

8-07-09

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Subj: **BNSF Intermodal Facility: Comment on the Environmental Assessment, Permit 2006 - 1014**

Introduction. These comments are submitted on behalf of the Kansas Chapter, Sierra Club and citizens who live in or near Gardner, Ks. and who are concerned about the subject facility. The scope of this comment is limited to particulate matter (PM) emissions in and near the site. BNSF Railway is proposing to move its train/truck intermodal transportation center from Argentine in Kansas City, Ks. to just SW of Gardner and to more than double it's size. The facility, along with a huge complex of warehouses (Logistics Park) proposed by another company, will cover 1 1/2 square miles and host 2000 to 4000 heavy duty diesel-trucks per day.

USEPA Modeling of PM. USACE proposes to approve the project despite air quality modeling data from USEPA that predicts that emissions of very fine particles (PM_{2.5}) will cause an exceedance of the 24 hour and annual national ambient air quality standard (NAAQS) all along 191st street which will feed traffic to the facility. USEPA modeled only fugitive dust from the facility and environs, and their results do not include the PM emissions projected by BNSF from diesel exhaust.¹ (It appears that BNSF also did not include brake and tire wear emissions in their dispersion analysis.) Thus the exceedances would be even greater than those projected by USEPA. USACE justifies their approval on BNSF's agreement to install a PM monitor, though no details are provided.

It is well established that PM 2.5 is dangerous to human health. Fine particles can access airways deep in the lungs and even enter the bloodstream. The USEPA's result is a red flag that should trigger a much more thorough review of health impacts near the BNSF site.

BNSF's response to EPA analysis. BNSF, on page 27 through 29 of the Appendix A Air Quality Technical Report, tries to allay public concern about the EPA model results by comparing the traffic at the site to heavily traveled freeway corridors in the Kansas City metro area. They challenge the EPA's model results by pointing to a PM10 monitor at 724 Troost Avenue in downtown Kansas City, Missouri. It is located on a hill adjacent to I-35 as the freeway cuts through the bluff above the Missouri River.

The freeway at that point is recessed approximately 50 feet below the PM monitor. Thus monitored values would be much reduced compared to an essentially "at-grade" setting such as we have near the Gardner IMF. I-35 also runs to the north-northeast at that point which is approximately in line with the prevailing winds in the KC area. That means that the winds would funnel pollutants away from the monitor on most days. Therefore the monitor BNSF has selected to make their point is completely inappropriate for that purpose and of no use in assessing the likely impacts on residents and workers near the Gardner IMF.

Other Serious Deficiencies in the EA Air Quality analysis. In addition to the EPA findings we have found several other deficiencies in BNSF's air quality analysis:

1. BNSF did not account for PM pollution from I-35 in their dispersion analysis. I-35 is a major source of vehicle PM pollution and lies only about 1/2 mile away from the SE corner of the Logistics Park. BNSF may argue that I-35 can be neglected, because it is part of background PM. This argument would fail on three grounds:

- a. the monitors used to establish background concentrations of PM are all in residential areas, and none are immediately downwind of freeways bearing high levels of vehicle traffic.;
- b. a sizable portion of heavy truck traffic on I-35 would be generated *by the project itself*, and BNSF excluded from their PM modeling the emissions from trucks before they exit I-35 & its ramps and after they get back on. (See page 13, App. A: the modeling domain extends to.."the point where 191st Street curves north to meet Gardner Road..." This is a particularly important flaw because the very high level of IMF – bound traffic that will be using the Gardner Road interchange near 191st street will almost certainly experience continuous backups on the ramps with attendant idling & stop-start emissions;
- c. EPA found exceedances of PM at the edge of the modeling domain very near the I-35/Gardner Road interchange. These exceedances would clearly be exacerbated by PM from *all types* of vehicles on I-35, only a few hundred feet away.

2. BNSF's air toxics dispersion modeling showed diesel exhaust concentrations coming in just under the health limit (non-cancer reference concentration), 4.7 vs 5.0 ug/M3. This result is inaccurate. In addition to leaving out of their modeling the I-35 emissions cited above, they also left out *that part of the re-suspended fugitive dust that is diesel exhaust particulate matter. (DPM)*. That's because the Mobile6.2 model they utilized

does not account for fugitive dust. Vehicle exhaust deposition is included in the fugitive dust emission factor utilized by USEPA; see AP-42, 13.2.1-3.

Given the size of the IMF and Logistics Park as an ongoing source, the fugitive dust modeled by EPA would certainly contain a significant percentage of re-entrained DPM. Virtually all of the DPM would be smaller than PM_{2.5}.² There is no reason to expect that re-entrained DPM will be any less toxic than direct exhaust DPM. If both the aforementioned, neglected sources of DPM were added to the dispersion model it is likely that the reference concentration, signifying a threat to human health, would be exceeded

3. The analysis of 24-hr air quality concentrations requires BNSF to estimate the variation in daily traffic. They developed their "peaking factor" for diesel exhaust from the peak-to-average traffic in Argentine. It is 1.378. However, Argentine has been operating at full capacity and can accommodate little increased demand. On the contrary, the new facility will have huge spare capacity at first and can accommodate large numbers of extra trucks on any given day. Thus the peak-to-average loading at the new IMF is very likely to be higher than that estimated from Argentine data, and BNSF's estimates of 24 hour PM concentrations will be too low.

4. Despite the fact that the number of trucks will increase by about 2 1/2 times over the existing Argentine operation, BNSF points to USEPA projections (from Mobile6) which show that net emissions will decline substantially after 2010, the initial year of operation. This is due to new pollution controls on diesel trucks and locomotives. However the rules on pollution controls on trucks are effective only with the model year 2007. USEPA projections for retirement of older vehicles do not account for (1) severe economic fluctuations, (2) a major change in engine emission standards that significantly raises costs, nor (3) poor maintenance, and tampering with pollution controls.

At present the algorithm for truck age and retirement in Mobil6.2 is based on heavy truck sales data from 1995 which is projected to 2020 at a growth rate of 2% per year.³ That clearly does not describe what is going on now or what is likely to happen in the next few years. There is a very strong economic incentive at this time for truck owners to delay the purchase of new equipment. Indeed many truck & engine manufacturers (Paccar, Navistar, Cummins) are reporting very large sales slumps at this time.⁴ Thus the changeover of the fleet will take much longer than expected.

Conclusion on PM Impacts. BNSF's air quality analysis is seriously flawed. USACE should require BNSF to correct the above-cited deficiencies and conduct a Health Risk Assessment as part of a full Environmental Impact Statement. A HRA would likely demonstrate a threat to the health of the neighbors and employees of the facility from fine PM. An extensive multi-point air-monitoring plan should be formulated and subjected to public review. This plan should contain a list of mitigation measures that will be immediately put into effect in the event that the NAAQS is exceeded. This

monitoring and mitigation plan should be *a condition of the permit* in order to avoid the likelihood of lengthy enforcement delays.

Finally, there's no serious analysis of carbon dioxide emissions and potential climate change impacts. This is unfortunate in view of the USEPA Administrator's recent, proposed finding of endangerment to the public health and welfare caused by greenhouse gases. Such an analysis would detail changes in nationwide freight traffic patterns caused by the new project and methods by which emissions could be reduced.

For example, they do not mention one obvious measure: idling controls for heavy-duty trucks. There's very likely to be back-ups from time to time in the site and applicants should be required to provide a parking area employing means to avoid idling, such as with electric block heaters.

Sincerely,

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References:

1. Conference call with personnel from Atmospheric Programs Section of USEPA Region 7, July 29, 2009.
2. Health Assessment Document for Diesel Engine Exhaust, EPA/600/8-90/057F, May 2002.
3. EPA420-R-01-047 and email communication on July, 27, 2009 with David Brzezinski of USEPA OTAG ASD who stated that more recent data had not yet been incorporated into the defaults of Mobile6.2.
4. Yahoo.com financial reports.