

**IN THE CIRCUIT COURT OF THE STATE OF OREGON**  
**IN AND FOR THE COUNTY OF MULTNOMAH**

GASP, *et al*,

Petitioners

vs.

ENVIRONMENTAL QUALITY  
COMMISSION, *et al*,

Respondents,

and

UNITED STATES DEPARTMENT OF THE  
ARMY, and WASHINGTON  
DEMILITARIZATION COMPANY,

Intervenors.

Case No. 9708-06159

**OPINION AND ORDER**

1           Petitioners continue their long-standing challenge to the Umatilla Chemical Agent Disposal  
2 Facility, at which the US Army is now incinerating a large stockpile of extremely dangerous  
3 chemical weapons and munitions.<sup>1</sup> Petitioners contend that the facility’s operations are dangerous  
4 to the environment and to health, particularly as to sensitive populations including nursing infants  
5 and others, and that alternative technologies are safer than the incineration process that characterizes  
6 the facility.

7           This case began by way of petition for judicial review of an “other than contested case”<sup>2</sup> order

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<sup>1</sup> The stored materials include nerve agents GB (also known as Sarin) and VX, and the blister agent HD known as mustard. The material is stored in various forms, both in bulk and within munitions.

<sup>2</sup> Statutes distinguish between “contested case” and “other than contested case” procedures within agencies and on judicial review from an agency order. *E.g., Norden v. Water Resources Dept.*, 329 Or 641 (2000).

1 of the respondents in 1997 that issued a permit for the operation of the Umatilla facility. Related,  
2 subsequent petitions have been largely resolved.<sup>3</sup> The Court of Appeals reversed my original  
3 decision upholding the permit based on the intervening Oregon Supreme Court decision in *Norden*  
4 *v. Water Resources Dept.*, 329 Or 641 (2000), which required that on judicial review of an agency  
5 order from an other than contested case proceeding, petitioners have an opportunity to present  
6 evidence in the circuit court that was not before the agency. Although intervening modifications to  
7 the permit have been challenged and upheld, this proceeding amounts to a direct review of the earlier  
8 order issuing the initial permit facility.

9 On remand, I considered large portions of the evidence previously adduced in related  
10 hearings, as well as the parties' additional exhibits, witnesses, argument, and briefing adduced over  
11 the course of many months. This opinion represents my resolution of the issues joined by the  
12 parties.

13 I conclude that under law applicable to direct review of an agency order issuing a permit such  
14 as the one before me, in view of substantial changes to the facility as originally permitted, and in  
15 view of the likely presence of far higher levels of mercury in mustard containers at the facility than  
16 originally contemplated, I must remand this matter to the respondents so that they may complete  
17 their statutory duty to determine that the facility will employ "the best available technology" for  
18 disposal of the agent and munitions and will have "no major adverse effect on . . . [p]ublic health and

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<sup>3</sup> In the original hearing on this petition, I remanded to EQC for clarification, the EQC clarified [that it was not relying on carbon filters for health and safety], the petitioners sought review here, I affirmed, and the Court of Appeals dismissed their subsequent appeal on grounds that their petition for review of the clarification was untimely. *G.A.S.P. v. Environmental Quality Com'n*, 201 Or App 362 (2005). By a third petition, the petitioners challenged an EQC order refusing to revoke the permit. I found the permit deficient in several minor respects, but otherwise affirmed the EQC order. *G.A.S.P. v. Environmental Quality Com'n, et al*, Mult. Co. No. 0009-09349. The respondents promptly cured the defects I noted [by promulgating whistleblower protections in the permit], and I understand that all appellate consideration of that case is resolved except for the respondent's appeal from an attorney fee award to the petitioners.

1 safety” or the “[e]nvironment of adjacent lands.”<sup>4</sup> However, because the record demonstrates that  
2 respondents and intervenors have been addressing the major concerns of the petitioners on an  
3 ongoing basis, because the record contains substantial evidence to support respondents’ positions  
4 so far on the relevant questions of fact as they concern operations and waste streams other than those  
5 that require remand, because petitioners have not demonstrated that present operations are having  
6 any “adverse effect” on public health, safety or the environment, and because it appears that  
7 respondents will address health, safety and environmental concerns raised by waste streams not yet  
8 being processed before they dispose of those waste streams and before they employ facility  
9 components not contemplated at the time of the permit, I am not “reversing” the order and I am not  
10 now directing respondents and intervenors to cease operations pending this remand.

### 11 *Applicable Law and Standard of Review*

12 The Court of Appeals opinion remanding this matter succinctly states the applicable law and  
13 my task on remand:

15 This case involves the United States Army’s application for permits from the  
16 Department of Environmental Quality (DEQ) and EQC to destroy chemical  
17 weapons that are stored at the Umatilla Army Depot in northeastern Oregon.  
18 The Army proposes to burn the chemicals and their containers in specially  
19 designed incinerators on the depot property. In order to do so, it must first  
20 obtain permits from DEQ and EQC. The statute requires DEQ and EQC, as  
21 part of considering the applications for the permits, to determine whether the  
22 Army’s proposed facility meets the applicable legal standards. For the permit  
23 at issue in this case, that means that EQC must find that the incinerators will  
24 meet the criteria established in ORS 466.055 for facilities that treat or dispose  
25 of hazardous waste. One criterion is that the facility will not have an adverse  
26 effect on the public health or safety, on the environment, or on adjacent lands,  
27 ORS 466.055(5). Another statutory requirement is that the facility must use  
28 the best available technology for treating and disposing of the hazardous  
29 waste. ORS 466.055(3). Finally, EQC is required to base its findings on  
“information submitted by the applicant, the Department of Environmental  
Quality or any other interested party[.]” ORS 466.055.

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<sup>4</sup> ORS 466.050.

1 \* \* \* \*

3 It is clear under *Norden II* that the circuit court in this case erred in not  
5 permitting the parties to make a complete record, including giving them an  
7 opportunity to present evidence that was not available at the time that EQC  
9 entered its order. It is also clear that that error prejudiced petitioners. If  
11 nothing else, as a result of the circuit court's action, petitioners did not have  
13 the opportunity directly to challenge the evidence on which EQC said that it  
15 relied in making its decision. . . . The circuit court also denied petitioners'  
attempts to introduce additional evidence, including information concerning  
events that occurred after EQC entered its order. Without the opportunity to  
present additional evidence, it is impossible for either the trial court or us to  
evaluate the substantiality of the evidence that supports EQC's order. We are  
therefore required to reverse and remand the trial court's order for that  
opportunity to occur.

15 \* \* \* \*

17 We observe, however, that EQC's order is the result of many hearings and  
19 contains extensive factual findings. There is a voluminous supporting record  
21 that is contained on 11 computer discs. Petitioners and others supporting  
23 their position participated in creating that record. On remand, the circuit  
25 court, thus, does not need to create the record from the beginning. Rather, the  
purpose of the hearing on remand before the trial court is to supplement the  
record before EQC so that a reviewing court may determine, from the  
complete record, whether EQC's order complies with the requirements of  
ORS 183.484(5). That determination necessarily includes deciding whether  
there is substantial evidence to support EQC's express findings of fact. ORS  
183.484(5)(c).

27 *G.A.S.P. v. Environmental Quality Com'n*, 198 Or App 182,  
28 185-186, *review denied* 339 Or 230 (2005). [footnotes omitted]

29 ORS 183.484(5) provides in relevant part:

31 (5)(a) The court may affirm, reverse or remand the order. If the court finds  
that the agency has erroneously interpreted a provision of law and that a  
correct interpretation compels a particular action, it shall:

33 (A) Set aside or modify the order; or

35 (B) Remand the case to the agency for further action under a correct  
interpretation of the provision of law.

37 (b) The court shall remand the order to the agency if it finds the agency's  
exercise of discretion to be:

39 (A) Outside the range of discretion delegated to the agency by law;

41 (B) Inconsistent with an agency rule, an officially stated agency position, or  
a prior agency practice, if the inconsistency is not explained by the agency;

43 or

(C) Otherwise in violation of a constitutional or statutory provision.

(c) The court shall set aside or remand the order if it finds that the order is not

1 supported by substantial evidence in the record. Substantial evidence exists  
3 to support a finding of fact when the record, viewed as a whole, would permit  
a reasonable person to make that finding.

4 ORS 466.055 provides, in relevant part:

5 **Criteria for new facility.** Before issuing a permit for a new facility designed  
6 to dispose of or treat hazardous waste or PCB, the Environmental Quality  
7 Commission must find, on the basis of information submitted by the  
applicant, the Department of Environmental Quality or any other interested  
8 party, that the proposed facility meets the following criteria:

9 \* \* \* \*

11 (3) The proposed facility uses the best available technology for treating or  
12 disposing of hazardous waste or PCB as determined by the department or the  
United States Environmental Protection Agency.

13 \* \* \* \*

15 (5) The proposed hazardous waste or PCB treatment or disposal facility has  
no major adverse effect on either:

- 17 (a) Public health and safety; or  
19 (b) Environment of adjacent lands.

20 The Court of Appeals opinion in this case resolves two uncertainties left in the wake of  
21 *Norden*: whether challengers of agency decisions are entitled to present evidence in court on review  
22 that did not exist at the time of the agency decision, and whether an agency *required by statute to*  
23 *make findings of fact* is reviewed for substantial evidence for only its *result* or also for its findings  
24 of fact. The opinion quoted above quite expressly concludes that petitioners would be entitled to  
25 adduce in court “information concerning events that occurred after EQC entered its order.” And  
26 although the opinion contemplates that trial and appellate courts review “the substantiality of the  
27 evidence that supports EQC’s *order*,” it expressly recognizes as well that deciding “whether EQC’s  
28 order complies with the requirements of ORS 183.484(5) . . . necessarily includes deciding whether  
29 there is substantial evidence to support EQC’s *express findings of fact*.”<sup>5</sup>

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<sup>5</sup> *Norden v. Water Resources Dept.*, 329 Or 641 (2000), profoundly altered previously settled understandings of administrative law (and of role divisions among the branches of government) in a case in which the most important issues addressed were not briefed or disputed by the parties. Under *Norden*, when an agency issues an order in an other than contested case, a party is entitled to produce evidence in court to dispute whether the agency’s *result* is supported by



1 contrary: because the findings must be made “[b]efore issuing a permit for a new facility” and ORS  
2 466.055 expressly contemplates a “*proposed*” facility; because EQC has already issued the permit  
3 and made its required findings; and because wholly different standards govern modification of  
4 permits to accommodate changes in information, technology, or conditions; petitioners cannot  
5 plausibly argue for remand based on evidence accumulated since the permit was issued.

6 As is not uncommon, the correct position lies somewhere between the most extreme  
7 positions of the adversaries. Remand is surely not inherent merely because the petitioners produced  
8 in court evidence that was not before the agency and the agency is required to base its decision “on  
9 information submitted” by interested parties. As respondents argue, the result could be endless  
10 circularity. ORS 466.055 reasonably read merely requires that *EQC base its findings* on the evidence  
11 before it *when it makes its findings*. Even though *Norden* affords petitioners an opportunity to  
12 adduce subsequent evidence in challenging whether the findings remain supported by substantial  
13 evidence in the record then “viewed as a whole,” *Norden* does not suggest that the presentation of  
14 new relevant evidence is itself sufficient to require remand to any agency required by applicable law  
15 to make findings based on evidence. Remand is appropriate (and authorized) only under the  
16 circumstances provided by ORS 183.484(5).

17 Remand is not inherently precluded, however, merely because ORS 466.055 contemplates  
18 findings *before* a permit is issued or merely because the concerns identified by petitioners would be  
19 cognizable in a permit modification context. As petitioners argue, the present context is not permit  
20 modification, but – however belated – direct review of respondents’ order *issuing* the permit. EQC  
21 is required to make best available technology and no major adverse effect findings before issuing an  
22 order, but applies substantially lower standards, and is apparently not required to disclose any

1 “findings,” on permit modification proceedings.<sup>9</sup> Respondents’ extreme position would preclude  
2 substantial evidence review of any finding required by statute prior to an agency order.  
3 Respondents’ reasoning would, for example, preclude remand on direct review of an order  
4 permitting construction of a bridge when the law required the agency to find before issuing a permit  
5 that materials met certain industry standards, even if a court found the agency’s finding not supported  
6 by substantial evidence. At the very least, if any required findings are not supported by substantial  
7 evidence, remand is surely available notwithstanding the existence of distinct permit modification  
8 procedures that are more protective of permittees’ reliance than the statutes governing permit  
9 issuance.

10 The somewhat more difficult question is whether changes in knowledge about the agents and  
11 munitions, or substantial modifications in design of the facility, or a dramatic alteration about the  
12 understanding of a major component of the facility, are sufficient to rekindle the agency’s  
13 requirements of finding “best available technology” and “no major adverse effect” on health and the  
14 environment. Petitioners have clearly demonstrated that since the permit decision:

- 15 1. It is now apparent that stored mustard agent probably contains mercury  
16 contamination to a level enormously higher than assumed when the permit was  
17 issued, and that mercury cannot be eliminated by incineration or the carbon filters  
18 contemplated at that time of the permit or any mechanism or process actually  
19 implemented since;

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<sup>9</sup> As respondents note, state and federal law do not apply the “best available technology” and “no major adverse effect” standards to permit modification procedures. Rather, modification requires permittee noncompliance with conditions of the permit, a finding that the permittee was guilty of nondisclosure or misrepresentation, or a determination that the activity “endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.” 40 CFR §270.43; ORS 466.170, OAR 340-105-0041. Presumably, the distinction recognizes the change in stakes between a permitted, operational facility and one that is still “proposed.” But the reason for the distinction does not change the circumstance that this review is in the context of direct review from a decision to issue a permit governed by ORS 466.055.

1           2.     Though EQC clarified on remand from *G.A.S.P. I* that it was *not* relying on carbon  
2           filters to achieve safety at the time the permit was issued, safe processing of agent  
3           and munitions without hazardous emissions is in fact heavily dependent upon the safe  
4           and effective operation of the carbon filters;<sup>10</sup> and

5           3.     While the permitted facility consisted of five primary components<sup>11</sup> in addition to the  
6           carbon filters, in fact the Army has deleted the dunnage incinerator and intends to  
7           dispose of contaminated filters and DPE suits, both of which potentially involve  
8           emissions of hazardous substances, by incineration in the metal parts furnace.

9           Respondents argue that EQC’s only statutory obligation has been fulfilled and need not be  
10          revisited – the obligation to determine that the “technology” of “baseline incineration” is the best  
11          available technology, and that the “facility” as a whole has no major impact on health or the  
12          environment. After all, argue the respondents, *Norden* and its progeny<sup>12</sup> make it clear that the agency  
13          is only required to make those findings that any statutes expressly require, and the court cannot  
14          require more. But this issue is not the same as what specificity is required in fact-finding. The issue  
15          here is when it appears, *on direct review* from an agency decision concerning processing hazardous  
16          chemical agent and munitions, that major assumptions concerning the nature of the waste and the  
17          components of the technology have changed, the agency findings concerning best available

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<sup>10</sup> The agencies considered a great deal of evidence and argument concerning the carbon filters after issuing the permit here in question. They found the evidence insufficient to require modification or revocation of the permit, but did not revisit “best available technology” or “no major adverse effect” questions – or at the very least, they made no new findings on those questions as required by statute only “before issuing a permit,” accepting, apparently the invitation of *Norden* and its progeny to reduce scrutiny by making no findings not expressly required by statute.

<sup>11</sup> These are the metal parts furnace (MPF), a deactivation furnace (DFS), two liquid incinerators (LIC 1 and LIC 2), a brine reduction area (BRA), and a dunnage incinerator DUN.

<sup>12</sup> *Norden* merely recognized that absent a requirement for fact-finding, a petitioner’s first opportunity to challenge an agency’s decision might be in court. *Wilbur Residents for a Clean Neighborhood v. Department of Environmental Quality*, 176 Or App. 353, 354 (2001), took this to mean that absent such a requirement, a court could not remand for fact finding.

1 technology and adverse effects on health and the environment can be sustained on a substantial  
2 evidence review when the changed assumptions go to the essential premises of the agency analysis  
3 contemplated by the legislation directing agency findings.

4 At the very least, the “best available technology” and “no major adverse effect” findings must  
5 be reviewed by the terms of the Court of Appeals’ remand for substantial support in the record  
6 including the newly submitted evidence concerning those changed assumptions. Yes, under *Norden*,  
7 if no express requirement of fact finding were present in the relevant statutes, a court might actually  
8 be forced to affirm if the agency *could* reach the same result based on the record, whether or not it  
9 *would*. But the legislature has in ORS 466.055 required specific findings, and was obviously gravely  
10 concerned with the issues addressed by those required findings.

11 In context, it cannot be plausibly argued that when the legislature directed EQC to make a  
12 “best available technology” determination it expected the EQC to decide the question in the abstract,  
13 on the level of “incineration” versus “neutralization,” with no analysis of what waste streams would  
14 be processed and what components and technologies were contemplated for the facility. It is obvious  
15 that the comparisons the agencies did make were performed with the understanding that the question  
16 was much more detailed than whether to burn or soak the stockpile.<sup>13</sup> The legislature has declared  
17 that it is the purpose of the relevant hazardous waste statutes to “protect the public health and safety  
18 and environment of Oregon to the maximum extent possible.” ORS 466.010(1). The “baseline  
19 incineration technology” in application at this facility to its various waste streams is hardly merely  
20 incineration, but a composite of many technologies directed as well to such tasks as secure  
21 disassembly of munitions; draining or separation of agent and “energetics” from munitions;  
22 avoidance or containment of explosive events; filtration of workspace air; filtration of furnace

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<sup>13</sup> See, e.g., Exhibit 28.

1 emissions; modification and manipulation of various forms of waste through the incineration process  
2 depending upon their state, condition and properties; treatment and disposition of metal parts; and  
3 disposition of byproducts of the process such as “brine,” contaminated filter components and  
4 protective suits and equipment. The requisite technology also obviously involves the various  
5 monitoring and control technologies which all agree are essential to the safe operation of the plant.  
6 The success of any of these technologies necessarily depends upon the state, condition and properties  
7 of the waste stream to which it is applied. I agree with respondents that the agencies are not required  
8 to make a “best available technology” and “no major adverse effect” finding with respect to each  
9 component, process, and device. But it is unavoidable that in determining what “technology” is  
10 “best” and whether the resulting process has no “major adverse effect” on health or the environment,  
11 any rational agency must evaluate how the component parts and technologies essential to the process  
12 and its operations function together as a “facility” to perform their intended tasks with respect to the  
13 wastes that constitute the stockpile and any hazardous byproducts of the processes involved.

14 As respondents themselves note, the “*facility*” that must use “the best available technology”  
15 may “consist of several treatment, storage, or disposal operational units . . .”<sup>14</sup>

16 No rational agency could reach the best available technology and no major adverse effect  
17 conclusions in question without at least *considering* the alterations in the plant, the discovery of  
18 much higher than expected mercury levels in mustard containers, and the newly essential role of the

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<sup>14</sup> OAR 340-100-0002(1) adopts Federal EPA rules, including 40 CFR § 260.10, which provides: “Facility means: (1) All contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).”

1 carbon filters in achieving safe operation.<sup>15</sup> Respondents have insisted that they have no obligation  
2 to “revisit” the findings in light of these changes since the permit was issued. I conclude that  
3 findings which were made without cognizance of those potentially critical changes cannot be said,  
4 *on direct review* from the order issuing the permit to which those findings were prerequisite, to be  
5 supported by substantial evidence in the record viewed as a whole. Although I agree with  
6 respondents that “best available technology” and “no major adverse effect” findings to not require  
7 examination of every minuscule process, component, modification and variation of the facility and  
8 the waste stream, those findings cannot be rationally made without addressing all waste streams that  
9 pose hazards of significant concern to health and the environment, and all of mechanisms subsumed  
10 within the “technology” proposed to address those hazards.

11 In the context of this direct review from an order issuing the permit, the agency has not made  
12 the required findings where and when it refuses to readdress “best available technology” or “major  
13 adverse health effect” after a component proposed to address significant portions of the hazard has  
14 been eliminated (the dunnage incinerator), or after another component which was deemed  
15 unessential when the findings were made is now deemed essential (carbon filters), or when the  
16 presence of mercury in a waste stream may be enormously underestimated and no mechanism for  
17 dealing with higher levels of mercury has been adopted or tested.<sup>16</sup> With respect to those questions,  
18 the findings that the agency has made cannot be said to be supported by substantial evidence in the  
19 record viewed as a whole.

20 Alternatively, I conclude that any agency that would make such findings without considering

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<sup>15</sup> It seems to be uncontested that if incineration is the means by which to dispose of mustard that is potentially highly contaminated by mercury, the carbon filters will need to be modified, perhaps by the use of sulfur-impregnated carbon.

<sup>16</sup> I have no knowledge as to any testing or development after the close of evidence in this case last year.

1 these three significant changes in what exists and what is known would be acting contrary to law –  
2 its legal obligations to select the “best available technology” and to assure that the plant operates  
3 without major adverse effect on health or the environment. An agency that interpreted its obligations  
4 to make these findings before a permit decision is *final* (*i.e.*, before any direct judicial review is  
5 completed) to allow it to avoid “revisiting” its findings in light of these significant changes in its  
6 original assumptions would be misinterpreting ORS 466.055, for that statute exists to “[p]rotect the  
7 public health and safety and environment of Oregon to the maximum extent possible.” ORS  
8 466.010(1).<sup>17</sup>

9 As respondents contend, the agencies have apparently examined the likely increase in  
10 expected levels of mercury, and have determined that those levels can be adequately controlled with  
11 procedures that may involve the use of sulfur-impregnated carbon in filters. Respondents also  
12 submit that the mercury emission limits established by EQC in the permit preclude adverse effects  
13 on health or the environment. These circumstances do not respond, in the context of direct review  
14 of an order that must be premised on such findings, to the requirement that the agencies expressly  
15 address “best available technology” and “major adverse effect” with respect to the critical  
16 components of the plant and processes as applied to the requisite waste streams. Surely, were it  
17 sufficient to establish limits which, if met, would protect health and the environment, there would

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<sup>17</sup> Of course, I do not fault the agency for not considering matters at the time of the permit decision that were unknown to EQC. Had the agency afforded the petitioners the opportunity to challenge its findings when it made them, or had this court foreseen the *Norden* interpretation that allowed petitioners to offer evidence to challenge those findings in the 1998 proceedings, EQC might well have made findings that met the statute that would withstand direct review. In that event, EQC would be entitled to apply the less demanding modification rules to any challenge based on newly discovered concerns (see note 7, *supra*). But on direct review - which is where we remain - and under the time-shifting impact of *Norden* that contemplates assessing support for agency findings in light of evidence that was never before the agency, I must assess the agency’s behavior in light of the whole record including evidence of developments that did not exist or had not occurred at the time of the agency decision. In that light, I must stand by the conclusions stated in the text. I also acknowledge that the petitioners plausibly argue that the agency should have known of the demise of the DUN long before it acknowledged that demise.

1 be no accountability to its task and purpose were an agency simply to promulgate the requirement  
2 that “any and all emissions be limited sufficiently to avoid major adverse effects on health or the  
3 environment.” The regulatory scheme requires more of the agencies, and more of judicial review.

#### 4 *Specificity of Findings*

5 For better or for worse, *Norden* and its progeny make it clear that an agency is only required  
6 to make those findings that statutes (or rules) require the agency to make.<sup>18</sup> Accordingly, I must  
7 reject petitioners’ argument that because the questions are logically critical to the ultimate findings  
8 of “best technology available” and “no major adverse effect,” the agency must therefore expressly  
9 articulate findings on questions such as the cumulative impact of emissions given existing  
10 “background” concentrations or “body burdens” of toxins such as dioxins, dioxin-like substances,  
11 mercury, and others; risks to or impacts on specific sensitive populations; or characterizations of  
12 waste streams.

13 Those questions, however, are not irrelevant. Whether or not an agency expressly addresses  
14 such questions, under *Norden* the petitioners would have an opportunity to challenge the agency’s  
15 compliance with applicable law as they have here. The point, however, becomes not whether the  
16 agency has made the required findings based on substantial evidence, but whether it has deviated  
17 from its statutory obligations in the manner in which it has made the findings it does make – whether  
18 by violating statutory obligations or misconstruing them. That certain findings of fact are not  
19 required does not preclude a contention that the agency violated its statutory obligations by failing  
20 to make inquiries logically prerequisite to the findings that it is required to make or merely to the

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<sup>18</sup> For what it may be worth, I do not understand the respondents’ several references to the existence or not of requirements for “written” findings. I can see no meaningful relevance of the distinction between “written” findings and findings that are not written, though in the context of administrative review and orders, I would presume that if it is not written it does not exist. In any event, the distinction has no bearing on my analysis.

1 result the agency reached.

### 2 *Alternative Technologies*

3 A major theme of petitioners' challenges over the years is that respondents have improperly  
4 rejected alternative technologies that rely on neutralization instead of incineration to dispose of  
5 chemical agent. In the abstract, neutralization has the advantage that it allows processing, testing  
6 for toxins, and, if necessary, reprocessing and retesting, before anything is released into the  
7 environment – while incineration inherently involves release of airborne combustion products  
8 (however monitored) as part of the process of destruction itself.<sup>19</sup> And, as petitioners argue, since  
9 the EQC long ago concluded that alternative technologies were not demonstrated and available, the  
10 Army has employed neutralization in several locations with apparent success.

11 But again, it is not a technology in the abstract that a rational agency must assess. Rather,  
12 it must assess the totality of mechanisms, components, processes and controls that constitute a  
13 facility in light of the characteristics of the various waste streams that the facility is designed to  
14 eradicate. The evidence in this record discloses that neutralization seems effective as applied to bulk  
15 agent, at least as to bulk mustard agent, but that neutralization is not without hazards, byproducts,  
16 and dysfunctions of its own. In operation, it has suffered setbacks and failures as full scale  
17 implementations encountered unanticipated operational complexities and “chemical events.”  
18 Neutralization produces byproducts (including hydrolysates) that must also be processed and  
19 disposed of and may present risks of release. Neutralization does not address metal parts, which may  
20 require further processing and transportation, and it contemplates secondary or supporting processes,  
21 such as heating liquids and diesel transportation of secondary waste, which may themselves produce

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<sup>19</sup> A good part of the evidence adduced by the parties concerned the reliability of monitoring systems and related waste-feed cutoff processes. Reasonable minds can differ on what to make of that evidence.

1 as much or more dioxin and other airborne toxins than those even plaintiffs' witnesses attribute to  
2 the Umatilla facility.

3 Petitioners note that the agencies may have been under a mistaken impression as to the  
4 quantities of water necessary for neutralization as compared to those required by the existing facility.  
5 I agree with respondents, however, that water usage was merely a consideration that the agencies  
6 neither quantified nor relied upon in rejecting alternative technologies, and that even as to a waste  
7 stream that includes elevated quantities of mercury (which is not "neutralized" by alternative  
8 technologies any more than it is destroyed by incineration), the record does not establish the  
9 superiority of neutralization or any other alternative technology.

10 Although alternative technologies may be on the table for respondents when they make the  
11 best available technology and no major adverse effect determinations contemplated by remand in  
12 this case, and while it may be that in confronting mercury levels in bulk mustard a rational agency  
13 would or should consider neutralization, I surely cannot say on this record that no reasonable agency  
14 could reject neutralization for disposing of the Umatilla stockpile of agents and munitions.

15 ***Cumulative Risks, Sensitive Populations, Non-Cancer Risks***

16 Again, a responsible agency should certainly consider existing levels of toxins in the  
17 environment (including "body loads" of dioxin and mercury levels in rivers), non-cancer as well  
18 as cancer risks, and any heightened sensitivities of identified subpopulations while assessing "best  
19 available technology" and "no major effect" issues. Petitioners argue that the respondents concede  
20 that they failed to consider at least some of these factors, and that a risk assessment critically relied  
21 upon by respondents did not consider non-cancer risks of dioxin or the risk to infants or fetuses.  
22 Respondents have produced testimony that the health risk assessments on which they relied (and

1 EPA guidelines for risk assessment) incorporate safety factors sufficient to account for sensitive  
2 populations even in light of hindsight, and that the reasonably likely toxic emissions from the facility  
3 are so minute as to present no danger to health or the environment including sensitive populations.

4 I agree with petitioners that the requisite findings have yet to be made with respect to disposal  
5 of portions of the waste stream intended for the dunnage incinerator, or unanticipated levels of  
6 mercury in ton containers of mustard agent. On remand, EQC and DEQ will presumably consider  
7 the risks petitioners have identified, and will also presumably do so in light of the critical role now  
8 recognized for carbon filters.

9 Putting aside the issues of the materials intended for the dunnage incinerator and mercury  
10 levels in ton containers of mustard agent, however, I cannot say that no rational agency could find  
11 “best available technology” and “no major adverse effect” for this facility based on the record viewed  
12 as a whole with respect to sensitive populations, cumulative impact, or non-cancer risk for dioxins  
13 or any other toxins. This record contains evidence from which a rational agency could conclude that  
14 risk assessment projections and projected emission levels are consistent with statutory requirements.

15 There is surely logic in petitioners’ contention that in light of existing levels of dioxin and  
16 other toxins, no emission of such toxins can be consistent with statutory standards. There is also  
17 appeal in the argument that as it relates to quantifying risks to sensitive populations or the  
18 cumulative impact of tiny amounts of deadly toxins added to already unacceptable background  
19 levels, the risk assessments involved here reduce to pure guesswork. Risk assessments, under this  
20 view, masquerade as mathematical precision through the simple device of expressing risks with  
21 essentially arbitrarily selected numbers and using those numbers in calculations that end with a long  
22 string of digits after a decimal point.

1           But the evidence in this record also suggests that communities of scientists and regulators  
2   – who in a sense establish the standard of care – employ risk assessment and such assumptions for  
3   precisely the purpose of quantifying even deadly risk, and that the consensus in at least a portion of  
4   the relevant expert community is that this is reasonable and acceptable. It may be that this consensus  
5   is the product of compromises with health and safety driven by a culture addicted to material  
6   comfort, industrialization, and economic vigor. It may be that this approach amounts to the same  
7   compromise that has produced high levels of cancer, increased incidents of learning disabilities in  
8   children, and even global warming. But it is not my role to make social judgments that are  
9   committed to the agencies, but to determine whether a reasonable agency could, consistently with  
10   legislative intent, reach the result and make the findings that accept this sort of compromise. What  
11   is “reasonable” must be assessed in terms of accepted standards in the relevant community of  
12   expertise – which includes the sciences related to hazardous waste processing and the assessment  
13   of its risks. And though the legislation in question invokes the *purpose* to “protect the public health  
14   and safety and environment of Oregon to the maximum extent possible” (ORS 466.010(1)), the  
15   *means* by which the legislature chose were to require the “best *available* technology” in pursuit of  
16   “no *major* adverse effect” on health and the environment.<sup>20</sup> I cannot find that the agencies have  
17   exceeded their discretion or acted contrary to law or misinterpreted governing law because they  
18   tolerate the risks and uncertainties surrounding risk assessment in the area of hazardous waste

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<sup>20</sup> This is as good a place as any to recite that the respondents have largely abandoned the contention that there is a countervailing risk to health and the environment posed by *continued storage* of hazardous agent and munitions that substantially outweighs the risks asserted by the petitioners. Ironically, respondents were compelled to abandon storage risk by the same approach to quantifying risk as they apply to the risks asserted by the petitioners. Because, in assigning numbers to account for such risks as earthquake, airplane crashes, and terrorist attacks, risk assessors chose low variables, the perhaps unintended consequence was a calculated risk well below those related to toxic emissions and “events” during incineration. From a lay perspective, selecting a number to represent the risk of a major earthquake in a given period of time remains guesswork regardless of the façade of precision erected by using the number in a mathematical calculation – whether the question is the risk of storage or the risk of disposal. For better or worse, the evidence allows a reasonable agency to rely on such risk assessments.

1 incineration.

2 Although I agree that the agencies must “revisit” best available technology and major adverse  
3 impact in light of the newly recognized critical role of carbon filters, it is clear from this record that  
4 the agency has permissibly concluded that the filters in combination with other safeguards meet the  
5 statutory criteria with respect to waste streams other than those previously aimed at the dunnage  
6 incinerator and other than those including elevated levels of mercury. This distinction has relevance  
7 for the appropriate form of relief, discussed below.

### 8 *Perimeter Monitoring*

9 Monitoring operations for emissions is a critical component of the Umatilla facility. This  
10 issue concerns the fact that the only monitors at the “fenceline” or perimeter of the facility are  
11 devices that capture contaminants in a medium that is periodically extracted for examination – so  
12 that any toxins are detected, if at all, potentially hours after they were captured. Petitioners argue  
13 that respondents may not reasonably fail to consider installing FTIR monitors with “real time” ability  
14 to detect toxic emissions. Respondents argue that the record does not require them to consider FTIR  
15 monitors.

16 The record continues to be incomplete as to the capabilities of FTIR monitors. It appears that  
17 they employ an infrared technology that is unable to detect agent at a sufficiently sensitive level to  
18 meet the facility’s strict emission standards, and that they are probably ineffective when there is an  
19 elevated level of water vapor in the air – such as in foggy conditions. Petitioners reasonably argue  
20 that if an event disabled ACAMS, even a detection capability that was substantially less sensitive  
21 than ACAMS or DAAMS, but which would alarm in real time to substantial levels of airborne agent  
22 in a toxic “plume” resulting from that event, could provide substantial added protection that could

1 prove life-saving to the downwind community. Petitioners reasonably argue that EQC should at least  
2 be required to examine the issue in depth and make specific findings.

3 As noted above, I cannot find that the statutes require EQC (or DEQ) to make findings other  
4 or more specific than those expressly articulated by the statutes. Because respondents argue that any  
5 event sufficient to result in a release of a plume containing agent would necessarily trigger real-time  
6 monitors closer to the release than the perimeter, and because there is evidence in the record as a  
7 whole that provides substantial evidence for that proposition, I cannot say that failure further to  
8 explore FTIR technology is “unreasonable.” Because a reasonable agency could find on this record  
9 that the existing monitoring devices and processes are sufficient to detect releases long before they  
10 reach the facility perimeter, I cannot find that the agencies’ failure to investigate FTIR at the  
11 perimeter is a violation of their statutory duties.

12 EQC and DEQ are, of course, free to consider and investigate the efficacy of FTIR or any  
13 other additional monitoring technology upon revisiting best available technology and no major  
14 adverse effect issues on remand (or otherwise). And it certainly appears that the mere fact that a real  
15 time perimeter monitoring device is less sensitive than ACAMS or DAAMS is not alone sufficient  
16 to justify disregarding that device as a potential safety measure. On the other hand, if respondents  
17 reasonably conclude that existing monitoring and alarm devices and systems meet statutory criteria,  
18 they are not required as a matter of law to explore any and all technologies and devices that might  
19 serve the same purpose.<sup>21</sup>

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<sup>21</sup> Again, that I would hope the agencies would seriously consider FTIR for supplemental protection is not a basis for requiring them to do so; my role is limited to a determination of whether the agencies have complied with the law and made the requisite findings based on substantial evidence in the record viewed as a whole.

1 ***The Administrative Record and Who Must Read It***

2 Petitioners argue that the order issuing the permit in question is fatally flawed because EQC  
3 never “designated” a record, and relied on DEQ staff summaries in “considering” the voluminous  
4 materials this court received as “the administrative record” referenced in Appendix 1 of Exhibit 1.<sup>22</sup>  
5 I remain persuaded that EQC members are entitled to rely on staff summaries from DEQ when they  
6 *base* their decision on the information in that record as required by ORS 466.055. I agree with  
7 respondents that it is unrealistic (and contrary to legislative intent and expectation) to require all  
8 members of a lay commission such as EQC personally to review and analyze reams of technical  
9 submissions. It is perfectly permissible that such agency decision-makers rely on staff summaries  
10 and analyses – which petitioners are free to challenge by their own submissions or by supplementing  
11 “the record” in a subsequent judicial review governed by *Norden*.

12 EQC adequately designated a record.

13 ***Which Agency Determines “Best Available Technology”***

14 Petitioners contend that to the extent that EQC made a “best available technology”  
15 determination, the order granting the initial permit must be reversed because only DEQ can make  
16 that determination under the law, and it did not do so. This argument is an ironic twist on one  
17 repeatedly referenced in these proceedings – that the requisite finding is that:

19 The proposed facility uses the best available technology for treating or  
disposing of hazardous waste or PCB *as determined by the department* or the  
United States Environmental Protection Agency

21 ORS 466.055(3)

23 As petitioners contend, and although it first considered a DEQ staff presentation on best  
24

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<sup>22</sup> The record before the agency, consisting of the materials referenced in App 1 to Exhibit 1, was received in evidence as Exhibit 3300.

1 available technology, the EQC itself purported directly to make the requisite best available  
2 technology finding. And “department” in ORS 466.055(3) unavoidably means “Department of  
3 Environmental Quality.” ORS 466.005(2). Respondents argue that DEQ *made* the best available  
4 technology determination, as evidenced by a memorandum from DEQ to EQC dated November 22,  
5 1996, Exhibit No. 8 at 55, 57. It is ambiguous whether DEQ was presuming in that memo to make  
6 a “determination” rather than to name an issue, or to make that determination rather than transmitting  
7 materials in support of a determination by EQC. The exhibit in question contains other  
8 recommended findings for EQC, but on this issue merely references a separate, contemporaneous  
9 report, Exhibit 28, styled “Best Available Technology Findings Report.” The entire tenor of that  
10 report is that DEQ saw its purposes as to “prepare the background for review by [EQC] to facilitate  
11 *their* findings about best available technology (BAT) in accordance with ORS 466.055(3).” Exhibit  
12 28, p. 1 [*emphasis added*]. The only express DEQ “conclusion” concerning BAT is the analysis that

13           The greatest risk associated with the scenarios evaluated is presented by  
14           continued storage of chemical weapons . . . . Expected fatalities are about  
15           1,500 times higher per year of storage than for disposal processing; storage  
16           for 20 years would result in expected fatalities 300,000 times higher than for  
17           disposal processing. [Exhibit 28 at 10]

18           The remainder of the conclusion reasons that alternative technologies would not be available  
19           for years, and that incineration was best. To the same effect is Exhibit 3167.

20           Two things are clear from the record viewed as a whole. First, DEQ *concurred* with the “best  
21           available technology” determination, and EQC relied on DEQ’s analysis. DEQ repeatedly recited  
22           in its submissions to EQC on this subject the language of ORS 466.055(3) and the related rule, then  
23           numbered OAR 340-120-010(2)(c), that EQC must find that the proposed facility use the best  
24           available technology “as determined by the Department” or EPA. E.g., Exhibit 8 ( discussion of  
25

1 Finding 4). The nuance between EQC agreeing with DEQ by following its recommendation and  
2 EQC “finding” that DEQ “determined” best available technology is of insufficient significance to  
3 warrant relief to the petitioners where the agencies agreed and EQC in fact relied on DEQ’s  
4 reasoning and analysis.

5 Second, it is now clear that the respondents have largely abandoned arguments based on the  
6 risk of storage.<sup>23</sup> The risk of storage, though occasionally cited in best available technology  
7 discussions (in the context that alternative technologies were not yet “mature” and demonstrated),  
8 was central to a required finding that is not directly challenged by petitioners – that there is adequate  
9 “need” for the facility. ORS 466.055(4). “Inadequacy” of existing facilities is sufficient to support  
10 that need, and federal statutory and treaty obligations are quite adequate to supply the deadline even  
11 if storage risks were not.<sup>24</sup> Although the remand contemplated by this opinion requires only that the  
12 agencies revisit best available technology and no major adverse effect findings at least within the  
13 scope of that remand, I surely do not intend to discourage the agencies from considering those  
14 determinations beyond the scope of the remand in this case. The record as a whole supports the  
15 respondents’ position (in the sense that I cannot say no reasonable agency could agree) that Umatilla  
16 uses the best available technology as it concerns waste streams other than bulk mustard with elevated  
17 mercury levels and waste originally intended for the dunnage incinerator.<sup>25</sup>

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<sup>23</sup> See note 20, *supra*.

<sup>24</sup> The demilitarization of the Umatilla stockpile is required by a deadline established by the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, ratified by Senate Resolution 75, 105th Congress, 1st Session April 24, 1997, and implemented by the Chemical Weapons Convention Implementation Act of 1998, 22 U.S.C. § 6701, *et seq.* As of trial in this matter, the United States was seeking to extend that deadline from April 2007 to April 2012. See <http://www.state.gov/t/isn/rls/fs/64874.htm>.

<sup>25</sup> As noted above, the agencies must revisit the findings recognizing that they now rely on carbon filters instead of viewing them as merely additional protection. Except as to waste with high levels of mercury, however, it is clear that a reasonable agency could conclude that carbon filter technology in combination with related processes, controls, and mechanisms, satisfies the statutory criteria regarding best available technology and effects on health and the environment.

1 *Form of Relief*

2 Although the statute in question affords a court selection between setting aside and  
3 remanding an order when an agency order fails to withstand review,<sup>26</sup> the petitioners merely request  
4 that I reverse and remand the order and direct the agencies “to withdraw the UMCDF permit and  
5 notify the Intervenors/permittees that they must cease UMCDF operations pending issuance of a  
6 valid permit.” The parties have not briefed how I should choose the form of relief,<sup>27</sup> but the issue  
7 is whether I should “set aside” the order.

8 As noted above, I am persuaded that respondents have addressed health and safety issues  
9 adequately on an on-going basis – or at least on a basis that is immune from judicial revision under  
10 the law and facts as I understand both – except with respect to best available technology and major  
11 adverse effect determinations as to processes that are not yet in place (destruction of mustard in ton  
12 containers and materials originally intended for the dunnage incinerator). They also must revisit  
13 those determinations now that they concede that they are relying on carbon filters which were  
14 deemed unessential at the time of the initial permit decision here on direct review. But the evidence  
15 persuades me that the adequacy of those filters with respect to waste streams in process as of the  
16 close of evidence in this case is also not vulnerable to judicial revision.

17 Accordingly, I remand this matter to EQC for further proceedings in accordance with this

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<sup>26</sup> ORS 183.484(5). More precisely, a court may set aside, modify, or remand an order when the agency has misinterpreted applicable law and a correct interpretation compels a particular action; remand if the agency has exceeded its discretion, violated the law, or acted inconsistently with agency policy or practice without sufficient explanation; or set aside or remand an order not supported by substantial evidence.

<sup>27</sup> I am not inviting further briefing on this question, as this case is already ineligible for consideration as promptly concluded. The parties can make their choices and proceed to appellate review or further agency action without having to delay further to exhaust the issue of relief at this level.

1 Order and Opinion. I do not set aside the order issuing the permit.<sup>28</sup>

2 *Findings of Fact*

- 3 1. Well after the time EQC issued the permit in question, it has become apparent that  
4 stored mustard agent may well contain mercury contamination to a level enormously  
5 higher than assumed when the permit was issued, and that mercury cannot be  
6 eliminated by incineration or the carbon filters as contemplated at the time the permit  
7 or was issued, or by any mechanism or process actually implemented since;
- 8 2. Though EQC clarified on remand from *G.A.S.P. I* that it was *not* relying on carbon  
9 filters to achieve safety at the time the permit was issued, safe processing of agent  
10 and munitions without hazardous emissions is in fact heavily dependent upon the safe  
11 and effective operation of the carbon filters;
- 12 3. While the permitted facility consisted of five primary components in addition to the  
13 carbon filters, in fact the Army has deleted the dunnage incinerator and intends to  
14 dispose of contaminated filters and DPE suits, both of which potentially involve  
15 emissions of hazardous substances, by incineration in the metal parts furnace;
- 16 4. These changes in facility components, the role attributed to carbon filters, and the  
17 extent of mercury contamination in a relevant waste stream go to the core of what  
18 technology is “best” and whether the facility will have no major effect on health or  
19 the environment;
- 20 5. Although they have pursued permit modifications to accommodate these changes, the  
21 agencies have not purported to make “best available technology” or “no major

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<sup>28</sup> Although nothing in the record suggests that they might do so, if the agencies fail to act in a reasonably prompt manner on this remand, the petitioners may seek relief as provided by ORS 183.490.

1 adverse effect” findings in light of these changes;

2 6. Except as encompassed in the scope of the remand in this case, the agency findings  
3 and conclusions challenged by petitioners are within those a reasonable agency could  
4 reach;

5 7. Except with respect to waste that may be heavily contaminated with mercury and  
6 waste originally intended for the dunnage incinerator, continued operation of the  
7 facility poses no risk sufficient to warrant setting aside the order subject of review  
8 or ordering cessation of operations of the facility.

9 *Conclusions of Law*

10 1. On direct review from the order issuing a permit, I am required to assess whether the  
11 statutorily required findings of best available technology and no major adverse effect  
12 on health and the environment are supported by substantial evidence based on the  
13 record viewed as a whole, including evidence that did not exist when those findings  
14 were made and the permit issued;

15 2. The agencies are not required to make findings other than those specifically required  
16 by statute or regulation, merely because they may be logically prerequisite to the  
17 findings they are required to make;

18 3. Challengers are entitled, however, to attempt to prove on review that such findings  
19 as are required were made unlawfully or, if lawful when made, that evidence  
20 developed subsequently on direct review rendered those findings unlawful;

21 4. “Best available technology” and “no major adverse effect” findings do not require a  
22 separate finding with respect to each component or each waste stream, but they do

1 require consideration of all components and waste stream characteristics that  
2 inherently affect the rationality of the agencies' conclusions on those issues;

3 5. In view of the record as a whole, including evidence produced subsequently to the  
4 agency findings, with respect to the above-identified changes in facility components,  
5 the role attributed to carbon filters, and the extent of mercury contamination in a  
6 relevant waste stream, the agencies' findings of best available technology and no  
7 major adverse impact on health and the environment are not supported by substantial  
8 evidence in the record viewed as a whole;

9 6. The agencies' position that on direct review and in light of those changes they need  
10 not reassess best available technology or no major effect on health or the  
11 environment is contrary to law and represents a misinterpretation of applicable law.

12 Accordingly, it is ORDERED that the agency order issuing the permit involved in these  
13 proceedings be REMANDED to the agencies for further proceedings not inconsistent with this  
14 Opinion and Order.

15  
16 April 17, 2007

  
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Michael H. Marcus, Judge