated sediment in FS Alternative C would remove a substantial volume of contaminated sediment from the Lake, would provide an optimum depth for aquatic habitat, and would provide for the effectiveness of the capping components of

the remedy. After dredging, an isolation cap would be placed to contain the maximum concentrations observed in the remaining underlying sediment. The isolation cap would be designed to include a 50 percent safety factor which would be added to the cap thickness as a further safety precaution. Groundwater upwelling and cap effectiveness modeling conducted as part of the FS demonstrated that an isolation cap could be designed to effectively contain the remaining COPC concentrations found in the sediment.

FS Alternative C meets the Remedial Action Objectives and Preliminary Remedial Goals established during the RI/FS process, including the criteria for mercury levels in fish, sediment and water established by DEC. Further, FS Alternative C is protective of human health and the environment, and consistent with USEPA's *Draft Contaminated Sediment Remediation Guidance for Hazardous Waste Sites*, including the eleven principles for managing contaminated sediment risk set forth in Appendix A to that document. Alternative C also minimizes short-term exposures and risks.

DEC's Proposed Plan contains remedial elements similar to those contained in FS Alternative C. Honeywell and DEC share the same goal of implementing a remedy that is protective of human health and the environment, restores and improves the Onondaga Lake habitat, and allows the Lake to return to being a valuable public recreational resource. The Proposed Plan, however, anticipates dredging a total of up to approximately 2.65 million cubic yards (cy) of contaminated sediment. Much of this dredged sediment (approximately 1.6 million cy) would be removed from an area known as the In-Lake Waste Deposit ("ILWD"), found in SMU 1. DEC's Proposed Plan also calls for additional dredging up to a sediment depth of about 9 meters in specific portions of SMU 2 to address the fact that NAPL was identified at depth immediately adjacent to the Lake. This additional dredging would remove an estimated 400,000 cy of sediment from SMU 2, including approximately 234,000 cy to address NAPL at depth.

DEC's Proposed Plan also calls for isolation capping of approximately 425 acres of the littoral zone sediments. The Proposed Plan would further require excavation of defined "hot spots" prior to cap application.

Thus, the primary differences between DEC's Proposed Plan and Honeywell's Alternative C relate to the extent of dredging and subsequent capping and include the size of the SCA necessary for remedy implementation; the volume of supernatant water

required to be treated; the anticipated cost of the remedy; and other implementation considerations.

In light of the demonstrated effectiveness of the isolation cap as proposed in FS Alternative C, Honeywell believes Alternative C is as protective as DEC's Proposed Plan. Honeywell understands that the Department views the additional dredging in the Proposed Plan as a means to achieve enhanced cap reliability and stability by removing additional contaminated sediments. Honeywell does not agree with the Department's position and believes that the considerations outlined above and in the FS (including its appendices) demonstrate that FS Alternative C is as protective when all factors which must be balanced in the Part 375 and CERCLA remedy selection process are considered.

Comment # 2 Mercury Modeling 2

Honeywell understands that some members of the public have voiced concern over the perceived absence of quantitative, predictive models of mercury behavior in the Lake. DEC's RI (December 2002) included an extensive evaluation of the fate and transport of mercury in Onondaga Lake. The primary tool used in the RI was the development of a mass balance model. During the RI process, Honeywell attempted to develop a mechanistic mercury model based on what is still the state-of-the-art mercury model. However, the models' predictive ability was not sufficient to provide a basis for selecting a remedy and the model was not included in the final RI report. The precision of mercury models, in general, is limited by the natural variability of the many factors that contribute to mercury concentrations in fish, such as the rate of production of methyl mercury, the composition of the food web, rates of addition of mercury to the ecosystem from upland contamination, rates of mercury contribution from atmospheric deposition and from anthropogenic sources unrelated to the contamination, rates of sedimentation, and a variety of other factors. Nonetheless, the mercury mass balance model developed during the RI, together with the data collected for the RI and for upland site investigations, provides a substantial understanding of mercury fate and transport in Onondaga Lake.

Further, both FS Alternative C and the DEC Proposed Plan set forth several concrete remedial actions that are expected to eliminate ongoing sources of mercury to the Lake ecosystem, protect against mercury bioaccumulation and result in decreased mercury concentrations in the food chain. These actions include:

- **Upland Source Controls.** Upland source controls have been or will be put into place to address ongoing sources of mercury to the Lake. These upland source controls, including controls for Geddes Brook, Nine Mile Creek, the Semet and Willis Avenue IRM, Wastebed B/Harbor Brook IRM, and the LCP Bridge Street Site, are being handled through the Superfund process subject to Consent Orders between Honeywell and DEC. The timing of remedial activities in Onondaga Lake would need to be coordinated with the remedial work at these upland sites. We would, however, expect implementation of the IRM's identified above to expedite the schedule for Lake remediation.

- **Dredging/Capping.** Dredging will remove a portion of the mercury contamination in sediment. Capping will further isolate remaining mercury contamination and prevent it from reaching the food chain.

- **Hypolimnetic Aeration.** The aeration pilot project is expected to limit mercury methylation in the water column and thereby reduce methylmercury concentrations in water and subsequent bioaccumulation.

3 **Comment #3: PEC Quotients**

The DEC Proposed Plan uses a mean Probable Effects Concentration Quotient ("PECQ") of 1 to determine areas of the Lake in need of remediation. For any particular contaminant, the PEC represents the geometric mean of the ER-L, TEL, ER-M, PEL, and AET. A mean PECQ was used to take into account the presence and concentration of multiple chemicals in sediments.

To biologically calibrate the mean PECQs, during the FS process the quotients were compared with toxicity test results (i.e., percent mortality) obtained for the 10-day chironomid and amphipod sediment toxicity tests conducted at 79 stations in 1992. In general, neither the chironomid nor the amphipod test results demonstrated a noticeable increase in mortality until the mean PECQ exceeded approximately 1 to 2. Honeywell believes these data demonstrate that a mean PECQ of 1 to 2 adequately identifies the range at which Lake sediments might begin to demonstrate acute toxicity to benthic organisms. Honeywell believes the use of a mean PECQ of either 1 or 2 is protective of benthic organisms.

In addition, primary human cancer and non-cancer health hazards in Onondaga Lake are associated with ingestion of bioaccumulative chemicals in fish. The highest concentrations and greatest mass of these chemicals in sediment are in the same areas identified by the PECQ 1 or 2. Remediation of these areas as proposed in both FS Alternative C and the Proposed Plan, in concert with other proposed remedial activities (e.g., the aeration pilot study), is expected to result in decreased concentrations of bioaccumulative chemicals in fish tissue, to concentrations within the established target ranges. Because both remedies also propose extensive capping of littoral sediments (especially in the more contaminated southern portion of the Lake), both would also address potential risk related to the one other recreational exposure pathway identified in the human health risk assessment: wading in South Basin sediments.

Comment #4: Dredging in SMU 1 4A

Three significant contaminants in SMU 1 are chlorobenzene, dichlorobenzene, and mercury. Concentrations of all three contaminants appear to be substantially lower at depths greater than two meters than they are in the first two meters of sediment. Based on the existing data set, removal to two meters in SMU 1 would likely result in significant reductions in the average and maximum concentrations of chlorobenzene, dichlorobenzene and mercury.[1]

Moreover, it is worth noting that the distribution of data points in SMU 1 is relatively dense down through the first two meters of sediment. At depths below two meters, however, the data are significantly limited. The data at depths greater than two meters cannot be considered representative of conditions over the 84 acre area of SMU 1.

To evaluate the strength of the entire data set, we calculated confidence intervals on average concentrations for 17 different contaminants in SMU 1 *at each given depth interval*. The confidence intervals were calculated using standard t-statistic methods, thus assuming normality. Using these methods, calculated confidence intervals that span zero

[1] This analysis has focused on average and maximum concentrations of contaminants in sediments that would remain in SMU 1 after dredging because average and maximum concentrations are appropriate indicators of the condition of remaining sediment likely to come into contact with capping materials, and, therefore, appropriate parameters by which to judge whether dredging provides any improvement in capping effectiveness.

assuming normality. Using these methods, calculated confidence intervals that span zero indicate that the average concentration cannot be distinguished from zero at a significance level of 0.05, i.e. 95% confidence.[2] Whereas only three compounds for the zero to one meter interval have average concentrations indistinguishable from zero, the one to two meter interval has nine of the 17 compounds with confidence intervals that encompass zero, meaning that the average concentrations are statistically not significantly different from zero. For intervals deeper than two meters, no more than one compound has an average concentration distinguishable from zero at any given interval.

4B The FS demonstrates that an effective cap can be installed and maintained in SMU 1 after the dredging recommended in Alternative C. The SMU 1 cap, as proposed in FS Alternative C, takes into account erosive forces and groundwater upwelling. Groundwater modeling and cap effectiveness modeling in the FS both demonstrate that the cap would be effective without additional dredging beyond Alternative C. Indeed, in modeling cap effectiveness, Honeywell used a number of conservative assumptions or "protective measures," including using the worst case concentrations within each SMU, using literature pore water concentration values, and assuming a groundwater upwelling velocity greater than that generated by the groundwater model. Moreover, the Alternative C proposed cap thickness of four feet was predicated on the assumption that the cap would meet a factor of safety of 1.5 to ensure effectiveness.

Both DEC Guidance (TAGM 4030) and the National Contingency Plan require that the short-term risks associated with remedy implementation be considered when selecting a remedy. Here, the magnitude and/or duration of predicted short-term impacts increase relatively uniformly with the incremental volume being dredged from SMU 1.

In light of these considerations, as well as those set forth in Comments 1, 5, 6, and 9, Honeywell believes that the FS Alternative C remedy for SMU 1, rather than the Proposed Plan, is a more appropriate balance of the statutory and regulatory criteria governing remedy selection.

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[2] Indeed, a statistical comparison, using Dixon's extreme value test, of the data obtained from one data point, S312, compared to the data from surrounding data points further suggests that the results obtains from below two meters at S312 should be considered unreliable outlier data.

Both the FS Alternative C and the Proposed Plan propose that sediments dredged from the Lake will be managed in an on-site sediment consolidation area ("SCA") rather than staged for off-site disposal. (The Proposed Plan recognizes that limited volumes of highly contaminated sediment may have to be disposed of off-site).[3] Specifically, FS Alternative C and the Proposed Plan assume that such an SCA would be constructed on one of the Solvay wastebeds (e.g. Wastebed 13). 5

Honeywell believes that on-site consolidation of sediments in one of the Solvay wastebeds, such as Wastebed 13 is a necessary component of both FS Alternative C and the Proposed Plan. The use of an on-site SCA is an accepted and safe sediment management technology that can be effectively used at this Site. Monitoring, odor control, appropriate closure practices, noise control, and other issues will have to be detailed in the remedial design. For example, odor control techniques that must be evaluated include discharging the dredged slurry below a water blanket or a vapor control curtain as well as the use of activated carbon, odor suppressants and foams to control odors. These types of technologies have been used with success at other environmental dredging sites. We would expect the town of Camillus and the communities in the vicinity of the SCA to have input into these types of SCA operation and management issues, both during the design process and while the SCA is operating.

Any change in the Proposed Plan which results in substantial volumes of sediment being sent off-site for disposal rather than being managed in an SCA may not be supported by an analysis of the statutory and regulatory requirements governing remedy selection. In particular, off-site disposal of such significant volumes of sediment may result in substantial increases in implementation risks, greater community disruption as a result of transportation and loading or staging obligations, and increases in cost which may call into question the cost-effectiveness of the dredging set forth in the Proposed Plan. As a result, Honeywell believes that the Proposed Plan's reliance on an SCA for sediment management is supported by the CERCLA statutory and regulatory criteria governing remedy selection.

Comment # 6: Water Treatment 6

The Proposed Plan states that water entrained with dredged sediments would be transported to the SCA. Settlement of sediments will occur within the SCA and the excess

[3] Honeywell proposes to conduct sampling before dredging to identify and segregate those sediments or materials that may be sent off-site for disposal.

water will be decanted for treatment and subsequently discharged back to the Lake. The Plan recognizes that the specific treatment process used will be developed during the remedial design after additional sampling and treatability testing. Honeywell agrees with the position that the specific water treatment process used should be developed during the remedial design after additional sampling and treatability testing and, as set forth in the FS, Honeywell believes that none of the four analyzed treatment options (primary treatment, enhanced primary treatment, enhanced primary treatment with multimedia filtration, and advanced treatment) can be ruled out. Indeed, different treatment approaches may be acceptable at different points in the remediation, depending on which areas of the Lake are being dredged.

Honeywell further believes that the supernatant water is considered a dredged material under Section 404 of the Clean Water Act and, as such, Army Corps of Engineers Nationwide Permits 16 or 38 would be ARARs.

Nonetheless, for cost-estimating purposes, the Proposed Plan assumes that advanced water treatment (the most extensive treatment considered in the FS) may need to be used. Honeywell cautions that the Proposed Plan's assessment of the cost-effectiveness of dredging is predicated on assumptions related to the costs of advanced treatment. Any determination that the remedy set forth in the Proposed Plan must be changed in such a way as to substantially increase the estimated costs associated with water treatment may call into question DEC's conclusion that the Proposed Plan is cost-effective and may specifically call into question both the volume of sediments proposed to be dredged as well as the water treatment methodology proposed to be employed.

7 **Comment #7: Administrative Record**

At DEC's request, between May 2004 and November 2004, Honeywell submitted a number of additional memoranda to DEC regarding various issues in the May 2004 FS. As a result, Honeywell submitted a final, revised FS to the Department in November 2004. Because the Honeywell memoranda were part of the evidence submitted to the Agency during the course of the development of the FS, Honeywell respectfully requests that they be made part of the administrative record. A list of those memoranda is attached as Exhibit A.

Comment #8: Design Depths for Dredging

It is important that dredging be performed to depths and over areas that are defined in the design stage based on the preliminary design data, rather than on concentrations based on post-dredging confirmation sampling. Because dredged areas will be capped, any residual settling will be located under an effective isolation cap. If the Proposed Plan is implemented, specified criteria should be developed during remedial design for delineating areas and volumes of the SMU-1 ILWD to be removed, including specification of portions of SMUs 2 and 7 subject to potential dredging for NAPL. 8

Comment #9 Community Participation 9

Honeywell has worked diligently to encourage community participation in the remedy selection process. Over the course of the last year, Honeywell has discussed both the FS and the Proposed Plan with federal, state, county, and local elected and appointed leaders, local environmental groups and scientists, local business groups and business leaders, community organizations, and members of the public. The overwhelming response has been to urge Honeywell and DEC to reach agreement on a remedy and begin the Lake bottom cleanup as soon as possible. Honeywell plans to continue to seek community input as any remedy moves forward, including participation in developing a long-term vision for the Lake and the SCA. For example, Honeywell envisions an ongoing process of dialogue with community participants regarding the appropriate controls, processes, and procedures for minimizing issues related to the construction, operation, and closure of the SCA. Moreover, Honeywell has had discussions with a number of groups regarding key remedy implementation issues such as habitat planning, monitoring remedial progress, and the end use of the closed SCA.

Comment #10 SMU 7 Barrier Wall 10

Bullet 2 on Page 57 of the Proposed Plan and bullet 2 on Page 7 specify a groundwater barrier wall along SMU 7. The Plan should also allow for targeted dredging in lieu of installation of the barrier wall, depending on the results of the preliminary design investigation. Although current data suggest that the barrier wall may extend into SMU 7, the preliminary design data may indicate that targeted dredging in the southern half of the SMU might be a more effective and/or cost-effective measure to ensure cap effectiveness.

11 **Comment #11: BSQV Application**

With respect to SMU 8, the Proposed Plan and ROD should make clear that compliance with the mercury BSQV of 0.8 mg/kg following Phase I thin-layer capping, 10 years of monitored natural recovery, and Phase II capping, if required, would be based on consideration of the post-remediation surface area weighted average concentration ("SWAC") measured over subsets of the Lake that combine littoral and profundal areas and that such subsets are to be determined as part of the pre-design investigation and design process. Honeywell anticipates that the area of SMU 8 requiring thin-layer capping to achieve the BSQV-based goal would be determined as part of the pre-design investigation and design process, including revising modeling predictions for monitored natural recovery based on additional data to be collected during the pre-design investigation.

Sincerely,

David L. Wickersham

David L. Wickersham
Director, Remediation &
Evaluation Services

cc: Kate Adams
Evan Van Hook
Tom Milch
Michael Daneker
John McAuliffe
Victoria Streitfeld

EXHIBIT A

Onondaga Lake Feasibility Study
NYSDEC Supplemental Submittals
May - November 2004

Date	Author	Recipient	Submittal Summary
03-May-04	McAuliffe	Larson	Response to NYSDEC comments dated 11/28/03 on Draft OLFS
04-May-04	Johnson	Larson	Base map for groundwater model along with groundwater vistas with instructions
05-May-04	Johnson	Spera	OLFS cap model
05-May-04	Johnson	Larson	Electronic version of responses to NYSDEC comments on draft OLFS
07-May-04	Johnson	Spera	Polygon, shoreline and data point info for the OLFS
14-May-04	Hayes	Hesler	File showing mass loading rates for dredging (part of FS meeting)
18-May-04	Johnson	Spera	Response to Action Item #4: MNR model and Stella program to run the model
20-May-04	Johnson	Hesler	Action Item #28: Additional groundwater model files
24-May-04	Johnson	Hesler	Action Item #27: New tables for groundwater model
24-May-04	Johnson	Hesler	Memo and tables regarding the groundwater model
27-May-04	Nicotri	Larson	Response to Action Item #26: Duration of dredging season
27-May-04	Nicotri	Larson	Response to Action Item #11: PECQ2 data comparison
27-May-04	Nicotri	Larson	Response to Action Item #10: Boundaries for SMU 1 and 7
27-May-04	Nicotri	Larson	Response to Action Item #8: Cost estimate explanation
01-Jun-04	Nicotri	Larson	Response to Action Item #16: Thin layer capping
02-Jun-04	Nicotri	Larson	Response to Action Item #9: Cost estimate for water treatment
02-Jun-04	Nicotri	Larson	Response to Action Item #14: Trucking vs rail for offsite disposal
03-Jun-04	Nicotri	Larson	Response to Action Item #7: Breakpoint for various sediment removal volumes
07-Jun-04	Nicotri	Larson	Response to Action Item #2: Systems approach to dredging
07-Jun-04	Johnson	Spera	Revisions to groundwater model based on action items from 6/2 meeting
07-Jun-04	Nicotri	Larson	Response to Action Item #12: CPOI's for the OLFS
08-Jun-04	Nicotri	Larson	Response to Action Item #19: Ninemile Creek mouth erosion analysis
09-Jun-04	Nicotri	Larson	Response to Action Item #33 (i): CPOIs in 0-1 meter interval
09-Jun-04	Nicotri	Larson	Response to Action Item #23: NYCRR part 608 and potential loss of lake surface area
09-Jun-04	Nicotri	Larson	Response to Action Item #15: Mercury PEC on Table 4.5
16-Jun-04	Drachenberg	Larson	Response of Action Item #5: Mass of contaminants contained in LWAs
16-Jun-04	Johnson	Larson	Response to Action Item #33f: Part 1, Capping process utilized at Soda Lake site in Wyoming
17-Jun-04	Johnson	Spera	Memo regarding transport of cap material
17-Jun-04	Johnson	Larson	Response to Lake FS Action Item #37: Appendix L worksheets
21-Jun-04	Drachenberg	Larson	Response to action item #17 - Basis for dredge depth in Appendix L table
21-Jun-04	Drachenberg	Larson	Response to action item #36 - Basis for selection of data used to develop Figures E.34-E.73
21-Jun-04	Drachenberg	Larson	Response to Action Item #29: Remedial evaluation of wetlands
24-Jun-04	Johnson	Larson	Response to Action Item #32a: Table DB.1
25-Jun-04	Nicotri	Larson	Response to Action Item #39: Backup for NAPL presentation
25-Jun-04	Nicotri	Larson	Response to Action Item #31: Cost sensitivity of thin layer cap vs. isolation cap in 6-9 meter zone by SMU
25-Jun-04	Nicotri	Larson	Response to Action Item #33g: Explanation of calculation for area-weighted sediment concentrations
28-Jun-04	Johnson	Larson	Response to Action Item #33f: Info on capping at the Pine Street Canal site in VT
28-Jun-04	Nicotri	Larson	Response to Action Item #13: Selection of CPOIs included in Cap Model
28-Jun-04	Nicotri	Larson	Response to Action Item #24: Paper on BSAF approach
28-Jun-04	Nicotri	Larson	Response to Action Item #33f - Part 2 Info on Pine Street Canal Capping
28-Jun-04	Nicotri	Larson	Response to Action Item 32a and 32b: Groundwater model sensitivity to analysis and Tables DB. 1-6

Onondaga Lake Feasibility Study
NYSDEC Supplemental Submittals
May - November 2004

Date	Author	Recipient	Submittal Summary
30-Jun-04	Nicotri	Larson	Response to Action item #25: Back-up for cost estimates
30-Jun-04	Nicotri	Larson	Response to Action Item #24: Supplement to BSAF Memo on OLFS
30-Jun-04	Nicotri	Larson	Response to Action Item #25a: Supplement for water treatment system cost estimate
30-Jun-04	Nicotri	Larson	Response to Action Item 32e, f, g, h, I & j: Groundwater model revisions
30-Jun-04	Nicotri	Larson	Response to Action Item #33e: Cap criteria for 6 to 9 meter zone
30-Jun-04	Johnson	Larson	CD containing Action Items 32e - 32j: Groundwater model revisions
01-Jul-04	Nicotri	Larson	Response to Action Item #33 a, b, c, d, & h: Cap model revisions
02-Jul-04	Nicotri	Larson	Response to Action Item #34a, b, & c: Information related to cap settlement
06-Jul-04	Nicotri	Smith	Response to Action Item #33g: Explain calculation of area-weighted sediment concentrations
06-Jul-04	Gibbons	Edwards	Response to Action Item #25a: Backup for Water Treatment Cost Estimate
07-Jul-04	Nicotri	Larson	Response to Action Item #35: Details of cap at mouth of Ninemile Creek
08-Jul-04	Johnson	Scheuing	Clarification on NAPL calculations, supplement to Action Item #39
09-Jul-04	Nicotri	Larson	Attached revised memo for Action Item #35 Rev 1: Details of cap at mouth of Ninemile Creek
14-Jul-04	Steele	Larson	Response to Action Item 2: Supplemental information
14-Jul-04	Steele	Larson	Alternatives cost estimates table with additional line item at bottom showing cost of preloading included in each alternative
15-Jul-04	Drachenberg	Larson	Summary of alternatives costs with cost of SCA added as a line item and the sediment management option 5 cost summary with size of SCA added as a line item
20-Jul-04	Nicotri	Larson	Supplemental memo discussing the potential impact of double-counting side sloughing dredge volumes between SMUs for the PEC Alternatives
27-Jul-04	Johnson	Larson	Revised Tables 5.1 and 5.2 and revised list of additional documentation required for FS submittal schedule
28-Jul-04	Nicotri	Larson	Supplement to the response to Action Item #04: Supplemental MNR model runs
05-Aug-04	McAuliffe	Larson	Additional surface sediment sampling in SMU 5 letter work plan
06-Aug-04	Drachenberg	Larson	Draft final versions of Appendices E and F of the OLFS
25-Aug-04	Johnson	Larson	Draft narrative summaries for Sections 4 and 5, Appendix I, and abbreviated version of Appendix D
25-Aug-04	Johnson	Larson	Draft versions of full narrative summaries for Section 4, Section 5 and Appendix I, along with abbreviated narrative summary for Appendix D
26-Aug-04	Johnson	Larson	Draft versions of Tables 4.4A-G and 4.5
27-Aug-04	Johnson	Larson	Draft versions of narrative summaries for Appendices H, J, K & L and revised versions of Tables 5.1 - 5.3
31-Aug-04	Johnson	Larson	Draft version of the MNR narrative summary
01-Sep-04	Johnson	Larson	Responses to NYSDEC comments received in various emails from 7/23 - 8/20/04
01-Sep-04	Johnson	Larson	Narrative summary of changes to the May 2004 Feasibility Study
01-Sep-04	Johnson	Larson	Draft final versions of Appendices D, H, K, and N
01-Sep-04	Johnson	Larson	Response to NYSDEC comments on the May 2004 FS
10-Sep-04	Johnson	Larson	Results of the additional sediment sampling in SMU 5
17-Sep-04	Johnson	Larson	Response to DEC comments on narrative summaries received on 9/8/04

Onondaga Lake Feasibility Study
NYSDEC Supplemental Submittals
May - November 2004

Date	Author	Recipient	Submittal Summary
20-Sep-04	Nicotri	Larson	Revised response to NYSDEC comment J.1 in narrative summary submittal
20-Sep-04	Johnson	Larson	PCSTABL files from the slope stability analysis referenced in NYSDEC comment H.4
22-Sep-04	Johnson	Scheuing	Revised text for Appendix D to address SMU 7 barrier wall
30-Sep-04	Johnson	Larson	Draft final version of Appendix B - only files modified from 5/3/04 version
30-Sep-04	Johnson	Larson	Draft final version of Section 2 - only files modified from 5/3/04 version
01-Oct-04	Nicotri	Larson	Response to NYSDEC comments on narrative summaries for Section 5, Appendix K and Appendix L
01-Oct-04	Johnson	Larson	Revisions to Figures 2.1 and B.1: Remove SMU 9 from figures
05-Oct-04	Drachenberg	Hesler	9/1/04 version of Table 5.1, SMU 2 Figure
06-Oct-04	Johnson	Larson	Draft final version of Section 3, OLFS
06-Oct-04	Johnson	Larson	Draft final version of Appendix G, OLFS
06-Oct-04	Johnson	Larson	Draft final version of Appendix J, OLFS
06-Oct-04	Johnson	Larson	Draft final version of Section 1, OLFS
14-Oct-04	Johnson	Hesler	Revised text for Part A of Appendix D, OLFS
15-Oct-04	Johnson	Larson	Draft final version of Appendix L, OLFS
15-Oct-04	Johnson	Larson	Draft final version of Appendix I, OLFS
15-Oct-04	Drachenberg	Larson	Attached LWA Estimates spreadsheet which summarizes the mass of contaminants remediated by LWA
15-Oct-04	Johnson	Larson	Draft final version of Appendix M, OLFS
15-Oct-04	Johnson	Larson	Transmittal letter for Appendices I, L and M
15-Oct-04	Drachenberg	Larson	Updated version of Table 5.2
18-Oct-04	Johnson	Larson	Workbooks from Appendix L
21-Oct-04	McAuliffe	Larson	CD and hard copy of the draft final versions of the Section 4 figures for the OLFS
22-Oct-04	Johnson	Larson	FS text regarding the BSQV comparison
22-Oct-04	Johnson	Larson	Draft final version of Section 4, OLFS
25-Oct-04	Glaza	Hesler	Back-up info regarding SMU 1 hot spots table
01-Nov-04	Johnson	Larson	Draft final version of Section 5, OLFS
01-Nov-04	Johnson	Larson	Draft final version of Executive Summary, OLFS
07-Nov-04	Kiehl	Hesler	Additional cap model runs
09-Nov-04	Warren	Larson	Additional text for Section 5, OLFS
10-Nov-04	Johnson	Larson	File discussing use of the PECQ1 vs PECQ2 throughout the OLFS
11-Nov-04	Johnson	Larson	Updated FS costs, revised version of Table 5.5
11-Nov-04	Johnson	Larson	Figures for PRAP
12-Nov-04	Johnson	Larson	Revised PRAP Figures and new table with LWAs
12-Nov-04	Johnson	Larson	Revised versions of PRAP Figures
15-Nov-04	Johnson	Hesler	Attached 2 of the 5 revised figures for the PRAP
16-Nov-04	Johnson	Hesler	Revised versions of the remaining figures for the PRAP
18-Nov-04	Glaza	Hesler	Email noting that Section F.2.3.2 of the FS lists details on cap monitoring/maintenance estimates
22-Nov-04	Johnson	Larson	LWA cost summary: Outlines capital cost, average operation and maintenance cost, present value, and the cost for each alternative
24-Nov-04	McAuliffe	Larson	Draft Final FS for Onondaga Lake
30-Nov-04	McAuliffe	Larson	Draft Final FS for Onondaga Lake in PDF format. 20 copies to Tim Larson and 10 copies to Mary Jane Peachy

Honeywell
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H-1

January 31, 2005

Mr. Robert Nunes
Remedial Project Manager
Central New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007

Re: ***Proposed Plan for the Onondaga Lake Bottom Subsite, Onondaga Lake Superfund Site, Syracuse, New York***

Dear Mr. Nunes:

Honeywell International Inc. offers the following comments on the November 29, 2004 Proposed Plan ("Proposed Plan") issued by the New York State Department of Environmental Conservation ("DEC") for the Onondaga Lake Bottom Subsite, Onondaga Lake Superfund Site.

The Proposed Plan is the result of a substantial and lengthy remedial investigation and feasibility study effort undertaken by Honeywell and DEC pursuant to a Consent Decree overseen by the United States District Court for the Northern District of New York. To complete the Feasibility Study for the Site, Honeywell put together a team of nationally-recognized experts from over 30 different organizations and consisting of environmental engineers, civil engineers, geotechnical engineers, marine biologists, toxicologists, environmental scientists, habitat biologists, and geologists. The team includes Danny Reible of the University of Texas, Michael Palermo, retired from the Army Corps of Engineers, Ed Long, retired from NOAA, and Don Hayes of the University of Utah. The Remedial Investigation portion of the team invested 10 years of effort in data collection, modeling, and risk assessment activities. The Feasibility Study portion of the team spent another 2 years and approximately 90,000 hours in the effort to develop and analyze remedial alternatives.

For over one hundred years, Onondaga Lake suffered the accumulated effects of municipal and industrial pollution from many sources. Allied Chemical and AlliedSignal (now Honeywell) operated chemical production facilities collectively called the Syracuse Works on the southwest side of the Lake from 1884 to 1986. The original Solvay Process used the region's natural salt brines and limestone for the production of soda ash and associated products. The Syracuse Works eventually included the Main Plan, the Willis Avenue and Semet Plants, and the Bridge Street Plant.

12 **I. Honeywell's Recommended FS Alternative C**

As a result of the RI/FS process, Honeywell first submitted an FS in May 2003 and developed a revised FS in May 2004, which DEC determined to be substantially complete in July 2004. Between May 2004 and November 2004, Honeywell and DEC worked together to undertake additional analysis which was incorporated into the final November 2004 FS. That FS recommended implementation of Alternative C. Using regulatory cost estimating guidance, the FS estimated the costs of Alternative C to consist of $210 million in capital costs and $33 million in present value operating and maintenance costs. The principal remedial elements of Alternative C included:

Hydraulically dredging an estimated 543,000 cubic yards (cy) of sediments. FS Alternative C proposed dredging in Sediment Management Units ("SMUs") 1, 2, 3, and 6. Dredging in those SMUs was designed to enhance cap effectiveness and optimize aquatic habitat following capping of the dredged area. Dredging would accomplish two goals: (i) remove contaminated materials to an optimal habitat depth (meeting fish spawning requirements) and (ii) reduce erosive forces on the cap. Capped areas would be engineered for habitat optimization.

Isolation capping of an estimated 336 acres within the near-shore (littoral) zone. Alternative C's proposed isolation capping would be designed to eliminate the potential human health and ecological exposure pathways associated with impacted sediment. The cap would be designed with appropriate factors of safety to ensure long-term effectiveness, including the installation of groundwater interceptor walls and hydraulic containment systems in certain areas as part of upland site remediation.

Habitat Improvement. Alternative C proposed establishing surface characteristics of the cap that would improve aquatic habitat throughout the littoral areas of the Lake and enhance its recreational value. Although we would expect further public participation in resolving the design details of habitat improvement projects, generally the surface characteristics of the cap would be designed to enhance the growth of submerged aquatic plants, increase fish spawning, resist erosive forces, and maximize optimal habitat water depths. For example, Alternative C sets forth a number of habitat improvement measures for SMUs 1,2, 3, 6, and 7. In these SMUs, a 25 acre recreational/habitat buffer zone would be created by applying a thin sand layer over a rock layer in the cap, extending from the shoreline to the approximately 2 foot water depth. This zone would provide suitable substrate for benthic organisms and submerged macrophytes and protect the cap from erosive forces. Additional habitat for submerged macrophytes would be created

over approximately 48 acres at water depths from 2 to 5 feet through the addition of a sand layer to the cap. Fish spawning habitat would be created over approximately 133 acres at water depths of 5 to 15 feet through the addition of a gravel layer to the cap. Finally, improved benthic habitat would be created over an additional 114 acres of water depths ranging from 15 to 30 feet by the use of a thin sand layer suitable for benthic organism colonization.

Aeration (oxygenation). Alternative C proposed an aeration pilot project in the Lake's deep (profundal) zone to reduce the conversion of mercury to methyl mercury. Aeration is expected to reduce mercury bioaccumulation in fish tissue.

Monitored Natural Recovery/thin-layer capping of profundal sediments. In FS Alternative C, Honeywell proposed a phased approach to monitored natural recovery ("MNR") and thin-layer capping of profundal sediments. Pre-design investigations and pilot testing would optimize implementation and ensure effectiveness of aeration, MNR, and phased thin-layer capping. Phase I would include installation of a full scale aeration system, as appropriate following pilot testing, initiation of natural recovery monitoring, and thin-layer capping in select areas that would otherwise be expected to exceed the mercury PEC or that, in combination with littoral sediments, would otherwise be expected to exceed the mercury bioaccumulation-based sediment quality value ("BSQV") on a surface area weighted concentration basis after an MNR period and in the presence of aeration. MNR would continue in Phase II as a means of assessing the effectiveness of the thin-layer capping, aeration, and natural recovery processes. Phase III would include additional thin-layer capping as a contingency, continuation of aeration if it has proven to be effective, and ongoing monitoring.

Consolidate sediments in an upland Sediment Consolidation Area ("SCA")/Treatment of SCA effluent. Under FS Alternative C, an SCA with an impermeable liner would be constructed on Wastebed 13. This former Solvay wastebed has the required capacity to accommodate the dredged sediments and will require only modest upgrades to the existing berms. Sediments would be conveyed through a double-lined pipeline, dewatered, and the resulting effluent would be treated before discharge back to the Lake.

FS Alternative C meets the Remedial Action Objectives and Preliminary Remedial Goals established during the RI/FS process, including the criteria for mercury levels in fish, sediment and water established by DEC. Further, FS Alternative C is protective of human health and the environment, and consistent with USEPA's *Draft Contaminated Sediment*

Remediation Guidance for Hazardous Waste Sites, including the eleven principles for managing contaminated sediment risk set forth in Appendix A to that document.

II. DEC's Proposed Plan

DEC's Proposed Plan contains the same essential remedial elements as FS Alternative C. Honeywell and DEC share the same goal of implementing a remedy that is protective of human health and the environment, restores and improves the Onondaga Lake habitat, and allows the Lake to return to being a valuable public recreational resource. Honeywell believes that both the FS Alternative C and the DEC Proposed Plan would fulfill these goals. A brief summary of the remedial elements of the Proposed Plan follows.

Hydraulic dredging of up to 2.65 million cubic yards of sediment. The Proposed Plan anticipates dredging a total of up to approximately 2.65 million cubic yards ("cy") of contaminated sediment. Much of this dredged sediment (approximately 1.6 million cy) would be removed from an area known as the In-Lake Waste Deposit ("ILWD"), found primarily in SMU 1. DEC's Proposed Plan also calls for additional dredging up to a sediment depth of about 9 meters in specific portions of SMU 2 to address the fact that NAPL was identified at depth immediately adjacent to the Lake. This additional dredging would remove an estimated 400,000 cy of sediment from SMU 2, including approximately 234,000 cy to address NAPL at depth. Under the Proposed Plan, most sediments would be placed in an upgraded SCA located on one of the on-site wastebeds. During remedial design as well as construction, it might be determined that a portion of the dredged materials would be treated and disposed of at an off-site facility. Final dredging volumes will be determined more accurately during the pre-design/design of the remedy.

Isolation capping of 425 acres of Lake bottom. In addition, the DEC Proposed Plan calls for isolation capping of approximately 425 acres of the littoral zone sediments. In both FS Alternative C and the Proposed Plan, the isolation cap would be designed to contain the maximum concentrations observed in the underlying sediment. In both remedies, a 50 percent safety factor would then be added to the cap thickness as a further safety precaution. Groundwater upwelling and cap effectiveness modeling conducted as part of the FS demonstrated that a cap could be designed to effectively contain the maximum concentrations found in the sediment. The Proposed Plan would further require excavation of defined "hot spots" prior to cap application.

Other Elements of the Proposed Plan. Finally, like Honeywell's FS Alternative C, the Proposed Plan calls for thin-layer capping of certain profundal sediments, an aeration pilot

project, and monitored natural recovery. The significant differences between DEC's Proposed Plan and Honeywell's Alternative C include (a) the extent of dredging and subsequent capping; (b) the size of the SCA necessary for remedy implementation; (c) the degree of water treatment; and (d) the anticipated cost of the remedy.

III. Specific Comments on the Proposed Plan

Honeywell presents the following specific comments regarding the DEC Proposed Plan. [1]

A. Adequacy of the Data

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The RI/FS process for Onondaga Lake has been extensive. Honeywell and its team of experts invested approximately 90,000 hours over the last two years to complete the FS process and DEC has also invested substantial effort. Together, approximately 6,000 samples of sediment, water, fish, and plants were collected and analyzed from hundreds of data points. Honeywell further developed sophisticated groundwater and cap effectiveness models and invested significant resources in tracking and understanding mercury sources and behavior in the Lake. Honeywell recognizes that remedial design will necessitate the collection of additional data. Indeed, the scope and magnitude of certain remedial actions, such as "hot spot" removal or other dredging in the ILWD, will likely be substantially defined by additional data collection during remedial design. Although the existing data would not be sufficient for certain remedial options, Honeywell believes that the RI/FS is adequate to allow for the selection of an appropriately protective remedy at this time. Years of additional study of the Lake would not benefit the community or the environment, and would only serve to prolong the implementation of the remedy and delay the return of the Lake to broader public use.

B. Dredging of the In Lake Waste Deposit

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In developing the FS, Honeywell conducted extensive cap isolation modeling to ensure that the cap would be placed effectively. That modeling demonstrated that an isolation cap

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[1] These comments do not represent the entirety of Honeywell's comments on DEC's Proposed Plan. By submitting this letter to the Remedy Review Board, Honeywell does not waive its right to submit additional comments for consideration by DEC and for incorporation into the administrative record before the close of the DEC public comment period.

could be effectively placed over the ILWD, as well as other areas of the Lake.[2] Indeed, in modeling cap effectiveness, Honeywell used a number of conservative assumptions or "protective measures," including using the worst case concentrations within each SMU, using literature pore water concentration values, and assuming a groundwater upwelling velocity greater than that generated by the groundwater model. [3] The modeling demonstrated that a properly designed cap, together with the installation of a hydraulic containment system along portions of the shoreline as part of upland remedial measures, will effectively isolate existing contamination and prevent "contaminant breakthrough." As an additional measure, the Proposed Plan calls for a 50% increase in isolation layer thickness (similar to FS Alternative C) and dredging to an average depth of approximately 2 meters, with additional "hot spot" removal to a depth of up to 3 meters, depending on additional data. Doing so would remove additional mass of the ILWD from beneath the cap.

The FS cap effectiveness model and groundwater model both demonstrate that an effective isolation cap can be installed over the ILWD. Thus, Honeywell believes that FS Alternative C is fully supported by the data presented in the FS. DEC has proposed additional dredging because the Agency believes such dredging will achieve greater mass removal and increase geotechnical stability of the cap. The Agency Proposed Plan, however, does not raise any other concerns about the effectiveness of the isolation cap developed in the FS. In any event, the cap effectiveness demonstrated by the FS modeling establishes that any dredging beyond that set forth in the Proposed Plan would not be warranted, especially in light of the extraordinary costs, time delays, water quality issues, and community opposition raised by additional dredging.

Finally, the cost-effectiveness of the Proposed Plan regarding the use of the SCA is clearly demonstrated in the FS and any changes to this element of the final remedy would have to be re-evaluated in terms of overall cost-effectiveness.

15 **C. Mercury Modeling**

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[2] The model also demonstrated, for example, that a cap could be placed effectively over the contaminants present in the Lake, including detected NAPL, as demonstrated in FS Appendix H.

[3] In addition, DEC derived the threshold concentrations for hot spot delineation by employing an assumed groundwater upwelling velocity that was three times greater than the upwelling Honeywell used in the cap model.

Honeywell understands that some members of the public have voiced concern over the perceived absence of quantitative, predictive models of mercury cycles in the Lake. The RI included an extensive evaluation of the fate and transport of mercury in Onondaga Lake. The primary tool used in the RI was a development of a mass balance. During the RI process, Honeywell attempted to develop additional mercury cycle models but the models' predictive abilities did not have the capability to be sufficiently reliable tools upon which to base the FS or the Proposed Plan. In general, the precision of mercury models is limited by the natural variability of the many factors that contribute to mercury concentrations in fish, such as the rate of production of methyl mercury, the composition of the food web, rates of addition of mercury to the ecosystem from upland contamination, rates of mercury contribution from atmospheric deposition and from anthropogenic sources unrelated to the contamination, rates of sedimentation, and a variety of other factors. Nonetheless, the mercury mass balance developed during the RI, together with the data collected for the RI and for upland site investigations, provides a substantial understanding of mercury fate and transport in Onondaga Lake. A detailed summary of that understanding is set forth in Section 1.6 of the FS.

Both FS Alternative C and the DEC Proposed Plan set forth several concrete remedial actions that are expected to eliminate ongoing sources of mercury to the Lake ecosystem, protect against mercury bioaccumulation and result in decreased mercury concentrations in the food chain. These actions include:

- To prevent the recontamination of Lake sediments and to ensure cap effectiveness, active sources of contamination to a given portion of the Lake would need to be controlled before remedial activities begin in that area of the Lake. Upland source controls have been or will be put into place to address ongoing sources of mercury to the Lake. These upland source controls, including controls for Geddes Brook, Nine Mile Creek, the Semet and Willis Avenue Site, Wastebed B/Harbor Brook, and the LCP Bridge Street Site, are being handled through the Superfund process subject to Consent Orders between Honeywell and DEC. The timing of remedial activities in Onondaga Lake would need to be coordinated with the remedial work at these upland sites.

- Dredging will remove a portion of the mercury contamination. Capping will further isolate remaining mercury contamination and prevent it from reaching the food chain.

- The aeration pilot project is expected to interfere with methylation of mercury and thereby reduce its bioavailability.

The FS also developed a mercury BSQV of 0.8 mg/kg that has been used to ensure that the remedy sufficiently addresses mercury accumulation in the food chain. To derive this number, Honeywell first calculated a Biota Sediment Accumulation Factor ("BSAF") for mercury. The BSAF is the ratio of methyl mercury concentrations in fish tissue to total mercury concentrations in surface sediments. It is predicated on the overly conservative assumption that *all methyl mercury in fish originates from mercury in the surface sediments.*

To take account of the fact that different size fish have different mercury concentrations BSAFs were calculated for small fish and large fish using average mercury concentrations in both littoral sediments and in sediment Lake-wide. These BSAFs were then used to calculate sediment target concentrations or BSQVs for five different wildlife receptors based on reported Lowest Observable Adverse Effects Levels for each receptor. Honeywell chose the most protective of these BSQVs – the 0.8 mg/kg associated with protection of the river otter -- as the appropriate BSQV for the Lake. To ensure that the remedy adequately protects the food chain, the FS compared post-capping modeled surface area weighted concentrations of mercury in sediment to the mercury BSQV of 0.8 mg/kg. The results demonstrate that the littoral zone will meet this protective value after dredging and capping. On a Lake-wide basis, the results of the pre-design investigation, including updating the MNR model, will be used to determine the need for additional thin-layer capping in the profundal zone.

16 **D. PEC Quotients**

The DEC Proposed Plan uses a Probable Effects Concentration Quotient ("PECQ") of 1 to determine areas of the Lake in need of remediation. For any particular contaminant, the PEC represents the geometric mean of the ER-L, TEL, ER-M, PEL, and AET. A mean PECQ was used to take into account the presence and concentration of multiple chemicals in sediments.

The mean PECQ for sediment samples was calculated with a four-step process:

- CPOIs were divided into five groups based on chemical class;
- Each detected contaminant in a sediment sample was divided by its PEC to result in a chemical specific PECQ;
- For each chemical group, the resultant PECQs for a sediment sample were summed and that sum was divided by the total number of CPOIs in the group to produce a "group" mean PECQ.

- The mean PECQs for each chemical group were summed and the sum was divided by the total number of groups, giving a mean PECQ for the sediment sample.

To biologically calibrate the mean PECQs, during the FS process the quotients were compared with toxicity test results (i.e., percent mortality) obtained for the 10-day chironomid and amphipod sediment toxicity tests conducted at 79 stations in 1992. For a further discussion of this comparison, see FS Appendix J. In general, neither the chironomid nor the amphipod test results demonstrated a noticeable increase in mortality until the PECQ exceeded approximately 1 to 2. Honeywell believes these data demonstrate that a PECQ of 1 to 2 adequately identifies the range at which Lake sediments might begin to demonstrate acute toxicity to benthic organisms. To ensure an additional margin of safety in the remedy, therefore, DEC selected a PECQ of 1 in the Proposed Plan. Honeywell believes the use of a mean PECQ of 1 or 2 is protective of benthic organisms.

In addition, primary human cancer and non-cancer health hazards in Onondaga Lake are associated with ingestion of bioaccumulative chemicals in fish. The highest concentrations and greatest mass of these chemicals in sediment are in the same areas identified by the PECQ 1 or 2. Remediation of these areas as proposed in both FS Alternative C and the Proposed Plan, in concert with other proposed remedial activities (e.g., the aeration pilot study), is expected to result in decreased concentrations of bioaccumulative chemicals in fish tissue, to concentrations within the established target ranges. Because both remedies also propose extensive capping of littoral sediments (especially in the more contaminated southern portion of the Lake), both would also address potential risk related to the one other recreational exposure pathway identified in the human health risk assessment: wading in South Basin sediments.

* * *

Honeywell has worked diligently to encourage community participation in the remedy selection process. Over the course of the last year, Honeywell has discussed both the FS and the Proposed Plan with federal, state, county, and local elected and appointed leaders, local environmental groups and scientists, local business groups and business leaders, community organizations, and members of the public. The overwhelming response has been to urge Honeywell and DEC to reach agreement on a remedy and begin the Lake bottom cleanup as soon as possible. Honeywell plans to continue to seek community input as any remedy moves forward, including participation in developing a long-term vision for the Lake. For example, Honeywell has had discussions with a number of groups regarding key remedy implementation issues such as habitat planning and monitoring remedial progress.

Honeywell appreciates this opportunity to make this submission to the Remedy Review Board. Please do not hesitate to contact us if the Board has any additional questions or if the Board seeks additional information. Honeywell remains committed to working with DEC to implement a remedy for the Lake bottom that is protective of human health and the environment and that can be implemented in a responsible and reasonable timeframe.

Sincerely,

David L. Wickersham

David L. Wickersham
Director, Remediation &
Evaluation Services

April 29, 2005

Mr. Don Hesler
Mr. Timothy Larson
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7016

Re: Onondaga Lake Superfund Site – Onondaga Lake Bottom Proposed Plan – Public Comment

Dear Mr. Hesler and Mr. Larson:

Honeywell International, Inc. submits the following additional comments on the Proposed Plan for the Onondaga Lake Bottom Subsite of the Onondaga Lake Superfund Site in light of the National Remedy Review Board's ("NRRB") recommendations regarding the Proposed Plan.

First, Honeywell agrees with the NRRB that current data suggest that most of the potential hotspot material in the In Lake Waste Deposit ("ILWD") would likely be removed by dredging to depths of 2 meters. Based on existing data, Honeywell continues to believe that the FS demonstrates that an effective cap can be installed and maintained over the ILWD after the dredging recommended in FS Alternative C. That cap, as proposed in FS Alternative C, takes into account erosive forces and groundwater upwelling. Groundwater modeling and cap effectiveness modeling in the FS using site specific data demonstrate that the cap would be effective without additional dredging beyond Alternative C. 1

Honeywell also concurs with the NRRB's Recommendation # 13 regarding the collection of additional data in the ILWD during remedial design so that the data collected can be used in "an adaptive management fashion to maximize remedy effectiveness and minimize cost." Honeywell further concurs in the NRRB's recommendation that the remedy as stated in the Record of Decision ("ROD") include flexibility in dredge depth and cap thickness so that cap effectiveness and cost efficiencies can be attained following additional data collection.

Second, under the Proposed Plan, sediments dredged from the Lake will be managed in an on-site sediment consolidation area ("SCA") rather than staged for off-site disposal. The Proposed Plan recognizes that a portion of the dredged materials (e.g., 2

NAPLs) will be treated and/or disposed of off-site. As we have previously stated, on-site consolidation of sediments is a necessary component of any final remedy. The use of an on-site SCA is an accepted and safe management technology that can be effectively used at this Site. Monitoring, odor control, appropriate closure practices, noise control, and other issues will have to be detailed in the remedial design. Honeywell recommends that the ROD contain sufficient flexibility concerning the location of the SCA to allow for a evaluation of other Solvay wastebeds as potential SCA locations in order to identify the location that will most appropriately allow for management of the sediments without undue adverse community impacts. Honeywell continues to believe that any change in the Proposed Plan which results in substantial volumes of sediment being sent off-site for disposal rather than being managed in an SCA may not be supported by an analysis of the statutory and regulatory requirements governing remedy selection.

3 Third, the mean PECQ provides a rational and conservative means to identify sediments that pose risk to benthic macroinvertebrates. Appendix J of the FS sets forth the ample scientific precedent for use of the mean PECQ to evaluate sediment toxicity in Onondaga Lake. In addition, the sediment quality value quotient approach has been used at a number of locations in the U.S. for evaluating sediment toxicity in the presence of multiple co-located contaminants, as is the case for Onondaga Lake. However, some public commenters expressed concern that the mean PECQ does not address long-term or chronic sediment toxicity. In 2000, long term toxicity tests were conducted at 15 stations located in key parts of the Lake (i.e., the southern shoreline and the mouth of Ninemile Creek); these results are discussed in the Baseline Ecological Risk Assessment ("BERA"). As the BERA and FS Appendix J demonstrate, the Proposed Plan would result in a reduction of chronic toxicity to the benthic community in those areas of the Lake where existing contaminated littoral sediments would be capped.

4 Fourth, Honeywell appreciates the substantial opportunities DEC has provided for public comment on the Proposed Plan. The Proposed Plan was issued in November, 2004. Thereafter, DEC provided a 90-day public comment period. The public comment period was reopened on April 1, 2005 for an additional 30 days. Thus, by the close of this public comment period, the Proposed Plan will have been available to the public for five months and all interested parties will have had the opportunity to participate in two substantial public comment periods.

In this regard, Honeywell has reviewed many of the written public comments filed with DEC in the first public comment period. Honeywell wishes to support some of the comments offered by members of the public. For example, 5

- Honeywell supports continued efforts to work with the public and impacted communities during the remedial design process.

- Honeywell conceptually believes that the Proposed Plan is consistent with efforts to improve access to and recreational enjoyment of the Lake. If Honeywell and DEC can agree on a final remedy, Honeywell will seek to coordinate its remedial efforts with the County's efforts to establish a "Loop the Lake" trail.

- Honeywell will consult with the community regarding habitat improvement and restoration projects that will be part of the remedial action.

- Honeywell understands the need for additional monitoring of Lake conditions during remedy design and implementation.

In light of the substantial opportunities for public comment that DEC has provided, and in light of the stated willingness of DEC and Honeywell to continue to engage the public during remedial design, Honeywell respectfully urges the Department to move forward promptly with issuing the ROD. Substantial delay in the issuance of DEC's Record of Decision will provide no additional benefit to the environment, the community, or Honeywell.

Sincerely,

David L. Wickersham

David L. Wickersham
Director, Remediation & Evaluation Services

PUBLIC COMMENTS

I would like to know who's paying the $212 million dollar difference between Honeywell's $237 million dollar proposal and the states $449 million dollar proposal? 1

Seems to me we will be in the courts for another 20 years over this. 2

Joan E. Bardeen
East Syracuse

Joan E. Bardeen
Syracuse University
Electronic Publishing Center
001 Sims Hall
Phone (315) 443 -4172
Fax (315) 443-5345

(Comment received via e-mail from jebardee@syr.edu on 1/7/05)

To Whom it May Concern,

Finally! Someone has finally come up with a plan to save what little is left of "good old" Onondaga Lake. Having grown-up in the city of Syracuse, and having also spent countless hours as a child playing on the sports diamonds along the lake, it would be nice to finally see actual boating and fishing going on. As opposed to just being able to watch the waves role bye.

With a clean-up that is timely and cost efficient, one can only marvel at the future development that can take place along the banks of a clear, clean lake-front. With the New York State Thruway running right over the inlet to the lake, can you image the people that would stop to partake in the area when they see the activity that has developed. I wish you well, and look forward to bringing my children to the shores of a once proud body of water.

Sincerely,

David J. Bonner

(Comment received via e-mail from DBonner@starpointcsd.org on 1/7/05)

1/12/05

P-3

NYSDEC

Form for Submitting Comments on the Onondaga Lake Proposed Plan

Your input on the Proposed Plan for the Onondaga Lake subsite of the Onondaga Lake Superfund site is important to NYSDEC. Comments provided by the public are valuable in helping us select a final cleanup remedy for the site.

You may use the space below to write your comments. Use additional pages if needed. Fold the form along the dotted lines and tape (do not staple) the form closed. The return address is already printed on the reverse side. **Comments must be postmarked by March 1, 2005.** Those with electronic communications capabilities may submit their comments to NYSDEC via the Internet at the following e-mail address: DERweb@gw.dec.state.ny.us. Please note "Onondaga Lake Proposed Plan" in the subject box.

It seems that we've been at this route before. Not so long ago a professor emeritus from ESF stated it would take at least ½ a century and then we would not know where we were. Is it NH_4, NH_3, PCB's, because Onondaga County does not collect taxes anymore? Why am I not convinced! If Allied were still here, we would not be here today! 1

I propose damning (slamming?) it, because that is the one true way of getting to the bottom (of things). Next Carbon? Cap all waste in containers and leave there. 2

Your Name: Howard Bragman
Address: 2705 East Genesee Street
City: Syracuse
State: NY
Zip: 13224
Phone: 1522

P - 4

1/12/05
Comments regarding the Onondaga Lake Clean-Up/Proposed Plan

1. During the 12/9 Town of Camillus meeting, I understood that only non-hazardous waste would be dumped into Wastebed 13. During the info meeting earlier today, I understood that Honeywell has proposed Wastebed 13 because of it size and capabilities, but the DEC has left it open to Wastebed 9-15, to be determined. How will it be determined which Wastebed(s) will be used? 1
2. I want to know when the project of dredging the lake begins, how will the hazardous and non-hazardous waste be separated? If the wording becomes low hazardous goes to the Wastebed and high hazardous goes to Niagara Falls area, once again, how is it determined what is low/high? If this is still to be determined and to be defined during the "3 year design period of time", what factors will determine what is low/high? 2
3. I saw one of the posters showing the Wastebed and how it would be prepared during the 1/12 information session. If the Wastebed remains open during the 4 year implementation period and is not capped until 1-2 years after the dredging is completed, what is keeping the (some of which probably will be hazardous) material from going airborne, potentially affecting our health and property values? I understand there will be an air and odor monitoring system in effect, but what are the parameters of the monitoring range, as well as what steps will be taken if the range is at a harmful level? Will the public be informed of the readings on a regular basis, and have access to that information on a daily basis if requested? 3
4. When the "design phase" of the project begins and during its anticipated 3-year period, will there be public meetings, with sufficient notice, to give the community a status update, and accept questions/comments from the community? I think it is very important to the success of this project that "the cards are on the table", that the public is kept informed in a way that it easy for the local citizens to understand what is happening, when it is happening, how it is being done, and their concerns are being addressed along the way. 4
5. I understand that on 4/1/05, the DEC will make a proposed plan decision. What happens if Honeywell does not agree with the plan? I am under the impression if Honeywell says no, the Fedl & State will proceed with the DEC proposed plan, which would mean the taxpayers would be paying for the project. When the project is completed, the Fedl/State/DEC would then give the bill to Honeywell and payment would be expected. So the Fedl, State, DEC are reimbursed, but the taxpayer is not???? 5

Nancy Ciampi
120 Scorpio Drive
Syracuse, NY 13209
315/468-2354

I was wondering what precautions or remedial action will take place to prevent contamination from flowing into Lake Ontario via the Oswego River. 1
Katie Comerford

(Comment received via e-mail from kjc05@health.state.ny.us on 1/20/05)

To cap a few major spots of pollution is not "treating" the problem, just temporarily covering it up. To dredge certain areas and deposit the proble somewhere else is not "treating" the problem it is just moving the problem somewhere else. It took 125 years to pollute the lake to the extent it is now. To throw a small band aide over a few spots and ignore the rest of the lake as a whole is ridiculous. What are the "standards" by which the water quality will be measured to achieve a ruling that the lake is clean and safe ? To dump pollutants that could seep into the ground water is not "treatment" . It is just moving the problem elsewhere. This sounds like "the solution to pollution is dilution" syndrome that led to the magnitude of the problem we have today. That type of thinking is 1960's technology, solves little and only covers up the problem for future generations to have to deal with eventually. Is this the best solution you could come up with over a 15 year period ? 1 2 3

Charles Coughenour
(Comment received via e-mail from clcou77@usadatanet.net on 12/15/04)

112 Parsons Drive
Syracuse, N.Y. 13219
February 19, 2005

Donald Hesler/Timothy Larson
Onondaga Lake Superfund State-Public Comments
Department of Environmental Conservation
625 Broadway
Albany, N.Y. 12233

Gentlemen:

I am strongly in support of the recommendation by David C. Ashley in the Post-Standard this past week that "Looping Onondaga Lake with a usable recreation trail should be part of the current lake remediation options." 1

I would very much like to see a trail completed 100% of the way around the lake so that I could take my bicycle to a parking area somewhere around the lake, leave my car there, and circle the lake on my bicycle. This would be a significant enhancement to the Onondaga Lake park, which is pretty nice already.

I hope that the city and county, with whatever help they can get from the State and/or Federal governmenta, will take control of the entire shore of the lake, develop it in the future for recreational use only, and keep commercial developers back from the edge of the lake. Anyone who doubts the benefit to the public of this approach should spend some time in Ottawa, Canada, or in Washington, D.C. to appreciate how great an asset Onondaga Lake can be to the community. Ottawa has parks with picnic areas, sports fields, bicycle and hiking trails, formal walking paths, etc., stretching for tens of miles beside the Ottawa and Rideau rivers, the Rideau Canal and Dow's Lake. Washington's parks are beside or connected to the Potomac River. Both cities spent a lot of money to buy back the shorelines as they developed their parks; presumably Syracuse can still get such control for relatively little.

Respectfully,

Kenneth H. Cram

Kenneth H. Cram

NYSDEC

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Let's get the job Done. 1

Just Do it! 1

Your Name JoAnn Cucci
Address 201 E. Washington St
City Syracuse
State New York
Zip 13202
Phone 448-8732

R. B. Eidt
Phone 315.638.3271
Fax 315.638.3271

[redacted]

Fax

Roger

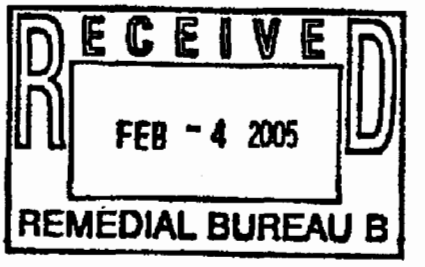
To:	Steven P. Eidt	**From:**	R. B. Eidt
Fax:	315.426.7459	**Date:**	January 9, 2005
Phone:	315.426.7506	**Pages:**	1 including cover
Re:	Source of Hg numbers	**CC:**	None

☐ **Urgent** X **For Review** ☐ **Please Comment** x **Please Reply**

1. **The Post made reference to the amount of mercury in the lake. They used a number of 165000 Pounds. Where did this number come from? Was a material balance made on the system? There are several areas where mercury was lost; I believe the largest quantity was lost to the ground, not to the lake. They may have used the monthly mercury purchases that were made to maintain cell levels.** 1

2. **How much soil was removed when the Peroxide process building was demolished? The " working " solution for the process contained several "nasty" materials.** 2

John S. Gibbs, Jr.
24 Chaucer Circle
Baldwinsville, New York 13027



January 31, 2005

Mr. Timothy Larson, P.E.
Project Manager
New York State Department
Of Environmental Conservation
625 Broadway
Albany, New York 12233

Re: Onondaga Lake Clean Up – Syracuse, New York

Dear Mr. Larson,

It was with great interest that I continue to read and follow the lake clean up proposals for Onondaga Lake. Recently I have had the opportunity to review the project with some of the individuals at Honeywell who are directly involved with the project. While I am not an engineer by training, I am an avid outdoorsman and conservationist. I enjoy hunting, fishing and other outdoor recreational activities. I firmly believe that the restoration of Onondaga Lake to its natural state is admirable, but highly unlikely. I do, however, believe that any clean up of the lake will improve the quality of the lake, and the potential for additional boating, swimming, fishing and other aquatic activities. On an additional note, a clean lake would also benefit the economic forecast of the surrounding communities via the expansion of Destiny USA and the inner Harbor project. 1

My basic understanding of the project is that the floor of the lake or some portion thereof, is to be encapsulated in some method after a giant vacuuming has occurred. In addition, a filtration system is to be placed around the end of the lake in the Solvay area that should prevent storm/run off water from further contaminating the lake. I also know that some dredging will occur in areas where the contaminated silt/lake bottom is particularly deep. While the information that I have read indicates that the cost to do this will range from $250 million (Honeywell) to $437 million (DEC), I feel that it is time to get this project underway. To delay the project will only add additional costs and further hinder the usage of the lake for both recreational and economic development.

2 While I understand that those opposing this project would like a model to be developed that might, with some certainty, hypothesize the outcome of the project – is this realistic? This process will most certainly delay the start of clean up, add additional costs and may not tell the scientists or engineers with any real accuracy that the clean up will work. I am not aware of any project similar to the one proposed for the clean up of Onondaga Lake; therefore, I suppose there is no reference data available.

3 However, it seems to me that after over ten years of testing, and a plan in hand that seems feasible, the clean up project should begin post haste. As with any plan, it may need modification and adjustments as it develops, but as such, I encourage you to approve the Honeywell plan for the Onondaga Lake remediation as it stands with the idea that it may need modification as the clean up progresses. In view of the fact that it is going to take over ten years for remediation of the lake to be complete – it is time to get this started.

Thank you most kindly for your attention to this letter. It would be my pleasure to discuss the Onondaga Lake clean up project with you further. Feel free to call my office, 315-484-2220, or my home at 315-638-7995, if you would like.

With best regards,

John S. Gibbs, Jr.

Copy: Richard Capozza, Esq. Hiscock & Barclay Law Firm
John McAuliffe, P.E., Project Director, Honeywell

MaryJane,

For the record, as I discussed with you yesterday via telephone, we have great concern about the potential plan to dump 2.65 million cubic yards of contaminated sediments, including mercury, PCB's and other toxic chemicals in our Camillus neighborhood. There are many reasons not to allow this magnitude of chemicals to be transported to our neighborhood. The most important reason is our children. We have two children, one is an 11 year old who is extremely sensitive to environmental odors, has numerous allegies, and a seemingly weakened immune system. We live less than 1/2 mile the landfill. There are many children who live in this residental area. We play in the nearby park on Belle Isle Road. We hike and bike all along Belle Isle Road, even closer to the proposed site. 1

We would be living around highly toxic chemicals, like mercury and PCB's. Mercury has low PEL of 0.01 mg/m3 TWA which means that even low levels are hazardous to us. Isn't it true that mercury, is a known to effect the central nervous system? That it is a kidney toxin, and effects the eyes and skin? Isn't it also true that PCB's irritate the eyes, nose and throat? Isn't is also true that PCB's are known to cause cancer and liver damage, as well as, chloracne? Isn't is true that PCB's may even effect the reproduction system? It is my understanding that PCB's are very resilient, and therefore doesn't break down easily?

Why would you take a chance that the controls you put in place would work everytime. There are many things that can go wrong. What contingency plans are in place? What happens if during the process of piping it back, the pipes crack or break leaking the toxins? Isn't it true is takes time to find a leak or break? How would this be handled to control the potential exposure to the environment? What if the safe levels are exceeded? How would those affected people be protected? How would you control the odors? Would you air monitor? If so, 24 hours a day, by whom, and what are the costs? In this area, we get impressive westerly winds - Do you realize that we are directly downwind of this area? 2

Are there other possible dumping areas or alternative methods? Is it possible to keep the waste closer to the lake? Aren't there costs to pipe it to Camillus. Can't those dollars, or Honeywell's monies be used to provide or prepare an area closer and more logical, like an area near, in or around the lake? 3

In our neighborhood alone, we have invested in our homes for almost 2 decades. Would this effect the value of our homes with decreased property values - a waste site so close? We take a great deal of pride in our Camillus neighborhood. We have a safe and healthly neighborhood. It's just too close to take this unnecessary risk to our lives, homes and sense of well-being. It just doesn't make sense. 4

Sincerely,

Kevin and Donna Haley
105 Hornady Drive
Syracuse, NY 13209
cell 382-0867 home 487-1266
haleyok@aol.com

(Comment received via e-mail on 2/23/05)

We are interested to learn of the significant dredging required in the cleanup of this lake. Can you advise as to if the State of NY or Honeywell will be completing this work when it eventually occurs? Do you have consultants working on this with you or would you be interested in our comments as dredging contractors on potential methods? 1

Bill Hanson
Manager, U.S. Business Development
Great Lakes Dredge & Dock Company
2122 York Road
Oak Brook, Il 60523
630 574 3000
630 574 3469 Direct
630 574 2419 Fax
www.gldd.com
whhanson@gldd.com

(Comment received via e-mail on 11/30/04)

1/12/05

NYSDEC

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I dont see the point of cleaning up the lake 1
for development unless the development is more a continuation
of the Park!

Your Name Dallas Johnson
Address 6546 McDaniel Rd
City Memphis
State NY
Zip 13112
Phone 689-7255

Attention Timothy J Larson: 1
Sorry we cannot attend,but would like to add My Two Cents...
Mother Nature was doing its Thing,The Mud Boils from the Otisco Valley while making Onondaga Creek muddy was sealing off the bottom of the lake with a layer of Clay and sealed in the Murcury from others Mistakes..Putting down a layer of clay over the murcury solves the Murcury contamination...
Onondaga Lake hasn't been so clean in years until the Zebra Muscles came into the Lake..They are cleaning the lake at no cost to the Tax Payers ,and no Payoffs.
The sad part is DEC is allowing 20,000 gallons of Industrial Strength 2
Chlorine To come into a Residential Neighborhood each Month to a RTF ...I expect when sometyhing goes wrong They will say I'm Sorry..Well Sorrys Don't count...EnvironmentalJustice!
Comment Please.....
! Sincerely Yours,
Charles G.Jones
EM- evejones@earthlink.net

(Comment received via e-mail on 2/12/05)

NYSDEC

Form for Submitting Comments on the Onondaga Lake Proposed Plan

P - 15

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(1) In SMU 5 the area in the HarBOR, in Front of the cove the Yacht ClUB' Should Be a weed Free zone!! Small Boaters use it and it would Be great if it was a Sandy weed Free Bottom!! 1

(2) you are dumping the dredge material in one of the waste BEDS. Can the CINER hold the extra material? won't it PUSH the contents already there into the watershed and then into the LAKE? 2

(3) you Must remove the underwater and under the SALT OBstructions (Barges, piers etc. Before you dredge 3

Your Name: P. GARRY KLINK
Address: PO BOX 538
City: JORDAN
State: N.Y.
Zip: 13080
Phone: 315-689 2031

Mr. J. Andrew Lange
1301 Nottingham Rd
Apt C112
Jamesville, NY 13078-8703

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DEC 16 2004

The Reader's Page

REF: ONONDAGA LAKE – Bottom Deposits

A New York State Department of Conservation (DEC) Plan has been proposed for Lake Cleanup. It schedules completed public hearings by April 5, with construction soon thereafter. The estimated cost of the project is $449,000,000! 1

A recent Post-Standard opinion piece was entitled "More Time Please". In addition to time for review, it included a variety of questions relative to matters of concern. No answers can be given to these unknowns! More Time: No! Scrap this extravagant proposal and start over with a better plan.

Dredging is suspect for effectively eliminating Mercury. A Hudson River project has found only 50% contaminant removal with a cost overrun anticipated at $500,000,000 2

Concerns of Camillus Residents relative to proposed dumping of 2,650,000,000 Cubic Yards of Bottom Deposits within their township are valid. It is likely that a major proportion of this material is sewage solids. The Metropolitan Sewage Treatment Plant was operated for many years as a Primary plant with a huge impact on the Lake. Sewage sludge should remain in the Lake. 3

There is little evidence of significant Environmental Impact by Mercury in the Lake, except for fish contamination, at the present time. It would appear that there is no possible justification for this proposed DEC expenditure. 4

There is a somewhat questionable concern relative to the 82 Tons of Mercury, reputedly embedded within the Bottom Deposits. The worst of all scenarios would be Dredging. A substantial percentage of Mercury being liberated would migrate to areas not presently contaminated. 5

Embedment must continue to be practiced, but some enhancement could be considered to satisfy those extreme environmentalists who proposed the DEC Plan.

The installation of a permanent cap or flexible membrane could be installed over those Bottom Deposits known to contain Mercury. An Engineering Design could be rapidly developed, utilizing DEC Data already available. The cost would probably be negligible in contrast

6 **"Public Review" of a huge set of documents, as those included for this DEC Plan, is inadequate for public commentary. Some better procedure is indicated. In this case, a cost of $20,000 per person, as stated recently by Congressman Walsh, deserves better respect.**

An Executive Summary should be prepared for this project, not requiring more than a dozen or so pages. A page or two would be released to the newspaper each week. The more significant commentaries would be printed during the following week. More realistic "Public Review" would have been rendered, at conclusion of this procedure.

BY: J. Andrew Lange, Professional Engineer #27717 NYS

1/12/05

Mr. J. Andrew Lange
1301 Nottingham Rd. Apt. C112
Jamesville, NY 13078-8703

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DEC Cleanup Plan – Onondaga Lake
Public Meeting – 12JAN05

Introduction: **By J. Andrew Lange, License No. 27717**
Registered NYS Professional Engineer

Background: **Over 40 Years of Experience**
NYS Environmental Projects

Honor: **Annual Award – 1994 Engineer of the Year**
Central NY Chapter, NYSSPE

SUBJECT: **ENVIRONMENTAL IMPACT**
Proposed Onondaga Lake Cleanup Plan

This Plan proposes removal of solids – containing Mercury – from the Lake bottom, utilizing Dredging – a Scooping procedure.

Scooping solids from the Lake bottom is inefficient. Spillage would return a major proportion of each load back to the Lake. Mercury contamination could then spread widely. From a relatively small area now, Mercury would reach to the remainder of the Lake and the Seneca River. 1

The Environmental Impact would be beyond imagination, as contrasted with the only problem presently reported – minor fish contamination. It is unlikely that Mercury found in fish could have come from the multiple layers deposited many years ago. These layers are also covered with silt deposits carried in by the streams that enter the Lake over many years. 2

The Lake bottom layers should remain entombed, and should never be disturbed. 3

DEC Cleanup Plan – Onondaga Lake

4 **Dredging has been proven to be a failure for a Hudson River Project. According to an Albany Times Union article, half of the contaminant was swept downstream, when the river bottom was disturbed. The additional work is expected to cost more than $500,000,000 and take longer than six years to complete.**

With knowledge of the above experience, there is no way that New York State DEC can justify Dredging for Onondaga Lake.

5 **Mr. Alan Brian Gancy, former Director of Research for Solvay, in a January 7 newspaper letter stated that in his opinion that Dredging is too risky. He also proposed an alternative treatment system to eliminate Mercury. It might well deal with the minor contamination of fish.**

6 **There are those who have criticized the lack of a scientific model to guide the cleanup.**

Experience at the Hudson River provides an adequate model.

Dredging is unacceptable for Onondaga Lake!

Dredging Ononadaga Lake sounds ridiculus. Dredging would only stir up the polutants and spread the polution. 1

I would suggest that the lake be "sumped". Using a barge with trash pumps, pump the polutants to the waste beds and into "V" shaped settling ponds that have valved draw offs for removing most of the contaniments. 2

Arnold W. Lathrop
211 Measowbrook Circle
Fulton, NY 13069-1068
Ph (315) 593-1164

(Comment received via e-mail from awlbji@dreamscape.com on 2/12/05)