
North Coast Regional Water Quality Control Board

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DATE: June 20, 2018

SUBJECT: Fire Debris Management “Lessons Learned” and Comments on US EPA Guidance Document *Planning for Natural Disaster Debris and Related Guidance*

Thank you for your June 7, 2018, request for our comments on the EPA guidance document: *Planning for Natural Disaster Debris and Related Guidance*, and wildfire debris “lessons learned” through our experiences during and following the October 2017 “Wine Country” fires, including the Tubbs, Nun’s, and Pocket fires. We have considered your request, reviewed the draft guidance document, and offer the following comments and suggestions.

Background

Northern California experienced multiple widespread firestorms beginning October 8, 2017, lasting until containment 23 days later. In the initial hours 44 lives were lost along with thousands of homes across 4 counties, including Mendocino, Napa, Lake and Sonoma, and 3 Regional Water Board jurisdictional areas. For more than 3 weeks, fires burned over 300 square miles of wildlands, rural residential areas, town and city subdivisions and commercial properties resulting in the largest California debris management project since the 1906 earthquake. Nearly 8 months after the event, under Federal and State emergency response incident command actions directed by the ACOE, approximately 2.2 million tons of fire debris was removed from areal burn zones and taken to local landfills or redirected for recycling and/or reuse.

By June 12, 2018, major debris management operations ended with nearly 100% of the debris removal completed, a critical goal allowing for community recovery and for water quality protection. Original debris estimates included over 9000 structures, a potential for 10,000 vehicles and 19 million burned trees. The debris quantities, in final numbers, have not been reported as yet.

North Coast Regional Water Board (Region 1) Staff Experiences and Efforts

Over the initial week of the wildfires, the Region 1 office was closed, due to proximity to active fires, loss of power and communication, and road closures (including burn damage to the major freeway corridor around the office). Many staff were evacuated from their homes. Several staff lost their homes to the fires, including two of our three land disposal staff.

During this time Region 1 solid waste staff began working remotely with Sacramento-based State Water Resources Control Board, Land Disposal Program (LDP) staff and legal counsel to confirm our role and responsibility as the primary agency overseeing solid waste facility capacities and fire debris characterization needed for disposal, recycling or reuse options and considerations. Staff immediately began working on an emergency permitting processes to facilitate the management and disposal of vast quantities of fire debris and wastes within our jurisdictional areas.

Critical actions we took included:

- 1) Immediately identifying the need for and then developing and implementing an emergency debris management permitting process for burn debris storage, recycling, and disposal sites in the Region. Region 1 staff worked closely with LDP staff to enact short term permitting processes, and later followed with a longer term permitting process, adopted by the Regional Water Board, to provide for disposal to appropriately designed and constructed composite-lined landfills. Specifically, on November 3, 2017, the Region 1 Executive Officer issued a temporary conditional waiver of waste discharge requirements for disaster-related wastes during a state of emergency within the North Coast region (Order No. R1-2017-0055). On December 13, 2017, the Regional Water Board adopted a long term conditional waiver (R1-2017-0056). Due to fires crossing jurisdictional areas the North Coast and San Francisco Bay Regional Water Boards coordinated their actions, both adopting similar orders on December 13, 2017.
- 2) During the initial week of the emergency, staff began working with nearby landfill owners/operators to identify and quantify available constructed capacity on composite landfill liners ready to receive fire wastes. Operators electing to receive disaster-related wastes completed a Notice of Intent for enrollment in the emergency conditional waiver. Staff of the Water Boards and Cal Recycle compiled lists of enrolled facilities to provide to the OES operations centers to facilitate contract services for federal cleanup, implemented by the U.S. Army Corps of Engineers. County Local Assistance Centers made these lists available to affected members of the public and shared the information across various media outlets.

- 3) At the time of the fires, the single operating landfill in the North Coast Region and in Sonoma County (Central Disposal Site) was completing construction of a new/expansion cell that would, coincidentally, create composite-lined waste disposal capacity sufficient to accommodate a significant volume of burn debris locally. From the first week of the fires, Region 1 land disposal staff worked very closely with the operator of the landfill to complete the new cell project so that it would be available as needed for emergency debris disposal. This required that the operator immediately begin design work for construction of an additional unit to accommodate wastes associated with normal operations. The operator constructed the latest expansion unit concurrent with emergency debris management operations thereby alleviating any capacity problems.
- 4) Region 1 staff worked closely with Sonoma County Transportation and Public Works (TPW) staff to pre-plan siting for storage/disposal of potential slide debris at two of the County's closed landfill sites.
- 5) Region 1 staff also worked closely with TPW staff to ensure that an additional deck of a County closed landfill was made available for emergency response crews to store and process downed trees and vegetation cleared from roadways. Short term waste piles at the closed landfill were chipped and ground for later restoration projects needing mulch and erosion control/landscape materials.
- 6) Region 1 staff worked closely with owners/operators of several local businesses involved in accepting/storing/processing recyclable fire debris, including metal and concrete, and ensured that owners/operators of those sites were implementing appropriate best management practices to protect water quality, and were enrolled for coverage under the conditional waiver.
- 7) Region 1 staff worked with US EPA staff to assist with siting and relocating their contracted site for temporary storage and processing of hazardous waste, when they were forced to move their operations approximately midway through the federal assessment and cleanup efforts. Staff note that local knowledge of suitable properties is critical when time is of the essence.
- 8) Region 1 staff will work with each enrolled facility to review and process their respective Notices of Termination for coverage under the Emergency Conditional Waiver once materials processing is completed.

In addition to our work associated with facilitating fire debris management, Region 1 staff participated in and/or led a number of other fire damage assessment and recovery efforts, including, but not limited to: 1) participating with Cal Fire teams to conduct risk assessment in burned areas; 2) securing funding from the Cleanup and Abatement Account to purchase straw wattles and other sediment control devices; 3) leading and/or working with teams in the City of Santa Rosa deploy best management practices for erosion control and debris containment;

4) assessing burned areas throughout unincorporated portions of Sonoma County to identify areas posing a high threat for debris discharge to surface waters, and then working closely with Cal Fire crews to confirm and deploy suitable best management practices for debris containment in those areas; and 5) sampling local streams to assess fire-related impacts to water quality and, if possible, to assess effectiveness of debris containment and stormwater treatment/protection best management practices deployed in burned areas. At the December 8, 2017, Region 1 Board meeting, staff reported having devoted more than 3,000 staff hours to fire response/recovery efforts to date.

Incident command framework(s)

Where possible, Region 1 staff coordinated fire response/recovery efforts with agency staff involved in the formal incident response and incident recovery framework, but in the initial weeks during and following the fire, Region 1 staff were not invited to, nor participants in the formal incident recovery processes. Over time, staff identified and became participants in various of the incident recovery task force groups, mainly in supporting roles, providing information and/or assistance as needed to ensure water resource protection. It should be noted, however, that while our efforts in response to the fires were significant, both in terms of staff resources expended and the value of water resource protection provided, our role in the greater incident response and recovery efforts, including debris management was relatively small. Given that, we can offer comments and lessons learned from our perspective, but stress that we are only contributing a portion of available lessons to be learned from the overall Sonoma County fire debris response effort.

Comments on the US EPA Guidance Document

Specific Comments

Page 18, last paragraph:

“State Resources

State emergency management and environmental agencies have specific roles to play in managing disaster debris. Their websites may contain useful debris management information, including state-specific guidelines and requirements, planning documents, and material on past disaster responses. The state emergency management agency serves as the local government’s liaison to FEMA during the disaster and cleanup. The state environmental agency can make special accommodations for the extraordinary debris management needs resulting from a natural disaster. State emergency management and environmental agencies can issue emergency management orders to help local governments better manage debris in order to protect human health and the environment.

The National Emergency Management Association can provide state emergency management agency contacts (<https://www.nemaweb.org/>). ASTSWMO represents state and territorial solid waste regulators and can provide appropriate contacts and information (<http://www.astswmo.org/main/resources.html#stateTerAgencies>).<http://astswmo.org/state-andterritorial-resources/>.”

Comment: Agreed, the Regional Water Board can do this, and as noted above, we did do so during the wine country fires. We also have understanding/knowledge of local options for waste disposal and recycling, and local/community waste management needs. We recommend that where a state environmental agency has regional branches/offices tasked with more localized involvement, as is the case with Cal EPA's Water Boards, the disaster recovery/debris removal team should make an effort to identify and include a liaison from the local branch as early as possible in the recovery process.

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"...Generally, natural disaster debris can include:
ACM (e.g., asbestos pipe wrap, siding, and ceiling and floor tiles);
Ammunition and explosives;
...
Soils, sediments, and sandbags;
Tires;
Treated wood (e.g., utility poles, fencing, decks);
Used oil and oil-contaminated waste;
Vegetative debris (or green waste) (e.g., uprooted trees, branches, stumps, leaves);
Vehicles and vessels; and"

Comment: in the case of fires, debris may include not only loose or downed/uprooted vegetation, but damaged vegetation that remains rooted. While it may not be necessary or timely to remove and dispose of this material during initial disaster recovery/debris removal efforts, over the longer term, removal and disposal/recycling will be necessary. Pre-planning and real-time disaster recovery efforts should include consideration and make provisions for addressing longer term organic debris management needs.

In addition, soil/sediment wastes can include semi-liquid/wet mudslide debris. Much of this material may be clean and potentially reusable, but may initially need to be collected/cleared and placed at a location where it drain/dry, possibly be processed to separate entrained organics or other types of materials/wastes, and be stored until reuse opportunities are available. Pre-planning and real-time disaster recovery efforts should include consideration and make provisions for addressing potentially high volumes of mud.

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"Waste Management Requirements and Considerations

Planners should open a dialogue with regulators (e.g., EPA regional office) as early as possible to discuss potential debris generation and debris management options. EPA has developed IWASTE, a web-based tool that contains links to waste transportation guidance, treatment and disposal facilities, state regulatory offices, packaging guidance, and guidance to minimize the potential for contaminating treatment or disposal facilities. Access to this decision support tool requires pre-registration (<http://www2.ergweb.com/bdrtool/login.asp>)."

Comment: We recommend that “regulators” for such dialog include applicable state environmental regulators, again with consideration for organizational structure within those agencies, to ensure that local/regional branch staff for relevant disaster planning areas are included.

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“Communities should also consider available reuse and recycling opportunities in other states, regions, and countries. While transporting materials long distances may increase cost and environmental impact (e.g., the further a material must be moved, the more fuel will be burned to move it there), these potential disadvantages should be balanced against other factors, including limited capacity available at disposal facilities and long-term environmental consequences (e.g., depleting natural resources). Provisions may be needed to store the material for an extended period of time before recycling can occur. For some materials (e.g., HHW), however, regulations may restrict how long such materials can be stored. Planners should check with state environmental officials for possible restrictions.”

Comment: We concur, and recommend that emergency response agencies (state and federal) that enter a community to assist with disaster recovery also be mindful of the need to balance short term cost savings in routing disaster debris to the nearest local facilities with the longer term impacts this may place on the community with respect to both its environmental resources and its available resources for accommodating normal waste disposal/recycling needs during and following recovery.

Page 49, second to last sentence in vehicle and vessel paragraph

“Since vehicles and vessels are usually private property, they may have title and ownership issues that must be resolved before they can be scrapped.”

Comment: Agreed; we recommend that emergency response agencies (state/federal) that enter a community to assist with disaster recovery consult closely with the applicable state motor vehicle licensing and insurance oversight agencies as early as possible, to ensure that vehicle identification needs for those agencies are clearly understood and correctly implemented so as to minimize delays in removal of these items as part of debris removal efforts.

Page 66, last paragraph

“Waste and Material Tracking and Reporting System

In order to inform federal, state, local, and tribal officials, as well as the public and media, that disaster debris is being managed appropriately, debris management activities should be made as transparent as possible. The debris management plan should include a waste and material tracking and reporting system that can be implemented during a disaster response, such as the example in Figure 9. This system should be used to track debris from its original deposit point to its final destination. Communities should plan on making the data publicly available.

Information on the origin, date of collection, characterization, and daily and cumulative quantities of the debris should be reported along with the debris management site, if applicable, and waste management facility where the debris was sent. The data should be organized and reported in a consistent manner.”

Comment: We agree, and recommend that state and federal emergency response agency personnel who will be involved in community disaster recovery efforts are aware of this expectation and make every effort to meet it.

General Comment

Overall, we found the document to be informative and to be relatively thorough. We agree with the recommendations in the document that communities should prepare in advance for disaster response/ recovery and develop a response and recovery plan, including representatives/ input from all applicable agencies. Further, we recommend that community response teams become familiar with the information in the guidance document as part of their pre-planning efforts, possibly dedicating time for training/planning discussions implementing the guidance of the document to managing debris associated with various disaster scenarios. While response and recovery plans may not prove to exactly fit specific future incidents, the process of working through hypothetical debris management scenarios will likely assist in ensuring that debris management efforts following an actual incident include the appropriate participants and include the appropriate considerations to efficiently and effectively manage debris.

We recommend that EPA consider including in the guidance document discussion regarding in-place protection of damaged sites for the interim period before debris can be removed, so that debris does not migrate from the site to the surrounding environment or enter stormwater conveyance features/systems. In addition, timely effort should be made on damaged sites awaiting or undergoing debris removal to identify and apply appropriate protection for any exposed stormwater and wastewater collection infrastructure.

Additional Suggestions/Recommendations/Considerations for Disaster Response/Recovery:

- Pre-planning efforts should include sharing response/recovery plans with the community (for example, post on applicable local websites, present at applicable local board/council meetings).
- In California, include representatives from the State Water Board and appropriate Regional Water Boards in damage assessment and recovery planning and oversight.
- Pre-planning and response efforts should consider both short and long-term costs when developing a debris removal/management plan (predicated on seeking input from appropriate sources to understand potential long-term costs). Similarly, state/federal emergency response agencies involved in contracting for debris removal should also consider both short and long-term costs in developing their contracts.
- In the event of a specific disaster, response/recovery team(s) should share the disaster-specific debris management plan with the community and applicable agencies as soon as possible.

- If possible, move quickly and soonest on identifying and removing/containing wastes posing the highest threats to the community and the environment, including drinking water sources.
- Anticipate the rainy season and be prepared to quickly implement/deploy wet weather contingencies.
- Task force meetings established to address response or recovery efforts should be recorded in some fashion so that discussion and any decisions or action items are documented and can be directly referenced in future meetings where questions or inconsistent statements are raised.

Potential Funding Needs for Future Disaster Response

Your June 7 email mentions a recently-submitted BCP request for funding to deal with natural disasters. Based on Region 1's recent fire response/recovery efforts, we recommend consideration for establishing/securing funding for the following elements of disaster response/recovery.

Pre-Planning and Disaster Response/Recovery Plan Development

As discussed above, Water Board staff participation in community disaster response/recovery plan development, including developing disaster debris management plans, can help in identifying available local options for debris storage, disposal, and reuse, and facilitating timely permitting as the need arises. Our regular officewide program funding does not include dedicated funding for disaster response planning.

Reimbursement for Staff Response/Recovery Efforts

As discussed above, Region 1 devoted a significant amount of staff time towards fire response/recovery efforts. These efforts were not reimbursed by emergency response-specific funding, so were funded through our regular officewide program funding. While it is clearly not possible to predict the timing or nature of a future disaster, nor to predict the amount of staff time likely to be expended in response to a disaster, we recommend that funding source(s)/mechanism(s) be established to provide for full or partial reimbursement of unplanned/unexpected staff resources applied towards water quality protection in response to future disasters.

Funding Source(s) for Focused Monitoring

As noted above, Region 1 staff conducted surface water monitoring in the burned area. Funding was relatively limited; consequently, monitoring efforts were limited as well. However, with additional monitoring funds, staff would have had an opportunity to monitor water quality trends and the effectiveness of debris containment efforts for sites where Regional Water Board staff and/or others have applied best management practices.

We recommend that funding source(s) be identified/ secured to allow for focused monitoring efforts following disasters, as appropriate to inform/direct subsequent watershed protection efforts as well as to inform the public as to the water quality effects associated with specific incidents and the effectiveness of pollutant control and removal efforts in the short and long term.

Water Boards Disaster Liaison

We recommend that the State Water Board develop a position for a dedicated Water Boards disaster liaison staff person, who could be deployed to the incident command posts for future disasters statewide. This would allow Regional Water Boards staff responding to disasters within their regions to devote limited staff resources/efforts to regional water quality protection, while a dedicated State Water Board staff person specifically familiar with the incident command system and incident response in California serves as the interface for communication and coordination between incident command and Regional Water Board management/staff.

Once again, thank you for the opportunity to provide input/comments regarding disaster debris management. If you have any questions or would like to discuss our recommendations further, please let us know.