Review #	Reco #	Description	Owner	Scheduled Close	Actual Close	Status	Response
JPLS-CDR	R1	Clarify/prioritize the scope of work as soon as possible with an emphasis for making sure that we are aligned with new opportunity for unique capabilities in polymer processing.	B. Ocko	1-Feb-18	23-Jan-17	Closed	We have reached out to the processing community, specifically at NIST. We have sent out a letter of announcement seeking input from the community. We received a response from NIST that we should be able to accommodate chambers the size of large microwave ovens.
JPLS-CDR	R2	Not all stated capabilities will be within reach for JPLS (e.g. excellent time resolution for matter far out-of-equilibrium).	B. Ocko	9-Nov-17	9-Nov-17	Closed	This is mostly an issue with detector capabilities and we are building the instrument in a way which is convenient for detector upgrades.
JPLS-CDR	R3	In order to guide the decision and refine the design, input from a larger community would be desirable.	B. Ocko	9-Nov-17	9-Nov-17	Closed	We are engaging advisory input through visiting scientific exchanges, for which we are budgeted appropriately.
JPLS-CDR	R4	Clarify the scope with respect to whether or not investments made in JPLS should be re-usable for a future buildout.	B. Ocko	12-Feb-18	nn-mmm-17	Ongoing	We will better clarify what components should be suitable for PLS at the PDR. This is a difficult task since there is no design for PLS and this may change based on the success of JPLS.
JPLS-CDR	R5	Consider keeping the long translations compatible with a level floor that would be essential for large roll-in equipment (e.g. use flat marble 'tiles' or simply polished concrete floor for the air-pads, instead of bulky granite slabs that might turn out to be in the way down the road).	D. Bacescu	1-Feb-18	8-Dec-17	Closed	Due to the lack of available space behind the instrument we will permanently place in the hutch, this is not the best beamline for space to be set aside for roll-in equipment. Removing the granite to accommodate roll-in equipment would compromise the performance of the liquids instrument and this would not be desirable.
JPLS-CDR	R6	Verify as soon as possible the performance of key components. Develop in parallel backup plans, such as sending components back to the manufacturer for measurements/refurbishment, equipping stages with encoders, get quotes/lead times for new components.	B. Ocko	1-Apr-18	nn-mmm-17	Ongoing	We have engaged members of BNL Survey group to test various components of the chi stage. Measurements will be carried out in March 2018. If the specs cannot be met, we will consider reconditioning the equipment with Huber. Mitigation plans including, intensity or positional feedback using a Renishaw encoder, are being made.
JPLS-CDR	R7	Besides the necessity to achieve a performance that would make the endstation work, re-usability of new/upgraded equipment in a future buildout might guide the decision (e.g. can the Eulerian cradle be re-used for a double deflector stage? Will the canted buildout still use a single crystal deflector to increase beam separation, as in the CDR for 12ID?).	L. Berman	9-Nov-17	9-Nov-17	Closed	We are not in a position to decide what a full buildout would entail because no decisions have been made for PLS. We are reasonably confident that the major mechanical components requiring replacement for PLS are associated with the crystal deflector and we are building all-new components when needed to avoid an upgrade later.
JPLS-CDR	R8	Consider adding some flexibility to move detectors relative to each other and a more flexibility between sample stage and detectors stage (as in the PLS design).	B. Ocko	1-Feb-18	8-Dec-17	Closed	This is a very good suggestion. The latest design allows for WAXS detector to be moved manually in relation to the SAXS.
JPLS-CDR	R9	Providing focusing at a single energy, e.g. with a stack of CRLs, might be the most cost-effective option to achieve some state-of-the-art capability and should be evaluated for 'day 1' implementation or later upgrade.	L. Berman	12-Feb-18	nn-mmm-17	Closed	This is a good idea and we are looking into this with Oleg and Maxim. Specifically, we will explore the use of 1D CRLs at the higher energies where it will be particularly useful for the liquid/liquid measurements. preliminary analysis shows that about 40 Be lenses are required with a 50 micron radisu. TShould also work at lower energies with fewer lenses. CRLs have been envisioned for the future PLS and thus the potential CRLs that are now under exploration for JPLS could have a PLS purpose later. Constrained distances involving the upstream mirrors, SSA, and JPLS instrument location impose constraints on how well focusing using CRLs could be implemented, based on preliminary modeling

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JPLS-CDR	R10	Check the science case for resolution requirements for SAXS, particular at higher energies and in case a very short sample-detector distance of ~1.5m is pursued.	B. Ocko	1-Feb-18	23-Jan-18	Closed	We have reached out to experts in the field to see how important this factor of two in the small angle q resolution is. The additional scientific benefit of placing the detector at 3m (vs. 1.5m) does not justify the technical difficulties and associated costs. The design to be presented at PDR may also accomodate a 2m distance without the complexity of a 3m placement.
JPLS-CDR	R11	Look into alternatives for the Pilatus1M, considering future requirements and availability of other detectors (including CCD for WAXS, Eiger1M in the equipment pool,…).	B. Ocko	1-Jun-18	nn-mmm-17	Ongoing	We continue to explore alternatives to our preferred detector and we would like to hold off purchasing some of the detectors until after technical commissioning. For the WAXS detector, we have a preference for the Pilatus1M since for the same number of pixels the angular range is twice that of the Eiger and the improved resolution of the Eiger can not be utilized. The existing budget does not contain funds for a SAXS detector however a 1M, maybe available from the equipment pool and we have an existing Pilatus 1--k that could be dedicated.
JPLS-CDR	R12	The schedule is tight and the date for the PDR appears to be unrealistic at this time; should be shifted to a later date.	C. Stebbins	9-Nov-17	9-Nov-17	Closed	The PDR will be shifted to be between Feb 2- 16, 2018 to accommodate a more complete design by the PDR.
JPLS-CDR	R13	Include a plan to test equipment that will be re-used from APS/NSLS and a plan to refurbish/replace components as necessary.	B. Ocko	1-Apr-18	5-Feb-18	Closed	A plan is detailed in recommendation R6.
JPLS-CDR	R14	Allow for some time between PDR and procurement of custom components, such as slides, ballscrews and granites.	C. Stebbins	9-Nov-17	9-Nov-17	Closed	We have adjusted the schedule to order these components as quickly as possible after the PDR. Specifically, we have scheduled 3 additional weeks after the PDR to prepare to procure these items.
JPLS-CDR	R15	If the schedule is intended to be used for resource loading and planning, make sure that the dependencies of the individual activities are properly captured.	C. Stebbins	9-Nov-17	9-Nov-17	Closed	We have adjusted the schedule to reflect this.
JPLS-CDR	R16	Controls and computational complexity might not be fully understood at this point, keep controls group involved as the design progresses to allow for resource planning.	B. Ocko	12-Feb-18	nn-mmm-17	Ongoing	We are consulting with the controls group to reassess and refine the requirements. Controls will be a dedicated item on the PDR agenda.
JPLS-CDR	R17	If there is no other source of contingency, consider purchasing the 'nice to have, but not essential' items later than currently envisioned in the schedule, after some risks, such as performance of old equipment and uncertainties about the design, are retired. Such items are: fluorescence detector [available in the equipment pool; with 30% of user time for JPLS and assuming 50% of GUPs needs this detector -> ~6 weeks/year]; controls station furniture and partitions [can share space with SMI to start].	C. Stebbins	12-Feb-18	6-Feb-18	Closed	This is a good suggestion and we are making schedule adjustments to delay acquisition of some "nice to have, but not essential" items such as vibration isolation, fluorescence detector, and visualization hardware. These items will be essential eventually but are not needed at the start of commissioning. In regard to the control station, it will be necessary to acquire and begin to build it up early, to permit the possibility to test components for the JPLS station as they arrive without impacting the ongoing user and staff activities for the adjacent existing SMI station.
JPLS-CDR	R18	Beam stabilization at the SSA is provided by SMI, any feedback on endstation positioners (stepper motors) will be slow and can be realized in EPICS: P. Ilinski recently reviewed beam monitoring/feedback options for the BST, including in-house electronics and resistive diamond XBPMs which might be significantly cheaper than the budgeted 30k$. Check available designs for beam visualization.	L. Berman	1-Feb-18	8-Dec-17	Closed	We are awaiting the implementation of XBPM feedback at SMI. At the appropriate time, we will consider external and internal sources for the XBPM and we will consult with existing beamlines to assess their satisfaction with the different solutions available. We do not believe this will significantly impact the budget.