CSO LTCP Public Meeting #2
November 10, 2009 7pm-9pm
Bulmer Telecommunications Center, HVCC

1) Rocky Ferraro: Welcome and Project Introductions
Welcomed all and thanked them for attending the second public meeting on project progress.

Rocky reviewed the organizational framework: This is a six community effort with CDRPC acting as the project manager. CHA, Malcolm Pirnie and CDM have been chosen as the engineering consultants, and have formed the Albany Pool Joint Venture Team (APJVT). The framework includes a Technical Committee of the voting members, who commissioned the study. Other members: DEC, Albany County Sewer District and the Rensselaer County Sewer District provide advice. The Citizens' Advisory Committee (CAC) consists of contributing towns that do not control Combined Sewer Overflow (CSO) points but contribute flow to the system; the Hudson River Stakeholders; and other groups such as neighborhood associations.

A Public Participation plan is part of the study. As this project progresses, there will be measures that are needed to control CSOs and taxpayers/ratepayers need to be aware of the associated costs. The project team is communicating with the public early and wants a transparent process. The 3rd public meeting will look at mitigation technologies. The public are invited to discuss their concerns at these meetings and to take a look at CDRPC's website for information on the project.

2) **Ray Rudolph: Project Progress**
After reviewing a project task timeline, it was explained that before the CSO problems can be fixed, the team needs to understand what is happening in the River and the magnitude of the problem. As such, the tasks to this point have been to look at the River and the sewer pipes to see how they work. To get to the study, the team had to first plan how and what to study.

There is a request in to DEC to extend the plan timetable. This extension is needed due to extra sampling work that had to be done to provide more data for the models. The more discrete the model the better we can predict what will happen under various control alternatives. In the first round of sampling the project team uncovered a Dissolved Oxygen (DO) issue that was not anticipated.

After this public meeting the team will start to look at control alternatives, using the models, to come up with solutions. This meeting is to present the information from two of the tasks: the Receiving Water Quality Assessment and the Combined Sewer System (CSS) monitoring and modeling.

3) Greg Daviero: Receiving Water Quality Assessment
The first task was to identify the impact of the overflows on the Hudson River. The plan for sampling was submitted to DEC in 2007 and the sampling occurred in the summer of

2008. Additional sampling occurred this past summer. The sampling plan was recapped. This was the single most comprehensive study of Fecal Coliform on the Hudson River, and cost approximately $1 million. Dry weather sampling was undertaken to provide background water quality information on the River and it required 72 hours of dry weather before sampling to ensure that any residual bacteria from an overflow had been washed out. Wet Weather sampling was performed to show the actual impact of discharges from the sewers. Four major sewer overflow locations were also sampled.

Water quality is also affected by the watershed, which influences the flow and bacteria levels. Hydroelectric facilities upstream greatly affect the upstream flow and below the federal dam tidal flow affects the area twice a day. New York State has differing bacteria standards for water quality, depending on the highest end use for the water body. Within the Albany Pool area, there are class A and class B waters. While Fecal Coliform indicates bacteria activity, the EPA has also proposed E Coli standards, and we sampled for this as well; the standards and proposed standards are provided in the PowerPoint slides.

Dry weather sampling results found that Fecal Coliform and E Coli follow similar trends; if Fecal Coliform counts are high, E Coli counts are high. The River was also found to be well mixed across the River. At the entrance to the study area, the River is generally in compliance, and most of the sampled transects meet the standards. Unexpectedly, the Patroons Creek had very high bacteria counts. The Wynantskill and Poestenkill generally exceed the standards, while the Normanskill and Mill Creek exceeded the standards during one sampling period. By the Albany port area, the River is out of compliance with the standards, but then returns to compliance by the end of the study reach. With the Patroons Creek being significantly over the standard: showing roughly 8,000 cfu compared to the standard's 200 cfu maximum, the communities decided to undertake additional sampling to determine why the counts were so high. The beach sites are compliant with the Fecal Coliform standard.

Wet weather sampling again showed that the River is well mixed laterally and that Fecal Coliform and E Coli trends are similar. Upstream areas are generally in compliance. As expected, larger storms produced increased Fecal Coliform levels. Numerous cross section samples exceeded the standards. The tributaries generally exceeded the standards, and while the Albany-Rensselaer area exceeded the standards, the beaches were surprisingly in compliance with Fecal Coliform standards even during wet weather. Several wet weather sampling data slides are available in the PowerPoint presentation.

The team also sampled for temperature, conductivity and pH - which were all within typical ranges. Dissolved Oxygen readings were unseasonably low in early samples and at some sites there were periodic lows or no dissolved oxygen readings.

At the four Combined Sewer Overflow sampling locations, the overflows were found to be "flashy" – they would start and stop, maybe starting again depending upon the intensity of the rainfall. The bacteria levels were all typical for CSOs in the northeast.

Where multiple samples were taken throughout the duration of a storm event, the level of pollutants diminished as time passed.

As a result of the sampling studies, we have discovered that the River is well mixed, which helped to establish a 1 dimensional model of the River. Despite significant bacteria loadings, most of the river is in compliance with the standards. The team was also surprised that the beaches are in compliance with bacteria standards during dry and wet weather. Dry weather improvements, such as disinfection, are expected to go a long way to increasing water quality, but this hypothesis will be tested by the model.

4) Greg Daviero: Combined Sewer System Monitoring

Combined Sewer System (CSS) Collection Monitoring also occurred. Flow meters were installed in the sewer system and were augmented by existing Albany County Sewer District and Rensselaer County Sewer District flow meters. DEC approved a plan for 25 flow meters and 4 rain gages, but the communities decided to invest in 45 meters at the additional cost of $175,000. This caused a delay due to the extra work associated with analyzing the additional data but provided significantly more data for better model calibration.

5) Mitch Heineman: Combined Sewer System Modeling

The Combined Sewer Systems were built a hundred years ago, when there was no thought about building separate storm sewers and Wastewater treatment plants did not exist. Horses were the prime means of transportation, and so the filth from the streets was collected along with household waste - everything went to the rivers. Later, interceptor sewers were built which diverted the combined sewage to the wastewater treatment plants. But treatment plants are expensive and can only be built to a certain size; during wet weather large amounts of rainwater enter the pipes and exceed treatment plant capacity. In wet weather some combined sewage overflows, by design to avoid backing up into basements and streets. In moderate rain showers, the combined sewer system can treat pollutants from the streets; which is actually an improvement over street pollution going into the rivers. The only problem is in wet weather.

Screenshots were shown of the SWMM modeling software. Rainfall catchment areas were programmed into the system and rules were written that required a percentage of rainfall to runoff based on imperviousness, slopes, etc., while other rules allowed some percentage of rain to infiltrate the ground. Next, the team programmed in the sewer pipes, size, steepness, etc. Using this model, the team can see the flow within the pipes under various storm events.

The flow meter data provided input of regular flows during dry weather, and treatment plant records provided information on the daily and seasonal fluctuation of treated flows. The model can be used to predict flows at any time, under any weather condition.

Four CSS models were constructed in all: Albany North Plant, Albany South Plant, Troy, and Rensselaer. Although the cities of Rensselaer and Troy share the same treatment

plant, the sewer pipes and flows are separate until they reach the plant, so two models work.

An example was given of treatment plant capacity with the audience that demonstrated that even when treatment facilities appear to have a large amount of excess capacity even small rainfall events can lead to very large volumes of runoff, which will exceed operating capacity.

Several PowerPoint slides were reviewed to show the comparison between what the models predicted would happen in several of the storm events that the team sampled in 2008 versus what the team actually measured during those storm events in 2008. Generally the model was very consistent with what was actually observed. The Team had to pick 5 years of average rainfall for the area to run through the model. The team chose 1985-1989, which had an average precipitation of 37 inches. Long term, 37 inches is the average rainfall for our area. The chosen five year period also included a mix of small and large storms, which matched closely with the long term storm trends.

The model shows 1250 million gallons of combined sewage overflows every year; this means that there are overflows almost every time it rains. The Albany North and Rensselaer areas have less overflow volume than the Albany South and Troy areas, but they all contribute. EPA also has guidelines on the percentage of combined sewage that must be captured and treated. During wet weather over 90% of the total flow gets treated at the Albany North treatment plant. In the Albany South and Troy areas about 2/3rds of the total flow is treated. Slides were shown of the most active overflow points and the overflow points with the highest annual volumes of overflows. The model also predicted 5 dry weather overflows in Troy, although no dry weather overflows had been found during the 2008 sampling tasks. The team undertook field investigations to check the model findings and discovered two dry weather overflows due to debris. Solutions have been identified which include increasing weir height, maintenance and screens. However, there is not much room for improvement to the CSS by optimization of the existing systems, so there are few low costs solutions to reduce overflows.

6) Ray Rudolph: Moving Forward/Next Steps

The LTCP Development Overview PowerPoint slide was reviewed. The Wet Weather Capacity Study is due to be complete in February 2010. An assessment of the statutory, regulatory and cost issues will be an upcoming task. We have to consider what does it cost and how long will the communities have the burden – these issues will be discussed with the Public, but we don't have any answers on the solutions yet, so this is not ready for discussion. The team is still assimilating the additional sampling data for the model. The Team has to meet with DEC for outstanding issues. When we begin to talk of alternatives, there will be a wide variety of sub-solutions because there are three possible ways for the solutions to be implemented: local, east-west side of the River, and regional. Currently Public Participation is scheduled for the spring 2010, but we will only meet when we have real information to share.

7) Question and Answer

Question: The study has cost roughly $1 million so far and we hear that it'll cost $500 million to come into compliance. Is there any way to cut off this study and move the money to global warming and other issues?
Ray Rudolph: The only numbers that the APJVT and CDRPC have discussed are the costs from comparably sized communities, although at this stage we do not know if the impact will be less, equal, or more than the costs of the other communities.

Question: Are the presentations available?
Ray Rudolph: They will be on CDRPC's website.

Question: Why are the Patroons Creek bacteria counts so high?
Greg Daviero: Over the summer we looked at all the tributaries with high Fecal Coliform to try to identify more clearly the contributing reasons. For the Patroons, we identified some connections and the City of Albany has been documenting and removing. Improvements seen between 2008-2009 are due to the City's work.

Question: The Patroons comes from below the landfill and there are a lot of communities along the I90, it would be beneficial for these communities to know about the bacteria issues. Albany South, the Beaver Creek Dam area seems worse. Some people are concerned that the Albany Medical Center waste is going into Beaver – have you seen that?
Mike Miller: Beaver Creek is 75% of the flow to the South plant. It really falls in line with a large service area. We haven't isolated specific sources.
Greg Daviero: Specific problem for this study is the bacteria levels from CSOs – while the tributaries are important, identifying the causes of bacteria levels are outside of the scope of work for this study.

Question: Who is studying how to pay for the solutions? Is anyone yet discussing how much the sewer and water charges must increase?
Ray Rudolph: A next step is to look at an affordability analysis. The EPA has guidance on affordability. The APJVT and CDRPC have started outreach to county, state and local governments to help them understand the financial impacts of this project.
Rocky Ferraro: The communities are required to undertake this study and create an LTCP under the Federal Clean Water Act 1972. Communities across the country are required to do this. Here, 6 individual plans were originally required, and these communities have saved money by doing a single plan. At the end of the day there will be costs associated with the solutions and it will require a partnership with the federal and State government to cover the costs. We will need to lobby the federal government about these costs – these are distressed communities that can ill afford to shoulder the burdens. These communities should be applauded for the cost saving measures they have employed to date.

Question: Is there a way the CDRPC can prioritize spending on clean water mandates versus transportation, energy, and other costs?
Rocky Ferraro: CDRPC has no powers to control this. We can educate elected and appointed officials but this also needs the help of the constituents. We have no regulatory

or taxing authority; it is a local decision on how they want to join together on the solutions and we will be determining this as part of the Long Term Control Plan.

Meeting adjourned.