

IN THE MATTER OF

STATE OF MAINE, BUREAU OF  
GENERAL SERVICES, JUNIPER RIDGE  
LANDFILL EXPANSION  
City of Old Town, Town of Alton,  
Penobscot County, Maine  
#S-020700-WD-BI-N  
#L-024251-TG-C-N  
APPLICATION FOR MAINE  
HAZARDOUS WASTE, SEPTAGE AND  
SOLID WASTE MANAGEMENT ACT,  
and NATURAL RESOURCES  
PROTECTION ACT PERMITS and  
WATER QUALITY CERTIFICATION

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) EDWARD S. SPENCER  
) INTERVENOR  
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) PREFILED WRITTEN TESTIMONY  
) FOR BOARD OF ENVIRONMENTAL  
) PROTECTION PUBLIC HEARING  
) FILED JULY 29, 2016  
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July 29, 2016 Edward Spencer Pre Filed Written Testimony

## MAINE STATE WASTE HIERARCHY IN REGARDS TO CONSTRUCTION AND DEMOLITION DEBRIS (CDD) AND OVERSIZED BULKY WASTES (OBW)

One of the primary issues we need to be concerned with as the State Bureau of General Services (BGS) contemplates an expansion of our Juniper Ridge Landfill (JRL) is how our State Waste Hierarchy is applied to wastes entering JRL. The Department of Environmental Protection (DEP) is charged with evaluating any expansion, and in so doing consults laws and rules that set regulatory procedures and standards for landfills. Only in the past several years has our Waste Hierarchy become a criteria governing how we handle wastes in Maine, and this expansion procedure is the first time DEP will fully implement the Hierarchy as the rule of the State of Maine.

According to M.R.S. §2101, Maine Solid Waste Management Hierarchy mandates that from most preferred to least preferred, we should first strive for Waste Reduction at the Source, then Reuse, Recycling, Composting, Waste Processing (Waste to Energy, or WTE), and then Land Disposal. JRL is therefore the least desirable outcome for wastes in Maine. (BEP Informational Session handout from May 19, 2016, Page 16, Exhibit Spencer1)

In addition, under Recycling and Source Reduction Determination rules set forth in 38 M.R.S. §1310-N(5-A), it says that: "An applicant for a new or expanded solid waste disposal facility shall demonstrate that: (1) The proposed solid waste disposal facility will accept solid waste that is subject to recycling and source reduction programs, voluntary or otherwise, at least as effective as those imposed by this chapter and other provisions of state law..." (BEP Informational Session handout from May 19, 2016, Page 17, Exhibit Spencer1)

Wastes coming into JRL should therefore have been handled according to our Hierarchy from their source. Their source should be considered to be their Point of Discard. Environmental Protection Agency (EPA) and Resource Conservation and Recovery Act (RCRA) rules say that in regard to CDD material "The key concept is that of 'discard'" and relies on "the ordinary, plain English definition...i.e., discard means 'disposed of', 'thrown away' or 'abandoned'." (Federal Register, Page 6690 Environmental Protection Agency 40 CFR Part 241 Additions to List of Categorical Non-Waste Fuels; Final Rule, Exhibit Spencer 2). In the same document it says "...the Agency reiterated the determination in the existing rules that the wood present in C&D debris is considered to be a solid waste prior to processing..." (Page 6696, Exhibit 2). In other words, 38 M.R.S. §1310-N(5-A) applies to the CDD material wherever it is discarded, which is the source. During Casella's operation of JRL, they have failed to fully identify the True Source of all wastes funneled into JRL. Instead they have said that Construction and Demolition Debris (CDD) and a derivative of CDD known in the waste industry as Oversized Bulky Waste (OBS) has come mostly from a processor located within the borders of the State of Maine. This processor they refer to as the "Generator" of the waste, and by this label the waste is considered Maine Waste, and thus eligible for disposal at JRL. However, now that our Waste Hierarchy is mandated as the law of the State, and therefore JRL, the rules require more information that identifies the True Source, or Point of Discard. They must also show how all these materials have been reduced at the source and recycled to the maximum extent possible.

Without identifying where the material coming into JRL actually became a waste, it is impossible for DEP as regulator to truly ascertain if that waste has been fully Reduced at the Source, as well as being

subjected to other requirements of our Hierarchy before being landfilled. It is absolutely vital that these provisions of State Law be fully enforced, given that permitted landfill space is extremely valuable. CDD and its derivatives have accounted for roughly half the wastes coming into JRL from its beginning in 2003. In fact, for the last 5 years (2011 through 2015) wastes categorized as Construction and demolition debris, Oversized bulky waste, and C&D process fines have when combined accounted for over 57% of JRL inputs. (This is from a table submitted in a letter from the Maine Department of Economic and Community Development (DECD) July 11, 2016, Exhibit Spencer3).

In 2010 and 2011, OBW inputs to JRL are listed at 96,520 and 98,888 tons, respectively. This may well be why DEP Commissioner Aho attached Condition 3 to her Public Benefit Determination (PBD) Partial Approval in 2012. DEP could see that this category of JRL Waste was increasing at an extremely rapid pace, with volumes of OBW amounts from 2007 being 9,649 tons, 2008 OBW being 21,405 tons, and 2009 OBW listed at 51,438. Were this increase from 2007 to 2010 to have continued at this pace through 2015, just the OBW portion of wastes entering JRL would have eclipsed the total tonnages into JRL by 2014. This had to have been of major concern to regulators.

Another factor in the increased volumes of OBW into JRL may be that Casella's Pine Tree Landfill (PTLF) in Hampden stopped taking waste at the end of 2010. When looking at the JRL waste volumes from 2011 through 2015 (post PTLF), we can see an odd statistical trend. While the tonnages of CDD, OBW, and CDD fines varied year to year by category, their combined tonnages varied less in total than individually. Combined tonnages of CDD, OBW, and CDD fines in that five-year period (2011 through 2015) only differ from a low of 361,527 tons in 2015 to a high of 374,686 tons in 2013. The next lowest combined tonnage was in 2012 with 367,566 tons into JRL. This seems remarkably consistent.

Since these three categories, comprising over 57% of JRL inputs in 2011 through 2015 are all different descriptions or derivatives of construction and demolition debris (CDD), it occurs to me that the total volumes stay about the same but the categories vary more by year. This raises these questions:

1. Who determines which category a truckload of waste is put into, and where does this determination take place? In other words, who is responsible for the accounting- is it Casella personnel at the actual JRL landfill, is it Casella personnel at their central facility in Maine, is it Casella employees at their various facilities from Pennsylvania throughout New York and New England, or is it whoever controls each individual truck throughout Casella's geographic region? Ideally there should be State auditors involved with properly accounting for wastes into state facilities.
2. Pine Tree Landfill was a commercial landfill. JRL is a state-owned landfill, with the Bureau of General Services (BGS) functioning as the titular state agency that owns JRL. The rules for the two are supposed to be different. A commercial landfill is allowed to accept wastes from anywhere in the country. Our state landfill(s) are restricted to Maine-generated wastes and not subject to the United States Commerce Clause. Why then did combined categories of CDD wastes into JRL increase so drastically after PTLF closed? If the wastes going into PTLF pre-closure were primarily Maine wastes, why weren't they already going to JRL? And if the increased volumes of CDD categories of wastes into JRL post-PTLF are truly Maine wastes only, what explains the increases at that time?
3. Why do OBW tonnages into JRL vary so widely over the lifetime of JRL? Since KTI (Casella's former CDD processing facility in Lewiston) was sold (2013) does the majority of the OBW still come through that facility?

In its letter of July 11, 2016 ( Exhibit Spencer3), DECD (BGS is a part of DECD) argues that there should be no limit on OBW amounts into JRL post-expansion, as mandated by Commissioner Aho's PBD. OBW is a waste industry term meaning "Large items that may be difficult to process, such as mattresses, furniture, appliances, and certain other components of demolition debris." In her PBD Partial Approval, Commissioner Aho made it very clear that the PBD was conditional on there being a limit placed on OBW deliveries to JRL (Condition #3 of PBD Exhibit Spencer 4, pg. 29). Commissioner Aho also made it very clear in the PBD Conclusion #1 that the PBD was provisional on an OBW limit. Another relevant provision in the PBD is in Condition #4: "Periodic independent third party audits of CDD processing operations...". "The first such audit(s) shall occur prior to the disposal of OBW from these processing facilities in the 9.35 million cubic yard expansion."(Exhibit Spencer 4, pg. 29)

Also contained in the Conclusions of the PBD, #6 (Exhibit Spencer 4, Page 29) directs the State Planning Office (now the BGS as owner) and Casella to Amend their Operating Services Agreement. This was in response to her concerns that there were large amounts of CDD and CDD residues coming into JRL (including OBW) through Casella's KTI processing facility in Lewiston. This facility was sold to ReEnergy in 2013 and still accounts for most of the CDD imports into JRL. ReEnergy has made some progress in reducing the percentage of its waste inputs that are imported from out of state, but still the vast majority of wastes entering the Lewiston processor and continuing to JRL were not discarded in Maine. The original justification for these imports was to provide fuel for the Mill boiler in Old Town. Commissioner Aho noted in the PBD that the Old Town boiler was not functioning, and this continues to be the case today. The Nov. 2, 2006 Second Amendment to the OSA's Fuel Supply Agreement allowed CDD imports to be used for fuel for all boilers in Maine, whereas up until that time imports were only allowed to provide fuel for the Old Town Mill boiler. Despite these changes, there is little to no fuel from CDD being burned in any boilers in Maine. I believe that this is why Commissioner Aho mandated that the OSA be amended. However, Casella/BGS refuses to comply with the PBD directive, and their excuse is that "it is not an enforceable obligation".

My opinion is that until Casella/BGS comply with all the Conditions and Conclusions of the PBD, then any Expansion should be put on hold or denied until there is compliance. CDD in its various forms has been coming into JRL for almost thirteen years without adequate assurance of source reduction, perhaps categorized by convenience, and the Public has had to rely on Casella for accounting, with no help from our State agencies discernible.

In the DECD letter of July 11, 2016 Exhibit Spencer 3, pg. 2), which was signed by Michael Barden of BGS and Jeremy Labbe of Casella, here is how they describe OBW and its relationship to the economy:

"OBW generated by a CDD processing facility is a material that is generated as a result of recycling CDD. This is an activity that should be encouraged. As economic activity increases, CDD volumes increase, resulting in an increase in OBW generation, as evidenced in the volumes shown on the attached chart. Applying an arbitrary limit on OBW acceptance in the JRL expansion could have the direct result of limiting CDD recycling or causing an increased financial burden for CDD processing facilities in Maine."

They seem to be arguing that higher volumes of OBW into JRL is a very positive thing for Maine's economy. If this were the case, then why were OBW inputs into JRL at their highest (2010 and 2011) while the economies of the United States and Maine were struggling to pull out of the steepest Recession since World War 2? What's more, overall combined categories of CDD varied little during these years, but OBW deliveries to JRL were at their highest levels. Therefore OBW volumes did not

correspond with higher CDD outputs overall. Mr. Barden should be prepared to explain his statements at the Public Hearing this fall, if not before.

Furthermore, Barden and Labbe (Exhibit Spencer 3, Page 2) say that landfilling of OBW was the best way to handle OBW, according to the MEDEP Maine Materials Management Plan January 2014, Appendix C.(Exhibit Spencer 3, footnote pg.2) It needs to be pointed out that rules on Maine's waste hierarchy have changed since that date. Most of the materials in mattresses can be recycled into metal, wood, and fabric. Appliances have metal components, and the copper windings in their motors are among the most valuable of recycled materials. Furniture likewise can be taken apart and largely recycled. So we need to know how much effort was actually put into recycling at the true source of the OBW, which may well be beyond Maine's borders. It is also possible that wastes coming into Maine CDD processors are sent there to avoid stricter rules on landfilling in the jurisdiction where they were discarded.

To fully understand CDD waste volumes into JRL in the past and predict them in the future, should JRL be expanded, it is necessary to develop an overall comprehensive portrait of Casella's network of landfills throughout the northeastern United States. We have heard that Casella either owns or operates thirteen landfills in their network. How many of these are licensed to accept CDD? What are the volumes at those facilities? What are the volumes of OBW at Casella's non-JRL landfills? Do they also use CDD fines for "daily cover", and where do these fines come from? Where does the CDD that comes to JRL actually become a waste? Where are the Points of Discard? What are the rules on source reduction and recycling where these materials are discarded, and do they meet or exceed the standards and effectiveness of wastes required in Maine? DEP needs a lot more information from Casella/BGS before they can confidently assure the Public that our rules on Waste Hierarchy are being fully implemented both currently and in the future at the Juniper Ridge Landfill.

#### SITE GEOLOGY

Casella and DEP should be prepared to answer questions about the threat of subsidence underneath JRL. During the last glacier events concluding about 12,000 years ago, the weight of a mile-thick ice mass was so heavy that it depressed the surface of the earth. In places, the earth is still rebounding from that event. When I have raised this as an issue, it appears that nobody has taken it seriously, which could have cataclysmic consequences if the engineered construction of the landfill is compromised and, for example, the drains lose their positive slope.

How much does a mile of ice weigh compared to a landfill? We know that ice is slightly less heavy than water, which weighs about 8 pounds per gallon, or 62 pounds per cubic foot. Let's use a round number of 60 pounds per cubic foot. One acre is 43,560 square feet. One acre covered with one foot of water would weigh 60 times 43,560 which is 2,613,600 pounds. Converting pound into tons at 2000 lbs/ton equals approximately 1306.8 tons per acre of a foot deep of ice. So a one-mile high pile of ice would be 5280 feet (one mile) times 1306.8 tons which equals 6,899,904 tons. In the DECD letter of July 11, 2016(Exhibit Spencer3,table) there is a table with annual weights of wastes into JRL from 2003 to 2015. These total 6,382,878 tons of wastes into JRL through 2015, with future projections of an additional 700,000 tons annually. So if we include wastes deliveries to date in 2016, we can see that there has been about the same weight placed in JRL as there would be by a mile- thick pile of ice over one acre. It is important to note that the landfill currently covers over 50 acres. However, each 30-ton truckload of

waste into JRL is compacted again and again by machines that weigh over 100,000 pounds. Subsidence should be investigated.

#### DESIGN AND OPERATION OF THE PROPOSED EXPANSION

There are troubling aspects of siting and operating a huge landfill addition that would basically double the size of the current JRL. How much redundancy is built into the leachate collection system? What would happen if we had a multi-day rain event combined with power outages? Can that system of drains hold the weight of additional liquid, and for how long?

At the Milestone Meeting of December 18, 2014 Mr. Eric Stinehouse (sp?) of Sanborn Head gave an overview of landfill gas collection systems used at JRL and at an expansion. He gave descriptions of the horizontal and vertical gas collection lines used to suck gas out of the landfill. He mentioned that the "lower pipes may collapse". We need to discuss this at the Hearing. If some of the gas collection lines collapse, does that raise the risk of fire or explosion? Would it cause moisture buildup? Would it cause the waste to deteriorate faster or slower? Is there also a risk of leachate collection pipes collapsing?

The standard for landfill construction is that there must be a six-year travel time to "sensitive receptors". It sounds like that is how long it would take for any escaped toxins to get to an aquifer, etc. This does not inspire confidence; it is as if we are planning for a leak. If the liner system is breached, it is difficult or impossible to fix it with all the waste in place. From the beginning of a leak it may take 6 years to get to drinking water sources, but once that leak starts it will leak basically forever. So while JRL is called a "secure landfill", at the same time plans are in place that anticipate failure of the systems.

On April 10 2008, at a landfill site assignment hearing before the Board of Health in Southbridge, Massachusetts, David Bonnett, Civil Engineer, Landfill Site Professional, and Expert Witness for Casella Waste, testified under oath that, "All liners leak" Volume3 page 447 of the testimony(Exhibit Spencer5). This information is relevant to an expansion of JRL.

#### ODOR CONTROL/REPORTING

One of the more frustrating aspects of living in the vicinity of JRL is the procedure for reporting odors. There is a number to call at the landfill, and if you are lucky someone will answer it (394-4376). Then after giving your name and location, you are asked "What does it smell like?" They don't mention that this is actually a multiple choice quiz, and if it doesn't fit a category it will not be recorded as a legitimate complaint. They may ask if you'd like someone to visit, and if you agree then they will show up and measure for hydrogen sulfide gas, and that is all. They may also bring their "trained noses" into action, which is kind of ridiculous because anyone working at a landfill must suffer from olfactory fatigue which numbs one's sense of smell. I have also heard of Casella blaming the odors on the company that runs the on-site gas filtration system. Casella gets to decide what is a "legitimate complaint". That is like asking me, a logger, if my chain saw is too loud- not to me it isn't!

What can be done about this? We could ask the local police to write down the place and time when they smell odors that could be a nuisance to residents. They wouldn't have to necessarily do anything about it, just keep a record. There is a need for an objective measure of odors. I will enclose an article (Exhibit Spencer 6) I saw this summer about a device called The Nasal Ranger, which measures aromas in odor concentration units. This device was designed by St. Croix Sensory in Minnesota, and developed by Chuck McGinley. Over five years ago I attended a meeting with DEP that was intended to refine odor

rules in Maine. It appears that nothing came of that. What needs to be remembered is that there are other fugitive landfill gases besides hydrogen sulfide that can be deadly in sufficient concentration. There does not appear to be a warning system in place to protect citizens and workers.

#### STORMWATER MANAGEMENT

The Public and environmental systems may be at risk from insufficient preparations for extreme precipitation events at JRL after an expansion and at present. Not long after Casella started operating JRL in 2003, there was a very heavy rain that washed out the stormwater control systems and spread sediment off the landfill footprint. There is a conflict in DEP regulations because the criteria only calls for building for a 25-year precipitation event. Casella chooses to use the record rainfall for Orono in the last quarter century as a maximum event, which is 4.8 inches in a 24-hour period. Within the last five years a system of thunderstorms deluged Brownville Junction, only 35 miles north of JRL, with over 8 inches of rain in a few hours. This resulted in lots of damage, including washing out a railroad track.

An event of this magnitude will surely happen at JRL, and it could be at any time. The earlier event at JRL must have violated at least some of the Natural Resource Protection Act (NRPA) Standards. In the BEP handout from May 19, 2016, (Exhibit Spencer 1, pg6), some of the excerpts effected at that time, and in a future storm, would include Soil Erosion, Harm to Habitats and Fisheries, and Lower Water Quality. There is a conflict because rules only call for a 25-year flood threshold, and at the same time building to that lower standard will not adequately protect the environment and prevent harm to public welfare.

#### MONITORING GROUND AND SURFACE WATER, LEACHATE, AND LANDFILL GAS

If one reads through the JRL annual reports and the comments of DEP personnel such as Richard Behr, there is a commonly repeated event: a monitoring well will show some abnormal results and the monitors will conclude that it is due to construction activity at the landfill. Landfills are always under construction; JRL grows every day, year around. Why aren't there more objective measurements of water quality that are not influenced by construction activities? What if DEP staff was to go back and for every result where construction activity was blamed for unusual results, instead look at what could be happening to cause aberrations? Experts say that "All landfills leak", and any delay in tracking down possible breaches in the liner systems just reduces the opportunity to remedy the situation.

Leachate disposal is especially troubling in regard to an expanded JRL. Casella/BGS has been extremely lax in reporting changes to leachate disposal agreements. In their July 11, 2016 letter to DEP (Exhibit Spencer 3, pg.3), Michael Barden and Jeremy Labbe revealed that Casella had signed a new leachate disposal contract with the owners of the Old Town Mill in April. So three months after the fact they revealed this contract. During that period of time there were meetings on JRL expansion where Barden, Labbe, other Casella personnel and attorneys were present along with DEP staff and never mentioned that the leachate disposal contract had changed. This reminds one of back in November of 2006, when Casella signed new contracts for Fuel Supply and Leachate Disposal and incorporated them into the Second Amendment to the Operating Services Agreement (OSA). They never disclosed these changes, which drastically expanded CDD deliveries to JRL. Only through citizen inquiry were these changes made public, and not until 2008.

As part of the Legislative Resolve in 2003 that began State ownership of JRL, a Juniper Ridge Landfill Advisory Committee (JRLAC) was created. This is a group of eight citizens from the surrounding communities: 5 from Old Town, 2 from Alton, and 1 from Indian Island. Their role is supposed to be that of a place where local citizens can go to get information about JRL, both current operations and planned changes. Unfortunately, both agencies who have "owned" JRL, the State Planning Office and now the Bureau of General Services, have failed to inform the JRLAC in a timely manner of planned events central to the landfill's operation, such as the above-mentioned change in Leachate Disposal Agreement. This leaves the Public uninformed and without a place to go to ask questions and air grievances. JRLAC's role should be clarified before Expansion.

The Old Town Mill has not operated since last fall (2015). At bankruptcy court, it was sold to a group that tries to sell off individual mill assets and scraps the rest. Beginning last November, about 800,000 gallons of JRL leachate per month were taken to the Wastewater Treatment Plant at the Old Town Mill. It has been difficult to get specific information from DEP or others on how it was handled, but it was basically mixed with several smaller waste streams and then "batch released" into the Penobscot River. It is not clear if this leachate was treated at all during that time between Mill closure and new Leachate Disposal Contract before being sent downriver. How much was it diluted? Was the PH balanced to match the River's? The new contract says that Casella will get the leachate PH between 5 and 9 before putting it into the Mill system. This is a wide range of PH, and only tested twice a year. There is so much effort made to keep the very toxins in the JRL leachate out of the surface and groundwater at the landfill site, then it just gets dumped straight into the Penobscot River. There is a much larger and more capable wastewater treatment plant in Brewer that would be a far better disposal site. Apparently Casella is allowed to avoid better leachate treatment to save money. This is a great example of how Casella's welfare is protected at the expense of the Public Welfare that our DEP and EPA rules are designed to protect.

#### ALTERNATIVES ANALYSIS

Central to the NRPA Application, as well as the US Army Corps of Engineers Application, is something called an Alternatives Analysis. Shawn Mahaney of the Corps explained to me that to them, this is an attempt to determine if this activity, expanding room for wastes at JRL, is unavoidable and has any alternative to disposal and its accompanying destruction of wetlands.

#### Chapter 310 Wetlands and Waterbodies Protection

##### Section 5. General Standards.

- A. Avoidance. "The activity will be considered to result in an unreasonable impact if the activity will cause a loss in wetland area, functions, or values, and there is a practicable alternative to the activity that would be less damaging to the environment..." (BEP Handout May 19, 2016 , Exhibit Spencer 1,p7)

Obviously, if there was less waste in need of disposal at JRL, there would be less pressure to expand, and any expansion would last longer. During the period of time between the Expansion Applications being submitted and accepted as complete for processing, DEP staff analyzed waste streams into JRL. In a letter from Michael Parker of DEP to Casella and BGS on Jan. 22,2016 (Exhibit Spencer 7,pg3), DEP staff presented "Chapter 400.4.N, Solid Waste Management Hierarchy". After looking at seven



categories of wastes into JRL, they commented "Of these seven categories, FEPR and MSW ash currently have no other viable management option." This was for 2014. FEPR (57,000 tons) and MSW ash (54,000) comprised only 19.8% of the total from these seven waste streams (559,000 tons). DEP staff did not say where else these wastes could go, but it sounds like at that point in time there was considered to be a "practicable alternative to the activity" of bringing most wastes to JRL. In addition, the PERC incinerator in Orrington where the FEPR and Ash come from is committed to burning one-third less MSW post-March 2018. Remember also that DEP's stated goal is to reduce statewide waste by 5% every two years.

#### SUMMARY

Essential considerations before any Expansion of JRL should be permitted should remember the basics:

38 M.R.S. §1310-N(1). Licenses.(ex1,pg11) The Department shall issue a license for a waste facility whenever it finds that:

Facility will not pollute any water of the State, contaminate the ambient air, constitute a hazard to or welfare or create a nuisance;

Volume of the waste and the risks related to its handling and disposal have been reduced to the maximum practical extent by recycling and source reduction prior to disposal; and

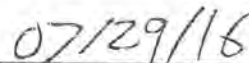
Practices are consistent with the State's solid waste management hierarchy.

Juniper Ridge should not be issued a permit for Expansion until Casella/BGS have fully complied with the Conclusions and Conditions of the PBD license from January 2012, including placing a limit on OBW deliveries, amending the OSA to reduce CDD imports from out of state, and conducting independent third-party audits of large CDD processing facilities. All concerns of the Public need to be considered carefully and alternatives discussed.

I affirm that this written pre-filed testimony is true and correct to the best of my knowledge and belief.



Signature



Date

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July 29, 2016  
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7-13-2022

