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VIA EMAIL AND HAND DELIVERY

Ms. Valerie Namba, Senior Environmental Planner
California Department of General Services, Real Estate Services Division
Professional Services Branch, Environmental Services Section
707 Third Street, Third Floor, MS 509
West Sacramento, CA 95605-9052

Re: Comments of Coalition for Safe Building Materials on the Recirculated Draft Environmental Impact Report on the Adoption of Statewide Regulations Allowing the Use of PEX Tubing

Dear Ms. Namba:

The following comments on the October 2008 Recirculated Draft Environmental Impact Report on the Adoption of Statewide Regulations Allowing the Use of PEX Tubing ("RDEIR") are respectfully submitted on behalf of the Coalition for Safe Building Materials ("Coalition"). The RDEIR amends and supplements the May 2008 Draft Environmental Impact Report on the Adoption of Statewide Regulations Allowing the Use of PEX Tubing ("DEIR"). The RDEIR and DEIR evaluate the potential impacts of the proposed adoption of regulations that would amend the current California Plumbing Code ("CPC") to permit the use of cross-linked polyethylene ("PEX") tubing and fittings for potable water pipe ("Project") in residential, commercial and institutional buildings.

The members of the Coalition include the California Pipe Trades Council, Consumer Federation of California, California Professional Firefighters, Planning and Conservation League, Center for Environmental Health, Sierra Club California and Communities for a Better Environment, along with their individual members. The environmental, consumer, public health and labor organizations that make up the Coalition represent literally millions of Californians concerned about the safety of new building materials.

2057-039d

The California Building Standards Commission (“CBSC”) has prepared the RDEIR as the Lead Agency under the California Environmental Quality Act (“CEQA”) with the assistance of the California Department of General Services (“DGS”). The RDEIR states that it may be relied upon for approval of PEX in occupancies under the jurisdictions of the Department of Housing and Community Development (“HCD”), Division of the State Architect (“DSA”), Office of Statewide Health Planning and Development (“OSHPD”), Department of Public Health (“DPH”) and the Department of Food and Agriculture (“DFA”).

In its June 23, 2008 comments on the DEIR, the Coalition commended CBSC for preparing the DEIR (notwithstanding a number of serious deficiencies in the DEIR’s analysis and conclusions that were identified and documented in the Coalition’s comments). The DEIR corroborated many of the concerns that the Coalition has long raised regarding this product. These concerns included: (1) the potential health hazards from the leaching of methyl tertiary-butyl ether (“MTBE”) and tert-butyl alcohol (“TBA”) in amounts that exceed the state standards for taste, odor and health; (2) the permeation of PEX pipe by outside contaminants; and (3) the premature degradation and rupture of PEX pipe. For the first time, the DEIR proposed measures to attempt to mitigate these hazards. The DEIR’s honest and calculated analysis of the leading issues was a welcome departure from HCD’s now abandoned 2006 Negative Declaration on the statewide approval of PEX and PEX-AL-PEX that blatantly ignored the undisputed evidence of these significant health and public safety issues.

Unfortunately, the RDEIR arbitrarily reverses the DEIR’s finding of significant leaching impacts and eliminates mitigation measures that it had previously identified as both feasible and necessary. As will be discussed in more detail below, the RDEIR’s wholesale reversal of the DEIR’s original findings regarding leaching impacts is arbitrary, without foundation, contrary to undisputed evidence in the administrative record, and contrary to the expert determinations of the California agency designated to evaluate the significance of such drinking water impacts.

The RDEIR does improve the mitigation that had been proposed to address the permeation impacts associated with PEX, but it fails to address any of the numerous other deficiencies that were contained in the original DEIR, particularly with regard to failure impacts. In other words, instead of taking this opportunity to improve its environmental review of PEX, the RDEIR takes a giant step backwards.

As a result, the RDEIR fails to fully comply with the requirements of CEQA. The Lead Agency may not approve the Project until the new errors in the RDEIR and the unaddressed errors in the DEIR are corrected, and an adequate document is circulated for public review and comment.

I. THE RDEIR LACKS FOUNDATION TO SUPPORT ITS REVERSAL OF THE DEIR'S DETERMINATION THAT THE LEACHING OF MTBE IN AMOUNTS EXCEEDING CALIFORNIA DRINKING WATER STANDARDS IS A SIGNFICANT IMPACT

The RDEIR's complete reversal of its determinations regarding MTBE leaching impacts is arbitrary and capricious and lacks foundation.

The DEIR evaluated the evidence regarding MTBE leaching and concluded that:

Because PEX has been associated with the leaching of MTBE at levels that, at least initially, exceed State of California health-based MCLs ... this would represent a **potentially significant** impact.¹

As a result of this finding, the RDEIR imposed mitigation that would have required that all PEX installed in California buildings for use as drinking water pipe must be certified and marked as meeting the California MCL for MTBE.²

After receiving protests from the plastic pipe industry and meeting with industry lobbyists,³ the RDEIR now reverses this determination and eliminates this mitigation measure. The RDEIR attempts to justify the complete reversal of its previous finding of significant impact based on the following: (1) an unsupported extrapolation from limited test data provided by NSF for ten unidentified PEX samples that MTBE leaching from all PEX formulations will quickly decline below

¹ DEIR at p. 4.4-16 (emphasis in original).

² *Id.*

³ Letter from Kelley Taber on behalf of Plastic Pipe & Fittings Assoc. ("PPFA") to Valerie Namba (June 23, 2008) (objecting to proposed leaching mitigations); email from Moira Topp, lobbyist for PPFA, to Michael Saragosa, State and Consumer Services Agency (August 14, 2008) (confirming meeting with PPFA lobbyists and attorney); California Secretary of State, PPFA Lobbying Activity, <http://cal-access.sos.ca.gov/Lobbying/Employers/Detail.aspx?id=1144583&session=2007&view=activity> [as of November 13, 2008].

the California health-based MCL; (2) an assumption that exposure to MTBE must occur continuously over 70 years in order to impact health; and (3) a vague and misleading statement that both the California MCL of 13 µg/L and the NSF 61 standard of 100 µg/L are acceptable given current U.S. Environmental Protection Agency (“EPA”) risk *management* criteria.⁴

These assumptions and statements lack foundation, are generally incorrect or misleading, and fail to provide a rational basis for the agency’s conclusions.

A. CBSC Lacks Sufficient Expertise or Foundation to Second Guess the Public Health Goals for Drinking Water Set by the Office of Environmental Health Hazard Assessment

The RDEIR’s reversal of the DEIR’s MTBE leaching findings is legally deficient because it appears to rely upon privately-set NSF 61 standards over California drinking water standards. This reliance is contrary to the intent of the Legislature, is arbitrary and capricious, and lacks foundation.

The RDEIR fails to identify whether it is relying upon the California drinking water standard for MTBE or the NSF 61 standard for MTBE for its threshold of significance. Instead, the RDEIR obliquely states that “both the California MCL of 13 µg/L and the NSF standard of 100 µg/L are acceptable given current U.S. EPA risk *management* criteria and are protective of public health.”⁵ The RDEIR, however, never makes the claim that the NSF 100 µg/L standard for MTBE reduces potential health impacts to a level of complete insignificance. Moreover, the RDEIR fails to identify any legally adequate basis for disregarding the California drinking water Public Health Goal for MTBE of 13 µg/L. In addition, the RDEIR ignores the critical difference between risk *assessment* criteria and risk *management* criteria.

“Acceptable” regulations protective of public health do not necessarily reduce potential health impacts to a level of complete insignificance. Federal and state MCLs are clearly acceptable regulations protective of public health, but they are not set solely based on public health considerations. Economic and technological feasibility are also taken into account when setting MCLs.⁶ NSF bases its TACs

⁴ RDEIR at p. 4.4-18; µg/L is also expressed as parts per billion or ppb.

⁵ RDEIR at 4.4-18 (emphasis provided).

⁶ Health & Saf. Code §116365; 42 U.S.C. § 300g-1; the factors evaluated in determining the U.S. EPA MCL standards include: human exposure and risks of adverse health effects in the general

and SPACs on the MCL for adults set by the U.S. EPA and the maximum allowable contamination (“MAC”) level set by Health Canada MAC and thus are not set exclusively based on public health considerations. In addition, NSF itself takes into account additional industry concerns regarding technical and economic feasibility when setting its standards.⁷

In California, the Office of Environmental Health Hazard Assessment (“OEHHA”) is designated as the expert state agency for identifying, quantifying and recommending *health-based standards* for chemicals in the environment.⁸ The Governor’s 1991 Reorganization Plan moved OEHHA to CAL EPA in order to create an independent entity to “evaluate the health risks of chemicals in the environment” and to “provide information to environmental regulators and the public about the adverse health effects that result from environmental exposures to noninfectious agents.”⁹ Because CBSC does not have expertise in toxicology and risk assessment, it should have consulted with OEHHA in assessing the risk posed to consumers from drinking water contaminated with MTBE leached from PEX.

OEHHA’s mission is to “provide functional and organizational separation of risk assessment from risk management,” as recommended by the National Academy of Sciences report, *Risk Assessment in the Federal Government: Managing the Process*.¹⁰ “Risk Assessment” is defined as “the characterization of the potential adverse health effects of human exposures to environmental hazards.” In contrast, “risk management” is defined as “the process of evaluating alternative regulatory actions and selecting among them ... [using] value judgments on such issues as the acceptability of risk and the reasonableness of the costs of control.”¹¹

population and sensitive subpopulations; analytical methods of detection; technical feasibility; and impacts of regulation on water systems, the economy and public health.

⁷ See Comments of Thomas Reid on Chlorinated Polyvinyl Chloride (“CPVC”) Pipe Draft EIR (August 27, 1998) at pp. 22-34; see also Peggy Lopipero, M.P.H. & Martyn T. Smith, Ph.D, Comments on the Draft EIR for CPVC Pipe Use for Potable Water Piping in Residential Buildings (August 1998) at pp. 6-7 (identifying at least six NSF standards that fail to reduce health risks to a level of insignificance).

⁸ Governor’s Reorganization Plan, No. 1 of 1991, eff. July 17, 1991, 4 Stats. 1001, Appendix G; see also OEHHA Department Description, <http://www.oehha.ca.gov/about/description.html> [as of October 30, 2008].

⁹ Governor’s Reorganization Plan, No. 1 of 1991, eff. July 17, 1991, 4 Stats. 1001, Appendix G.

¹⁰ *Id.*, citing National Academy of Sciences, *Risk Assessment in the Federal Government: Managing the Process* (1983) at pp.3, 18-19.

¹¹ Governor’s Reorganization Plan, No. 1 of 1991, eff. July 17, 1991, 4 Stats. 1001, Appendix G.

OEHHA, for example, considers the carcinogenic health risk from an air or water contaminant to be significant if the lifetime probability of contracting cancer due to exposure to the contaminant is greater than one in one million.¹² However, ten in one million may be considered an acceptable health risk level for the *risk management* purposes of setting regulation, if further reduction of the risk level would be infeasible due to economic or technological limitations.¹³ The greater risk levels allowed by some regulations do not mean that the risk is completely below a level of significance, but rather are a determination that an increased risk level is “acceptable” due to economic or technological considerations.

California drinking water law provides functional and organizational separation of risk assessment from risk management by requiring OEHHA to set Public Health Goals (“PHGs”) based exclusively on public health considerations and then requiring the Department of Public Health (“DPH”) to use PHGs as one of the factors in establishing MCLs.¹⁴ A PHG is an “estimate of the level of the contaminant in drinking water that is not anticipated to cause or contribute to adverse health effects, or that does not pose any significant risk to health.”¹⁵ In contrast, as discussed above, DPH must set its MCLs by balancing public health concerns with questions of technological feasibility and cost of compliance.¹⁶ PHGs may be the same as the later established MCLs (as is the case with MTBE), or they may be more restrictive than MCLs, depending upon the outcome of DPH’s review of the non-health specific factors.

CEQA provides a similar function of separating risk assessment from risk management. Risk assessment is the purpose of the EIR under CEQA. Risk management, on the other hand, comes into play when determining feasible mitigation or adopting a statement of overriding considerations. Accordingly, for purposes of CEQA, the appropriate standard to apply in determining whether a project may have a significant impact on drinking water is the PHG for drinking water contaminants.

Because NSF 61 is a private *risk management* standard, it is not appropriate to rely on it for an assessment of public health risk. NSF’s standards setting and

¹² OEHHA, *Guide to Public Health Goals (PHGs) for Chemicals in Drinking Water* (October 2003); OEHHA, *A Guide to Health Risk Assessment* (2001) at pp. 11-12.

¹³ *Id.*

¹⁴ Health & Saf. Code, § 116365.

¹⁵ Health & Saf. Code, § 116365, subd. (c)(1).

¹⁶ Health & Saf. Code, § 116365, subs. (b)(1) – (b)(3).

testing-processes are dominated and almost entirely funded by the manufacturers of plumbing products listed and tested by NSF.¹⁷ The NSF 61 threshold level is the result of industry balancing what it believes is an acceptable level of risk with the economic and technological limitations of reducing that risk further.¹⁸ As a result of its reliance on industry consensus, however, many of the threshold levels set by NSF 61 through industry consensus are considered by experts to be too high to adequately protect human health.¹⁹ Accordingly, it is not surprising that NSF has set a higher MTBE threshold level than the PHG identified by OEHHA.

NSF 61 standards are further inappropriate for use in risk assessment because they set their standards solely based upon potential consumption by healthy adults and they fail to take into account synergistic or additive effects.²⁰ On the other hand, when setting its PHGs, OEHHA, is required by statute to consider potential health effects on pregnant women, young children, the elderly, or persons with pre-existing illnesses, who may be especially susceptible to the chemical's adverse effects.²¹ OEHHA is also required by statute to consider synergistic and additive effects.²² Because the Project would approve the installation of PEX pipe in homes, schools, hospitals and care facilities, CBSC must consider impacts on sensitive populations when determining the significant impacts of this Project under CEQA.

While OEHHA does not itself have regulatory authority, it is designated as the state agency responsible for risk assessment.²³ Moreover, the Legislature has specifically charged OEHHA with determining the appropriate risk threshold for assessing MTBE contamination of drinking water. In 1997, the Legislature expressly required OEHHA to set a PHG for MTBE contamination of public

¹⁷ See Comments of Thomas Reid on Chlorinated Polyvinyl Chloride ("CPVC") Pipe Draft EIR (August 27, 1998) at pp. 22-34.

¹⁸ *Id.*

¹⁹ See Peggy Lopipero, M.P.H. & Martyn T. Smith, Ph.D, Comments on the Draft EIR for CPVC Pipe Use for Potable Water Piping in Residential Buildings (August 1998) at pp. 6-7 (identifying at least six NSF standards that fail to reduce health risks to a level of insignificance).

²⁰ *Id.*; see also NSF, *MTBE Oral Risk Assessment Document* (2008) at pp. 3, 48.

²¹ Health & Saf. Code § 116365, subd. (c)(1)(C); (OEHHA, Guide to Public Health Goals (PHGs) for Chemicals in Drinking Water (October 2003).

²² Health & Saf. Code § 116365, subd. (c)(1)(C).

²³ Governor's Reorganization Plan, No. 1 of 1991, eff. July 17, 1991, 4 Stats. 1001, Appendix G; see also OEHHA Department Description, <http://www.oehha.ca.gov/about/description.html> [as of October 30, 2008].

drinking water.²⁴ After careful consideration and expert review of available literature and studies, OEHHA set the PHG for MTBE at 13 µg/L.²⁵

If the RDEIR's intention is to reject the risk assessment PHG set by OEHHA, this decision lacks foundation. CBSC has no toxicological or risk assessment expertise, while OEHHA employs qualified health experts who specialize in risk assessment for drinking water contaminants.²⁶ While CBSC did engage a toxicology expert to help them independently assess leaching impacts, the toxicologist they engaged consistently applied the California MCL for MTBE for his analysis of this impact.

This application of the California MCL for MTBE is particularly notable because, in the same document, CBSC's toxicology expert expressly rejects the application of the California drinking water notification level for TBA on the grounds that it is inappropriately restrictive for setting a threshold of significance.²⁷ The toxicology expert's rejection of the California TBA notification level in the same document that he applies the California MTBE MCL indicates that he agreed that the California MCL for MTBE was an appropriate threshold of significance.

B. The RDEIR Fails to Evaluate Public Health Risks from Short Term Exposure to MTBE

The RDEIR's conclusion that MTBE leaching from PEX is not a significant impact also lacks foundation because it is based upon the inaccurate assumption that short term exposure to MTBE does not have the potential to cause significant adverse impacts on human health. This assumption is contrary to the very NSF documents upon which the RDEIR relies.

The RDEIR makes this assumption because California MCLs are based on PHGs set at a level that ensures that continuous exposure to the regulated chemical at or *below* the PHG level over a 70-year lifetime would not result in any significant adverse health impacts.

²⁴ Health & Saf. Code § 116610.

²⁵ Joan Denton, Ph.D, OEHHA, *Memorandum re Adoption of a Public Health Goal for Methyl Tertiary Butyl Ether in California Drinking Water* (March 9, 1999).

²⁶ See CBSC, Staff, http://www.bsc.ca.gov/abt_bsc/abt_stff.htm [as of November 13, 2008]; see also RDEIR, p. 8-1 (Preparers of the Environmental Document).

²⁷ Ishrat Chaudhuri, *Memorandum re NSF over time testing results for TBA in PEX* (September 26, 2008).

However, this does not mean that exposure to a regulated chemical *above* the PHG would have to occur for 70 years in order to have an adverse impact. The risk resulting from exposure above the PHG would depend on the particular regulated chemical, the particular health effects, the amount of exposure, the length of exposure and whether the risk posed from exposure is cumulative or if each exposure poses the same risk. Moreover, the 70-year lifetime risk is only utilized to assess carcinogenic risks. For carcinogens, OEHHA determines that a significant health risk is one excess case of cancer per million people per a 70-year lifetime, the so-called “de minimis” level.²⁸ For non-carcinogenic health impacts, however, PHGs are set at a level at which no known or anticipated adverse effects on health will occur, with an adequate margin of safety.²⁹

Without a meaningful analysis of these variables, no foundation exists for assuming that exposure to a regulated chemical *above* the PHG would have to occur for 70 years in order to have an adverse impact. The RDEIR, however, does not evaluate short term or mid-term impacts of MTBE exposure at all.

Furthermore, NSF’s own documents reveal that short term health standards for MTBE exposure are *identical* to the long term standards.³⁰ In other words, it doesn’t matter if MTBE leaching would quickly fall below the California standard because short term exposure to MTBE poses the same risk as long term exposure.

Short term or “acute” exposure is addressed under NSF 61 by its STEL standards, not by its NSF 61 TAC and SPAC standards.³¹ NSF 61 TAC and SPAC standards address exposure from long term leaching. NSF 61 requires that products meet the long term TAC and SPAC standards after the first 106 days of PEX use.³²

For many chemicals, the STEL, or short term exposure standards are significantly higher than the TAC/SPAC long term standards. In the case of MTBE, however, NSF’s short term exposure standard is the same as its long term exposure standard.³³ In its MTBE Oral Risk Assessment Document, NSF expressly finds

²⁸ OEHHA, *Guide to Public Health Goals (PHGs) for Chemicals in Drinking Water* (October 2003); OEHHA, *A Guide to Health Risk Assessment* (2001).

²⁹ *Id.* Because each component that supplies data to the risk assessment provides uncertainty, a margin of safety is necessarily incorporated to ensure no significant health impacts are likely.

³⁰ NSF, *MTBE Oral Risk Assessment Document* (2008) at p. 48.

³¹ *Id.* at pp. 2-3.

³² *Id.*

³³ *Id.*

that *it is not appropriate to set a short term exposure standard for MTBE higher than the long term exposure standard* because MTBE is a genotoxic carcinogen.³⁴

Because it is not appropriate to set a short term exposure standard for MTBE higher than its long term exposure standard, the threshold of significance for MTBE leaching must be the same regardless if the leaching falls below the threshold in 90 days or 70 years.

Accordingly, the RDEIR must be revised to evaluate the short term impacts from MTBE leaching. Moreover, short term impacts must be defined by whatever limits are put on PEX approval. Some of the PEX samples evaluated in the NSF PEX leaching test, for example, exhibited “short term” leaching above California standards for almost 107 days. One hundred and seven days of exposure is significantly greater than what is generally considered “acute exposure.” Acute exposure is defined as “a single period of exposure of a duration measured in seconds, minutes, hours, or days,” not months or years.³⁵

An evaluation of short term impacts also requires disclosure of initial MTBE leaching levels. Because NSF 61 does not test for leaching until after a pipe has been conditioned and flushed out for 16 days, PEX pipe initially may not meet even the short term NSF STEL standards.³⁶ PEX installed in homes is not first conditioned with formulated water for 16 days and thus workers and occupants who first use these pipes are almost certainly exposed to higher initial levels than disclosed by NSF. In order to adequately evaluate short term leaching impacts, leaching from PEX must thus be evaluated from day one of installation rather than after 16 days of conditioning.

Evaluation of initial leaching levels is particularly important from the public health perspective of construction workers. Construction workers are often the first persons to consume water from newly installed pipe. Moreover, because construction workers move from one job site to the next, they will be repeatedly exposed to these higher levels of MTBE leaching over the course of their work career. Elevated initial leaching levels may also pose a particular risk to sensitive populations, such as infants, children, elderly or the infirm.

³⁴ *Id.*

³⁵ Cal. Code Regs., tit. 22, § 64400.

³⁶ See PEX DEIR Comment Letter from Lori Bestervelt, NSF, to Valerie Namba (June 23, 2008) at p. 3.

C. The RDEIR Lacks Foundation for Its Assumption That the Concentration of MTBE Leaching from PEX Quickly Falls Below 13 µg/L

The RDEIR assumes, without adequate foundation, that all current and future types of PEX will meet the California health and safety standard for MTBE within 90 days. The RDEIR makes this assumption based upon a limited test study that NSF International performed on just ten samples of PEX.³⁷ NSF International provided the results of this test in a letter dated August 6, 2008 (“the NSF PEX leaching report”).³⁸ The NSF PEX leaching report found that after 107 days (not 90 days as reported in the RDEIR), all of the ten samples of PEX had “normalized” MTBE leaching levels of under 13 µg/L.

As explained below, the NSF PEX leaching report fails to provide sufficient information to support the RDEIR’s assumptions regarding the leaching of MTBE.

1. The NSF PEX Leaching Report Provides Data Relevant Only to Just a Tiny Fraction of the PEX Formulations That Would Be Allowed Under the Project

The NSF PEX leaching report is extremely limited in scope and usefulness. The report provides test results for just ten unidentified samples of PEX. Unfortunately, the Project does not limit its approval of PEX to the ten formulations evaluated in the NSF PEX leaching report. Currently, there are over 271 types of PEX on the market that could be approved under this regulatory action.³⁹ Accordingly, over 96% of current PEX formulations have not been reviewed or evaluated by this report.

PEX formulations and manufacturing methods can vary significantly from manufacturer to manufacturer, product to product and batch to batch. PEX is a generic term for plastic pipe that is made by cross-linking polyethylene.⁴⁰ There are currently three commercial methods of cross-linking:

³⁷ RDEIR at p. 4.4-18.

³⁸ Clifton McLellan, NSF International, Letter to PPFA (August 6, 2008).

³⁹ PEX DEIR at p. 4.4-9; see also NSF, Letter to Department of General Services (June 23, 2008) at p. 1 (stating that NSF alone certifies over 280 PEX products). Other entities such as IAPMO also certify PEX products. See Neil Bogatz, IAPMO, Letter to California Building Standards Commission (August 25, 2008) at p. 3.

⁴⁰ DEIR at p. 3-6.

- PEX-a, the so-called Engel method, where the polyethylene resin and a chemical additive are heated to produce cross-linking;
- PEX-b, the silane method which produces silicon-oxygen cross-link bonds; and
- PEX-c, where cross-linking is initiated by gamma or electron beam radiation.

In addition to the variations in classes of PEX, manufacturers also use varying recipes of stabilizers, fillers and other additives for making PEX within each class. The differences in manufacturing methods, additives and recipes result in differing chemical compositions and create a potential for a wide variation in leaching results.⁴¹

The test results provided by NSF provide no information at all regarding the levels of MTBE leaching for the more than 261 other types of PEX that were not evaluated under the NSF PEX leaching report. Moreover, the NSF PEX leaching report never claims or suggests that its findings regarding the ten PEX samples tested are applicable to other formulations of PEX. Nor is any information or foundation provided to support an assumption that the leaching results from the ten PEX samples tested are applicable to other formulations of PEX.

Moreover, these tests provide no assurance that future versions of PEX would exhibit the same leaching characteristics as the ten samples evaluated in the NSF PEX leaching report. The proposed regulation approves PEX generically as long as it meets certain standards, including NSF 61. Accordingly, this regulatory action approves not just the more than 271 types of PEX that currently exist on the market, but also any new types of PEX that may enter the market in the future, as long as they meet the requirements of NSF 61.

The more pertinent disclosure by NSF is not the leaching found in the limited, preliminary tests of ten unidentified PEX formulas, but rather the maximum short term and long term levels of leaching allowed by NSF 61. Since NSF 61 allows the *long term leaching* of MTBE at concentrations up to 100 µg/L, the Project would allow the installation of PEX pipes that leach at levels much

⁴¹ See Comments of Coalition for Safe Building Materials on the DEIR on the Adoption of Statewide Regulations Allowing the Use of PEX Tubing (June 23, 2008) at [Exhibits A to G](#).

higher than the California drinking water standard of 13 µg/L long after the first 107 days of use.

Nothing in the NSF PEX leaching report states that such formulations would not be possible or do not currently exist. The Director of Toxicology for NSF has stated that NSF assumes that plastic pipe leaching rates level off after 90 or so days.⁴² For that reason NSF requires drinking water products to meet its long term leaching standards after day 106.⁴³ Accordingly, a fair argument exists that MTBE leaching from some existing or future formulations of MTBE may level off at a leaching rate that exceeds the California drinking water standards for health or taste and odor. The NSF PEX leaching report provides no evidence that such formulations do not or could not exist. The only information that is provided is that such formulations would, in fact, meet NSF 61 requirements and would be approved under the Project.

Even if one accepted the inaccurate assumption that MTBE has only long term health impacts, CBSC would need to require that all versions of PEX meet the California drinking water standard for MTBE after the first 90 or so days in order to substantiate its conclusion that PEX leaching would not result in any health impacts. By identifying PEX samples that would meet this requirement, the NSF PEX leaching report demonstrates that such a restriction would be technologically and economically feasible. It does not, however, provide sufficient information to support a finding that such a restriction would be unnecessary.

Unless the Project approval is limited to the ten PEX formulations evaluated under the NSF PEX leaching report, these test results fail to provide sufficient foundation for the RDEIR's assumption that PEX approved under the Project would not leach MTBE over the California drinking water standards of 13 µg/L after 90 days. At a minimum, the actual test data used to certify the more than 271 types of PEX to meet NSF 61 standards must be disclosed and evaluated before any assumption can be made regarding the validity of these preliminary results. In lieu of such disclosure, performance standards such as proposed in the DEIR must be imposed. In lieu of such evaluation, performance standards such as proposed in the DEIR must be imposed.

⁴² McClellan, Clifton, Director of Toxicology Services, NSF International (August 6, 2008), letter to Kelley Taber of Somach Simmons & Dunn.

⁴³ See NSF, *MTBE Oral Risk Assessment Document* (2008).

2. The NSF PEX Leaching Report Fails to Provide Critical Information Necessary to Allow Meaningful Evaluation of Its Findings

The RDEIR's reliance upon the NSF PEX leaching report also lacks foundation because the report fails to provide critical information necessary to allow meaningful evaluation of its findings.

First, the report lacks foundation because it fails to disclose the actual leaching levels detected by the tests. Instead, the report provides "normalized results." The report provides no description or explanation of the normalization process or how the "normalized results" differ from the actual detected levels of MTBE. Without disclosure of how and why test results were "normalized" the results provided are virtually meaningless. The information that is known about NSF normalization calculations suggests that they may significantly underestimate exposures for residential plumbing installations.⁴⁴ Moreover, the failure to provide this information precludes the Lead Agency or the public from independently assessing the appropriateness of relying on NSF's normalized results instead of the test's actual leaching results.

Second, the NSF PEX leaching report does not provide any information regarding the samples. The report does not even identify which type of PEX they are (PEX-a, PEX-b or PEX-c), much less provide any description of their formulas or additives.

Third, the report fails to provide any description of the testing methodology used to obtain the data provided. As a result, it is impossible to meaningfully evaluate the accuracy and reliability of the test results.

Fourth, the report fails to explain why performance of these new tests was even necessary when all formulations of PEX pipe on the market already have this information readily available pursuant to their initial and ongoing NSF 61 certifications. The very fact that these new tests were even performed rather than simply providing existing NSF certification data raises more questions than these new tests answer.

⁴⁴ See Comments of Thomas Reid on Chlorinated Polyvinyl Chloride ("CPVC") Pipe Draft EIR (August 27, 1998) at pp. 22-34.

II. THE RDEIR LACKS FOUNDATION TO SUPPORT ITS FINDING THAT THE EXCEEDANCE OF CALIFORNIA DRINKING WATER STANDARDS FOR TASTE AND ODOR IS NOT A SIGNIFICANT IMPACT

Even minute amounts of MTBE are known to give water an offensive taste similar to paint thinner and an offensive odor similar to turpentine.⁴⁵ As a result, California has set a secondary drinking water MCL for MTBE of 5 µg/L to address taste and odor impacts.⁴⁶ The DEIR concluded unequivocally that the exceedance of the California secondary MCL for taste and odor is a significant impact that requires mitigation.⁴⁷

After industry expressed its opposition to the DEIR's proposed mitigation of this impact, the RDEIR, in a complete reversal of the DEIR's prior findings, now holds that the exceedance of the California secondary MCL for MTBE is not a significant impact requiring mitigation.⁴⁸ As a result of this reversal, the RDEIR has deleted the proposed mitigation measure that would have barred approval of any PEX formulations that leach MTBE in amounts exceeding the secondary MCL of 5 µg/L.⁴⁹

The RDEIR attempts to justify this reversal on three grounds: (1) the concentration of MTBE leaching from PEX declines rapidly with time; (2) the 5 µg/L secondary standard relates only to the aesthetic taste and odor qualities of water and not human health; and (3) there are no known consumer complaints of taste and odor impacts from PEX tubing.⁵⁰ None of these grounds is valid.

First, the RDEIR lacks foundation for its conclusion that any exceedance of the 5 µg/L taste and odor threshold would only be temporary. As discussed in detail, *supra*, the NSF PEX leaching report is insufficient to support broader

⁴⁵ See Comments of Coalition for Safe Building Materials on the DEIR on the Adoption of Statewide Regulations Allowing the Use of PEX Tubing (June 23, 2008), Appendix 1, MTBE Fact Sheet, California Department of Boating and Watercraft (December 8, 2003).

⁴⁶ See Comments of Coalition for Safe Building Materials on the DEIR on the Adoption of Statewide Regulations Allowing the Use of PEX Tubing (June 23, 2008), Appendix 2, California Department of Health Services – MTBE: Drinking Water Regulations and Monitoring Results (Nov. 3, 2003).

⁴⁷ DEIR at p. 4.4-16.

⁴⁸ RDEIR at pp. 7-2, 7-9.

⁴⁹ RDEIR at pp. 7-2, 7-9.

⁵⁰ RDEIR at p. 4.4-19.

conclusions regarding the leaching characteristics of all types of PEX because it evaluates only ten unidentified PEX formulations. Moreover, of the ten samples evaluated in the report, 40% of the samples fail to reach 5 µg/L by day 107. No evidence was provided as to leaching levels after 107 days. Accordingly, it is speculative to assume that MTBE leaching from PEX will always decline “rapidly” to below 5 µg/L regardless of the formulation used to produce the pipe.

Furthermore, the RDEIR’s reliance on “temporary” impacts is vague and arbitrary. The RDEIR does not define what it considers a “temporary” taste and odor impact. Is one week temporary? How about three months or three years?

In addition, the RDEIR is mistaken in its suggestion that temporary impacts are not significant impacts. CEQA requires an EIR to disclose *all* significant effects of the proposed project, not just permanent or long term impacts.⁵¹ CEQA is thus regularly applied to both temporary impacts (such as temporary construction traffic impacts) and permanent impacts.

Second, the RDEIR is erroneous in assuming that CEQA applies to only human health impacts and not to taste and odor impacts. The RDEIR improperly concludes that the Project’s taste and odor impacts are less than significant because such impacts “are aesthetic, and do not directly pertain to public health risks.”⁵²

CEQA, however, does not apply just to public health impacts. CEQA has long been applied to aesthetic impacts such as visual impacts and odor impacts. The Environmental Checklist Form in CEQA Guidelines Appendix expressly lists aesthetic impacts as one of the environmental factors to be reviewed for significance. In addition, the Checklist expressly asks if the Project would potentially create objectionable odors. Thus, the RDEIR’s conclusion that the Project’s taste and odor impacts are less than significant because such impacts are “aesthetic” is a clear violation of CEQA.

Moreover, the California Legislature has expressly held that drinking water should be free of MTBE taste and odor impacts. In 1991, the Legislature passed SB 1189, which expressly required DPH to establish a secondary drinking water

⁵¹ Pub. Resources Code, § 21100, subd. (b)(1); *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 192.

⁵² RDEIR at p. 4.4-4; 4.4-20.

standard for MTBE.⁵³ The Legislature further directed that the secondary MCL would not allow taste and odor effects beyond “a common acceptance level.”⁵⁴ In response to this directive, DPH set the MTBE secondary MCL at 5 µg/L. Because the Legislature has already determined that MTBE taste and odor impacts are significant enough to require specific regulation, the RDEIR lacks foundation for concluding that such aesthetic impacts are not significant. Moreover, the Court of Appeal has upheld the 5 µg/L secondary MCL as consistent with the Legislature’s mandate.⁵⁵

Third, the RDEIR’s claim that there are no known consumer complaints of taste and odor impacts from PEX tubing is simply incorrect. To the contrary, “as plastic has started to replace metal as the material of choice for water pipes, complaints about drinking-water quality have been on the rise.”⁵⁶ According to Gary A. Burlingame, a water-quality scientist at the Philadelphia Water Department, when utilities investigate calls from customers that their water tastes or smells different, the source of the problem is often not found to be the utility’s water, but rather the customer’s plumbing.⁵⁷

A recent commentary on PEX manifold plumbing systems also complained about taste impacts from PEX. After installing a PEX manifold system in his home, plumber Eric Helton wrote that his one complaint was the taste of the water in the morning when he brushed his teeth.⁵⁸

PEX taste and odor issues have not just led to complaints; they have also led to lawsuits. In an Arizona lawsuit, Upnor Wirsbo (“Wirsbo”), a major PEX manufacturer, was sued for its product’s alleged contamination of drinking water with MTBE, TBA and benzene.⁵⁹ Wirsbo is the manufacturer of AQUAPEX and is one of the largest North American PEX distributors. According to her complaint,

⁵³ Health & Saf. Code § 116610. At the time SB 1189 was passed, DPH was called the Department of Health Services.

⁵⁴ *Id.*

⁵⁵ *Western States Petroleum Assoc. v. State Dept. of Health Services* (2002) 99 Cal.App.4th 999.

⁵⁶ Bethany Halford, *Plastic Plumbing Can Make Water Nasty: New Research Reveals Which Pipes Give Drinking Water Odd Tastes and Odors*, Chemical & Engineering News (August 24, 2007), <http://pubs.acs.org/cen/news/85/i35/8535news11.html> [as of November 6, 2008].

⁵⁷ *Id.*

⁵⁸ Eric Helton, *Home-Run Plumbing*, Building Science (Sept. 3, 2008).

⁵⁹ See Comments of Coalition for Safe Building Materials on the DEIR on the Adoption of Statewide Regulations Allowing the Use of PEX Tubing (June 23, 2008), Appendices 10 and 11.

plaintiff Joyce Defren purchased a house from Trimark Homes in Scottsdale, Arizona. The house was plumbed with AQUAPEX.

Ms. Defren found the water to have a bad taste causing her to become concerned that her water was contaminated. When a lab tested the water, it was found to contain several organic chemicals, including MTBE, TBA, and various benzene-type aromatic hydrocarbons. Wirsbo then disclosed that MTBE and TBA are by-products of the manufacturing process that may have leached from the PEX pipe into drinking water.⁶⁰

The RDEIR itself finds that exceedance of the secondary MTBE standard results in water tasting like turpentine.⁶¹ Based upon this finding, the question before the Lead Agency is not if there have been any official consumer complaints, but rather if turpentine tasting drinking water constitutes a significant taste impact.

Moreover, evidence of official consumer complaints is not necessary to determine whether MTBE leaching from PEX may have a significant taste and odor impact. Numerous independent scholarly reports and studies have confirmed that MTBE leaching from PEX does, in fact, result in significant taste and odor impacts.

A pair of controlled leaching tests in Norway found high leaching levels of volatile organic components (“VOCs”) migrating into drinking water from PEX tubing resulting in significant taste and odor issues and possible health risk.⁶² Most of the VOCs were not identified, but the reports did identify MTBE as one of the leachates. MTBE was found in concentrations as high as 47.6 µg/L, more than nine times the concentration allowed under California’s secondary MCL for MTBE. The Norwegian studies found that the leaching from PEX pipes gave an “intense” unwanted odor to the test water.⁶³

A 2007 study conducted by the Civil and Environmental Engineering Department of Virginia Tech University also confirmed that leaching of MTBE and ethyl tertiary butyl ether (“ETBE”) from PEX could result in significant taste and

⁶⁰ See Comments of Coalition for Safe Building Materials on the DEIR on the Adoption of Statewide Regulations Allowing the Use of PEX Tubing (June 23, 2008), Appendix 12 at 3.

⁶¹ RDEIR at p. 4.4-19, Table 4.4-5.

⁶² See Comments of Coalition for Safe Building Materials on the DEIR on the Adoption of Statewide Regulations Allowing the Use of PEX Tubing (June 23, 2008), Appendices 18 and 19.

⁶³ *Id.*

odor impacts.⁶⁴ The study found that the “chemical/solvent-like” odors persisted even after multiple flushing periods. The study also confirmed that panelists could detect MTBE and ETBE in drinking water at levels as low as 5 µg/L.

The authors of the Virginia Tech University study concluded that “taste and odor testing of plumbing materials prior to use in residential housing systems is necessary.”⁶⁵ NSF 61, however, does not consider taste and odor impacts when setting its standards.⁶⁶ Additional mitigation is thus necessary to ensure that PEX formulations that fail to meet the California secondary MCL for MTBE are not permitted under the proposed Project approval.

III. THE RDEIR LACKS FOUNDATION FOR ITS UNEXPLAINED DELETION OF THE DEIR’S ANALYSIS AND MITIGATION OF PROPOSITION 65 CHEMICALS THAT MAY LEACH FROM PEX

The RDEIR is further deficient because it deletes, without explanation or foundation, the DEIR’s analysis and mitigation of numerous Proposition 65 chemicals that were identified as having the potential to leach from PEX pipe.

The DEIR found that PEX has the potential to leach Proposition 65 chemicals in concentrations higher than allowed under the Proposition 65 statute and its implementing regulations.⁶⁷ The DEIR identified the following Proposition 65 chemicals as having the potential to leach from PEX piping: (1) benzene; (2) carbon disulfide; (3) trichloroethylene; (4) 4,4-methylenedianiline; (5) bis(2-ethylhexyl)phthalate; (6) butyl benzyl phthalate; (7) toluene diamine; (8) carbon black; (9) benzo(a)pyrene; (10) mercury; (11) cadmium; (12) chloroform; and (13) toluene.⁶⁸

⁶⁴ M L Durand & A M Dietrich, *Contributions of Silane Cross-Linked PEX Pipe to Chemical/Solvent Odours in Drinking Water* (2007) 55 *Water Sci Technology*, pp. 153-60; Bethany Halford, *Plastic Plumbing Can Make Water Nasty: New Research Reveals Which Pipes Give Drinking Water Odd Tastes and Odors*, *Chemical & Engineering News* (August 24, 2007), <http://pubs.acs.org/cen/news/85/i35/8535news11.html> [as of November 6, 2008].

⁶⁵ *Id.*

⁶⁶ See NSF, *MTBE Oral Risk Assessment Document* (2008).

⁶⁷ DEIR at p. 4.4-15.

⁶⁸ RDEIR at p 4.4-11, Table 4.4-1.

The DEIR, however, stated that data on the leaching of these chemicals from PEX had not been provided to them at the time of the DEIR publication.⁶⁹ As a result, the DEIR had no choice but to conclude that leaching of these chemicals could result in significant impacts.⁷⁰ The DEIR then recommended that this impact be mitigated by requiring all PEX installed pursuant to this Project to be certified to meet Proposition 65 safe harbor levels or other applicable Proposition 65 levels for those chemicals.

The RDEIR, without explanation, deletes the DEIR's entire discussion of potential Proposition 65 violations. In its place, the RDEIR provides a new discussion that evaluates three of the thirteen Proposition 65 contaminants identified in the DEIR as potentially leaching from PEX: (1) carbon black; (2) butyl benzyl phthalate; and (3) toluene diamine. The RDEIR, citing to letters from NSF and a technical review by the Lead Agency's toxicology consultant, finds that carbon black would not leach in a manner that would trigger Proposition 65. The RDEIR also finds, based upon a letter from NSF, that butyl benzyl phthalate and toluene diamine are not found in any known brands of PEX, nor would NSF expect to see these chemicals in any formulation of PEX.

Whether or not the RDEIR's new findings regarding carbon black, butyl benzyl phthalate and toluene diamine are legitimate, these findings do not address the elimination of the DEIR's findings regarding the ten remaining Proposition 65 contaminants identified in the DEIR as potentially leaching from PEX: (1) benzene; (2) carbon disulfide; (3) trichloroethylene; (4) 4,4-methylenedianiline; (5) bis(2-ethylhexyl)phthalate; (6) benzo(a)pyrene; (7) mercury; (8) cadmium; (9) chloroform; and (10) toluene. The RDEIR's analysis of carbon black, butyl benzyl phthalate and toluene diamine also fails to justify the elimination of the DEIR's mitigation addressing the remaining potential Proposition 65 contaminants.

In our comments on the DEIR, we criticized the Lead Agency for publishing the DEIR prior to obtaining the data necessary to evaluate leaching of these Proposition 65 chemicals. As we stated in our prior comments, the DEIR's excuse that the data has been "requested" but was "not available at the time of DEIR publication" was not a valid explanation. Under CEQA, a DEIR is not to be published until it is complete. Arbitrary deadlines for completing a DEIR may not

⁶⁹ DEIR at p. 4.4-15.

⁷⁰ See *Leonoff v. Monterey County Bd. of Supervisors* (1990) 222 Cal.App.3d 1337, 1348 (deficiencies in the record enlarge the scope of fair argument by lending a logical plausibility to a wider range of inferences).

be used to evade and defer disclosure and analysis of a project's impacts until after the EIR's certification.

Now, instead of finally obtaining this missing data and performing the required CEQA analysis, the RDEIR instead attempts to pretend that these remaining ten Proposition 65 chemicals are not an issue after all. The complete elimination of any discussion or mitigation of the ten remaining Proposition 65 chemicals is arbitrary and capricious. No foundation or explanation, whatsoever, is provided to support the deletion of these sections of the DEIR.

The RDEIR must be revised to evaluate the ten remaining Proposition 65 contaminants identified in the DEIR as potentially leaching from PEX and adequate mitigation must be imposed to address the potential impacts from such leaching.

IV. THE DEIR/RDEIR ALSO REMAINS LEGALLY INADEQUATE FOR THE REASONS PRESENTED IN THE COALITION'S JUNE 23, 2008 COMMENT LETTER ON THE DEIR

With the exception of the comments on leaching of MTBE, TBA and Proposition 65 chemicals, which are superseded by the comments made herein, the Coalition's June 23, 2008 comment letter remains applicable to both the RDEIR and the DEIR. We thus hereby resubmit, by reference, the Coalition's June 23, 2008 comment letter and supporting appendices and exhibits.

In addition to the deficiencies of the RDEIR discussed herein, the DEIR/RDEIR remains legally inadequate due to the following deficiencies discussed in detail in the Coalition's June 23, 2008 comment letter:

- Inadequate description of the Project, including failure to describe all variations of PEX approved by the Project and failure to describe PEX fittings approved by the Project;
- Failure to evaluate or disclose potentially significant health, taste, and odor impacts of ETBE leaching from PEX pipes;
- Improper deferral of analysis and mitigation of Proposition 65 chemicals that may leach from certain PEX formulations;

- Failure to evaluate the potential for PEX to leach Bisphenol A in amounts within the range of concern for infant and children exposure;
- Inadequate evaluation and mitigation of the risk of PEX failure due to exposure to numerous commonly encountered materials and environmental conditions, including sunlight, high temperatures, chlorine, petroleum products, firestop material and asphalt;
- Failure to meaningfully evaluate reports of widespread failures of PEX and PEX fittings;
- Failure to evaluate the risk of illness due to higher biomass and more abundant virus-like particles found in PEX pipe compared to copper or CPVC pipe;
- Failure to adequately evaluate the direct and indirect solid waste impacts of the Project; and
- Failure to adequately evaluate the risk of toxic smoke when PEX is burned in building fires.

V. CONCLUSION

It is critical to the health and safety of the California public that the potential impacts of PEX be fully disclosed, evaluated and mitigated before these materials are approved for use throughout California. The RDEIR and DEIR fail in their duty under CEQA to provide this required review due to the numerous omissions, factual errors, arbitrary assumptions and unsupported conclusions contained in these documents.

The RDEIR arbitrarily and capriciously reverses the few reasoned conclusions contained in the initial DEIR. The prior DEIR at least recognized that PEX formulations installed in California should comply with California drinking water regulations. The RDEIR, however, ignores the expert determinations of OEHHA as to the appropriate level of drinking water safety in California and instead concludes that industry should be allowed to set this level themselves.

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As a result of the changes made in the RDEIR, the Project will now approve PEX formulations that leach chemicals in amounts that exceed California drinking water standards for health, taste and odor. Approving such PEX formulations unnecessarily increases the risk of harm to consumers. The technology clearly exists to formulate PEX piping in a manner that would meet California drinking water standards. Such pipes are already on the market and thus would meet the stated goals of the Project.

The RDEIR's revised evaluation of PEX leaching impacts is legally inadequate and requires significant revision. The RDEIR must also be revised to disclose and evaluate the numerous other potential impacts that were inadequately evaluated or improperly dismissed in the DEIR. For all of these impacts, feasible and enforceable mitigation measures must be identified to reduce all Project impacts to a level of insignificance. Because the required revisions would be substantive and substantial, the revised DEIR/RDEIR must be again recirculated for public review and comment.

We appreciate this opportunity to comment and remain available to provide any further information that may be needed to complete this process.

Sincerely,



Thomas A. Enslow

TAE:cnh
Attachments